A CHANNEL PERSPECTIVE ON CONSUMER ADOPTION OF ELECTRONIC TRAVEL SERVICES

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ABSTRACT

For this study a consumer scenario was developed in order to get insights into the consumer adoption of electronic travel services. Together with a multi-channel approach consumers’ usage and perceived benefit of electronic travel services and preferred channel of interaction with travel service providers (conventional, computer-based, mobile device-based) are investigated. In addition Internet access channel preferences while the consumer is on the move are examined. The findings are drawn upon empirical data collected through a self-administered Web-questionnaire from October – November 2004. The results confirm that the use of electronic services among consumers in travel and tourism is very high and that the services are perceived as very beneficial. It also seems like the electronic interaction has reached a level where it passes conventional interaction in preference, at least for pre-travel activities. The results also indicate that the mobile device as a stand alone platform is not likely to be a success among the consumers, however, for certain activities like “check in”, where mobility is of nature, it certainly has potential.

1. INTRODUCTION

Travel and tourism is an industry which is undergoing significant changes due to new technologies such as the Internet. On-line travel has permanently changed the way the travel and tourism industry thinks about customer-interaction (WTTC 2002). Mobile commerce, or e-commerce over mobile devices, has on the other hand had many conflicting predictions on its future popularity. For example in a survey of Anckar and Eriksson (2003) mobile services for simple travel arrangements were not found to be of high interest but of average interest among the respondents. Still there tend to be quite high expectations e.g. in the telecom industry regarding consumer adoption of m-commerce technologies.

Channel features have been subject for major research and managerial questions, especially the combination or the separation of the electronic channel and the conventional channel also called the physical channel (e.g. calling and visiting). There is also little doubt that channels are very different and can add value to the consumer depending on the situation rather than by replacing other channels. However, as a result of the development of new technologies e.g. wireless communications, the electronic channel is no longer a single computer-based channel, but has emerged into different channels, all with their unique characteristics, and - presumably - a varying suitability for performing certain tasks (Buhalis
In view of that, we need to identify what is distinctive about the electronic channels in their own right, and look at where they clearly win over the conventional channel and where they win over each other.

2. RESEARCH OBJECTIVES

In this paper empirical data is drawn upon to gain insights into the following four main research questions:

[RQ1] Usage: to what extent are Internet services or mobile services used through computers and mobile devices by consumers of travel services?

[RQ2] Perceived benefit or interest: how beneficial or interesting are the electronic services perceived by consumers of travel services?

[RQ3] Channel preferences: which is the preferred channel of interaction with travel service providers among consumers of travel services; 1. conventional 2. computer-based 3. mobile device-based?

All three questions will be asked for six predefined activities within a consumer scenario for travel services. The scenario will be discussed in the Consumer scenario chapter.

[RQ4] Internet access channel preferences in mobility: which Internet access channel is the preferred channel while the consumer is on the move?

3. CONSUMER SCENARIO

On electronic markets, firms can create value for consumers in a manner that is different from that which has been achieved in conventional business (Han and Han 2001). Keen and Mackintosh (2001) pointed out that the demand side of m-commerce is very much a search for value. One way of identifying true consumer value in e-commerce and m-commerce is by using consumer scenarios. As noted by P. Seybold (2001), thinking in terms of consumer scenarios has always been useful, but the arrival of the Internet makes the technique more powerful than ever. A consumer scenario or a consumer process usually is made up of several activities and therefore the researcher needs to identify the ones a consumer does to accomplish a certain task, such as purchase a service.

Generally speaking consumers’ value process is divided into three phases; initial contact, purchasing and consumption. In the first phase, initial contact, consumers’ mainly create an interest towards a company and its products or services. In the second phase, purchasing, a consumer searches for information, evaluates the product or service and makes the actual order. In the third phase, consumption, the consumer uses the purchased product or service and relates to the whole experience. (Grönroos 2002)

For this study, which was delimited to the purchasing and the consumption of travel services, a consumer scenario with six activities was identified; 1. Search for information and evaluation 2. Reservation 3. Payment 4. Cancel or Change reservation 5. Check in 6. Reflection and evaluation. The first four activities being more or less pre-travel activities which often are performed at fixed locations such as at home or at the office, where as the fifth and sixth often take place away from home (during the travel) and are therefore perhaps more mobile in nature. The six activities and the example features that explain them in detail are presented in table 1. The scenario may, however, differ for every individual travel consumer.
and it may as well differ depending on the nature of the travel services used. Therefore the scenario used for this study should only be seen as a tool to find deeper understanding of the consumer adoption of electronic travel services.

The scenario was developed by using the author’s own experience of purchasing and consuming travel services and by talking to other travelers and practitioners. The example features used for each activity in the process are features that to some extent are already provided electronically both as Internet services and mobile services in the airline industry by air carriers like Scandinavian Airlines\(^1\) and Finnair\(^2\) and in the lodging sector by hotels like Omena Hotels\(^3\).

Table 1. Consumer scenario

<table>
<thead>
<tr>
<th>Scenario activities</th>
<th>Example features</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Search for information and evaluation</td>
<td>The consumer searches and compares e.g. prices, checks availability</td>
</tr>
<tr>
<td>2. Reservation</td>
<td>The consumer makes the actual decision to reserve a service e.g. hotel rooms, flight tickets, travel packages and train tickets</td>
</tr>
<tr>
<td>3. Payment</td>
<td>The consumer pays e.g. by credit card for the service</td>
</tr>
<tr>
<td>4. Cancel / Change reservation</td>
<td>The consumer makes changes to or cancels the reservation</td>
</tr>
<tr>
<td>5. Check in</td>
<td>The consumer checks in / activates the purchased travel service.</td>
</tr>
<tr>
<td>6. Reflection and evaluation</td>
<td>The consumer gives feedback and checks such things as bonus points</td>
</tr>
</tbody>
</table>

4. CHANNELS OF INTERACTION

As already mentioned in the introduction, the development of new technologies e.g. wireless communications, means that the electronic channel is no longer a single computer-based channel, but has emerged into different channels. Therefore this study will also take into account the mobile device e.g. mobile phone and PDA as a separate channel of interaction with travel service providers. This separation was foremost made in order to find out if the mobile device can compete with the computer-based channel and the conventional channel for any of the activities in the consumer scenario presented in table 1. Therefore three different channels of interaction will be investigated for the consumer scenario; conventional, computer-based and mobile device-based. The conventional channel composed by such interaction as visiting and calling. The computer-based channel being mainly Internet services through different computers but also interaction through e.g. self service machines. Also wireless computers are included in the computer-based channel as they are not the same as mobile devices even though there is considerable overlap; wireless computers do not necessarily need to support true mobility due to e.g. size.

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\(^1\) Scandinavian Airlines (SAS Group) is the Nordic region’s largest listed airline and travel group and the fourth-largest airline group in Europe, in terms of passengers and operating revenue. www.sas.fi

\(^2\) Finnair is one of the world’s oldest operating airlines and flies to 16 destinations within Finland and to about 50 international destinations. www.finnair.fi

\(^3\) Omena Hotels is a new hotel chain in Finland. Omena operates without neither reception personnel nor a reception desk, and thus no check-in or check-out procedures. All possible work tasks have been completely automated through IT. www.omena.com
The mobile device-based channel is made up of Internet or mobile services through a mobile device e.g. mobile phone or PDA. See table 2.

Table 2. Channels of interaction with travel service providers in the consumer scenario

<table>
<thead>
<tr>
<th>Conventional</th>
<th>Computer-based</th>
<th>Mobile device-based</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visiting</td>
<td>Wired and wireless computers</td>
<td>Mobile phone</td>
</tr>
<tr>
<td>Calling</td>
<td>Self service machine</td>
<td>PDA</td>
</tr>
</tbody>
</table>

5. INTERNET ACCESS CHANNELS WHILE ON THE MOVE

According to Nohria and Leestma (2001), the m-commerce opportunity exists, and is huge, if companies develop ubiquitous solutions that recognize the role that mobility plays in consumers’ lives. Gillick and Vanderhoof (2001) argue that the new mobility experience – the anytime/anywhere access to desired products and services - will be the greatest benefit for the consumer. There are a few ways of approaching mobility for users of mobile technology. One is presented by Kristoffersen et al. (2000, quoted in Valiente and Heijden 2002) who distinguish between three different types of mobility, namely traveling, wandering and visiting. Traveling, an actor performs activities while moving between different locations usually inside a vehicle. Visiting, an actor performs activities at different locations. Wandering, an actor performs activities while moving between different locations where the locations are locally defined within a building or local area. Depending on the required mobility, different access channels will support activities in different ways.

In this study (RQ4) four common Internet access channels while specifically on the move will be investigated in order to find indications on consumers’ preferred access channel during their travel. The first access channel, the device (e.g. a PC) with Internet access is offered by the travel service provider (e.g. hotels, cafés, trains, airports and air plains), is foremost visiting in nature but also traveling while the device used certainly can be inside a moving vehicle like a train or an air plain. The second access channel, consumer’s laptop computer with broadband Internet access offered by the travel service provider, is also foremost visiting and traveling in nature while the consumer may be limited to a certain location or vehicle. The third access channel, consumer’s laptop computer with own Internet access (e.g. GPRS), doesn’t necessarily have the limitation to a local area or a vehicle, however it isn’t really wandering in nature either while it may be, due to its size, difficult to bring along and require a person to e.g. comfortably sit down in order to use. Therefore the fourth access channel used in this study, Consumer’s mobile device (e.g. mobile phone and PDA) with Internet access, is the only one which can give the user true mobile freedom - it is visiting, traveling and wandering in nature.

6. SAMPLE AND DATA COLLECTION

In order to accomplish the research objectives a questionnaire was developed based on the consumer scenario presented and the channels features discussed. The primary data needed for the survey was collected through a self-administered Web-questionnaire, which was linked from the web site of one
cooperating company within the lodging sector in Finland. The questionnaire was on-line for 30 days in October – November 2004 and the total number of answers received was 810, which make an average of about 27 answers per day. 766 answers were properly filled out and taken into account.

Of the respondents, 33% were males and 67% were females. The average age of the respondents was 34 years, the youngest being 18 years old and the oldest 67 years old. The respondents were all Internet users since the questionnaire was filled out on-line and they nearly all (93.9%) reported that they visit the Internet every day or several times per week. 38.2% had, at least at some point, used Internet through a mobile device and 36.8% were frequent travelers, travel at least once per month either business or leisure at a minimum duration of one day.

6.1 RQ1, 2 and 3

The respondents were to state for each of the six activities in the consumer scenario if they are already electronically using (no; yes only with a computer; yes only with a mobile device; yes with both a computer and a mobile device) the example features presented for each activity. If the respondents answered yes they were to state the level of benefit they gain from using such features electronically ([4] very beneficial; [3] rather beneficial; [2] not very beneficial; [1] definitely not beneficial; [−] can’t say). If the respondents answered no they were to state the likelihood ([4] yes, definitely; [3] likely; [2] unlikely; [1] definitely not; [−] can’t say) that they would be interested in using the features electronically in the future. In addition the respondents were to indicate which channel (conventional interaction e.g. calling and visiting; computer-based e.g. Internet service through a computer and self service machine; mobile device-based e.g. Internet service / Mobile service through mobile phone or PDA) they primarily or would primarily use for each activity.

6.2 RQ4

The respondents were to state if they already use (yes; no) either wired or wireless broadband Internet access channels during their travels. If the respondents answered yes they were to give the level of benefit they gain from such services ([4] very beneficial; [3] rather beneficial; [2] not very beneficial; [1] definitely not beneficial; [−] can’t say). Then they were to indicate which Internet access channel (the device with Internet access is offered by the travel service provider; consumer’s laptop computer with Internet access offered by the travel service provider; consumer’s laptop computer with own Internet access; consumer’s mobile device with Internet access) they primarily or would primarily use while on the move.

An additional question on prices for the use of high speed Internet access was added to the questionnaire. The respondents were asked to state a price (0 euro, included in the price of the room; euro / day; euro / hour) that they find appropriate while accommodated at a hotel.

7. SURVEY FINDINGS

7.1 RQ1, usage of electronic services

Electronic services through a computer (e.g. a PC) was used by more than 50% of all the respondents for the first four activities in the defined consumer scenario; Search for information and evaluation, Reservation, Payment and Cancel / Change of reservation (See table 3.). Only 15.6% of the respondents
stated that they don’t actually reserve travel services online. Also the use of both a computer and a mobile device show numbers that are not insignificant, e.g. 8.5% of all respondents search for information and evaluate it both through a mobile device and a computer. For check in the usage of electronic services still show quite modest percentages, which certainly is effected by the fact that quite few travel service producers yet offer electronic check in features. Hardly any respondents use only a mobile device to perform the activities in the consumer scenario. Generally speaking the results show, not surprisingly, that electronic services certainly are used to a great extent for most activities in the consumer scenario developed for this study.

Table 3. The use of electronic travel services (RQ1)

<table>
<thead>
<tr>
<th>Scenario activities</th>
<th>N</th>
<th>CO</th>
<th>MD</th>
<th>CO / MD</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Search for information and evaluation</td>
<td>761</td>
<td>86.7</td>
<td>0.1</td>
<td>8.5</td>
<td>4.6</td>
</tr>
<tr>
<td>2. Reservation</td>
<td>756</td>
<td>79.1</td>
<td>0.4</td>
<td>4.9</td>
<td>15.6</td>
</tr>
<tr>
<td>3. Payment</td>
<td>754</td>
<td>69.9</td>
<td>0.5</td>
<td>2.4</td>
<td>27.2</td>
</tr>
<tr>
<td>4. Cancel/Change of reservation</td>
<td>744</td>
<td>54.6</td>
<td>0.5</td>
<td>3.8</td>
<td>38.3</td>
</tr>
<tr>
<td>5. Check in</td>
<td>735</td>
<td>15.0</td>
<td>0.7</td>
<td>3.4</td>
<td>81.0</td>
</tr>
<tr>
<td>6. Reflection and evaluation</td>
<td>736</td>
<td>44.8</td>
<td>0.4</td>
<td>1.2</td>
<td>53.5</td>
</tr>
</tbody>
</table>

Bolded numbers show a percentage > 50%

CO = Computer / Internet services through a computer
MD = Mobile Device / Internet services or mobile services through a mobile device
SC / MD = Computer and Mobile Device
NO = No use

7.2 RQ2, perceived benefit and interest in electronic services

The findings, presented in table 4, clearly show that consumers of travel and tourism services who have adopted electronic services certainly perceive them as very beneficial. The average perceived benefit of electronic services is very high for each activity in the scenario. The lowest number 3.2 on a scale one to four is shown for the sixth activity, reflection and evaluation during or after travel. The standard deviation is also quite low which indicate a low variation in the answers. The respondents who have not yet experienced the use of electronic services for certain activities show a quite high interest towards electronic usage in the future, the average ranging from 2.67 to 3.06 for the six activities. A higher standard deviation may, however, indicate that some respondents strongly feel that they will never use electronic services to perform the activities in the defined consumer scenario.
Table 4. Benefit of electronic services by respondents using them and interest in electronic services by respondents not using them. (RQ2)

<table>
<thead>
<tr>
<th>Scenario activities</th>
<th>Benefit</th>
<th></th>
<th>Interest</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean¹</td>
<td>Std. deviation</td>
<td>N</td>
</tr>
<tr>
<td>1. Search for information and evaluation</td>
<td>729</td>
<td>3.65</td>
<td>0.499</td>
<td>26</td>
</tr>
<tr>
<td>2. Reservation</td>
<td>640</td>
<td>3.72</td>
<td>0.475</td>
<td>105</td>
</tr>
<tr>
<td>3. Payment</td>
<td>558</td>
<td>3.66</td>
<td>0.551</td>
<td>180</td>
</tr>
<tr>
<td>4. Cancel/Change of reservation</td>
<td>462</td>
<td>3.67</td>
<td>0.536</td>
<td>259</td>
</tr>
<tr>
<td>5. Check in</td>
<td>195</td>
<td>3.44</td>
<td>0.681</td>
<td>514</td>
</tr>
<tr>
<td>6. Reflection and evaluation</td>
<td>374</td>
<td>3.20</td>
<td>0.700</td>
<td>328</td>
</tr>
</tbody>
</table>

Can’t say answers are excluded.

7.3 RQ3, the preferred channel of interaction

As shown in table 5, the electronic channel (computer-based and mobile device-based) clearly wins over the conventional channel for every activity in the scenario except for the “check in” activity, where the conventional channel has a percentage more than 50%. The computer-based channel clearly wins over the mobile device-based channel for each activity. The preferred channel for this consumer scenario is therefore clearly the computer-based channel. “Check in” features for mobile devices are, however, potential success services, as the percentage of 9.2 stand out as the highest number for the mobile device-based channel.
Table 5. Preferred channel of interaction with travel service providers. (RQ3)

<table>
<thead>
<tr>
<th>Scenario Activities</th>
<th>Preference</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>CON</td>
<td>CO</td>
<td>MD</td>
</tr>
<tr>
<td>1. Search for information and evaluation</td>
<td>761</td>
<td>9.3</td>
<td>84.2</td>
<td>6.5</td>
</tr>
<tr>
<td>2. Reservation</td>
<td>756</td>
<td>31.3</td>
<td>63.5</td>
<td>5.2</td>
</tr>
<tr>
<td>3. Payment</td>
<td>754</td>
<td>18.9</td>
<td>75.4</td>
<td>5.7</td>
</tr>
<tr>
<td>4. Cancel/Change of reservation</td>
<td>744</td>
<td>42.4</td>
<td>52.3</td>
<td>5.3</td>
</tr>
<tr>
<td>5. Check in</td>
<td>735</td>
<td>51.1</td>
<td>39.7</td>
<td>9.2</td>
</tr>
<tr>
<td>6. Reflection and evaluation</td>
<td>736</td>
<td>23.9</td>
<td>69.1</td>
<td>7.0</td>
</tr>
</tbody>
</table>

Bolded numbers show a percentage > 50%

CON = Conventional interaction e.g. visiting and calling  
CO = Computer-based interaction / Internet services through a computer or a self service machine  
MD = Mobile device-based interaction / Internet services or mobile services through a mobile device

7.4 RQ4, the preferred Internet access channel while on the move

Of the respondents 31.7% stated that they already use either wired or wireless broadband Internet access channels during their travels and of those about 90% found the use either rather or very beneficial. The preferred Internet access channel while on the move is channel number one, the device with Internet access is offered by the travel service provider, with 58.18% of the respondents (See figure 1). Therefore it seems like a majority of the respondents prefer that the device and the Internet access is offered by the travel service provider. Even though the fourth channel, consumer’s mobile device with Internet access, ought to be the one with true mobile freedom – is visiting, traveling and also wandering in nature (See chapter 5.), it seems like the consumers, at least at the moment and generally speaking, find the mobile device as the least attractive Internet access channel while on the move.

In the additional question on price 69% of the respondents stated that they would like the price of high speed Internet access services to be included for instant in the price of a hotel room. Among those respondents who would accept to pay for such services the average price per day was 5.52 euros and per hour 1.71 euros. The answers varied from 2 euros – 40 euros per day and from 20 cents – 10 euros per hour.
8. CONCLUSION

By using a consumer scenario to assess consumer usage and perceived benefit of electronic services and channel preferences, this study has contributed to the understanding of the consumer adoption of electronic travel services in the B-to-C travel and tourism arena, a sector which is undergoing significant changes due to new technologies. The results confirm that the use of electronic services among consumers in travel and tourism is very high and that the services are perceived as very beneficial. It also seems like the electronic channel has reached a level where it passes conventional business in preference, at least for pre-travel activities. The results also indicate that the mobile device as a stand alone platform is not likely to be a success among the consumers, however, for certain activities like “check in”, where mobility is of nature, it has potential. This certainly also proves that transferring computer-based Internet services to a mobile device-based environment may not transfer value to the consumer. Being able to do pre-travel activities such as search for information and evaluate it, make a reservation, pay and change or cancel a reservation on a web site is very much e-commerce value but foremost not m-commerce value. Also the fact that the mobile device seems to be the least preferred Internet access channel while on the move shows that only certain services and activities will attract consumers to use their mobile devices also in an environment where mobility is of nature.

The developed consumer scenario together with a multi channel approach can also work as a model for practitioners to understand the consumer’s choices of channels and to develop channel relationships with consumers.

Care should, however, be taken not to over generalize from these findings since the survey was done online. The sample may therefore not be representative for a larger consumer market as online respondents may differ from the general population in their attitudes towards electronic services. Certain is also that wireless technology is still in quite early stages and therefore the respondents may find it hard to assess the true value of the mobile Internet. Further studies are therefore certainly needed to gain a
deeper understanding. This study is also perfect to do again after 2 – 3 years to follow up the changes of consumers’ attitudes as especially the wireless technology will expand and improve.

The author’s planned research will be focusing on the mobility aspect of m-commerce since it in most public research indeed appears to be the key driver of mobile commerce. The first step will be to study channel preferences for typical mobile services while the consumer is on the move. However, as research in the public domain on mobility, to the authors’ best knowledge, seem to be explorative in nature, deeper knowledge should be gained and questions of explanatory nature need to be asked. One way of finding deeper understanding is by developing a research environment, together with providers of travel services, where the consumers actually can hands on explore Internet and mobile services for mobile devices and compare them with computer-based Internet services in different consumer scenarios.
REFERENCES


