

The Impact of Prior Online Shopping Experience on Future Purchasing Channel Choice

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Abstract

This paper discusses the direct and indirect effects of online shopping experience on selecting and the intention to select the Internet as the purchasing channel. The theoretical approach is based on the technology acceptance model and media appropriateness theory. The data was collected with a Web survey from 2479 visitors at the web site of a passenger cruise company. Prior online shopping experience was found to have a very significant effect on the purchasing channel choice both directly as well as indirectly, and even more on the intention to select the Internet as the purchasing channel. In addition, the perceived ease-of-use and usefulness as well as the perceived appropriateness of the Internet as a purchasing channel were found to have an important impact on the choice. Preferring conversation with customer service personnel had the most influential effect on intention and behaviour, which can be explained by satisfaction with traditional channels as well as distrust of one's own skills with the electronic commerce system.

Keywords

Online shopping, experience, channel choice, Web survey, technology acceptance model, media appropriateness theory

Introduction

"I have read about cruise ships, dates, and entertainment etc. on the Web, and after that I have always booked with the Call Center."¹

Old habits die hard. Consumers still prefer traditional channels when making purchases. Product information is widely sought from the Web (Spink et al. 2002), but why do people continue with an offline purchase after online information seeking? Only approximately 1% of the total revenues on the retail sector come from e-commerce transactions (OECD 2002).

"It is easy and quick to make cruise bookings online, since I use the computer daily."¹

To make e-commerce sites profitable, we must understand the rationale behind the purchasing channel choice. Along the often-mentioned perceived usefulness and ease-of-use, prior Internet experience has been found to be one factor affecting the decision of the consumers in internet-based B2C commerce (Black et al. 2002, Shim et al. 2001). However, a

¹ This is an excerpt from the survey reported in this paper.

comprehensive study of the various effects of experience has not been presented. The motivation of this article is to fill the gap.

The purpose of this paper is to answer the research question: What is the role of online shopping experience (generally and of a particular product group or e-commerce site) in the purchasing channel choice of the consumers? The theoretical approach is based on the technology acceptance model and media appropriateness theory. In all, 2479 mainly quantitative responses were acquired with a Web survey and analysed. Prior experience was found to have a substantial direct influence on the intention to use the Internet as a purchasing channel, but it also affects indirectly e.g. the perception of usefulness and ease-of-use. The impact of experience was found to be weaker on the actual behaviour, but still statistically significant. These results state clearly that prior experience has a far more significant role in the purchasing channel choice than has been expressed in previous studies of internet-based B2C commerce. However, the most important factor affecting channel choice was conversation preference, which is closely related to trust.

Prior channel experience in literature

Prior Internet usage experience has been found to be one of the variables influencing the intention to buy products online (Miyazaki & Fernandez 2001, Novak et al. 2000). In these studies, Internet experience has been measured in total years of usage, or frequency of visits on the Web etc. Some studies have also measured the online shopping experience of a specific product group, like apparel (Goldsmith & Goldsmith 2002) or groceries (Morganosky & Cude 2000) or books, computer software and videos (Shim et al. 2001). However, the comprehensive impact of prior experience has not been discussed to date. Two theories - the technology acceptance model and media appropriateness theory - are applied in this study to consider more systematically the role of prior online shopping experience in channel choice.

Technology acceptance model

The widely used technology acceptance model (Davis 1989) argues that the perceived usefulness and ease-of-use are key factors in the user's acceptance of technologies. Perceived usefulness has been defined as a user's subjective perception of the ability of a computer to increase job performance when completing a task. Perceived ease-of-use is a person's subjective perception of the effortlessness of a computer system, which affects the perceived usefulness, thus having an indirect effect on a user's technology acceptance.

The usefulness and ease-of-use have a vital impact on a person's shopping channel preference and satisfaction (Devaraj et al. 2002). When compared to the traditional channels (physical store or agency and telephone), the Internet is useful primarily as a superior information source. The easily interpretable information reduces the perceived complexity of products. In principle, products are also cheaper on the Web, because of lower transaction costs and easier price comparison the markets are more effective (Grover & Ramanlal 1999). Online shopping can also be faster than going to a physical store or queuing on the telephone (Werthner & Klein 1999). In addition to the ease-of-use of a Web shop application, accessibility of the Internet from home or workplace facilitates online shopping, and therefore the perceived ease-of-use may be higher than with the traditional channels.

Research question 1: What are the most important elements of perceived usefulness and ease-of-use (PUE) in online shopping?

In the technology acceptance model, prior experience from a computer system has an indirect influence on the system acceptance, e.g. behaviour. The experience affects a person's perception of the usefulness and ease-of-use, since computer skills and comfort influence a user's beliefs in computer technologies such as the Internet (Jiang et al. 2000, King & Xia 1997, Koufaris 2002). Prior experience has been found to have a direct effect on behaviour (Igarria & Iivari 1995). The behavioural intention to use a system was also included in the original model (Davis et al. 1989), PUE affected intention in the long term. The experience has been found to affect indirectly, via ease-of-use, the intention to use a system (Venkatesh & Morris 2000).

Research question 2: Does online shopping experience affect the selection and intention to select the Internet as the purchasing channel in the future indirectly via PUE or directly?

Media appropriateness theory

Prior experience of a computer technology is emphasised in media appropriateness theory (King & Xia 1997). It is based on the technology acceptance model, social cognitive theory and theory of planned behaviour (Rice (1993) introduced the concept of media appropriateness based on social presence and media richness theories). The theory has been used in media choice situations in work related studies. It argues that the users make their media choice not only rationally considering media or task features, but their own experience affects the choice. Increased experience improves skills, abilities, and comfort to use a computer system.

If a user has had bad experiences of for example an e-mail system, other means of communication are chosen. Because most of us are familiar with face-to-face conversations, telephone, group meetings and written notes, we tend to choose traditional media instead of new media for many tasks. Therefore, we may consider traditional media more suitable for different tasks than new media.

Research question 3: Is conversation preference an important variable influencing purchasing channel choice intention and behaviour?

King and Xia (1997) found out in a longitudinal study that when the subjects were able to use several media, after gaining experience of the new media more appropriate media was chosen for tasks, instead of using the media in which they had more experience. Therefore, experience from online shopping could lower the threshold to use a specific e-commerce site.

Research question 4: What kind of effect has the perception of the appropriateness of the Internet as a purchasing channel on selecting and the intention to select the Internet as the purchasing channel in the future?

Novak, Hoffman and Yung (2000) found out that as people gain more experience and skills in Internet use and perceive to be in control of their online actions, they tend to use the Internet for task-oriented activities such as work or purchases. Prior in-home shopping experience (catalogue or TV) has been found to facilitate transference to computer or online shopping channels (Dholakia & Uusitalo 2002). Prior Internet experience smoothens online shopping experience by decreasing the perceived risk (Schoenbachler & Gordon 2002) and increasing confidence (Miyazaki & Fernandez 2001).

Research question 5: Does online shopping experience have other effects on channel choice intention and behaviour?

Research design

The sample used in this study was based on the customers of a large passenger cruise company that sells products online. The customers have four purchasing channel choices: travel agency, company-owned ticketing agency, telephone and company's interactive online booking system (since the products are in this case cruises, the more appropriate word "booking" will be used hereafter). The online booking system is real-time and the payment methods include a secure Internet banking solution or credit card or bill, the same as in the bookings made through the traditional channels.

The questionnaire was based on a literature review of studies and theories described above. It was pretested first with actual clients in a ticketing agency and secondly on the Web with 13 academic colleagues. The data was collected with a Web survey, as the target population was the Internet users who have online shopping experience. It was also apparent that not every respondent had any online shopping experience, which reduced the risk of very biased sample.

Comparing to the postal mail or telephone surveys, a Web survey is a more rapid and a cheaper way to collect a great amount of data. In addition, the data coding is easy and reliable as with any computer-supported data collection method. The disadvantages are for example a biased sample or results, and counting the response rate. (Humphrey 2000, Zhang 1999)

Ensuring the validity of the respondents is not easy with Web surveys because of the anonymity of the respondents. To reach the target population and valid subjects, the Web survey was placed on the company's homepage and only those visitors who had made a reservation with the company during the previous three months were requested to answer the questionnaire. An effort was made to eliminate multiple responses from the same respondent with 1) no-reward policy (O'Neil & Penrod 2001), 2) a cookie that was saved in the respondent's computer under his own username (and so impeded answering more than once) and 3) a careful screening of responses to find exactly similar responses.

The dependent variables were the intention to use online booking in the future (scale: yes, possibly, no) and actual behaviour or the previous booking channel (online or traditional: telephone, travel or company's ticketing agency). The independent variables were:

Online shopping experience: Subjects stated on a 5-point ordinal scale (none, once, 2-5 times, 6-10 times, at least 10 times) the number of times they had made an online purchase, made a travel booking online and made a booking with the online booking system of the company.

In following attitudinal questions subjects used a 5-point Likert scale for rating: 1 = Strongly agree, 2 = Agree, 3 = Neither agree or disagree, 4 = Disagree, 5 = Strongly disagree.

Conversation preference: As media appropriateness theory argues, familiarity with face-to-face conversations and the telephone causes us to choose traditional channels, therefore subjects were asked if they wanted to discuss with customer service personnel during the booking task.

Appropriateness: Based on media appropriateness theory, the subjects were asked if they considered the Internet to be an appropriate channel for travel bookings.

PUE: The perceptions of the usefulness and ease-of-use of the company's interactive online booking system compared to traditional channels were assessed with instruments used in previous technology acceptance model studies (Davis et al. 1989, Karahanna & Limayem 2000). The subjects indicated if they perceived the online booking system quicker or easier than traditional channels; if the online system allowed them to make a correct (as they

expected) booking; and obtain better the additional information they needed compared to traditional channels. In addition, the respondents were asked if they could make the booking cheaper online than traditionally, since it has been argued that one of the main advantages of electronic commerce to consumers is lower prices (Grover & Ramanlal 1999, Keeney 1999).

Analysis

All the quantitative data analysis was done with SPSS 10.1 for Windows. The Spearman correlation coefficient test for ordinal data was used to answer the research questions, since most of the other tests were not applicable due to the normalisation assumption that cannot be met with ordinal data. Confidence level used was 99%. Qualitative data was analysed with the NVivo 1.3 tool and categorised by the intention to use an online booking system in the future.

Cronbach alpha was used to measure the reliability of the experience and PUE constructs, the values were 0.708 and 0.820 respectively, which are above the commonly used 0.7 limit. Convergent validity for these measures was assessed with principal components factor analysis. Two factors were extracted from the data, each containing the items of one construct, and the loading values with Varimax rotation and Kaiser normalisation were: experience factor (0.751, 0.879, 0.766) and PUE factor (0.753, 0.693, 0.821, 0.826, 0.704). Discriminant validity was evaluated with a correlation matrix presented in table 1. These statistics suggest that the reliability and validity of the data set are within acceptable limits.

	Experience	Conversation preference	Appropriateness
Conversation preference	-0.364		
Appropriateness	0.354	-0.362	
PUE	0.153	-0.218	0.428

Table 1. Correlation matrix.

Sample and descriptive statistics

The data was collected between February 1st and 11th 2002. The total number of responses was 2511, from which 2479 were unique and valid. The respondents were compared demographically to the respondents of two previous Web surveys (from January 2000 and November 2001, 920 and 2875 responses respectively), which gave a rough picture of the average visitor of the company's Web site. In all three Web surveys, 58.5% of the respondents were women; the majority of subjects were between 18 and 45 years of age. The majority of respondents lived in the greater Helsinki area and Western Finland where the departure ports are situated. In these respects, the data in this survey seems to correspond with the data of the other surveys. Quite a high percentage, 92% of the respondents, used the Internet daily or almost daily. In 2000, 54% of Finnish people used the Internet (OECD 2001) and as a Web survey cannot reach the non-users, the high percentage is understandable in this respect.

Previous booking channel		Intention to use online booking system in future		
		Yes	Maybe	No
Travel agency	17.7 %	38.1 %	31.6 %	30.4 %
Ticketing agency	7.4 %	27.4 %	40.7 %	31.9 %
Telephone	51.5 %	36.4 %	28.8 %	34.8 %
Internet	23.2 %	89.0 %	9.6 %	1.3 %
of all respondents	100 %	29.8 %	15.4 %	15.4 %

Table 2. Percentages of respondents' previous booking channel and intention to use online booking system in future

The previous booking channels of the respondents and how the intention to use online booking system in the future is divided in these groups are presented in table 2. Over half of the respondents (51.5%) had made the previous booking over the telephone and approximately one in four had visited a travel or ticketing agency. Merely 23.2% of all respondents had made the previous booking online (hereafter *online bookers*). Approximately 30% of the subjects intended to use the company's online booking system in the future, and 15% were not sure about their future intentions or gave some conditions, e.g. "if the cruise prices are affordable" or "if we don't need any hotel arrangements next time". Another 15% were sure that they would not use the online booking system in the near future. They were largely very satisfied with their current booking channel and did not find it necessary to switch channels. Some respondents insisted on having personal and verbal service. An overwhelming majority of respondents who intended to use the online booking system in the future had booked the previous cruise online. Only four online bookers expressed that they would not use the system in the future, due to previous booking problems.

A typical concern about the online system was that bookings could be more expensive: the same cruise could cost less if booked traditionally since finding the cheapest alternative from the online system would be difficult. The commonly mentioned reasons for booking through traditional channels were that the booking was so complicated that the respondent needed assistance or wanted some extra information from customer service, for example about events or transportation at the destination. Just a few people were anxious about the safety of the system, which is quite unusual, since it has often been mentioned as a barrier to the adoption of electronic commerce (Anckar 2002, Jarvenpaa et al. 2000). One possible explanation for this is that the respondents trusted the company and therefore the online system.

Results

The correlation coefficient values of variables (in table 3) were used in answering the research questions (hereafter RQ). RQ1 concerns the most important elements of perceived usefulness and ease-of-use (PUE) in online shopping. The PUE construct has a much more sizeable effect on intention than behaviour, which is consistent with the findings of (Davis et al. 1989). When respondents were asked to compare traditional bookings to online bookings, perceived ease-of-use was considered the most important element of the PUE construct, and after that quickness and correctness, which is the answer to RQ1. Inexpensiveness of online booking and obtaining extra information better from the Internet were not ranked as highly, which was apparent also in the qualitative data.

Variable	Intention: Online booking in the future		Behaviour: Previous booking online	
	n	r	n	r
Experience	1453	0.422	2384	0.323
Online shopping experience	1472	0.305	2419	0.201
Online travel booking experience	1466	0.388	2412	0.259
Company's online booking system experience	1470	0.430	2421	0.455
Behaviour: Previous booking online	1501	0.457	-	-
Conversation preference	1467	-0.505	2410	-0.511
Appropriateness	1328	0.490	2170	0.286
PUE (Compared to traditional channels...)	990	0.407	1626	0.232
Online booking quicker	1135	0.350	1857	0.209
Online booking easier	1143	0.459	1860	0.306
Online booking more likely to be correct	1101	0.378	1787	0.192
Extra information better online	1150	0.281	1863	ns
Online booking cheaper	1043	0.299	1720	0.149
n = Total number of cases, r = Spearman correlation coefficient, ns = not statistically significant				

Table 3. Correlation coefficients between independent and dependent variables.

The focus of RQ2 was on the direct vs. indirect (via PUE) effect of online shopping experience on selecting and the intention to select the Internet as the purchasing channel in the future. Experience construct has a larger direct effect on intention and behaviour than PUE. The correlation between experience and PUE was calculated to be 0.153 (see table 1). In addition, correlations between experience and easiness, quickness or correctness were statistically significant respectively 0.237, 0.178 and 0.121. Therefore, the answer to RQ2 is that experience mainly influences intention and behaviour directly, but also indirectly, mostly through perceived ease-of-use.

In RQ3, the interest was on conversation preference as an important variable influencing purchasing channel choice intention and behaviour. As can be seen from table 3, conversation preference has the most significant influence on both intention and behaviour. It can also be treated as an experience variable, 73% of traditional bookers wanted to discuss with customer service personnel during the booking. As media appropriateness theory argues, most people are familiar with verbal communication and they prefer traditional channels. The importance of the variable was also noticeable in the qualitative responses; the respondents were very satisfied with their current channel (why fix something if it is not broken?). Thus, the answer to RQ3 is that conversation preference is the most meaningful factor when selecting traditional channels and intending not to use online booking.

RQ4 handled the effect of the perception of appropriateness of the Internet as a purchasing channel on selecting and intending to select the Internet as the purchasing channel in the future. Appropriateness affects the intention to book online very substantially, but has a

marginal effect on actual behaviour (response to RQ4). Experience has been found to have significant impact on the perception of appropriateness (in this study $r = 0.354$), but when the real decision has to be made, the attitude is not so important after all, whereas real system specific experience is. The correlation between appropriateness and experience was 0.2 for respondents who intended to choose online booking in the future and for online bookers 0.238. The correlation between appropriateness and PUE was 0.428 (intention to use online booking and online booker groups, 0.233 and 0.247 respectively). This indicates that PUE has an even larger influence on the perception of appropriateness than on experience, as the technology acceptance model argues.

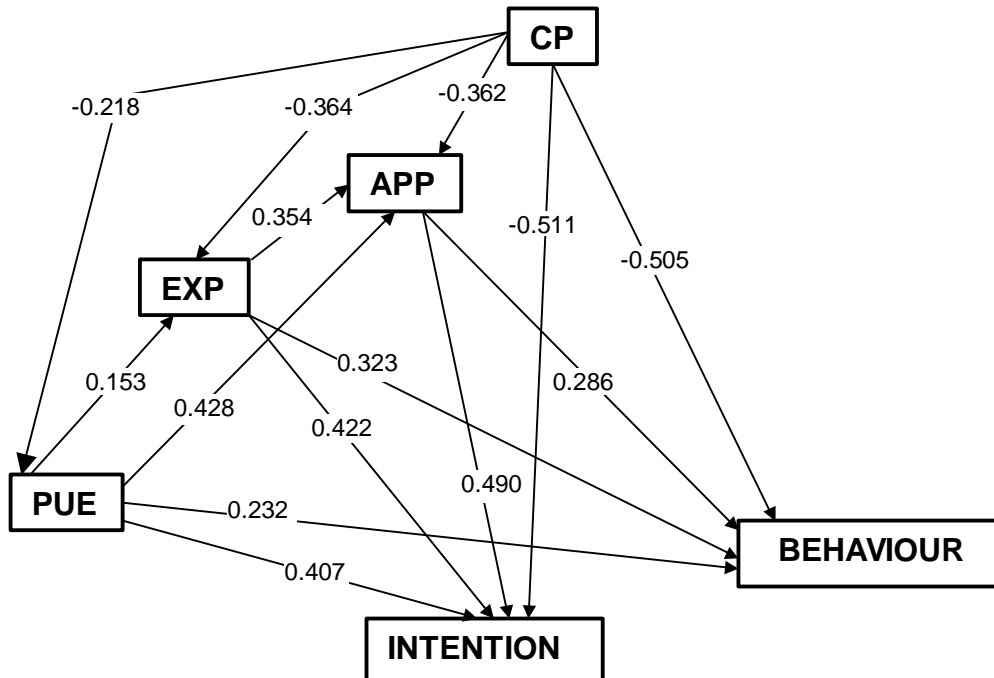


Figure 1. The relationships and their correlation coefficients between variables (CP = Conversation preference, APP = Appropriateness, EXP = Experience, PUE = Perceived usefulness and ease-of-use).

Finally, RQ5 asked: Does online shopping experience have other effects on channel choice intention and behaviour? Experience has a substantial impact on both intention and actual behaviour. As can be seen in table 3 from correlation coefficients that grow from online shopping to booking system experience, the more specialised experience is gained the more likely the respondents are to book online in the future and to have chosen online booking instead of traditional channels. The experience coefficients increase more drastically in the behaviour column than in the intention one as specific experience has more practical value when channel choice is done. The answer to RQ5 is summarized in figure 1; experience is a very important variable influencing channel choice intention and behaviour, not only directly, but also indirectly through various other variables.

Discussion

The purpose of this paper was to examine comprehensively the role of prior online shopping experience in the purchasing channel choice. The prior experience was found to affect the

intention and behaviour significantly and in a variety of ways. The results of this study imply that the technology acceptance model should be applied to electronic commerce research with caution. Although media appropriateness theory explains the results better, it must be noted that the technology acceptance model has been supported by several studies and media appropriateness theory is yet a reasonably uncharted territory. A framework that contains the effects of both usefulness-ease-of-use and experience would describe the problem area better.

Altogether, the variables in this study affect the intention to use an electronic commerce system in the future and the actual channel choice behaviour quite differently. The magnitude of the correlation coefficients is quite different, except for the conversation preference – variable. All variables have a notably weaker effect on behaviour than intention. This suggests that some other variables beyond the scope of this study affect behaviour more strongly than intention. One possible candidate is the perception of a product's complexity (Anckar & Walden 2001, Black et al. 2002, Werthner & Klein 1999), which was mentioned in the qualitative data as a reason to use traditional channels.

The results of this study are important also in business sense. In order to develop a successful and profitable Web shop, understanding customers' needs is essential. It has to be ensured that products are as cheap in a Web shop as purchased from traditional channels. In addition, providing well-organised and correct product-related information increases customers' trust in their own skills and thus lowers the barrier to make the actual purchase online. Almost 90% of online bookers were satisfied with the system and intended to book online again in the future. Only a few had experienced problems with the system, and therefore they intended to transfer to using traditional channels. This emphasises the influence of a functioning and easy system: it is essential to ensure customers' satisfaction with the Web shop.

Limitations and further studies

This study must be evaluated keeping in mind its limitations. The Web survey's shortcomings have been already discussed in the Research design paragraph. The generalisability of the results is also limited by the fact that the study was made with customers of a passenger ferry company operating in the Baltic Sea. Although Finns use the Internet excessively, and go on cruises frequently, further studies are required to apply the results into other areas.

Further studies could be conducted to examine the effect of product complexity in choosing the Internet as the purchasing channel. Also, the study could be repeated in other industries or countries. This would be constructive in developing a new more comprehensive framework to explain consumers' purchasing channel choice in the current information economy.

Although trust in the security of the online system was mentioned in open-ended answers only a few times, other trust issues concerned the respondents. Distrust in inexpensiveness and correctness of the online purchase compared to a traditional one or in obtaining the desired product (related) information is a central barrier to transference to electronic commerce. The customer him/herself makes the online purchase, but a traditional one is completed by an expert (e.g. a travel agent). Trust in the person's own skills with the online system, the Internet, the computer or even the product group is behind this barrier. Skills and comfort with a system improve by gaining more experience. These concerns were mainly stated as reasons for preferring conversation. Thus, the conversation preference variable could be called "trust".

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