

## ANTECEDENTS AND CONSEQUENCES OF E-TOURISM



Esther Mengerink

Master Thesis

ANTECEDENTS AND CONSEQUENCES OF E-TOURISM

Esther Mengerink  
S0209503  
Business Administration  
Service Management

First Supervisor:  
Dr. E. (Elfi) Furtmueller

Second Supervisor:  
Msc. E.J.A. (Erwin) Folmer

External Supervisor:  
H.J. (Hendrik-Jan) Mensink

Vakantiepark de Twee Bruggen  
Meenkmlenweg 13  
7109 AH Winterswijk

Universiteit Twente  
Drienerlolaan 5  
Postbus 217  
7500 AE Enschede

October, 2011

## *PREFACE*

It feels great to have completed my Master thesis covering 20 years of e-tourism research. This project enabled me to gain knowledge on effective e-tourism implementations, challenges and consequences of such organizational transformations. It was a very interesting and challenging assignment. I have learned a lot and worked with pleasure on this project.

I would like to thank Ms. E. Furmueller, first supervisor of my thesis for giving me feedback on previous versions of this thesis and also for all her support and advice during the process of planning and writing the thesis. I would also like to thank Mr. E. Folmer for his very helpful feedback to improve the theoretical contribution of this research. Finally, I owe thanks to Mr. H.J. Mensink for his support as director of Vakantiepark de Twee Bruggen.

Winterswijk, October 2011

Esther Mengerink

# ANTECEDENTS AND CONSEQUENCES OF E-TOURISM

**BACKGROUND.** This research has been conducted on behalf of Vakantiepark de Twee Bruggen and the University of Twente.

**PURPOSE.** While research in e-tourism is increasing, so far no research article provides a systematic overview of antecedents and consequences of e-tourism implementations for the involved stakeholders. This Master thesis endeavors to provide a foundation and first attempt at filling this gap.

**METHOD.** We accurately searched and selected 49 international peer reviewed articles covering 20 years of e-tourism research. Using open coding procedures, we analyzed antecedents and consequences related to the transformation from *tourism* to *e-tourism*. We used the DeLone and McLean (2003) information success model to identify and code antecedents. Consequences of e-tourism implementations are presented in line with three salient stakeholders: organizations, customers, and partners.

**RESULTS.** Besides information, system and service quality as antecedents of effective information services, we identified a new category which is relevant in the context of e-tourism services: technology quality with the subcategories innovation and technology diffusion. Several of the De & Lone & McLean's subcategories required conceptual alteration to fit the identified antecedents of e-tourism. For instance, we expanded *variety of information* as new subcategory of information quality. We derived three new subcategories of e-tourism service quality: *building relationships*, *knowledge support*, and *service support*. It appeared useful to categorize consequences for three groups of stakeholders; organizations, customers, and partners. While the analyzed literature provided in depth insight into positive and negative consequences of e-tourism for organizations and customers, little research has investigated consequences for partners and affiliates of organizations. Positive consequences for organizations include financial benefits, strengthening competition, business development, cooperation, increasing market share, advertising/marketing opportunities, new communication possibilities, possibility to influence customer behavior, relationship development, and market research opportunities. Positive consequences for customers include saving time, reducing costs, better service, more personalized products and services, 24/7

availability, improved information gathering and enabling interaction. Interestingly, we found consequences that are positive for organizations while at the same time negative for partners. We expect more research on this subject since cooperation, internationalization and outsourcing activities will continue to increase organizations usage of partners to advertise and sell e-tourism services.

**RESEARCH LIMITATIONS.** This literature analyses provides little insights on negative consequences due to the transformation from tourism to e-tourism. We expect this finding to be biased since we did not specifically search articles on negative consequences. Considering the careful search for e-tourism journal articles, we observed that scant research has been published on negative consequences.

**IMPLICATIONS.** This paper offers academics in tourism and service management a systematic overview of empirically studied antecedents and consequences of e-tourism. The analysis helps organizations to more comprehensively understand the value and pitfalls of using information technology in delivering tourism services. Tourism organizations can use the frameworks to develop e-strategies. There is also the possibility to develop a business strategy with the help of the frameworks in order to be more successful in the domain of e-tourism.

**KEYWORDS.** E-tourism, antecedents, consequences, success factors.

## ***INTRODUCTION***

Due to the internet, many businesses have been and are in the process of being transformed into e-businesses. This is also the case for tourism. Services are increasingly offered online and this study of antecedents and consequences of e-tourism is therefore of importance for tourism organizations. Authors have studied e-tourism in the context of intermediaries and travel agencies (Buhalis and Licata, 2002, Novak and Schwabe, 2009, Kim et al., 2007, Özturan and Roney, 2004). Other researchers have analyzed online reviews, blogs and personal recommendations (Akehurst, 2009, Litvin et al., 2008, Papathanassis and Knolle, 2009, Ye et al., 2009). Further, marketing issues have been studied, such as internet as a marketing tools (Hudson and Gilbert, 2006), online marketing and branding strategies

(Gertner et al., 2007), and factors that affect the success of web-based marketing strategies (Wang and Fesenmaier, 2006).

O'Connor and Murphy (2004), when reviewing information technology in the hospitality industry, identified three broad research scopes: the internet's effects on distribution, the effects on pricing, and the effects on consumer interactions. A recent review suggested the following dimensions of e-tourism researcher's interest: consumers and demand dimensions, technological innovation, and industry functions (Buhalis and Law, 2008). While research in e-tourism is increasing, so far no paper provides a systematic overview of antecedents for e-tourism success and consequences of e-tourism implementations for the involved stakeholders. This research endeavors to provide a foundation and first attempt at filling this gap.

Most related academic research synthesizes findings of e-tourism by discussing a selected sample of the tourism literature; see, e.g. Buhalis and Law (2008). In contrast, in this paper, we specifically review and code antecedents and consequences of e-tourism. This analysis is important since it helps organizations to more comprehensively understand the value and pitfalls of using information technology in delivering tourism services. Our paper is also relevant for academics in tourism and service management because research gaps are identified and future research opportunities are proposed.

In specific, we address the following research question: *What are the antecedents and consequences of e-tourism as found in twenty years of the e-tourism research literature?* The next section of this paper is the methodology section, where we explain the literature search, selection and analyses. Afterwards, we provide a theoretical review on the transformation of tourism services. The section following the methodology presents the results. An explanation and description of the identified antecedents and consequences of e-tourism is given. A discussion section is presented and the paper finishes with future research directions and conclusions.

## ***METHODOLOGY***

### ***Literature search and selection***

To find articles studying antecedents and consequences of e-tourism, we first conducted a literature search in the databases Web of Science and Scopus. The following search terms were used: e-tourism, etourism, electronic tourism, online tourism, virtual tourism, ICT in tourism, web tourism, web based tourism, e-tourism success, e-tourism barriers, e-tourism

consequences, e-tourism implementation\*, e-tourism requirements, antecedents e-tourism, successful e-tourism, IT tourism.

We also hand-searched the following international peer-reviewed tourism journals to find relevant articles: Tourism Management, Annals of Tourism Research, International Journal of Tourism Research (formerly Progress in Tourism and Hospitality Research), Current Issues in Tourism, Journal of Hospitality & Tourism Research, Journal of Travel Research, Progress in Tourism and Hospitality Research, International Journal of Tourism Management. We hand-searched these journals because they are specific tourism journals. We also wanted to be sure that there were no important articles which are not in the selection because of a missing search word. Table 1 presents the journals in which the selected articles were found. Interestingly, most literature on e-tourism has been published in two journals: Tourism Management and Journal of Travel Research.

	<b>Journal</b>	<b>Number of articles</b>
1	Autonomous agents and multi-agent systems	1
2	Communications of the ACM	1
3	Current Issues in Tourism	1
4	Electronic Markets	1
5	Information and Management	1
6	Information Sciences	1
7	Information Systems Management	1
8	Information Technology & Tourism	1
9	International Journal of Electronic Commerce	1
10	International Journal of Hospitality Management	3
11	International Marketing Review	1
12	International Small Business Journal	1
13	Journal of Hospitality and Leisure Marketing	1
14	Journal of Hospitality Marketing and Management	1
15	Journal of Quality Assurance in Hospitality and Tourism	1
16	Journal of Travel and Tourism Marketing	2
17	Journal of Travel Research	6
18	Journal of Vacation Marketing	1
19	Operational Research	1
20	Service Business	1
21	Telematics and Informatics	1
22	Tourism Management	20

Table 1 Journals included in the research

We included only articles published in the period 1990-2010 so as to cover the most recent literature reflecting technological changes since tourism has been transformed into e-tourism. The initial search results in 195 articles. The abstracts of these 195 articles were read by two researchers who carried out the literature sample selection. This selection involved continuous discussion of the relevance of various articles for answering this study’s research question on antecedents and consequences of e-tourism research. Following systematic literature review guidelines, (see e.g. Wolfswinkel et al., 2010; Wolfswinkel et al., 2011), two researchers independently conducted forward and backward searches for articles, compared the scope of the various articles, considered the impact factors and discussed the relevance of the pre-selected articles. Finally, a sample of 56 highly relevant articles was drawn up. After carefully reading the full texts of these 56 articles, seven were excluded due to little relevance. The final sample comprised 49 articles.

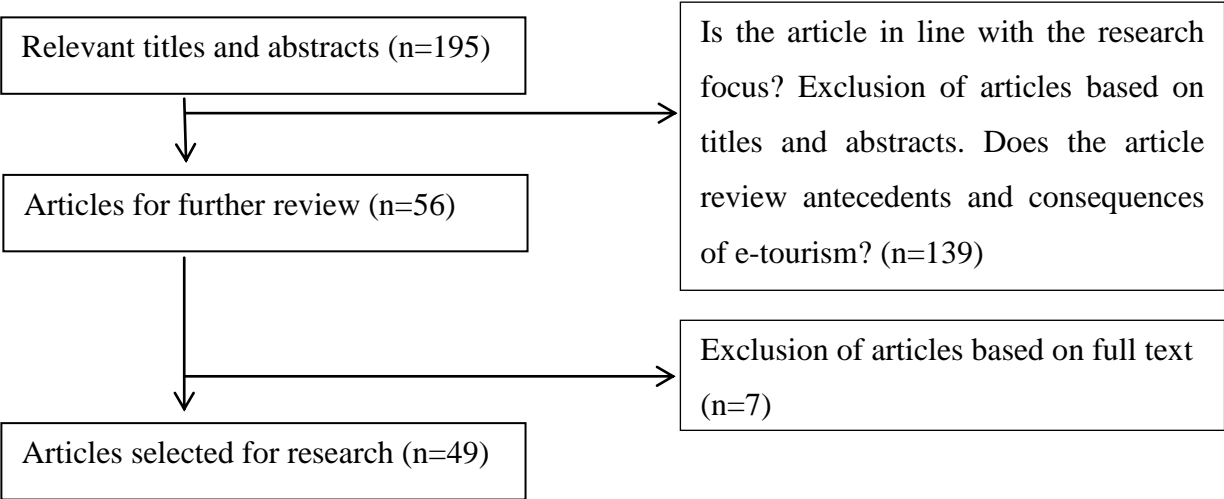


Fig. 1 Process of literature selection

Within the period 1990-2000, the oldest relevant article included in the sample that discussed e-tourism appeared in 1995 (see Figure 2). Before 1995, authors were studying information technology usage in tourism services. However, the “e” relating to the electronic and internet-based usage for tourism services only began to emerge after 1995.



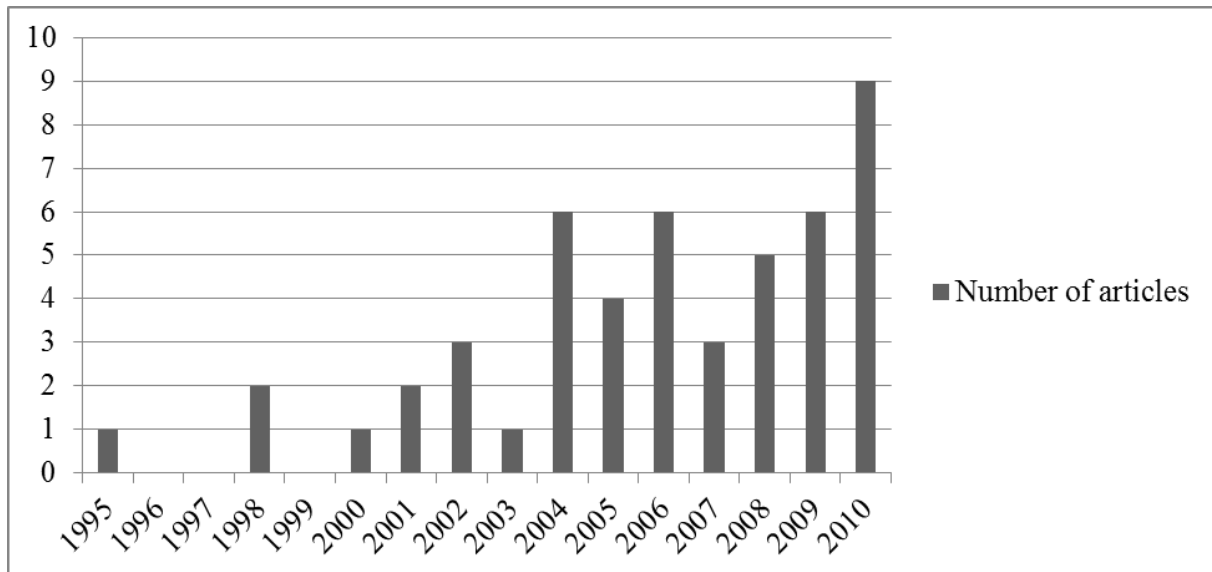


Fig. 2 Selected e-tourism articles per year

### *Literature analyses*

For the analysis, first all 49 selected articles were carefully read. Using open coding procedures, we identified initial categories reflecting antecedents and consequences of e-tourism. All found antecedents and consequences that were documented by authors of the selected literature were compiled in a codebook. Themes for positive and negative consequences emerged. We structured the codebook so as to develop three salient initial overviews, namely:

- One codebook with antecedents
- One codebook with positive consequences
- One codebook with negative consequences.

We define antecedents in this study's context as factors or requirements that enable successful e-tourism. We coded the empirically tested as well as antecedents and consequences mentioned by authors of the selected literature.

### *Coding of antecedents*

The antecedents were coded with the help of the DeLone and McLean model (DeLone and McLean, 2003). This model was used because it is a recognized model for e-information system success involving system, information, and service quality factors. Using these three salient categories for information systems quality success and the associated subcategories, we endeavored to find overlaps with our codebook. However, we also identified factors that

could not be placed in DeLone and McLean previous information system's success model. Various antecedents were coded in a new category we labeled 'technology quality'.

The descriptions of the categories system, information, and service quality were written down (see Furtmueller et al., 2011 for an example of detailed coding procedures). For example the description of system quality is 'desired characteristics of an e-commerce system' (DeLone and McLean, 2003). All the antecedents that involve a characteristic of the system that leads to e-tourism was categorized under the heading 'system quality'. Some examples of the antecedents categorized in the category system quality are: offer simple products (Buhalis and Law, 2008), user-friendliness (Klausegger, 2006), web design in both functionality and usability (Buhalis and Law, 2008), high quality access (Pröll and Retschitzegger, 2000), update speed (O'Connor and Frew, 2004), website download time (Rong et al., 2009), secure payment system (Rong et al., 2009), conduct easy and secure transactions (Wang et al., 2002), and booking must be totally confidential (Pröll et al., 1998). Then we analyzed the sub-categories, which are provided by DeLone and McLean (2003). We looked what these categories mean and discussed which factors belong to the specific categories. As stated by DeLone and McLean, the sub-categories for system quality are usability, availability, download time, response time, privacy and security, interactivity, and ease of navigation. Our identified antecedents were labeled according to the system quality scheme described above (see also Table 2). The same coding procedure was conducted for the other salient antecedents; i.e., information quality, service quality, and the new category technology diffusion.

We also added three sub-categories to DeLone and McLean's description of 'service quality', namely, building up relationships, knowledge support, and service support. We derived a new main category, 'technology quality', because several antecedents in the e-tourism literature could not be coded in the original categories of the model. These antecedents referred specifically to the quality of the technology. The new category 'technology quality' is divided into the following subcategories: innovation, and technology diffusion. We explain our reasoning for the underlying dimensions in the results section. To make it more clear which categories are added, the researcher underlined the 'new' categories.

### ***Coding of consequences***

During the coding of consequences, it appeared useful to categorize these related to three stakeholders: i.e., (1) consequences for tourism organizations, (2) consequences for customers, and (3) consequences for partners. The organizational perspective relates to

tourism organizations that aim to enrich and/or transform some of their services by electronic means (e.g., a firm that rents out accommodations or camp sites and wants to do this online). Customers are referred to as individuals, groups or organizations who want to buy services of tourism organizations and include also customers of (e)Mediaries. (e)Mediaries are seen as organizations that are working as a mediators to sell services, for instance, accommodations or campsites for tourism organizations. Partners are (e)Mediaries, network affiliates and suppliers, which can be seen as all parties that have interests in cooperating with and profiting from the tourism organization.

Importantly, we derived positive and negative consequences for the involved stakeholders (see Table 8 and 11). Interesting to mention is that we found consequences that are positive for an organization while at the same time negative for partners. For example, some organizations do not see adequate benefit from eMediaries anymore, and therefore have cancelled cooperation (Stiakakis and Georgiadis, 2009). While this appears to be a positive consequence for organizations, it is negative for eMediaries (which are categorized under ‘partners’).

The consequences were first arranged in consequences for organizations, customers and partners. Then, we made a distinction between positive and negative consequences for these three stakeholders. The categorization into consequences for these three stakeholders emerged from the data since much of the literature discusses consequences for various parties. In this study we define stakeholders as follows: All organizations, customers, partners, suppliers, and competitors that have something to do with the tourism organization. For example, the following positive consequences for organizations were identified in the literature: cost reduction (Buhalis and Law, 2008), strengthening competitiveness (Minghetti and Buhalis, 2010), opening up distribution channels (Akehurst, 2009), increasing market size (Stockdale, 2006), opportunity to relationships-building (Wang and Fesenmaier, 2006), communication in many new and different ways (Xiang et al., 2008). These positive consequences apply to the organization itself. We further categorized these positive consequences into related sub-categories: financial benefits, strengthening competition, business development, cooperation, increasing market share, advertising/marketing opportunities, new communication possibilities, possibility to influence customer behavior, relationship development, and market research opportunities.

Figure 2 presents the percentage of our selected sample of articles that discusses antecedents as well as the percentage of articles that reviews positive and negative consequences. Also, percentages of combinations are shown. Interestingly, few articles

mention negative consequences of e-tourism. Antecedents are more frequently discussed in the literature than positive and negative consequences. The study of antecedents for e-tourism success may be one of the most important themes in e-tourism research, because the world is becoming more and more digital and therefore the ‘e’ will be very important in the future, however knowledge about consequences is also essential. Positive consequences are more frequently mentioned in the literature than negative ones. This poses the question whether there are many negative consequences that have not been documented or studied yet. As can be seen in our analyses on consequences (see Table 9, 10 and 11) negative consequences are only very rarely reported in the literature.

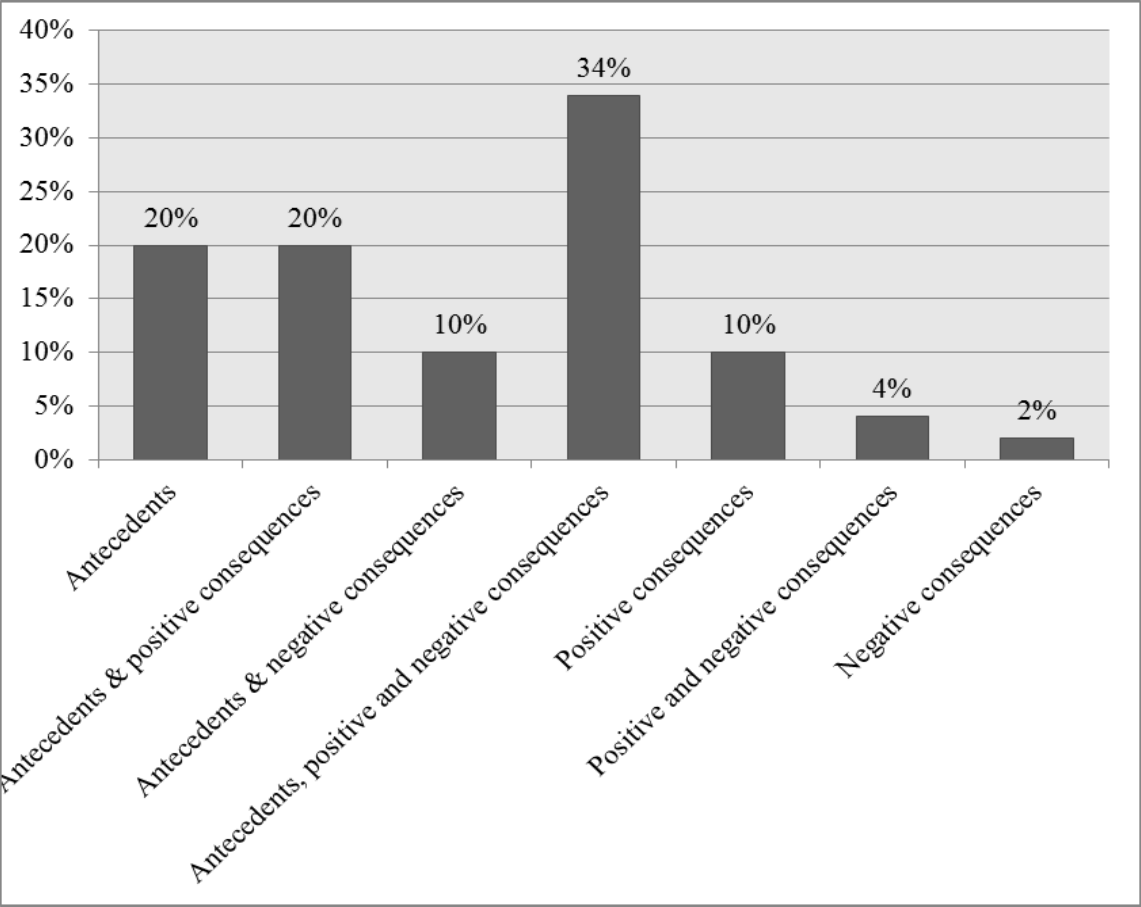


Fig. 3 Percentage of articles that review antecedents and consequences

The remainder of the paper is organized as follows. In the next section, we provide a theoretical overview of the transformation of tourism into e-tourism. Following this, we present the results of the literature content analysis and discuss implications for future research.

## ***E-TOURISM***

Organizations are challenged to transform their communications, marketing strategies, international approaches, and logistics in the rapidly developing world of e-tourism. Since the year 2000 the transformational effect of communication technologies has been visible (Buhalis and Law, 2008). This caused the development of new tools and services that facilitate interaction between providers of tourism services, customers and partners on a digital and global level. The structure of the tourism industry and the way organizations do their business is changing due to the extensive acceptance of e-commerce.

### *Computerized Reservation System / Global Distribution System*

The growth of international tourism is interrelated with the ability to use computerized systems (Fuchs et al., 2010). In the 1980s success was attained with computerized reservation systems and global destination systems, i.e., Sabre or Amadeus (Fodor and Werther, 2004). Sabre Holdings is a company that merchandises and retails travel products and provides distribution and technology solutions for the travel industry. Sabre Holdings is comprised of four businesses: Sabre Airline Solutions, Sabre Travel Network, Sabre Hospitality Solutions and Travelocity. Amadeus is a provider of Information Technology solutions for the tourism and travel industry. Tourism destinations now have challenges competing against other destinations if they are not using an electronic marketing system. Also electronic intermediaries have entered the market. Because of these new advantages, the variety of digital interfaces between tourism demand and tourism supply have dramatically grown (Fuchs et al., 2010).

### *Customers*

Developments in ICTs also influenced the number of customers who use technologies to plan their travel. Also, the effectiveness and efficiency of tourism organizations has significantly changed due to the development of ICTs. The interaction between customers and organizations has changed due to the development of the internet; nowadays customers can communicate with organizations 24 hours a day, 7 days a week (Buhalis and Licata, 2002). Organizations that are using e-commerce may increase profits and also market share. Also, e-commerce will create value for customers because products and services are enhanced and it is possible for customers to communicate with organizations rapidly (Card et al., 2003).

### *Customer relationships*

The tourism industry increasingly needs to pay attention to online customer relationships. The electronic environment is very competitive. There is a need to manage customer relationships if an organization wants to survive in this dynamic and global environment. The loyalty of customers is decreasing due to the Web and they are taking less time between choosing and consuming a tourism product (Werthner and Ricci, 2004). Similarly, other research has found that customers often do not have much loyalty to sites and they are moving to more self-service technologies (Stockdale 2006). They also have higher expectations of choice, value, customization, and convenience (Stockdale, 2006). The development of ICTs also supports the globalization of the industry. This is done by providing effective tools for suppliers to develop, manage and distribute their offerings worldwide (Buhalis and Law, 2008). Needs of customers are changing and customers take more frequent vacations, which are shorter in duration (Werthner and Ricci, 2004). Gertner et al. (2006) mentioned that no other technological development has affected people's behavior so noticeably in such a short period the way the internet has. They also stated that the travel and tourism industry in particular has felt the enormous impact of the internet.

### *Transformation*

As Racherla et al. (2008) mentioned, the business and social landscape of the tourism industry has changed due to the developments in ICTs. Tourism industries have to reinvent their business strategies and cultures if they want to survive (Racherla et al., 2008). A new competitive business environment is created by the internet (Furtmueller et al., 2009). It is a channel that offers different types of information flow, and it is an efficient channel in distributing products and services. It is believed that tourism has the greatest potential to adopt e-commerce (Kim et al., 2007). The entire tourism industry structure is changing (Werthner and Ricci 2004), and this can be understood when the focus lies on the distribution function: e-commerce is suited to the tourism industry because customers are not close to the places where the production actually occurs. Joo (2002) stated that the tourism industry is a successful area of an electronic market because it is a consumer-oriented industry where services and information play a large part in transaction processes. Also due to the "perishable" nature of the services, hospitality and tourism are very suitable for a virtual distribution channel (Rong et al., 2009). Because there is a huge acceptance of e-commerce in the tourism industry, the structure of the industry has changed. Also, the way organizations conduct their business is changing. "The World Wide Web provides considerable advantages

for both the information provider and the user” (Pröll et al., 1998, p. 2). In the beginning the WWW was used as a form of attracting and contacting customers. Organizations present themselves and the products offered through the WWW. Later on it was increasingly used for e-commerce (Pröll et al, 1998). In the beginning internet was only used to obtain information, but nowadays the internet facilitates a way in which customers can order services. Nevertheless one has to keep in mind that using this new medium just to publish online tourism brochures is far from enough. Customers are their own travel agents, and they will build travel packages by themselves (Fodor and Werthner, 2004). Wang et al. (2002) described clearly the transformation of business into e-business due to the internet. In their research they mentioned that first the internet was used to share data, to exchange messages, and to collaborate on research. Afterwards, many users began to explore the internet and people engaged in online (commercial) activities. Especially in the travel industry the web has an enormous influence because it is easier than ever to travel the world (Wang et al., 2002).

#### *Information and communication*

The internet created the possibility to compare products and prices. Also, other information can easily be found on the web. If a supplier is too expensive, another supplier can be found without needing to drive for miles. The essence of the internet lies of course in communication, however the communication of an organization with members of the distribution channel have become much easier (Wynne et al., 2001). Internet provides a huge number and variety of services and products online. Therefore, the number of choices has increased. As a consequence, it is very difficult for customers to find what they are looking for. As an answer to this problem, recommendation systems have emerged (Furtmueller et al., 2010b). The characteristic of these systems is that they can personalize their recommendations to each user interacting with the system (Kabassi, 2010). Because the approaches like Sabre of Amadeus could not integrate all players, they did not fully succeed. The problem has become even more difficult with the web (Fodor and Werthner, 2004). Because of these more complex problems, Intelligent Travel Planning is emerged. Intelligent Travel Planning is a system that solves web electronic problems in the web (Camacho et al. 2001). More and more travel agencies are offering a point of contact via the World Wide Web, and this enables customers to search for appropriate travel products and prices (Kim et al. 2007).

### *Trends*

Xiang and Gretzel (2010) recognized two trends that emerged on the internet in the last few years. The first is the so-called social media websites. These sites represent different forms of consumer-generated content, like blogs, virtual communities, wikis, social networks, collaborative tagging and shared media files. The second trend is the fact that searching is a critical part of customers' use of the internet. Matlay and Westhead (2005) stated in their research that the emergence of the internet and the development in ICTs opened up new markets. Also, existing markets were altered because of the developments.

### *Worth Of Mouth*

As Werthner and Ricci (2004) concluded tourism business is nowadays a predominantly electronic business. As a consequence, also word-of-mouth (WOM) is transforming into e-WOM. WOM is especially important in the tourism industry, because products are intangible and are difficult to evaluate before consumption (Litvin et al., 2008). When WOM goes digital, new ways will arise of capturing, analyzing, interpreting, and managing the influence of one customer to another (Litvin et al., 2008). In the opinion of Fam et al. (2004), the internet is becoming the way in which customers can obtain almost anything. Also, Law and Ngai (2005) stated that since the emergence of the internet the tourism business has developed extensive internet applications.

### *Future*

Compared to the situation before the growth of Information Technology, and especially before the internet, the way customers obtain information and the way they search for and consume tourism has changed. Due to the growth of mobile computing and new applications like virtual communities, geo-tagging, photo/video sharing and personal blogs, the internet is an undeniable part of the travel experience (Xiang et al., 2008). In the online tourism industry, intense competition has emerged due to the internet. Also, many internet applications have been developed (Law and Ngai, 2005).

ICTs contribute to the growth of tourism, and the volume of supply and demand has increased due to the developments in ICT. ICT has also changed the way organizations conduct their business. E-tourism emerged as an expression to describe the complete range of applications of ICTs for tourism. Tourism organizations can benefit because ICTs support many functions, i.e. marketing, sales, operations, human resource management, and



purchasing (Stiakakis and Georgiadis, 2009). Also, more and more tourism organizations have realized that the internet is an important medium for marketing. They see that internet marketing is becoming an inseparable and influential part of their marketing strategy (Wang and Fesenmaier, 2006).

## ***RESULTS***

This section presents the results of the literature analyses. A framework is presented for antecedents and for positive and negative consequences. First, the antecedents for e-tourism success are described, then positive and negative consequences for organizations, customers, and partners are explained.

### ***Antecedents***

Antecedents are the requirements documented and described in the selected literature. These requirements are factors that should be there in order to make use of e-tourism. If these factors are not there, e-tourism would not be possible or less successful. There were many factors mentioned, and in order to provide a clear overview the antecedents have been split up into four categories:

- system quality
- information quality
- service quality
- technology quality

First, we explain the category system quality and describe the discussed factors. Afterwards, the framework is presented. The same procedure is followed for the other categories of antecedents. It must be mentioned that no distinction has been made in regard to the relative significance of the different factors.

### ***System quality***

System quality refers to “the desired characteristics of an e-commerce system” (DeLone and McLean, 2003, p. 34). In this category all of the characteristics of e-tourism related to the system are included, namely:

- usability
- availability
- download time
- privacy and security

- interactivity
- adaptability

‘Usability’ in this study’s context relates to the factors that involve using e-tourism services. Usability has been frequently discussed by various authors (Minghetti and Buhalis, 2010; Kim and Fesenmaier, 2008; Klausegger, 2006; Klein et al., 2005; Law and Ngai, 2005; Gärtner et al., 2010) and it covers a large group of factors. For instance, ‘ease of use’ was mentioned by Kim et al. (2006), O'Connor and Frew (2004), Beldona et al. (2005), and Kim et al. (2007). Another important factor in the subcategory usability is ‘user-friendliness’ (Buhalis and Law, 2008; Klausegger, 2006, p. 179; Kim and Fesenmaier, 2008, p. 6). As Buhalis and Law stated, “Comparing with traditional travel organizations, making websites which are more user-friendly and with simple pricing could help attract customers to complete the online transactions” (Buhalis and Law, 2008, p. 613). In contrast, Klausegger (2006) sees user-friendliness as the most important factor, which covers ‘easy-to-understand operation’ and ‘short loading times’. The easy-to-understand operation factor of Klausegger (2006) is therefore part of the subcategory usability because in their research they used ‘easy-to-understand’ as a part of user-friendliness. For this reason this factor is not mentioned in the subcategory ‘easy to understand’ of information quality. Kim and Fesenmaier (2008) state that ‘user-friendly’ relates to easy navigation. In this case, this means that searchers can find the information with a minimum level of mental effort. Furthermore, in their research, Kim and Fesenmaier (2008) commented that ease of use is composed of two separate features in its core concept: ease of understanding and ease of navigation (Kim and Fesenmaier, 2008, p. 6). Ease of navigation is mentioned by DeLone and McLean as a separate factor for system quality in the model, however all the research used in this study sees ease of navigation as a component of other factors. Pröll et al. (1998) also commented that appropriate search mechanisms should be there in order to allow the customer to find the desired tourism information, or product, conveniently and efficiently. So, ease of navigation is in some cases a part of user-friendliness and in other cases part of usability. However, this all relates to system quality. What is important to mention is that ease of understanding is seen as a part of ease of use by Kim and Fesenmaier (2008), although in the model of DeLone and McLean (2003), ‘easy to understand’ is a separate sub-category in the category ‘Information quality’. Here it is very important to make the distinction between easy-to-understand information and an easy-to-understand system. In the category system quality, ‘easy to understand’ means “Web sites should be designed so that visitors understand easily who sponsors the site, what

the goals of the sites are, and what they can achieve on the Web site” (Kim and Fesenmaier, 2008, p. 6) There are a few more factors for usability named by Klausegger (2006), namely general clarity, clear structure, and easy orientation. ‘Make it easy for customers to reserve a room’ is another factor that came up once (Hudson and Gilbert, 2006, p. 108). Pröll et al. (1998) mentioned another factor of system quality: “the possibility to select the best priced products out of the whole set of offers” (Pröll et al., 1998, p. 5). Attracting and keeping users is significant in order to have e-tourism success (Hudson and Gilbert, 2006, Wang et al., 2002). Automatically updated inventory (Pröll et al. 1998) is another factor of usability, and also an important goal of the e-tourism implementation. This is also a questionable factor in this category because only the fact that it should be updated automatically refers to the system. Another part of this important factor relates to information quality, because the information about inventory must be complete and accurate.

Logically, ‘availability’ is a sub-category for system quality. Three authors from the sample have written about this item (i.e., Buhalis and Licata, 2002, Pröll and Retschitzegger, 2000, and O'Connor and Frew, 2004). They all agree that the system should be accessible and available, as well as that high-quality access should be guaranteed.

In order for the system to work, ‘download time’ is a major sub-category. This category consists of speed of the website (Kim et al., 2007), update speed (O'Connor and Frew, 2004), and Website download time (Rong et al., 2009). All these authors relate to the fact that users do not have to wait to receive information or when they are making a booking. So the websites should load quickly. O'Connor and Frew (2004) also cited transaction speed in addition to update speed. Klausegger (2006) mentioned short loading times as antecedent too, however in his opinion this is a form of user-friendliness and therefore not mentioned in this subcategory.

Security is mentioned often in the literature sample as antecedent for e-tourism (Wang et al., 2002; Rong et al., 2009; Pröll, 1998). Security issues are also mentioned as barriers to using e-tourism (Fam et al., 2004; Buhalis and Law, 2008). Security is very broad and different authors have different thoughts about it. Fam et al. (2004) describe in their article the importance of security as follows: “The relationship between accommodation service providers and consumers is haunted by threats to consumer privacy and security” (Fam et al. 2004, p. 199). Also Buhalis and Law (2008) described the fact that security issues are a reason for customers to not make use of online travel products. Therefore, they stated in their research that website owners should “pay more attention to making customers feel comfortable and more secure reservations and to increase trust in the online environment”

(Buhalis and Law, 2008, p. 612). However, in another article of Buhalis and Licata (2002) an interesting contradiction is found. These researchers found that “consumers who use online services appreciate the benefits and realize that eCommerce is more secure than many other forms of purchasing” (Buhalis and Licata, 2002, p. 211), although they stated that security still is an important factor. “In order to be successful, tourism community organizers need to (...) conduct easy and secure transactions with the goods and services they provide” (Wang et al., 2002, p. 416). This is a meaningful description of what is meant by secure transactions (Wang et al., 2002) and secure payment systems (Rong et al., 2009) as an antecedent for e-tourism. Actually, ‘confidential booking’ as an antecedent, mentioned by Pröll et al. (1998) is also part of this definition.

‘Interactivity’ seems to logically fit as a sub-category of system quality, however a detailed explanation is useful to understand the great importance of this sub-category. Interactivity is an element of everything that has to do with communication with suppliers, customers, and the tourism organization itself. It is significant for the success of e-tourism because “new, experienced, sophisticated, and demanding travellers require interaction with suppliers to satisfy their own specific needs and wishes” (Buhalis and Law, 2008, p. 611). Therefore, interaction should be present in the e-tourism implementation. This can be achieved, for example, by implementing active e-complaint handling section (Fam et al., 2004, Buhalis and Law, 2008).

Adaptability was already a subcategory of the DeLone and McLean categorization. Pröll et al. (1998) mentioned something about adaptability. They stated that easy adaptability of the system is necessary for e-tourism. Kim et al. (2006) found acceptability or likeableness of the seller to be important, so we clustered this in the subcategory adaptability.

<b>Category</b>	<b>Subcategory</b>	<b>Sample quotes</b>
<i>System quality</i>	Usability	“Ease of use” (Kim et al., 2006, p. 890) “User-friendly” (Kim and Fesenmaier, 2008, p. 6) “Make it easy for customers to reserve a room” (Hudson and Gilbert, 2006, p. 108)
	Availability	“High quality access” (Pröll and Retschitzegger, 2000, p. 182) “Connectivity” (O'Connor and Frew, 2004, p. 181) “Need to be accessible and available constantly” (Buhalis and Licata, 2002, p. 210)
	Download time	“Speed of the website” (Kim et al., 2007, p. 594) “Update speed” (O'Connor and Frew, 2004, p. 196) “Web site download time” (Rong et al., 2009, p. 476)
	Privacy and	“Making customers feel comfortable and secure” (Buhalis

	security	and Law, 2008, p. 612) “Secure payment system” (Rong et al., 2009, p. 473) “Conduct easy and secure transactions” (Wang et al., 2002, p. 416) “Consumer privacy and security” (Fam et al., 2004, p. 199) “Booking must be totally confidential” (Pröll et al., 1998, p. 5)
	Interactivity	“New, experienced, sophisticated, and demanding travellers require interacting with suppliers to satisfy their own specific needs and wishes” (Buhalis and Law, 2008, p. 611) “Implement active complaints management in their own Web sites” (Fam et al., 2004, p. 197) “Relating back to users to provide customized interactions” (Hudson and Gilbert, 2006, p. 103) “e-complaint handling section” (Buhalis and Law, 2008, p. 613)
	Adaptability	“Easy adaptability of the system” (Pröll et al., 1998, p. 3) “Consider the acceptability or likableness of the seller” (Kim et al., 2006, p. 893)

Table 2 Antecedents in the category system quality

### *Information quality*

The information quality category includes subcategories of factors for e-commerce content issues (DeLone and McLean, 2003). Many authors gave the message that customers want information (Minghetti and Buhalis, 2010, Kim and Fesenmaier, 2008, Qing and Schniederjans, 2006, Hudson and Gilbert, 2006, Stiakakis and Georgiadis, 2009, Werthner and Ricci, 2004, Pröll et al., 1998). However, just providing information is definitely not enough. Quantity and quality of information is significant (Minghetti and Buhalis, 2010). Therefore, information quality is an antecedent for e-tourism. In order to give a clear overview of the quality of information, this category is divided into six subcategories:

- dynamic content
- relevance
- accuracy
- personalization
- easy to understand
- variety of information

The first mentioned subcategory is ‘dynamic content’. This subcategory reflects all the factors in relation to content. Content is, of course, a major antecedent. This is mentioned by

Joo (2002). Joo (2002) found that content is a critical success factor from the customer's perspective. The content issue is also found in the article by Klausegger (2006). She describes in her conclusions that the use of internet has a major goal: communication and information acquisition. Klausegger (2006) wrote in detail that highly up-to-date content is regarded as very important. Another aspect mentioned concerning content, is that content should be of sufficient quality (Pröll and Retschitzegger, 2000). According to Pröll and Retschitzegger (2000), the quality of content is essential for the success of tourism information systems. Akehurst (2009) stated that developing user-generated content is important for e-tourism. In the design of a website, a communication concept is also needed (Cano and Prentice, 1998). Papathanassis and Knolle (2009) stated, concerning the subject website design, that the design should be effective. However they do not elaborate on what effectiveness means in their case. Minghetti and Buhalis (2010) start with the notion that there should be a website and that this website should have a good design, but here again what the requirements or necessary elements of this design are not explained, though they did mention the presence of motivating stimuli as important. Design is also mentioned by Klausegger (2006). Design and presentation of the website is the content-related factor presented by Kim et al. (2007). They stated that design and presentation are essential in helping to meet customers' expectations. Kim et al. (2007) give specific factors namely sophisticated design layout, and color scheme, as important factors to website users. Hoffman and Novak (1996) are cited in the article of Hudson and Gilbert (2006) and stated that customers are looking for entertainment (or edutainment) when they use the web. This will lead to an increased dollar amount spent in the end, because a positive experience on the website increases the time spent, and the time spent will lead to improved dollar amount spent (Hudson and Gilbert, 2006). Favorable first impressions are indicated by Kim and Fesenmaier (2008). With favorable first impressions they mean inspirationally related elements, visually appealing stimuli, usability, and credibility. Therefore, this factor is difficult to categorize because usability is a subcategory of system quality, and credibility should be categorized as a factor in one of the system quality subcategories. The reason that 'favorable first impressions' is categorized in the subcategory content is because this relates more to design.

The relevance of the information is mentioned in the DeLone and McLean model (2003). Unfortunately, there are not more than two authors who wrote about the relevance of information. Kim et al. (2007) mentioned useful and relevant content as an antecedent for e-tourism. Fam et al. (2004) stated that "we must also consider the information that is relevant to the economy and the companies are made available not only by the company, but also by

the consumer” (Fam et al., 2004, p. 197). Here ‘relevant’ has another dimension than in the vision of Kim et al. (2007), however it relates to relevant information and therefore this factor includes the subcategory relevance.

Accuracy is the next subcategory for information quality. Accuracy refers to the accuracy of all information, i.e., information about prices, about inventory, environment, etc. Accuracy of information is mentioned by Kim et al. (2006), Wang and Fesenmaier (2006), Papathanassis and Knolle (2009), Pröll et al. (1998). Another mentioned factor is keeping the website up-to-date (Hudson and Gilbert, 2006; Rong et al., 2009). “Information on the website should also be updated regularly to keep users informed about the latest news” (Law and Ngai, 2005, p. 29). Law and Ngai (2005) noted that information should be accurate in regard to spelling and text.

Personalization refers to giving the consumer the information he or she wants and offering customized products. In this subcategory, factors are mentioned concerning personalizing information and personalizing products. Factors related to learning about the customers’ wishes and needs and the understanding of wishes and needs, are clustered in the subcategory ‘empathy’ of ‘service quality’. Fam et al. (2004) wrote that organizations should have a customization concept. Buhalis and Licata (2002) referred to this as it is important to personalize the tourism product. Other authors commented that the information should be personalized. Minghetti and Buhalis (2010) defined it as necessary “to select, aggregate and distribute information to the right consumer in the right time and in the right place” (Minghetti and Buhalis, 2010, p. 273). Stiakakis and Georgiadis (2009) mentioned also the information-related issue when they stated that supporting user generated content is significant. They also said that offering tailor-made products is an antecedent of e-tourism. Stiakakis and Georgiadis (2009) cited the need for customizing tourism products. Meeting customers’ needs is central to the arguments of Kim et al. (2006). In this subcategory, some authors relate personalization to the design of the system, or design of the website (Kabassi, 2010; Pröll and Retschitzegger, 2000; Stockdale, 2006). Buhalis and Law (2008) talked about reaching potential clients with comprehensive, personalized, and up-to-date products and services in order to satisfy those needs.

The subcategory ‘easy to understand’ covers the factors that deal with understandability. There is just one specific factor in this subcategory, simple pricing (Buhalis and Law, 2008). All the other authors who discussed understandability do this in a general way. Cano and Prentice (1998) said that understanding of site content is a precursor to using the WWW (for a communication concept). Kim and Fesenmaier (2008) also discussed

that ease of understanding is an antecedent. However, they described ease of understanding as a part of ease of use. We categorized it in the subcategory ‘easy to understand’, because Kim and Fesenmaier (2008) clarified it is follows: “As such, websites should be designed so that visitors easily understand who sponsors the site, what the goals of the sites are, and what they can achieve on the Web site” (Kim and Fesenmaier, 2008, p. 6). In our opinion, this has to do with the information on the website and ease of use is therefore divided into the subcategory ‘easy to understand’ in the category ‘information quality’. Law and Ngai (2005) stated that bullet lists should be used in order to make the information easier to read.

Variety of information is part of the DeLone and McLean model (DeLone and McLean, 2003). This sub-category encompasses factors that imply that various sorts of information should be present. A few authors discussed in general that there should be as much information as possible (Hudson and Gilbert, 2006, Joo, 2002), and some authors more concretely and describe which kinds of information should be there (Rong, 2009; Joo, 2002). The following information should be presented: airport information, surrounding area information, reservation information, facilities information, contact information, room rates, and availability (Rong et al., 2009), pricing information (Kim et al., 2007). Wynne et al. (2001) consider the fact that organizations “have to permit comparisons by offering information in a uniform layout, providing access to comments made by previous tourists, and an operating grading system” (Wynne et al., 2001, p. 428). Only Rong et al. (2009) mentioned the fact that the site must be available in multiple languages. Pröll et al. (1998) found transparent information of how total prices are computed to be a requirement for e-tourism.

Category	Subcategory	Sample quotes
<i>Information quality</i>	Dynamic content	“Presence of motivating visuals” (Minghetti and Buhalis, 2010, p. 277) “Highly up-to-date content” (Klausegger, 2006, p. 179) “Development of user generated content” (Akehurst, 2009, p. 51)
	Relevance	“Useful and relevant content” (Kim et al., 2007, p. 593) “We must also consider the information that is relevant to the economy” (Fam et al., 2004, p. 197)
	Accuracy	“Timely and accurate information” (Wang and Fesenmaier, 2006, p. 239) “Actuality and accurateness of tourism information and products” (Pröll et al., 1998, p. 4) “Up-to-date information on the site” (Rong et al., 2009, p. 475)
	Personalization	“Customizing tourism products” (Stiakakis and



		Georgiadis, 2009, p. 1) “Customization concept” (Fam et al., 2004, p. 198) “Meet its customers’ needs” (Kim et al., 2006, p. 899)
	Easy to understand	“Understanding of site content” (Cano and Prentice, 1998, p. 70) “Ease of understanding” (Kim and Fesenmaier, 2008, p. 6) “Simple pricing” (Buhalis and Law, 2008, p. 613)
	<u>Variety of information</u>	“Provide as much information as possible” (Hudson and Gilbert, 2006, p. 108) “Reservation information, facilities information, contact information” (Rong et al., 2009, p. 471) “To get comprehensive information ranging from destinations to tour packages and reservations for airlines, hotels, and restaurants with just a few clicks” (Joo, 2002, p. 62)

Table 3 Antecedents in the category information quality

### *Service quality*

Service quality is defined by DeLone and McLean (2003) as “the overall support delivered by the service providers, regardless who deliver this support” (DeLone and McLean, 2003, p. 34). The following subcategories are part of the service quality category:

- empathy
- responsiveness
- building up relationships
- knowledge support
- service support

The first subcategory is empathy. In this subcategory all the factors related to understanding what customers want and how well organizations know their customers are clustered. The authors who commented on empathy are all giving the same message. Wang et al. (2002) wrote that understanding members and their needs is necessary in e-tourism business, and the other authors generally agree with this opinion. Identification of the customers’ needs must go quickly, in the vision of Buhalis and Law (2008) this is the key to success. What is important according to Wang et al. (2002) is how well organizations know their members. Stockdale (2006) wrote about managing customer relationships. She discussed the following factors in relation to empathy: “identifying customers”, “identifying the unique characteristics”, and “prioritizing segments” (Stockdale, 2006, p. 210). Wang and Fesenmaier (2004) also discussed understanding member participation as antecedent. Learning about user preferences, included by Hudson and Gilbert (2006), is another factor of empathy because this

relates to the success of marketing on the web. Buhalis and Law (2008) described that increasing profiling will lead to better personalization and customization, and better interaction between consumers and organizations.

Responsiveness in the service quality category refers to the response time of the organization, for example the reaction to questions. Answering emails promptly and quick responses to queries are factors which belong in this subcategory. Response time is a factor that is part of the DeLone and McLean model (2003). This factor is described in Buhalis and Law (2008) as an essential factor for success, however they stated that this is only the case for small and medium-sized tourism enterprises. Prompt responses to inquiries as well as answering queries within 24 hours were mentioned by Hudson and Gilbert (2006) as important factors in relation to response time.

Building relationships is a subcategory that was not part of the DeLone and McLean model (DeLone and McLean, 2003). The researchers of this study came up with this new category because multiple authors spoke about building relationships as a requirement for e-tourism. In the DeLone and McLean model (DeLone and McLean, 2003), there was no subcategory in which these factors could be placed. Because this subcategory has to do with service, 'building relationships' is placed in the category service quality. In this subcategory, building relationships with customers as well as building relationships with suppliers are included. Developing relationships with customers is mentioned by Hudson and Gilbert (2006). Buhalis and Licata (2002) stated that for eMediaries it is very important to build up a relationship with suppliers. Stockdale (2006) wrote a whole article about the need to manage customer relationships. Customer relationship programs are a topic in the research of Wang and Fesenmaier (2004) that play an important role in making a web-based marketing strategy successful. Wang et al. (2002) mentioned specific actions to reach the goal of building relationships. They discussed that there should be different ways to deal with stakeholders, and that "tourism community organizers need to provide their customers with shared interests a way to come together, express themselves, conduct easy and secure transactions with goods and services they provide, and try to match and expand upon the various needs of the community and the functional aspects of the Internet" (Wang et al., 2002, p. 416).

Support was already a subcategory in the DeLone and McLean model (DeLone and McLean, 2003). However, to fit the information reviewed in this research, the support subcategory was divided into two subcategories. One subcategory covers 'knowledge'. Some authors wrote that managers and operating staff should have knowledge about e-tourism, otherwise e-tourism business will not be successful (Buhalis and Law, 2008). This knowledge

is a kind of support. There is made a distinction between ‘knowledge support’ and ‘service support’. In the subcategory ‘knowledge support’ the factor knowledge of managers and operating staff is included (Buhalis and Law, 2008). Minghetti and Buhalis (2010) wrote that skills are significant, especially instrumental digital skills, information skills, and strategic skills. They mentioned that an additional antecedent is ‘essential knowledge of critical services’ (Minghetti and Buhalis, 2010, p. 272). Another mentioned factor named by Wang et al. (2002) is comprehensive understanding of the essence of a virtual community. Fuchs et al. (2010) stated the same, however they defined it as employees needing to have a sufficient level of ICT skills. Something similar is mentioned by Wynne et al. (2001), they stated: “successful intermediaries will have to aggregate information and specialized knowledge in a single format at a single virtual organization” (Wynne et al., 2001, p. 428)

Service support is the other support subcategory. In this category we clustered the factors that relate to the support of different services. Factors such as ‘providing content and ancillary services’ are mentioned. Traditional travel agencies should “develop and offer one stop shops for users” (Buhalis and Licata, 2002, p. 218). Concerning the possibility of online reservations, there should be the “possibility to book products online” (Pröll et al., 1998, p. 3), Online/real time reservations, well-designed and convenient online reservation service are important attributes according to Rong et al. (2009), dynamic services are mentioned by Joo (2002), and Kim et al. (2006) found hassle-free service also to be important. The ability to book online should be at hand (Kim et al., 2007, Pröll et al., 1998). Pröll et al. (1998) discussed that the website also should provide value. Kim et al. (2007) stated that flexibility is significant in relation to the topic of online booking and that it is important to book all the travel services in one transaction. According to Kim et al. (2007), enhanced websites should be more humanized, uncomplicated and secure, and should provide more customized services (Kim et al., 2007). Racherla et al. (2008) found that a complete travel experience should be realized with careful design and innovation.

<b>Category</b>	<b>Subcategory</b>	<b>Sample quotes</b>
<i>Service quality</i>	Empathy	“Understanding members and their needs” (Wang et al., 2002, p. 408) “Quick identification of customer needs” (Buhalis and Law, 2008, p. 611) “Learning about user preferences” (Hudson and Gilbert, 2006, p. 103)
	Responsiveness	“Prompt responses to inquiries” (Hudson and Gilbert, 2006, p. 99) “Answer queries within 24 hours” (Hudson and Gilbert,

		2006, p. 108) “Response behavior becomes an essential factor for the success of small and medium-sized tourism enterprises” (Buhalis and Law, 2008, p. 611)
	<u>Building up relationships</u>	“Development of relationships with customers” (Hudson and Gilbert, 2006, p. 99) “New eMediaries need to build relationships with suppliers” (Buhalis and Licata, 2002, p. 219) “Need to manage customer relationships” (Stockdale, 2006, p. 205)
	<u>Knowledge support</u>	“Instrumental digital skills, information skills, strategic skills” (Minghetti and Buhalis, 2010, p. 272) “Comprehensive understanding of the essence of a virtual community” (Wang et al., 2002, p. 408) “Knowledge of managers and operating staff” (Buhalis and Law, 2008, p. 617)
	<u>Service support</u>	“Add value, by providing content and ancillary services” (Buhalis and Licata, 2002, p. 218) “One stop shops” (Buhalis and Licata, 2002, p. 218) Hassle-free service (Kim et al., 2006, p. 890) Offer comprehensive services (Wynne et al., 2001, p. 428)

Table 4 Antecedents in the category service quality

#### *Technology quality*

The category ‘technology quality’ clusters factors related to technology. These factors are related to technology in general. They do not have influence on an individual system. These factors are clustered in the subcategories:

- innovation
- technology diffusion

The subcategory ‘innovation’ includes antecedents that tell something about the necessary degree of innovativeness of technology. Racherla et al. (2008) referred to Weiermaier et al. (2005) and stated that “tourism organizations are continuously forced to rethink and reinvent their traditional strategies of competitiveness in establishing the innovation potential” (Racherla et al. 2008, p. 415). One of the mentioned factors is the need to modernize and the need to adapt to new realities (Buhalis and Licata, 2002). The services offered in the online or electronic market should be offered in a convenient and customized way (Joo, 2002). What is also of great importance is the choice of technology. Joo (2002) described that the choice of technology is an important determinant in the success of the electronic tourism market. Furthermore, proven technology may reduce risks, because object-oriented technology can be efficiently integrated into other system components or the

technology can be extended to accommodate newer systems (Joo, 2002). Camacho et al. (2001) have stated “an electronic travel agent must have the ability to manage travel planning” (Camacho et al., 2001, p. 388).

The technology should definitely be adapted, otherwise e-tourism will not work. Therefore the subcategory technology diffusion covers all factors related to the adoption of technology by organizations as well as by customers and partners. Customers’ adoption of technology is specifically described by Hudson and Gilbert (2006). Agent technology is one factor of the subcategory technology diffusion. Qing and Schniederjans (2006) describe this agent technology as an important feature in the development of e-tourism, “transforming systems from online brochures to advanced systems with innovative services” (Qing and Schniederjans, 2006, p. 599). An e-commerce transaction should be completely supported otherwise it will not be successful (Pröll and Retschitzegger, 2000). Enabling ICT infrastructure is an important element according to Racherla et al. (2008). Experience is part of technology diffusion, because the more experience with the technology the better the diffusion. Hudson and Gilbert (2006) specifically mentioned “the importance of experience in the adopter’s ability to absorb the technology and to benefit from it economically” (Hudson and Gilbert, 2006, p. 102). Beldona et al. (2005) noted in their research different authors who declared that experience is a requirement of e-tourism. It seems logical, that a significant antecedent is ‘there should be an online market’. Online markets are in this case online customers, but also online stakeholders or other online partners, such as online eMediaries. Existence of online partners is a major requirement for e-tourism and it is important to engage users’ interest and participation (Hudson and Gilbert, 2006). Racherla et al. (2008) describe this by stating that there should be community participation.

<b>Category</b>	<b>Subcategory</b>	<b>Sample quotes</b>
<i><u>Technology quality</u></i>	<u>Innovation</u>	“Need to modernize” (Buhalis and Licata, 2002, p. 218) “Modernize and adapt to the new realities” (Buhalis and Licata, 2002, p. 218) “Innovation” (Racherla et al., 2008, p. 414) “Innovative business processes re-engineering” (Fuchs et al., 2010, p. 165)
	<u>Technology diffusion</u>	“Fully support an e-commerce transaction” (Pröll and Retschitzegger, 2000, p. 184) “Interoperability and ontology” (Buhalis and Law, 2008, p. 614) “Enabling ICT infrastructure” (Racherla et al., 2008, p. 414) “Online experience” (Hudson and Gilbert, 2006, p. 99)

		<p>“The importance of experience in the adopter’s ability to absorb the technology and to benefit from it economically” (Hudson and Gilbert, 2006, p. 102)</p> <p>“Internet experience” (Beldona et al., 2005)</p> <p>“Existence of online partners” (Hudson and Gilbert, 2006, p. 110)</p> <p>“Customers’ adoption of technology” (Hudson and Gilbert, 2006, p. 110)</p> <p>“Community participation” (Racherla et al., 2008, p. 414)</p>
--	--	--

Table 5 Antecedents in the category technology quality

### *Consequences*

In this section we discuss the consequences of e-tourism, defined as the positive and negative effects of e-commerce. As previously mentioned, the consequences have been divided into the following categories: consequences for organizations, consequences for customers and consequences for partners. Both positive and negative consequences are presented in this section. We first explain positive consequences.

### **Positive consequences**

#### *Organization*

In our literature analysis we found many positive consequences for organizations. By far, most of the positive consequences of e-tourism are for the organizations. These positive consequences were clustered in the following categories:

- financial benefits
- strengthening competition
- business development
- cooperation
- increasing market share
- advertising and marketing opportunities
- new communication possibilities
- possibility to influence customer behavior
- relationship development
- market research opportunities

In the category 'financial benefits', factors related to reducing costs and supporting revenue growth are clustered. Buhalis and Licata (2002) described that overhead and distribution costs are reduced with e-tourism. Similarly, Buhalis and Law (2008) mentioned a general cost reduction, but they also specifically stated that search costs decrease in electronic markets. They also noted revenue growth as a financial benefit and Minghetti and Buhalis (2010) concurred with this. Cutting costs, and reducing search and distribution costs, are all mentioned by these authors. By using e-tourism there is a greater potential for reducing costs and opportunities for cost savings (Stockdale, 2006). Also, the reduction of advertising costs is another positive consequence that fits in the financial benefits category (Özturan and Roney, 2004). According to Wynne et al. (2001) the concentration of information will also lead to cost savings, since search costs can be reduced and this will also facilitate transactions. The last factor in this subcategory concerns increased sales. Stiakakis and Georgiadis (2009) stated that there is no longer need for intermediaries, because sales can be carried out online and therefore without necessitating a travel agency. Blogging can help increase sales. As stated by Akehurst (2009), blogs are often perceived as more trustworthy and credible than traditional marketing. Ye et al. (2009) found that positive online reviews result in increased sales. Litvin et al. (2008) described it in a more general way: "stimulating good eWOM should result in enhanced business activity" (Litvin et al. 2008, p. 463).

Strengthening competitiveness was mentioned in four of the reviewed articles. Buhalis and Law (2008) and Minghetti and Buhalis (2010) wrote about competitive advantage and strengthening competitiveness, respectively. It has also been mentioned that with e-tourism, organizations no longer need the traditional intermediaries (Stiakakis and Georgiadis, 2009). Law and Ngai (2005) stated that internet technology led to intense competition.

Another category of the positive consequences for organizations is business development, and many authors have recognized the opportunities for developing business (e.g., Buhalis and Law, 2008; Akehurst, 2009; Joo, 2002). The following developments are mentioned in the literature: allow greater precision (Buhalis and Licata, 2002), improve service quality, that ICT provides info-structure and that ICT empowers increased efficiency, ability to re-develop the tourism product proactively and reactively, technology support to develop knowledge base, and database development (Buhalis and Law, 2008). According to Buhalis and Law (2008), ICT changes the function of distribution to the mechanism of adding value, and providing service and new tools. Joo (2002) mentioned electronic markets and stated that the use of information technologies enables integration of business activities. As stated by Racherla et al. (2008), ICTs also drive innovations and these are important for

staying competitive. Also, it has been argued that an organization can get the best information from suppliers by using e-commerce (Stiakakis and Georgiadis, 2009). Minghetti and Buhalis (2010) found the disintermediation of the distribution channel to be a positive consequence and stated that by applying ICT tools visibility could be enhanced. Also, according to Hjalager (2010), productivity can be improved. Additionally, there was one author who stated that the adoption of e-procurement could be enhanced (Andreu et al., 2010).

Cooperation is a positive outcome of e-business according to multiple authors (Buhalis and Licata 2002; Buhalis and Law, 2008; Joo, 2002). There has been an emergence of new web-based travel agencies, new tourism eMediaries, and online last-minute agencies (Buhalis and Licata, 2002). These travel agencies and eMediaries could help organizations to increase their sales. Therefore Buhalis and Law (2008) mentioned this as possibility for co-opetition (cooperation with competitors). Joo (2002) also mentioned cooperation, however he meant cooperation among players, and also cooperation between development teams.

Increasing market share is an important positive consequence for organizations. ICT transformed the distribution function into an electronic marketplace. The reviewed literature named reaching new (foreign) and global markets and customers beyond borders as a major opportunity (Buhalis and Licata, 2002; Hudson and Gilbert, 2006; Fodor and Werthner, 2004; Özturan and Roney, 2004) Hudson and Gilbert (2006) additionally stated that a website positions an organization in the international marketplace. Akehurst (2009) commented that the internet opened up communications, distribution channels and transactions. He mentioned the opportunity to reach global markets and the possibilities for international partnerships. Furthermore, Akehurst (2009) described that the opportunity to reach global markets will lead to business models that add customer value and will increase profitability. According to Card et al. (2003), a consequence of using electronic commerce is gaining market share.

The next category covers factors that have to do with advertising and marketing, related to the fact that due to the internet there are more advertising and marketing opportunities. One consequence related to advertising and marketing is that the internet promotes mass customization, and ICT supports developing marketing propositions specifically focused on target groups (Buhalis and Law, 2008). Additionally, the internet provides access to a great number of people (Buhalis and Licata, 2002). In similar vein, Cheong (1995) stated that virtual reality could serve as a marketing instrument. By creating a great virtual experience, the desire to visit the portrayed place could be increased. Akehurst (2009) discussed the phenomenon of blogging and presented possibilities for micro blogging, stating that blogs have a value for marketing management, as well as for management and



marketing research. Using the internet it has become easy to update marketing information, and internet makes it possible for organizations to grow, advertise and promote themselves throughout this medium (Hudson and Gilbert, 2006). Cano and Prentice (1998) found that the web has the potential to be a powerful advertising and marketing tool. Özturan and Roney (2004) stated that if organizations use their websites efficiently, there is the opportunity to know each customer individually. In this case, messages can be sent in relation to personal needs and interests, which is called pull marketing, and Özturan and Roney (2004) commented that this is a positive consequence of the web. However, there is also an antecedent related to this. As Özturan and Roney (2004) described, a database of customers is required before pull marketing is possible. Kim and Fesenmaier (2008) referred to findings of Fogg (2003) in their research. They described that the evolution of internet technology, in terms of user generated content, is a significant medium for marketing by influencing the travel planning process of customers. Another factor found in the research of Stiakakis and Georgiadis (2009) was that “tourist products and destinations are better advertised via the Internet” (Stiakakis and Georgiadis, 2009, p. 2). Also mentioned by Stockdale (2006) in relation to marketing is the opportunity to increase brand recognition virtually. In her research she described this as a direct consequence of personalizing the product via recognition of the target market.

Logically, the internet creates new communication possibilities. Minghetti and Buhalis (2010) declared this very broadly stating that the internet provided new channels to empower communication processes. What is of great value in the World Wide Web is the possibility of using bi-directional media, not only hypertext (Cano and Prentice, 1998). This means that customers can not only read from topic to topic (hypertext), but they can also have conversations (bi-directional). As consequence, relationships with customers can be built (Cano and Prentice, 1998). Re-engineering the communication process is a positive consequence mentioned by Buhalis and Law (2008). It is seen as positive because in the end it will lead to better communication. Litvin et al. (2008) wrote about the greater control over format and communication types, which is another positive consequence. Xiang et al. (2008) see travel as a social, cultural and economic phenomenon and write that this phenomenon is communicated and interpreted in many new and different ways due to the change in technology and the existence of the internet.

The internet makes it possible to better serve customers. The internet provides the possibility to meet the changing behavior of customers (Fodor and Werthner, 2004). Also, the internet creates the opportunity for better identification of customers and to better serve

customers, in terms of accurateness and effectiveness (Buhalis and Licata, 2002). Beldona et al. (2005) noted that travel suppliers could better serve customers by identifying the relevant features required of e-tourism.

The next category is relationship development, which includes factors that have to do with the development of relationships with customers and suppliers. One positive consequence that falls into this category is that existing relationships could be further developed due to the internet. Internet offers the chance to advance closer relationships with customers. Internet also enables organizations to implement Customer Relationship Management programs (Buhalis and Licata, 2002). According to Litvin et al. (2008) the electronic forum permits the demonstration of caring and concern by providing positive reassurance to potential visitors and guests. The internet increases opportunities to build direct relationships with customers and suppliers (Minghetti and Buhalis, 2010). Cano and Prentice (1998) go more in depth, and have stated that these relationships, which can be built with customers, could be more personal, and that conversations are ongoing. Fam et al. (2002) recognized that the internet offers many new communication and distribution possibilities and wrote that these possibilities open up interesting ways of intensifying the relationship with a customer. In the words of Stiakakis and Georgiadis (2009): "ICTs allow direct and interactive relationships between tourism organizations and customers" (Stiakakis and Georgiadis, 2009, p. 2).

Opportunities for market research are mentioned by three authors (Buhalis and Law, 2008; Akehurst, 2009; Joo, 2002). All stated that through the internet there are possibilities to carry out market research, though none of them go in depth on this topic.

<b>POSITIVE CONSEQUENCES</b>		
<b>Consequences for:</b>	<b>Category</b>	<b>Sample quotes</b>
<i>Organization</i>	Financial benefits	"Significant cost savings" (Stockdale, 2006, p. 212) "Reduce distribution and overhead costs" (Buhalis and Licata, 2002, p.) "Revenue growth" (Buhalis and Law, 2008, p. 618)
	Strengthen competitiveness	"Strengthening their competitiveness" (Minghetti and Buhalis, 2010, p. 270) "No need for traditional intermediaries" (Stiakakis and Georgiadis, 2009, p. 1) "The wide-scale application of Internet technology has led to intense competitions in the travel and tourism industry for online reservations" (Law and Ngai, 2005)
	Business Development	"Productivity can be improved" (Hjalager, 2010, p. 2) "Enables businesses to integrate business activities" (Joo,

		2002, p. 59) “Ability to re-develop the tourism product proactively and reactively” (Buhalis and Law, 2008, p. 619)
	Cooperation	“Emergence of a wide range of new tourism eMediaries” (Buhalis and Licata, 2002, p. 208) “Possibilities to co-opetition and co-destiny” (Buhalis and Law, 2008, p. 619) “Cooperation among players and among development teams” (Joo, 2002, p. 64) “Travel providers can encourage and involve travelers in the process of co-producing and co-creating their e-business” (Wang and Fesenmaier, 2004, p. 719)
	Increase market share	“Allows penetrating foreign markets” (Buhalis and Licata, 2002, p. 211) “Increased market size” (Stockdale, 2006, p. 207) “Possibility to grow by reaching consumers beyond their borders” (Hudson and Gilbert, 2006, p. 101)
	Advertising / Marketing opportunities	“Increases the effectiveness and efficiency of traditional marketing functions” (Akehurst, 2009, p 52) “Possibilities of microblogging” (Akehurst, 2009, p. 55) “Powerful advertising and marketing tools” (Cano and Prentice, 1998, p. 69) “Opportunity to increase brand recognition virtually on a one to one basis and thereby build loyalty” (Stockdale, 2006, p. 213)
	New communication possibilities	Not only hypertext is possible also bi-directional media” (Cano and Prentice, 1998) “ICT empower to re-engineer communication strategies” (Buhalis and Law, 2008, p. 620) “Allows for greater control over format and communication types” (Litvin et al., 2008, p. 462) “Empower their communication process” (Minghetti and Buhalis, 2010, p. 267) “Serve on a 24h/365 days basis” (Litvin et al., 2008, p. 210)
	Possibility to better serve customers	“New ways to meet changing consumer behavior” (Fodor and Werthner, 2004, p. 15) “Enables principles to identify and target customers more accurately and effectively” (Litvin et al., 2008, p. 210) “Travel suppliers can provide greater detail on features of products using a wide array of tools” (Beldona et al., 2005, p. 562)
	Relationship development	“Providing positive reassurance to potential visitors and guests” (Litvin et al., 2008, p.464) “Offers new relationships with their customers” (Cano and Prentice, 1998, p. 68) “Opportunity to relationships-building” (Wang and Fesenmaier, 2006, p. 240) “Strengthen relationship with suppliers” (Andreu et al., 2010, p. 785)

	Market research opportunities	“Marketing research” (Buhalis and Law, 2008, p. 618) “Ongoing market research opportunities” (Akehurst, 2009, p. 52) “Promotion market research” (Joo, 2002, p. 62)
--	-------------------------------	---

Table 6 Positive consequences for organizations

### *Customers*

There are also positive consequences for customers due to the rise of the internet. Many positive consequences for customers were identified in the literature and then divided into the following categories:

- saving time
- reducing costs
- better service
- more personalized products and services
- 24/7
- information gathering
- enabling interaction

‘Saving time’ relates to the fact that customers can save time searching for and booking tourism products. Akehurst (2009) commented that the internet eases time and place constraints. Additionally, Gertner et al. (2007) described online shopping as saving customers a great deal of time. Rapid communication (Card et al., 2003) is clustered in this category too, because it refers to rapid response and relates to saving time.

Reducing costs is another category of the positive consequences for customers. Costs can be reduced in many ways. Mentioned cost reductions are: search cost reduction (Buhalis and Law, 2008) and distribution cost reduction (Buhalis and Licata, 2002; Minghetti and Buhalis, 2010). Stockdale (2006) found that if certain tools are implemented, like FAQs significant cost savings can be achieved.

Better service can be provided to customers through internet travel services. Customers carry out the complete search online and, when they have found what they are looking for, they can also complete the booking online (Buhalis and Licata, 2002). “Internet makes the search of destinations, tourism providers, and services easier and richer than traditional channels do” (Minghetti and Buhalis, 2010, p. 267). Virtual reality makes it possible to explore each destination in depth (Cheong, 1995). Fodor and Werthner (2004)

defined the internet as not only being used for obtaining information, but also as a way of ordering services.

By making use of ICT, products and services can be more personalized. The factors that relate to personalization are clustered in the category ‘more personalized products and services’. Using online communication to specify the needs of the customers helps to enhance the quality of the service (Andreu et al., 2010). Wynne et al. (2001) discussed that it is possible to customize the buying process to meet the requirements of individual customers.

Communication with organizations is possible 24 hours a day, 365 days a year (Buhalis and Licata, 2002), and this is the message of the 24/7 category. Özturan and Roney (2004) pointed out the 24h accessibility also, and as described by Akehurst (2009) this is anytime and anywhere purchasing and consumption. Respondents in the research of Buhalis and Licata (2002) felt that they could communicate with the organization on a 24/7 basis.

The next category is information gathering. The internet allows more people to get information quickly (Buhalis and Licata, 2002). Customers use the electronic markets to gather information (Joo, 2002), and the same conclusion is reached by Fam et al. (2004): “The central issue for Internet is the transition of information power from the company to the consumer” (Fam et al., 2004, p. 196). Information is also easy to handle in a consistent way and could be distributed on a large scale (Pröll et al., 1998). Fodor and Werthner (2004) stated that the internet is used as a way of ordering services, however the medium is also used to obtain information. As Akehurst (2009) stated, online reviews and WOM are a significant source of information. Stiakakis and Georgiadis (2009) found that systems based on ICTs can take care of the acceleration and facilitation of information flow.

The last category of positive consequences for customers is enabling interaction. Buhalis and Law (2008) discussed that the internet gives the possibility to engage with suppliers. They also mentioned that it allows customers to interact with suppliers, which is stated by Stiakakis and Georgiadis (2009) as they discussed the possibility of direct and interactive relationships with tourism organizations and customers. Xiang and Gretzel (2010) commented on the role of social media as very important in the tourism domain in order to facilitate interaction among customers and stated in their conclusions that tourism marketers can no longer ignore the role of social media.

<b>POSITIVE CONSEQUENCES</b>		
<b>Consequences for:</b>	<b>Category</b>	<b>Sample quotes</b>
<i>Customers</i>	Saving time	“Eases time and place constraints” (Akehurst, 2009, p.

		52) “Online shopping, (...), can save consumers a significant amount of time” (Gertner et al., 2007, p. 106) “rapid communications with organizations” (Card et al., 2003, p. 133)
	Reducing costs	“Search costs decrease in electronic markets” (Buhalis and Law, 2008, p. 611) “Cost reduction” (Buhalis and Law, 2008, p. 618) “Reducing search and distribution costs” (Minghetti and Buhalis, 2010, p. 267) “Significant cost savings in self-service technologies can be made through the implementation of tools such as FAQs” (Stockdale, 2006, p. 212)
	Better service	“Reduce uncertainty” (Buhalis and Law, 2008 p. 611) “Electronic commerce creates value for consumers through enhanced service products and services” (Card et al, 2005, p. 133) “Anytime and anywhere purchasing and consumption” (Akehurst, 2009, p. 52)
	More personalized products and services	“Use of online communication in specifying the final customers’ needs will help to enhance service quality” (Andreu et al., 2010, p. 785) “It is possible to customize the buying process to the needs of each customer” (Wynne et al., 2001, p. 429)
	24/7	“Communicate with organizations on a 24h, 365 days a year basis” (Buhalis and Licata, 2002, p. 210) “24h accessibility” (Özturan and Roney, 2004, p. 262) “Anytime and anywhere purchasing and consumption” (Akehurst, 2009, p. 52)
	Information gathering	“Allow more people to access high quality information quickly” (Buhalis and Licata, 2002, p. 214) “Transition of information power” (Fam et al., 2004, p. 196) “Information could be easily handled in a consistent way on a large distributed scale” (Pröll et al., 1998, p. 4)
	Enable interaction	“Enabled consumers to engage directly with suppliers” (Buhalis and Law, 2008 p. 611) “Allow consumers to interact dynamically with suppliers and destinations” (Buhalis and Law, 2008 p. 611) “ICTs allow direct and interactive relationships between tourism organizations and customers” (Stiakakis and Georgiadis, 2009)

Table 7 Positive consequences for customers

### *Partners*

There were not very many positive consequences found in the relevant literature for partners.

The results have been sorted into two categories:

- cooperation
- strengthen relationships

Cooperation covers factors that are related to cooperation between different stakeholders. These stakeholders could be organizations, customers, suppliers or even competitors. As described by Minghetti and Buhalis (2010), ICTs are the driving forces for cooperation between stakeholders. Buhalis and Law (2008) were already mentioning this factor in 2008, recognizing the possibility of developing credible interfaces with other parties in the value chain. Another type of cooperation, a type that is no less important, is the possibility of participating in knowledge-intensive and creative processes (Racherla et al., 2008). Buhalis and Law (2008) saw another positive consequence in the cooperation with competitors.

The other category of the positive consequences for partners is strengthening relationships. Not only organizations, also partners can develop or strengthen their relationships. Factors related to developing and building closer relationships with customers (Buhalis and Licata, 2002; Wang and Fesenmaier, 2006) are clustered in this category. Fam et al. (2004) stated that the internet facilitates interesting possibilities for intensifying relationships.

<b>POSITIVE CONSEQUENCES</b>		
<b>Consequences for:</b>	<b>Category</b>	<b>Sample quotes</b>
<i>Partners</i>	Cooperation	"ICTs are driving forces for local growth and cooperation between different stakeholders" (Minghetti and Buhalis, 2010, p. 275) "Develop credible interfaces with other members of the value chain" (Buhalis and Law, 2008 p. 619) "Possibility to engage in knowledge-intensive and creative processes" (Racherla et al., 2008, p. 411) "Possibilities to co-opetition and co-destiny" (Buhalis and Law, 2008 p. 619)
	Strengthen relationships	"Offers the opportunity to develop closer relationships with customers" (Buhalis and Licata, 2002, p. 210) "Interesting ways of intensifying the relationship" (Fam et al., 2004, p. 206) "the relationships-building opportunity" (Wang and Fesenmaier, 2006, p. 240)

Table 8 Positive consequences for partners

## **Negative consequences**

In this section, negative consequences for organizations, customers and partners are described. Each of the three stakeholders are presented with their own frameworks of negative consequences.

### *Organization*

The negative consequences for organizations have been divided into the following categories:

- loss of uniqueness
- dependency
- digitally excluded customers
- evaluation is difficult
- negative information
- more competition
- greater wishes and expectations of customers
- information asymmetry between customer and organization increases
- business value re-design problem
- security issues

The category ‘loss of uniqueness’ covers factors that imply that the uniqueness of products or services is lost due to the internet. There is the danger that products will be more standard rather than tailor-made (Buhalis and Licata, 2002). Also, there is the threat of substitutes (Stiakakis and Georgiadis, 2009). This means that customers can easily find competitors and therefore they can choose an alternative. This could be the case in relation to alternative products, but also in the case of alternative organizations.

Dependency refers to the fact that an organization can not fully control the information circulating on the internet. Pröll et al. (1998) discussed the control over content quality. He commented: “there will always exist a factor of uncertainty, personalized in the tourism information provider, for the correctness of the provider’s information can be proven by the system only to a certain degree before it gets into the database” (Pröll et al., 1998, p. 14). In case of websites that receive complaints, organizations do not have control over the content (Fam et al., 2004). Therefore, the advice of Fam et al. (2004) is to implement a complaint-handling section in an organization’s own website.

It is possible that an organization may exclude customers by going online. Factors related to this topic are clustered in the category digitally excluded customers. Minghetti and



Buhalis (2010) found that digitally excluded customers were generally unable to make use of promotional and Web-exclusive offers. They stated that these are mainly customers in medium and low-access regions of the world. Moreover, Minghetti and Buhalis (2010) stated that often only a small part of the population can be reached using the internet. There are some customers who do not feel comfortable with the new developments; this was an outcome of the research of Özturan and Roney (2004) in relation to Turkish customers.

There is also the threat of negative information. This relates specifically to websites that do not belong to travel organizations, yet they review tourism products and services. These could also be websites that work together with tourism organizations. Litvin et al. (2008) described the changes due to eWOM (electronic Word of Mouth) in their research; eWOM will change the structure of travel information, eWOM will change the accessibility of travel information and moreover will change travelers' knowledge and perception, or tourism products (Litvin et al., 2008). Furthermore, these authors mentioned that eWOM can appear on a large scale. Due to ICT developments, effective systems are developed to air complaints, and make the spread of complaints easier for customers (Buhalis and Law, 2008). Moreover, in the research of Papathanassis and Knolle (2009) it is discussed that online reviews will affect brand-perceptions and customer relations. Litvin et al. (2008) see it as a challenge that eWOM can appear on an unprecedented large scale. Litvin et al. (2008) also recognized the possibility of employees who posed as customers of competitors and wrote bad reviews leading to the question of who has written a specific review. As will be elaborated on in the discussion section, there is also a drawback, since positive information will lead to positive benefits.

More competition is another category of the negative consequences of e-tourism for organizations. This category consists of factors that support that there is more competition within the electronic marketplace compared to the traditional market. Buhalis and Law (2008) stated that in general the internet has a significant impact on entry barriers. "The Internet (...) altered market scope, economies of scale and the amount of capital required" (Buhalis and Law, 2008, p. 617). Furthermore it has been discussed in the literature that entry barriers are low (Hudson and Gilbert, 2006; Stiakakis and Georgiadis, 2009; Stockdale, 2006). The authors meant that it is not difficult for new tourism organizations to enter the online market.

Wishes and expectations of customers became greater because of the internet, and the following category clusters the factors mentioned that relate to this topic. Service expectations are greater (Buhalis and Licata, 2002). Akehurst (2009) commented on future customers: "customers are more demanding, more time-driven, more information intensive, and highly

individualistic” (Akehurst, 2009, p. 53). Still, he commented that the present customers have already raised expectations. Stockdale (2006) described the same factor in more detail; she wrote that customers have higher expectations of choice, value, customization and convenience. She also stated that non-transactional wishes and behavior are difficult to capture. Consumers are also less loyal (Wang and Fesenmaier, 2004). Another negative consequence is that customers expect a reduced response time (Buhalis and Law, 2008).

Information asymmetry between customer and organization increases as consequence of the internet. Customers can obtain a greater wealth of information (Buhalis and Law, 2008; Buhalis and Licata, 2002). More information is provided about product providers (Akehurst, 2009), customers have many more choices (Buhalis and Law, 2008) and their bargaining power is increased (Stiakakis and Georgiadis, 2009). Also, Akehurst (2009) sees it as a consequence of the development of the World Wide Web that bargaining power has been transferred from suppliers to customers.

Business value re-design problems are another category of negative consequences for organizations. O’Connor and Frew (2004) made some comments on this topic, including that it is not easy to calculate the business value of an electronic distribution channel, and the monetary contribution of the system is difficult to assess. Furthermore, IT projects often cross organizational boundaries and form part of interrelated investments decisions. Buhalis and Law (2008) commented that managers should take full advantage of technologies otherwise technologies cannot form a part of the strategic planning process. Stiakakis and Georgiadis (2009) stated that the lack of relevant knowledge and skills is a concern for adoption of ICTs in small- and medium- sized organizations.

Security issues of all kinds are a concern in using e-business. We found security issues also as an antecedent, however the following authors described them as a negative consequence. Security issues are a major challenge, according to Buhalis and Licata (2002). Özturan and Roney (2004) discussed security as a difficulty, and Buhalis and Law (2008) mentioned the threat of cybercrimes.

<b>NEGATIVE CONSEQUENCES</b>		
<b><i>Consequences for:</i></b>	<b><i>Category</i></b>	<b><i>Sample quotes</i></b>
<i>Organization</i>	Loss of uniqueness	“Danger of standard rather than tailor-made products” (Buhalis and Licata, 2002, p. 212) “Threat of substitutes” (Stiakakis and Georgiadis, 2009 p. 3)
	Dependency	“Content quality cannot be fully controlled by the

		system” (Pröll et al., 1998, p. 14) “Companies may have no influence on content” (i.e. websites for complaints etc.) (Fam et al. 2004, p. 197)
	Digitally excluded customers	“Digitally excluded tourists” (Minghetti and Buhalis, 2010, p. 277) “Some customers may not feel comfortable with the new developments” (Özturan and Roney, 2004, p. 262) “Internet access often reaches only a small share of the population” (Minghetti and Buhalis, 2010, p. 270)
	Negative information	“Online reviews affect brand-perception and customer relations” (Papathanassis and Knolle, 2009, p.2) “Consumers have more trust in websites with reviews than professional guides and travel agencies” (Akehurst, 2009, p. 55) “Blogs are often perceived as more credible and trustworthy than traditional marketing communications” (Akehurst, 2009, p. 51)
	More competition	“Entry barriers are low” (cost effective for small businesses) (Hudson and Gilbert, 2006, p. 100) “Barriers for a new entry to e-tourism have been minimized” (Stiakakis and Georgiadis, 2009, p. 3) “Lowering of entry barriers” (more competition) (Stockdale, 2006, p. 207)
	Greater wishes and expectation of customers	“Consumers will be dramatically different” (Akehurst, 2009, p. 53) “Expectations of consumers have been raised” (Akehurst, 2009, p. 52) “Non-transactional customer preferences and behavior are hard to capture” (Stockdale, 2006, p. 211) “expected response time has been greatly reduced” (Buhalis and Law, 2008 p. 611)
	Information asymmetry between customer and organization increases	“Consumers will have more information about product providers” (Akehurst, 2009, p. 53) “Travellers have direct access to a much greater wealth of information” (Buhalis and Law, 2008 p. 611) “Empower consumers to obtain more information” (Buhalis and Licata, 2002, p. 214) “Increased the number of choices for consumers” (Buhalis and Law, 2008 p. 612)
	Business value re-design problem	“Technologies can be part of the strategic planning process of a business only when managers make full use of it” (Buhalis and Law, 2008 p. 617) “No easily calculated business value” (O'Connor and Frew, 2004, p. 183) “IT projects frequently cross organizational boundaries” (O'Connor and Frew, 2004, p. 183) “The lack of the relevant knowledge and skills” (Stiakakis and Georgiadis, 2009, p. 4)
	Security issues	“Security issues” (Buhalis and Licata, 2002, p. 211) “Security difficulties” (Özturan and Roney, 2004, p. 262)

		“cybercrimes” (Buhalis and Law, 2008)
--	--	---------------------------------------

Table 9 Negative consequences for organizations

*Customers*

Negative consequences for customers were not discussed very frequently in the literature. We sorted the results into two categories:

- disadvantages of new formats
- information overload

Disadvantages of new formats is the category that covers factors that describe the fact that customers miss elements of a traditional business (e.g., personal contact). Buhalis and Licata (2002) found two factors that relate to these disadvantages of new formats. They described lack of face-to-face up-sell or cross-sell opportunities, and lack of human contact during the transaction as negative consequences for customers. Cheong (1995) wrote about the fact that e-business possesses no capacity for personal involvement, and virtual reality cannot replace the feeling of being in real nature.

Information overload is the second category of negative consequences for customers. Information overload is mentioned by Pröll et al. (1998). Similarly, Buhalis and Licata (2002) stated that the huge amount of information will lead to confused customers. Additionally, there are too many choices (Buhalis and Law, 2008). Related to the issue of information overload is complexity. Internet can make processes more difficult for customers because they need many sources to develop their own travel packages (Beldona et al., 2005)

<b>NEGATIVE CONSEQUENCES</b>		
<i>Consequences for:</i>	<i>Category</i>	<i>Sample quotes</i>
<i>Customers</i>	Disadvantages of new formats	“Lack of face to face up sell / cross sell opportunities” (Buhalis and Licata, 2002, p. 211) “VR is unable to replace the feeling of being in nature that is real” (Cheong, 1995, p. 421) “Lack of human contact during the transaction” (Buhalis and Licata, 2002, p. 211)
	Information overload	“Too many choices” (Buhalis and Law, 2008 p. 613) “Confused consumers” (Buhalis and Licata, 2002, p. 208) “Information overload” (Pröll et al., 1998, p. 15)

Table 10 Negative consequences for customers

### *Partners*

Almost no negative consequences have been found for partners, so all results have been sorted into one category entitled more competition. There is more competition because of the emergence of web-based travel agencies, online last-minute agencies and new eMediaries that use mobile devices (Buhalis and Licata, 2002).

<b>NEGATIVE CONSEQUENCES</b>		
<b><i>Consequences for:</i></b>	<b><i>Category</i></b>	<b><i>Sample quotes</i></b>
<i>Partners</i>	More competition	“Emergence of web based travel agencies” (Buhalis and Licata, 2002, p. 208) “Emergence of online last-minute agencies” (Buhalis and Licata, 2002, p. 208) “Emergence of further new eMediaries using mobile devices” (Buhalis and Licata, 2002, p. 208)

Table 11 Negative consequences for partners

## ***DISCUSSION***

### ***New insights***

The model of DeLone and McLean suggested three groups, namely system quality, information quality, and service quality as measures for information systems. We used these three groups for clustering antecedents. A new insight that this research provides is the identification of another group of antecedents besides system quality, information quality and service quality in e-tourism literature. This group contains antecedents related to technology, which we call technology quality. The technology quality category consists of innovation and technology diffusion. Furthermore, we also came up with a few new subcategories within the existing quality measures. We identified variety of information as a new subcategory in the information quality category. We also have derived three new subcategories in service quality, namely building up relationships, knowledge support, and service support.

### ***Missing issues***

It is notable that no author in the sample wrote about the issue of clear information. Though a good deal was written on information, none of the articles mentioned that information should be understandable. There should be no change that the customer will interpret the information wrong. If information is available but the customer does not know what he or she should do with it or the customer does not understand it correctly, the organization has a problem. As we have seen before, it is very easy to find one of the

competitors using the internet. Therefore, the available information should be understandable so the organization will not risk losing customers.

In the DeLone and McLean model, responsiveness is one of the quality measures of an information system. In the model this is part of the system quality. However, in our sample, only one author wrote about this phenomenon. Pröll et al. (1998) mentioned that inventory should be updated automatically. One mention on responsiveness was identified, however this was in the context of service quality (fast response to email).

Negative consequences for partners are absent from the literature. It is possible that authors see partners as (tourism) organizations as well, which is indeed in most cases true. Therefore, these partners can be expected to face some of the negative consequences that are mentioned in the framework of negative consequences for organizations. Still, this does not mean that all the consequences of organizations are also applicable to partners, especially the partners that cannot also be considered organizations.

Legal issues are also not mentioned in the relevant literature. As an example of a legal issue, because of the political situation in certain countries it is possible that a customer may not be able to go online or cannot take advantage of e-tourism. It is possible that there would be restrictions on internet usage. In some countries there are legal restrictions on using Facebook or other restrictions that apply to the spread of information. In the sample, none of the authors considered or mentioned these political issues. An additional issue that could work as a barrier are language issues. It would be interesting to know whether it is enough to translate the information, or if it is necessary to make a more fitting application that addresses specific cultural differences.

Furthermore, it is surprising that only a few consequences for partners could be identified in the literature. It is possible that this shortage has to do with the definition of partners. In this research we used the term 'partners' for travel agencies that operate as mediators in selling products of tourism organizations or suppliers. Tourism organizations that sell their own tourism products directly to customers were labeled as organizations. There is the possibility that some authors did not make this distinction. In that case, a partner could also be a tourism organization.

The relevance of information has only been mentioned by two authors, which is a notable gap in in the research sample of literature.

Financial benefits are only mentioned in relation to organizations, which is odd because if there were no financial benefits for partners they could not exist. It is possible that this is due to the same reason mentioned above. It is wise to keep in mind that partners are

organizations too, and therefore will also have to deal with some of the consequences for tourism organizations.

Another missing issue is complaint management as an antecedent. It was expected that this was an antecedent in the category service quality. In our sample many authors stated that complaint management is important but also related this factor to other factors. For example, Fam et al. (2004) mentioned that implementing a complaint handling section is a good way to facilitate interaction, and he mentioned interaction as antecedent. Buhalis and Law (2008) and Fam et al. (2004) labeled complaint management section as interaction, and also they mentioned interaction as antecedent that is facilitated by a complaint handling section. This was expected because it is good for tourism organizations to know what complaints customers have, since only when complaints are known to a tourism organization can they organize solutions to problems and complaints.

### ***General discussion***

#### *Antecedent or consequence?*

In this research there are two factors that are categorized both as antecedents and as consequences. Personalized information and products are necessary for e-tourism (Stiakakis and Georgiadis, 2009; Fam et al., 2004). However, products can be more personalized because of the internet. Therefore, personalization is also a consequence (Andreu et al., 2010; Wynne et al., 2001). The factor 'security' is the other factor seen as antecedent by some authors (Buhalis and Law, 2008; Rong et al., 2009; Wang et al., 2002; Fam et al., 2004; Pröll et al., 1998), and as a consequence by other authors (Buhalis and Licata, 2002; Özturan and Roney, 2004). Further research could investigate security in depth to find out how safe e-tourism is currently and if security is really a barrier.

Some antecedents influence each other. Buhalis and Law (2008) found that an organization can keep and attract customers through simple pricing and by offering a user-friendly website. These factors are both seen as antecedents for e-tourism by Buhalis and Law (2008). However, attracting and keeping customers is also another antecedent. It seems there are some relationships between different antecedents and it could be worthwhile to investigate the relationships between these.

#### *Satisfaction, trust, loyalty, and commitment*

Satisfaction and trust are two categories that came up in this research (Kim et al., 2010; Wang et al., 2002; Fam et al., 2004; Kim et al., 2006) Satisfaction and trust are

antecedents as well as consequences. However these factors influence other antecedents and consequences and are also influenced by antecedents and consequences. Satisfaction and trust are attained when e-tourism is working well, securely, and accurately, for example. Wang et al. (2002) treat trust as a potential barrier by stating: “one concern community members have when they conduct online activities is the sense of trust” (Wang et al., 2002, p. 413). Fam et al. (2004) referred to Grönroos (1994) positing that trust plays an important role because for customers there is always a level of uncertainty when they request information or purchase products or services. Kim et al. (2006) used findings of Jeong et al. (2001) and concluded that customer satisfaction has a positive influence on the intention to make an online reservation. We can state that satisfaction and trust are consequences of the antecedents found in our results section, however customers will use an e-tourism implementation when they can trust it. Therefore, trust can be seen as an antecedent too. Satisfaction is one of the antecedents for customers to use e-tourism. However, in order to be satisfied, the customer should use e-tourism seeing that “ICT can contribute to higher guest/traveller satisfaction” (Buhalis and Law, 2008, p. 610). Loyalty (Kim et al., 2010) and commitment (Andreu et al., 2010) are both antecedents and consequences. Kim et al. (2010) described the fact that satisfaction and trust lead to loyalty. Satisfaction and trust are two separate factors that require their own investigation into their significance and function. The relationship between loyalty, trust, commitment and satisfaction is very complex (Furmueller et al., 2010a; Furmueller et al., 2011b)

#### *Negative or positive?*

In this research, blogs and online reviews are clustered in the category ‘negative information’ in the framework of negative consequences for organizations. This is done because blogs and websites with reviews are seen as more trustworthy than traditional marketing by customers (Akehurst, 2009). Still, it is important to know that when information on blogs and online reviews are positive, this will also have a positive influence for organizations. In the words of Litvin et al. (2008, p. 460), “online WOM impact the receiver’s perceived value of a company’s products, and also their loyalty intentions”, and can have a negative or a positive direction. In the research of Papathanassis and Knolle (2009) it is discussed that online reviews will affect brand-perceptions and customer relations.



### *Organizations, customers, and partners*

Enabling interaction (Stiakakis and Georgiadis, 2009; Buhalis and Law, 2008) is positive for organizations, customers and suppliers. However, in the sample literature interaction is only mentioned in relation to customers. Interaction between organizations and suppliers could have positive benefits for both parties.

The articles in the sample seem to be disproportionately focused on organizations rather than also focused on customers. Many negative consequences for organizations are mentioned and only a few negative consequences for customers. Security issues are found very often in different articles, though always in relation to the organization despite the fact that for customers security issues could be of great concern. Customers often have to provide a great deal of personal information on the internet. The question that arises is whether this is safe. A secure payment system of great significance for customers and if there is not a secure payment system customers will not pay for anything online. Another issue related to the needs of customers is the exclusion of customers who cannot go online. This is in this research categorized as a negative consequence for organizations, but also for these customers this could be a negative consequence. The opportunity may arise that a customer is not able to take advantage of an online offer.

### *Contradictions in literature*

An interesting contradiction has been found in the literature. Three authors mentioned the fact that it is wise to give as much information as possible (Hudson and Gilbert, 2006; Joo, 2002, Rong et al., 2009). However, other authors (Buhalis and Law, 2008; Beldona et al., 2005, Buhalis and Licata, 2002, Pröll et al., 1998) stated that there is the danger of information overload, meaning that it may not be wise to provide too information. Too much information can lead to confused customers. To get around this, the information should be personalized. It is possible that there are customers who want as much information as possible and another group of customers who only want the necessary information. This discrepancy could be investigated further in future research.

Joo (2002) wrote that cooperation can raise the value of the electronic market via reciprocal incentives given to the players of the electronic market. In Joo's (2002) reasoning cooperation is an antecedent, however in this research it is categorized as a consequence. This has been done because most authors (Buhalis and Licata, 2002; Buhalis and Law, 2008; Wang and Fesenmaier, 2004) see it as a positive consequence since there are more possibilities for cooperation due to the internet. However, a contradiction has been found.

Even Joo (2002) stated that cooperation is a positive consequence of the internet. In the research of Joo (2002), cooperation raises the value of the internet and the internet develops cooperation. Stiakakis and Georgiadis (2009) stated that tourism organizations no longer need traditional intermediaries, though this is not noted elsewhere. Partners should not be afraid that cooperation will end because of the internet, because organizations can see the cooperation as an extra channel to distribute their products and services. In that case, the cooperation will lead to financial benefits. In practice, tourism organizations pay a commission to the partners who rent out the accommodations of tourism organizations. Considering this, perhaps Stiakakis and Georgiadis are right. If a tourism organization is easy to find on the internet then maybe the customers will book directly through the tourism organization. Financially, this is the best for the tourism organization because the organization does not have to pay a commission to anyone. However, when accommodations can be booked on more places on the internet it seems possible that more accommodations would be booked. This is an interesting contradiction that definitely calls for further investigation.

#### *Notable issues*

In the literature, only Buhalis and Licata (2002) mentioned the release of human resources and discussed reducing the need for human operation intervention. This factor is not clustered, because it is unclear whether this is a positive or negative consequence for organizations, customers and partners. Stiakakis and Georgiadis (2009) stated that overall productivity will increase through the use of intelligent agents, which leads to releasing human resources. As more and more is done by the customer using the internet, e.g., by using the internet for an information search or for making a reservation, it seems that not as many employees are needed as before the use of internet. However, maybe more ICT / IT employees are needed, though nothing has been written about this. What is noted is the fact that employees should have knowledge of the internet and the services that are offered on the internet (Minghetti and Buhalis, 2010). This knowledge mentioned relates to the general knowledge, though specific knowledge may be needed when the internet services or the e-tourism implementation does not work well. Customers experience the lack of human interface as a negative consequence. Human contact is missing (Buhalis and Licata, 2002). It is questionable whether the release of human resources is positive or negative for tourism organizations as well as for customers.

A few authors mentioned the presence of a website as antecedent for e-tourism (Buhalis and Law, 2008; Minghetti and Buhalis, 2010). In our opinion, this is strange because

e-tourism stands for online tourism or tourism on the World Wide Web. This automatically means that a website should be there so customers can find an organization on the internet.

The enhanced bargaining power for customers and suppliers is only discussed by Buhalis and Law (2008). This factor is a positive as well as a negative consequence. In the case of the customers and suppliers, it is seen as a positive consequence that they have more bargaining power due to the internet. For an organization, it is a negative consequence because a customers and suppliers have much more knowledge and information about what they can get from competitors. However, this can be turned around by organizations. Organizations can also find a lot of information on the World Wide Web, and they could benefit from it. Remarkably, this benefit is not described in the literature. This specific advantage can be referred to as price transparency as a consequence of the internet. However, in the selected literature none of the authors mentioned price transparency.

It is interesting that cost reduction (Stockdale, 2006; Buhalis and Licata, 2002) is one of the positive consequences for organizations. It could be also interesting to know what the costs of implementation are, and nothing is included on this topic in the literature. We imagine this is of importance for organizations, especially for small organizations. Organizations need to know whether the costs of implementation are justified by the cost reduction after implementation. Stiakakis and Georgiadis (2009) commented on three problems specific to small organizations. These obstacles are inadequate and unreliable telecommunications infrastructure, costs involving the adoption and the use of ICT, and the lack of knowledge and skills (Karanasios and Burgess, 2008 in Stiakakis and Georgiadis, 2009).

Misleading and out-of-context messages are negative consequences of the internet (Buhalis and Licata, 2002). This factor has its influence on organizations, customers, and partners. However, anyone can write something on the internet, even customers and partners. As stated in the results section, it is difficult to have full control of all the information circulating on the internet. New problems may arise due to the misleading or out-of-context messages (Buhalis and Licata, 2002) and every stakeholder has to keep this in mind. This factor relates to all stakeholders and it is therefore not clustered under a specific one.

The disadvantage of new formats is referred to in the research of Buhalis and Licata (2002) as they mentioned contact with employees of the organization. Personal, face-to-face contact is not there and customers miss this. In the research of Cheong (1995) the disadvantages of new formats have another dimension. Cheong (1995) commented that virtual reality could not replace the feeling of being in nature. However, this research is from 1995,

and after that date no other author mentioned this negative consequence. It would be interesting to investigate whether this problem has already been solved. It is possible that today's technologies are good enough that one can really have the feeling of being in nature.

A comment on the difficulty of evaluation was found only once. O'Connor and Frew (2004) stated that information technology- based systems are hard to evaluate due to their complexity and multi-faceted nature.

### ***Identified research gaps***

Future research should be conducted in the area of legal issues. It is of great importance for organizations to know whether different countries or nations should be dealt with in different ways because of legal issues. Furthermore, it is of great importance to know whether every country can be targeted through the same medium. Also, cultural differences should be taken into account, though not much information is available on this topic. Future research should look into differences between target groups, including between younger and older people.

The relationship between antecedents and consequences would be an interesting future research project, and it is possible that this research would reveal mediators. Trust and satisfaction, for example, are consequences of e-tourism, and they are also considered antecedents.

There is less research on the topic of negative consequences, in particular negative consequences for partners. This is a significant topic, because when there is information available on negative consequences, these partners can then think of solutions or strategies to mitigate or avoid these negative consequences. It could also be interesting to investigate which consequences (and antecedents) for organizations are also applicable to partners.

To make this research more complete, the shopping motives of customers could be added. If the motives for shopping are known, an organization can offer comprehensive services and serve customers even better.

The role of micro-blogging is not yet fully clear. It could be of great importance for organizations to know more about the influence of micro-blogging. Perhaps the presence on, for example, Twitter or Facebook could lead to increased sales or other benefits. Maybe there are also negative consequences related to blogging, e.g., when organizations do not use it regularly or use it incorrectly. However, no information on the negative consequences of blogging was found in the sample literature. Also more specific information on social media was not mentioned in the articles. It would be of great importance for organizations to know what the positive and negative effects are of social media. Almost no literature was found on

this topic. We did find an article on social media (Parra-López et al., 2011). These researchers identified the extent to which the benefits, costs and incentives could influence the intentions to use social media in organizing and taking vacation trips. The research of Parra-López et al. (2011) is a great start, however more research is needed. Social media is made by their users. A part of these users are the customers of the organization, therefore the influence of social media is significant for organizations.

Some authors commented on perceived usability and perceived credibility (Kim et al., 2010; Papathanassis and Knolle, 2009; Kim and Fesenmaier, 2008; Andreu et al., 2010; Joo, 2002). The way customers perceive different antecedents is a completely different topic, and one that would be very useful to investigate.

### ***Implications***

#### ***Implications for research and practice***

This paper offers tourism researchers a systematic overview of e-tourism antecedents and consequences and has identified gaps in the literature, showing that some parts of e-tourism need to be investigated further in order to provide a more complete overview of e-tourism antecedents and consequences. These research gaps are: legal issues, cultural differences, relationship between antecedents and consequences, negative consequences, shopping motives, role of social media. Moreover, this research should contribute to a better understanding of the research conducted on the topic e-tourism.

This research is useful for tourism organizations that aim to advance their service offering through online means. The review of antecedents provides information on what organizations need to consider when transforming from a service organization to an e-service organization. Organizations can use the frameworks as a kind of handbook to develop e-strategies. It is possible for organizations to develop a business strategy with the help of the frameworks in order to be more successful in the e-tourism domain. Furthermore, it is possible to use these frameworks to check whether the organizations are ready to introduce e-tourism.

### ***Limitations***

As in any other research, this research has some limitations. One of the limitations is the fact that different authors use different conditions. Therefore, some factors are probably only applicable to specific target groups. This distinction between different target groups is not taken into consideration in this research. Moreover, it is possible that some research may

not have been published because the results were disappointing or the research revealed negative consequences. This could also be the reason for the smaller number of negative consequences. Another limitation is the inclusion of articles from tourism journals. It would be a good idea to complete this research with publications from mainstream journals and make a comparison of differences found. Despite of the additional search in tourism journals, only two databases were used to search for relevant literature, namely Web of Science and Scopus. Furthermore, primary interview or observational data has not been used. The data included in this study consisted of only peer-reviewed international journals.

### ***CONCLUSION***

In this paper we reviewed literature on e-tourism to compile an overview of antecedents and consequences of e-tourism covering 20 years of research (Tables 2-11). The frameworks can be helpful for business model design. We found that the three parts of the DeLone and McLean model do not fully cover relevant antecedents in the context of e-tourism. We therefore proposed a fourth category for 'technology quality'. The review shows that e-tourism is a broad topic and that only some parts have been researched to date.

As antecedents, four main categories were found:

- system quality antecedents
- information quality antecedents
- service quality antecedents
- technology quality antecedents

System quality antecedents are clustered in the following subcategories:

- usability
- availability
- download time
- privacy and security
- interactivity
- adaptability
- system responsiveness

For information quality we derived six subcategories:

- dynamic content
- relevance

- accuracy
- personalization
- easy to understand
- variety of information

The service antecedents of the service quality component are divided into the following subcategories:

- empathy
- responsiveness
- building up relationships
- knowledge support
- service support

The subcategories for technology quality antecedents were:

- innovation
- technology diffusion

Positive and negative consequences for organizations, customers, and partners have been found. The positive consequences for organizations are:

- financial benefits
- strengthening competition
- business development
- cooperation
- increasing market share
- advertising and marketing opportunities
- new communication possibilities
- possibility to influence customer behavior
- relationship development
- market research opportunities

Positive consequences for customers were categorized as:

- saving time
- reducing costs
- better service

- more personalized products and services
- 24/7
- information gathering
- enabling interaction

For partners, some positive consequences were also found. These consequences were:

- cooperation
- strengthening relationships

Negative consequences for all three stakeholders were identified. The negative consequences for organizations were:

- loss of uniqueness
- dependency
- digitally excluded customers
- evaluation is difficult
- negative information
- more competition
- greater wishes and expectations of customers
- information asymmetry between customer and organization increases
- business value re-design problem
- security issues

For customers, fewer negative consequences have been found:

- disadvantages of new formats
- information overload

For partners, there are also negative consequences, however only more competition has been mentioned in the literature.

There are even more issues that should be investigated to advance understanding of e-tourism. The clusters 'satisfaction' and 'trust' are especially important. These clusters are seen as antecedents but also as consequences. It is important for organizations to know how they can gain trust and how they can satisfy their customers. This is important because there are an increasing number of competitors in the online market. Also, the development of strategies to implement e-tourism is especially significant.



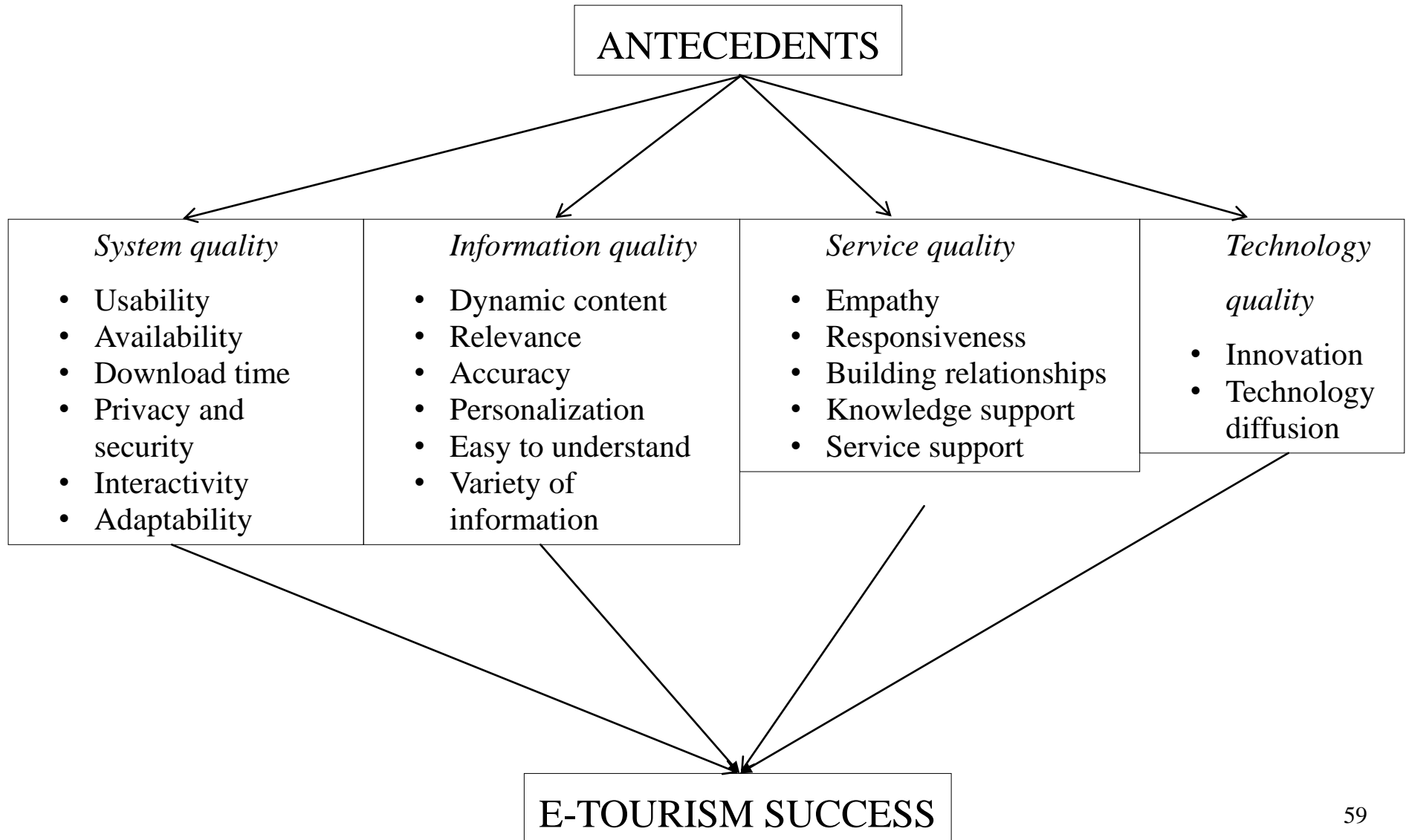
This paper offers tourism researchers a systematic overview of e-tourism antecedents and consequences and has identified gaps in the literature. This research should contribute to a better understanding of the research conducted on the topic e-tourism.

This research is also useful for tourism organizations that aim to advance their service offering through online means. Organizations can use the frameworks in order to transform to an e-service organization, to develop e-strategies and to check if the organization is ready to do business online.

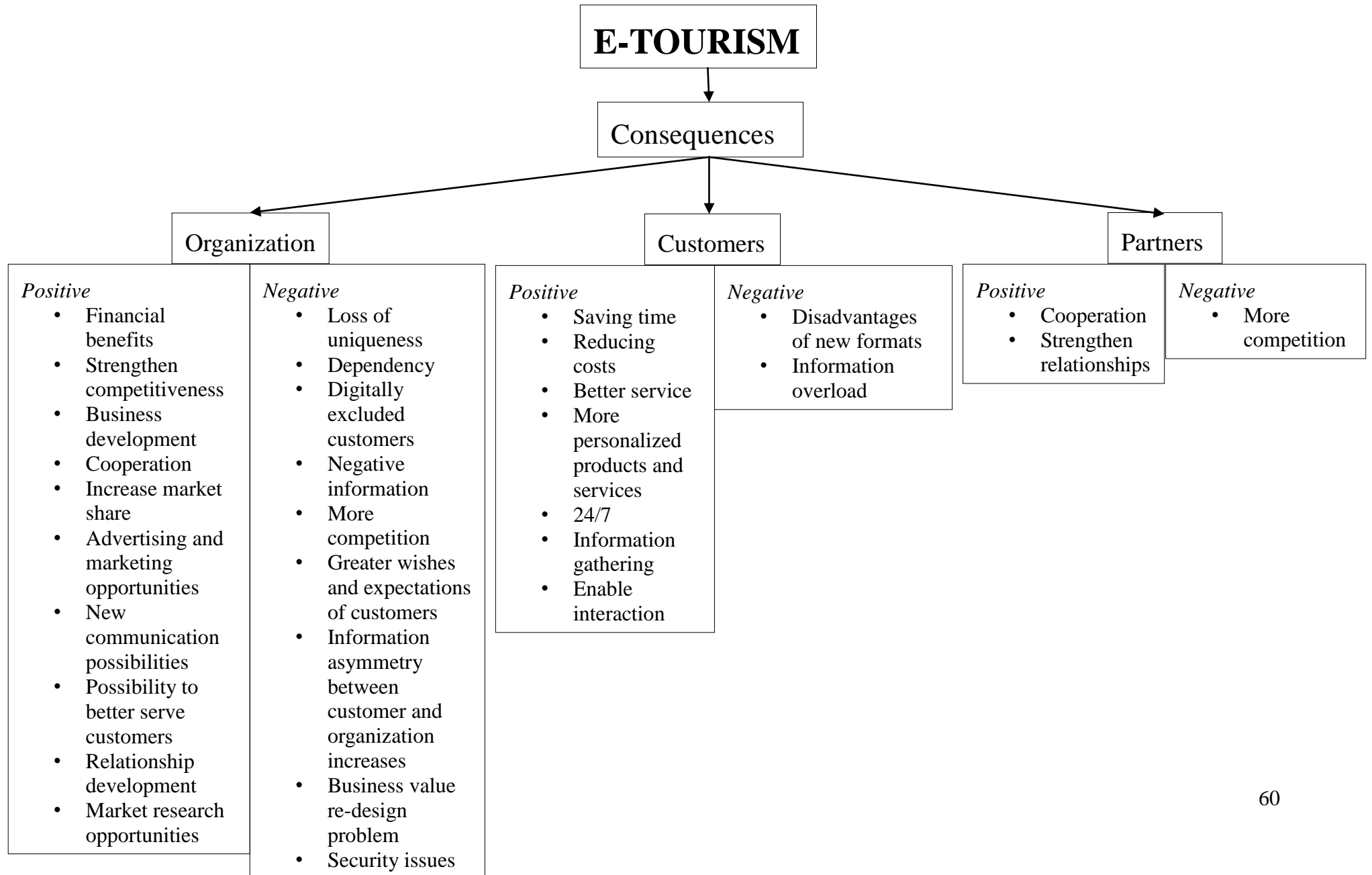
**APPENDIX 1: SEARCH QUERIES AND NUMBER OF RESULTS**

<i>Search words</i>	<i>Results Scopus</i>	<i>Results Web of Science</i>
e-tourism	75	18
etourism	40	12
electronic tourism	258	61
online tourism	241	96
virtual tourism	174	52
ICTs in tourism	17	6
web tourism	436	151
web-based tourism	225	73
e-tourism success	3	1
e-tourism failure	0	0
e-tourism barriers	1	1
e-tourism consequences	1	1
e-tourism implementation(s)	4	3
e-tourism requirements	1	0
antecedents e-tourism	0	1
successful e-tourism	5	4
<b>TOTAL</b>	<b>1481</b>	<b>480</b>

*APPENDIX 2: MIND MAP ANTECEDENTS*



**APPENDIX 3: MIND MAP CONSEQUENCES**



#### ***APPENDIX 4: LIST OF TABLES***

Table 1: Journals included in the research	7
Table 2: Antecedents in the category system quality	20
Table 3: Antecedents in the category information quality	24
Table 4: Antecedents in the category service quality	27
Table 5: Antecedents in the category technology quality	29
Table 6: Positive consequences for organizations	34
Table 7: Positive consequences for customers	37
Table 8: Positive consequences for partners	39
Table 9: Negative consequences for organizations	42
Table 10: Negative consequences for customers	44
Table 11: Negative consequences for partners	45

## REFERENCES

- Akehurst, G., 2009, *User generated content: The use of blogs for tourism organizations and tourism consumers*, Service Business, Vol. 3, Issue 1, pp. 51-61
- Andreu, L., Aldas, J., Bigné, J.E., Mattila, A.S., 2010, *An analysis of e-business adoption and its impact on relational quality in travel agency-supplier relationships*, Tourism Management, Vol. 31, Issue 6, pp. 777-787.
- Beldona, S., Morrison, A. M., O'Leary, J., 2005, *Online shopping motivations and pleasure travel products: a correspondence analysis*, Tourism Management, Vol. 26, Issue 4, pp. 562-570
- Buhalis, D., Law, R., 2008, *Progress in information technology and tourism management: 20 years on and 10 years after the Internet- The state of eTourism research*, Tourism Management, Vol. 29, pp. 609-623
- Buhalis, D., Licata, M.C., 2002, *The future eTourism intermediaries*, Tourism Management, Vol. 23, Issue 3, pp. 207-220
- Camacho, D., Borrajo, D., Molina, J.M., 2001, *Intelligent Travel Planning: A MultiAgent planning system to solve Web problems in the e-tourism domain*, Autonomous agents and multi-agent systems, Vol. 4, Issue 4, pp. 387-392
- Cano, V., Prentice, V.R., 1998, *Opportunities for endearment to place through electronic 'visiting': WWW homepages and the tourism promotion of Scotland*, Tourism Management, Vol. 19, Issue 1, pp. 67-73
- Card, J. A., Chen, C. Y., Cole, S. T., 2003, *Online Travel Products Shopping: Differences between shoppers and nonshoppers*, Journal of Travel Research, Vol. 42, pp. 133-139
- Cheong, R., 1995, *The virtual threat to travel and tourism*, Tourism Management, Vol. 16, Issue 6, pp. 417-422
- DeLone, W.H., McLean, E.R., 1992, *Information Systems Success: The Quest for the Dependent Variable*, Information System Research, Vol. 3, Issue 1, pp. 60-95
- DeLone, W.H., McLean, E.R., 2003, *The DeLone and McLean model of information systems success: A ten-year update*, Journal of Management Information Systems, Vol. 19, Issue 4, pp. 9-30
- DeLone, W.H., McLean, E.R., 2004, *Measuring e-Commerce Success: Applying the DeLone & McLean information systems success model*, International Journal of Electronic Commerce, Vol. 9, Issue 1, pp. 31-47
- Fam, K.S., Foscht, T., Collins, R.D., 2004, *Trust and the online relationship-an exploratory study from New Zealand*, Tourism Management, Vol. 25, Issue 2, pp. 195-207
- Fodor, O., Werthner, H., 2004, *Harmonise: A step toward an interoperable e-tourism marketplace*, International Journal of Electronic Commerce, Vol. 9, Issue 2, pp. 11-39
- Fuchs, M., Hopken, W., Foger, A., Kunz, M., 2010, *E-Business Readiness, Intensity, and Impact: An Austrian Destination Management Organization Study*, Journal of Travel Research, Vol. 49, Issue 2, pp. 165-178
- Furtmueller, E., Wilderom, C., van Dick, R., 2009, *Utilizing the lead user method for promoting innovation in e-recruiting*, In: Bondarouk, T. V.; Ruël, H. J. M.; Oiry, E. and Guiderdoni-Jourdan, K. (ed.). Handbook of research on e-transformation and human resources management technologies, Hershey, New York: Information Science Reference, pp. 251-273
- Furtmueller, E., van Dick, R. and Wilderom, C., 2010a, *Balancing customer, professional and organizational interests: Foci of commitment of employed vs. self-employed finance professionals*, In: Vaiman, V. (ed.). Talent management of knowledge employees: Embracing non-traditional workforce, UK: Palgrave Macmillan, pp.163-179

- Furtmueller, E., Wilderom, C. and Mueller, R., 2010b, *Online resumes: Optimizing design to service recruiters*. ECIS 2010 Proceedings of the European Conference on Information Systems, paper 53, AIS Electronic Library
- Furtmueller, E., van Dick, R., Wilderom, C., 2011a, *Service behaviours of highly committed financial consultants*, Journal of Service Management, Vol. 22, No. 3, pp. 317-343
- Furtmueller, E., van Dick, R., Wilderom, C., 2011b, *On the illusion of organizational commitment among finance professionals*, Team Performance Management, Vol. 17, 5(6): 255-278
- Gärtner, M., Seidel, I., Froschauer, J., Berger, H., 2010, *The formation of virtual organizations by means of electronic institutions in a 3D e-Tourism environment*, Information Sciences, 180, pp. 3157-3169
- Gertner, R.K., Berger, K., Gertner, D., 2007, *Country-dot-com: Marketing and branding destinations online*, Journal of Travel and Tourism Marketing, Vol. 21, Issue 2-3, pp. 105-116
- Gutentag, D. A., 2010, *Virtual reality: Applications and implications for tourism*, Tourism Management, Vol. 31, Issue 5, pp. 637-651
- Hjalager, A.M., 2010, *A review of innovation research in tourism*, Tourism Management, Vol. 31, Issue 1, pp. 1-12
- Hudson, S., Gilbert, D., 2006, *The internet and small hospitality businesses: B&B marketing in Canada*, Journal of Hospitality and Leisure Marketing, Vol. 14, Issue 1, pp. 99-116
- Joo, J., 2002, *A business model and its development strategies for electronic tourism markets*, Information systems management, Vol. 19, Issue 3, pp. 58-69
- Kabassi, K., 2010, *Personalizing recommendations for tourists*, Telematics and Informatics, Vol. 27, Issue 1, pp. 51-66
- Kim, D.J., Kim, W.G., Han, J.S., 2007, *A perceptual mapping of online travel agencies and preference attributes*, Tourism Management, Vol. 28, Issue 2, pp. 591-603
- Kim, H., Fesenmaier, D.R., 2008, *Persuasive design of destination web sites: An analysis of first impression*, Journal of Travel Research, Vol. 47, Issue 1, pp. 3-13
- Kim, M.J., Chung, N., Lee, C.K., 2010, *The effect of perceived trust on electronic commerce: Shopping online for tourism products and services in South Korea*, Tourism Management
- Kim, W.G., Ma, X.J., Kim, D.J., 2006, *Determinants of Chinese hotel customers' e-satisfaction and purchase intentions*, Tourism Management, Vol. 27, Issue 5, pp. 890-900
- Klausegger, C., 2006, *Evaluating internet portals - An empirical study of acceptance measurement based on the Austrian National Tourist Office's service portal*, Journal of Quality Assurance in Hospitality and Tourism, Vol. 6, Issue 3-4, pp. 163-183
- Klein, S., Köhne, F., Öörni, A., 2005, *Barriers to online booking of scheduled airline tickets*, Journal of Travel & Tourism Marketing, Vol. 17, Issue 2, pp. 27-39
- Lee, G., Cai, L.A., O'Leary, J.T., 2006, *WWW.Branding.States.US: An analysis of brand-building elements in the US state tourism websites*, Tourism Management, Vol. 27, Issue 5, pp. 815-828
- Law, R., Ngai, C., 2005, *Usability of travel websites: a case study of the perceptions of Hong Kong travelers*, Journal of Hospitality Marketing & Management, Vol. 13, Issue 2, pp. 19-31
- Litvin, S.W., Goldsmith, R.E., Pan, B., 2008, *Electronic word-of-mouth in hospitality and tourism management*, Tourism Management, Vol. 29, Issue 3, pp. 458-468
- Matlay, H., Westhead, P., 2005, *Virtual Teams and the Rise of e-Entrepreneurships in Europe*, International Small Business Journal, Vol. 23, Issue 3, pp. 279-302
- Minghetti, V., Buhalis, D., 2010, *Digital Divide in Tourism*, Journal of Travel Research, Vol. 49, Issue 3, pp. 267-281

- Novak, J., Schwabe, G., 2009, *Designing for reintermediation in the brick-and-mortar world: Towards the travel agency of the future*, Electronic markets, Vol. 19, Issue 1, pp. 15-29
- O'Connor, P., Frew, A.J., 2004, *An evaluation methodology for hotel electronic channels of distribution*, International Journal of Hospitality Management, Vol. 23, Issue 2, pp. 179-199
- Özturan, M., Roney, S.A., 2004, *Internet use among travel agencies in Turkey: an exploratory study*, Tourism Management, Vol. 25, Issue 2, pp. 259-266
- Papathanassis, A., Knolle, F., 2009, *Exploring the adoption and processing of online holiday reviews: A grounded theory approach*, Tourism Management, pp. 1-10
- Parra-López, E., Bulchand-Gidumal, J., Gutiérrez-Taño, D., Díaz-Armas, R., 2011, *Intentions to use social media in organizing and taking vacation trips*, Computers in Human Behavior, Vol. 27, pp. 640-654
- Pröll, B., Retschitzegger, W., 2000, *Discovering next generation tourism information systems: A tour on TIScover*, Journal of Travel Research, Vol. 39, Issue 2, pp. 182-191
- Pröll, B., Retschitzegger, W., Wagner, R.R., Ebner, A., 1998, *Beyond traditional tourism information systems - The web based approach TIScover*, Information Technology & Tourism, Vol. 1, pp. 15-30
- Qing, C., Schniederjans, M.J., 2006, *Agent mediated architecture for reputation-based electronic tourism systems: A neural network approach*, Information and Management, Vol. 43, Issue 5, pp. 598-606
- Racherla, P., Hu, C., Hyun, M.Y., 2008, *Exploring the role of innovative technologies in building a knowledge-based destination*, Current Issues in Tourism, Vol. 11, Issue 5, pp. 407-428
- Rong, J., Li, G., Law, R., 2009, *A contrast analysis of online hotel web service purchasers and browsers*, International Journal of Hospitality Management, Vol. 28, Issue 3, pp. 466-478
- Stiakakis, E., Georgiadis, C.K., 2009, *Drivers of a tourism e-business strategy: the impact of information and communication technologies*, Operational Research International Journal, pp. 1-21
- Stockdale, R., 2006, *Managing customer relationships in the self-service environment of e-tourism*, Journal of Vacation Marketing, Vol. 13, Issue 3, pp. 205-219
- Wang, Y.C., Fesenmaier, D.R., 2004, *Towards understanding members' general participation in and active contribution to an online travel community*, Tourism Management, Vol. 25, Issue 6, pp. 709-722
- Wang, Y.C., Fesenmaier, D.R., 2006, *Identifying success factors of web-based marketing strategy: An investigation of convention and visitors bureaus in the United States*, Journal of Travel Research, Vol. 44, pp. 239-149
- Wang, Y., Yu, Q., Fesenmaier, D.R., 2002, *Defining the virtual tourist community: implications for tourism marketing*, Tourism Management, Vol. 23, Issue 4, pp. 407-417
- Werthner, H., Ricci, F., 2004, *E-commerce and tourism*, Communications of the ACM, Vol. 47, Issue 12, pp. 101-105
- Wolfswinkel, J., Furtmueller, E., and Wilderom, C., 2010, *Reflecting on e-recruiting research using grounded theory*, ECIS 2010 Proceedings of the European Conference on Information Systems, paper 52, AIS Electronic Library.
- Wolfswinkel, J., Furtmueller, E., Wilderom, C., 2011, *Using grounded theory as a method for rigorously reviewing literature*, European Journal of Information Systems, in press.
- Wynne, C., Berthon, P., Pitt, L., Erwing, M., Napoli, J., 2001, *The impact of the Internet on the distribution value chain - The case of the South African tourism industry*, International Marketing Review, Vol. 18, Issue 4, pp. 420-431



- Xiang, Z., Gretzel, U., 2010, *Role of social media in online travel information search*, Tourism Management, Vol. 31, Issue 2, pp. 179-188
- Xiang, Z., Wöber, K., Fesenmaier, D.R., 2008, *Representation of the Online Tourism Domain in Search Engines*, Journal of Travel Research, Vol. 47, Issue 2, pp. 137-150
- Ye, Q., Law, R., Gu, B., 2009, *The impact of online user reviews on hotel room sales*, International Journal of Hospitality Management, Vol. 28, Issue 1, pp. 180-182