

**Effective Tourism Web Sites, Part 1:
Literature Review and Features Survey**

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Abstract:

To date little research has been done on effective tourism web sites focusing on content. Part 1 of this study bridges the gap by unveiling what tourists, the tourism industry and tourism academics perceive as an effective tourism web site and what features, in terms of content, they perceive important in an effective tourism web site. The study has focused mainly on content because it was believed that content would be the key determinant of effective web sites. Two major activities in the study were a Web Based Survey and a Review of tourism web sites. The Web Based Survey sought to determine the perception of tourists/prospective tourists, the tourism industry and tourism academics of what constitutes an effective tourism web site and their perception of the importance of selected tourism web site features. The Review provides a snapshot of the current situation of best tourism web sites in New Zealand and the World, and is discussed in Part 2.

An instrument for the Survey was developed based on Ho's (1997) purpose-value evaluation framework. The framework is a four by three matrix that identifies the business purposes of a commercial web site and its value creation consisting of 59 features. The Web Based Survey produced 170 responses from 900 e-mails sent. The Web Based Survey revealed three elements of an effective tourism web site; content, content quality, and web design.

1. Introduction

Potentially, all current travel and tourism transactions can be performed on-line on the Internet. The opportunity presented by the industry, now the biggest in the world (WTTC, 1998), is huge. The World Travel and Tourism Council (WTTC) reported in *World Economic Impact* in 1998 that Travel and Tourism – encompassing transport, accommodation, catering, recreation and services for travelers – is expected to grow to US\$ 10.0 trillion of economic activity and 328 million jobs by 2010. In 1998, Travel and Tourism industry contributed about 8.2% to worldwide Gross Domestic Product (GDP) and this is expected to increase to 8.7% by 2010 (WTTC, 1998).

Some players in the tourism industry, as well as newcomers, have achieved considerable success in taking advantage of the opportunity offered by the interactive web technology. Preview travel (www.previewtravel.com), for example, attracts 6 million visitors a year to its web site (Krochmal, 1998) and posted annual gross bookings of \$80.4 million in 1997 (Guglielmo, 1998). Travelocity (www.travelocity.com) books about \$5 million in reservations per week and registers 250,000 new users a month; while Microsoft Expedia travel service (www.msn.com) gets two million visitors every month and its revenue is about \$24 million a month (Krochmal, 1998).

Travel alone is now the largest on-line business-to-consumer product in the United States (Forrester Research, 1998) and *on-line air travel* is the largest in Europe (Dwyer et al, 1998). In Germany, the leading on-line market in Europe, air travel has been the largest on-line revenue since 1997 and is predicted to be the largest revenue generator, at least until the year 2002 (Jupiter Communications, 1998c). According to Jupiter Communications, a New York Internet research company, more than US\$2.1 billion in airline tickets, hotel accommodation, and travel packages will be purchased from the Internet in 1998. In a report *Leisure Travel On The Web* on-line travel bookings was predicted to reach \$7.4 billion by the year 2001, up from \$654 million in 1997 (Forrester Research, 1997). Based on a recent field study of 120,000 North American households, on-line travel was predicted to reach nearly \$30 billion in sales by 2003 (Forrester Research, 1998).

The business opportunity offered by the Internet presents a challenge to new comers and existing players in the tourism industry to provide effective tourism web sites. However, capturing the massive travel and tourism market of up to \$10.0 trillion by 2010(WTTC, 1998) will require extensive efforts. But what constitutes an effective tourism web site? How can the effectiveness of a tourism web site be measured? What is the current status of tourism web sites? The effectiveness of a tourism web site, or any web site, may be measured from *content*, *content quality*, or *design perspectives* (Chen and Sheldon, 1997; Ho, 1997, 1996; Jung and Baker, 1998; Martin, 1997; Murphy, et al, 1996a, Nielsen 1998; Rachman and Richins, 1997). From the *content* perspective, an effective web site should provide significant value added to visitors through its features, which have essential purpose and value (Ho, 1997; Martin, 1997; Nielsen 1998; Rachman and Richins, 1997). From the *quality-of-content*

perspective, an effective web site should at least have useful content, be informative, accurate, up-to-date, and comprehensive (Chen and Sheldon, 1997; Jung and Baker, 1998; Martin, 1997; Nielsen, 1998). From the *design* perspective, an effective web site could mean intuitive, easy to navigate, easy to use, consistent, accessible, appropriate, interesting, fast, and fun (Chen and Sheldon, 1997; Murphy et al, 1996a; Nielsen 1998).

There are, however, other ways of measuring the effectiveness of tourism web sites apart from the three methods mentioned above. One common metric is to measure the *success* of a web site by the number of visitors' clicks, visits, or viewings. Another metric could be the alignment of a web site with its corporate strategy (Allard, 1998; Brobst, 1995; McCune, 1998; Ware et al, 1998). Ware et al (1998) considered failing to link web initiatives to the existing business strategy and focus as one of the web business "sins". Allard (1998) notes a similarity of the misalignment with what happened in the early 1990s when companies were losing control of their IT budgets to independent business units. He observes that "companies are waking up to the fact that they have redundant investment in multiple web sites and a fractionalized Internet strategy". The current study, however, only discusses the content, content quality, and design perspectives of a web site.

The objectives of this study are to determine what academia, the tourism industry, and tourists perceive as effective tourism web sites; to determine what web site features in terms of content are considered important; and to determine the current status of some of the best tourism web sites in New Zealand and the World. In Part 1, we undertake a review of the literature on tourism web sites and report on a web based survey designed to assess the perception of tourists, the tourism industry and tourism academics on the important features of a tourism web site. In Part 2, we conclude the study with a review of top tourism web sites in New Zealand and the World. This information is then integrated with the results of the web-based survey of features and presented in a simple 2x2 framework.

2. Research Importance and Methodology

2.1 Research Importance

The Web Based Survey and the Review of tourism web sites has sought to answer the following questions:

- What do academia, the tourism industry and tourists perceive as an effective tourism web site?
- What features, in terms of content, do they perceive important in an effective tourism web site?
- What is the current status of some of the best tourism web sites in New Zealand and the World?

An understanding of what constitutes an effective web site is important in order to take the full advantage of the new medium. Research on tourism web sites has started to emerge (Au and Hobson, 1997; Bloch, et al, 1996; Bloch and Segev, 1996; Cano and Prentice, 1998; Chen and Sheldon, 1997; Eastman, 1998; Ho, 1997, 1996; Jung, 1998; Jung and Baker, 1998; Lennon, 1995; Marcussen, 1997; Murphy, et al, 1996a, 1996b; Rachman and Richins, 1997; Schonland and William, 1996; Steiner, 1997, 1995; Steiner and Dufour, 1998; Sumarlin, 1996; Tellini, 1995; William, et al, 1996). However, research specifically on the effectiveness of tourism web sites from the content perspective is still rare (Cano and Prentice, 1998; Murphy, et al, 1996a, 1996b; Rachman and Richins, 1997). The current research has focused mainly on content because it was believed that content would be the ultimate key factor for effective web sites. In Jung and Baker (1998), respondents rated content as the most important factor in a web page design (rated 7.1 out of a '1 to 8' scale). The number one web page usability and design 'guru', Jacob Nielsen, also stressed the importance of content (Tedeschi, 1998). In his research, at Sun Microsystems' usability testing lab, he observed that people are "driven" to the Web for content, not presentation (Tedeschi, 1998). The Review of tourism web sites is also considered important since the knowledge of the current situation would help the advancement of tourism web sites (Rachman and Richins, 1997).

2.2 Research Methodology

The discussion on methodology will consider the research framework and the survey methodology.

Research Framework

Both the Web Based Survey and the tourism web site Review instruments were developed based on Ho's (1997) Purpose-Value Evaluation Framework. The framework was slightly modified in this study after two focus group discussions, interviews with three tourism academics, and a small-scale Review of tourism web sites. The instrument consists of a 4 by 3 category matrix and 59 tourism web site features. The matrix contains *purpose*: promotion of products and services, provision of data and information, and processing of business transactions; and *value*: general, timely, customized, and sensational. Figure 1 shows the framework.

Purpose Value	Provision (data & information)	Promotion (products & services)	Processing (business transactions)
General	general-provision	General-promotion	general-processing
Timely	timely-provision	timely-promotion	timely-processing
Customized	customized-provision	Customized-promotion	customized-processing
Sensational	sensational-provision	sensational-promotion	sensational-processing

Figure 1 The Purpose-Value Framework (modified from Ho, 1997)

The framework determines the extent of the *purpose* of the tourism web site: To what extent has the technology been used for *promotion* of tourism products and services? To what extent has the technology been used for *provision* of tourism data and information? And, to what extent has the technology been used in tourism for *processing* of business transactions?

Promotional features are specific to several methods of promotion such as displaying awards (e.g. The New Zealand Way), accreditation (e.g. ISO 9001), or customers' testimonials. Tour package information such as tour programs, detailed itineraries and tour schedules is not considered as promotional material, but only as *provisional* information for tourists. However, a *new* tour package announcement is considered as promotional material that has a timely value. *Processing* refers to facilities for business transactions such as an on-line reservation system.

The framework also determines the *value* of tourism web sites: To what extent have tourism web sites used the technology for *general* information in *timely* manner? Are tourism sites using technology for tourists' *customised* requirements? And, how far have tourism sites used the technology to create a *sensational* value for tourists? *Timely* value applies to time-sensitive information, not to the speed of its delivery. New information, special offers, and on-line consulting, for example, are time-sensitive information. *Customised* value is "predicated on the predisposed preferences" (Ho, 1997) of tourists. Searching a database of tour packages based on preferred price range, location, means of travel to and within the destination, preferred type of accommodation, and preferred dates creates customised value. Many features on a web site such as discounts, contests, and free holidays, create a *sensational* value. Other features which can not be categorised into the preceding three categories is considered to have a *general* value.

Research Methodology

A list of web site features was identified based on a small-scale review of tourism web sites, Ho's (1997) example of web site features, Martin's (1997) example of travel web site "context", thirty two features in Murphy et al's (1996a) review of Hotel web sites, and forty three features used in the review of New Zealand tour operator web sites by Rachman and Richins (1997). The features were then categorised into the purpose-value evaluation framework. The framework and the features were discussed in two focus group sessions with students from the Tourism Department of the University of Waikato, New Zealand. In these discussions, some features were eliminated from the list and others were added.

In addition, interviews with three tourism academics from the University of Waikato, New Zealand were conducted to complement the features previously discussed and the findings of the study. The interviews used unstructured open questions. The questions were directed to determine the academics' perceptions of what constitutes an effective tourism web site and what features are required for effective tourism web sites. The discussions and interviews

produced 59 features that were used for the Survey and the Review of tourism web sites (see Appendix 1).

The Web Based Survey was used to determine the perception of tourists/prospective tourists, tourism industry, and tourism academics on what constitutes an effective web site. They were also asked to list three tourism web site features that they considered most important. Finally, they were asked to rate the importance of the fifty-nine features previously discussed.

The target respondents were Internet users including tourism academia, people from the tourism industry, and tourists/prospective tourists. Their names and e-mails were collected randomly from many tourism web sites. The target respondents from the tourism industry were found from Tourism Industry Associations, the staff of tourism companies found on their web sites, and contact e-mail addresses provided by tourism web sites. Names and e-mails of tourists or prospective tourists were found from the guestbooks of several tourism sites and discussion forums.

About 350 target respondents of each category were individually e-mailed (to allow for some email addresses that were no longer valid), with a view to reaching a total of 900 potential respondents.

The process of the Web Based Survey was as follows:

1. A questionnaire based on the final features resulting from the focus group discussions and interviews was developed.
2. The questionnaire was transformed into a Web Based Survey (see Appendix 1).
3. Respondents were e-mailed.
4. Invitations to complete the questionnaire were put on several guestbooks and the web site address was published on some New Zealand and other search engines.
5. The resulting data were processed.

The Web Based Survey endeavours to determine the perception of respondents on “tourism web sites” in general. However, there are many kinds of tourism web sites from different tourism sectors, all of which have different purposes. For example, travel agents may have a different kind of information on their web sites compared to tourist destination web sites or government web sites dealing with tourism. Therefore, it is possible that respondents have completed the survey from different frames of reference.

Further, respondents were from all over the world. It was assumed that each category of respondents would have a similar view on the subject and no analysis has been undertaken to categorize respondents, aside from the initial three-fold categorization.

3. Literature Review

3.1 The effectiveness of tourism web sites

Criteria to evaluate the effectiveness of tourism web sites need to be developed for the advancement of the tourism industry. The earliest attempts to measure the effectiveness of web sites in general were purely subjective individual preferences such as “Cool Links”, “Top Lists”, and “Hot Sites” (Ho, 1997). Further efforts have taken the form of many awards that assess the web site's effectiveness using more systematic methods. Examples of such awards are “Soda Awards” (www.soda.co.nz), “Lycos Top 5%” (point.lycos.com/categories), and “Hot 100 sites” (www.hot100.com).

The criteria for the awards vary. For example, the *Soda* award is given to New Zealand sites that show excellence in one or more of the following criteria: content, graphical “out-there-ness”, layout, speed, net-cred (frame use, tables, HTML design), interactiveness, and updates.

The *Lycos Top 5%* rates a web site from *its content, design, and overall* performance (www.lycos.com/help/top5-help.html#selection). The *content* rating indicates how informative the site is. Does it cover its topic in a broad, deep and thorough manner? Is the information useful, accurate and up-to-date? The *design* rating assesses the site's layout and presentation. Does it lead visitors through the information elegantly? Are the pages beautiful, colorful and easy to use? Does the site use video, audio and original graphics? The *overall* rating combines the content and design metrics with criteria such as amusement, personality, and charm. Is the site fun, inviting and captivating? Would you like to meet the people behind the site?

The assessment for the above awards above can be categorized into four criteria as in Table 1.

Criteria	Components
Content	Communication facility (feedback), Multimedia (video, audio)
Content Quality	Update frequency, up-to-date, informative, broad, deep, thorough, useful, accurate
Design	Graphic, layout, speed, interactive, presentation, performance, elegance, beautiful, colorful, easy to use, amusement, personality, charm, fun, inviting, captivating, use of frames and tables, HTML design, original graphics
Success	Traffic volume, page views

Table 1 The criteria and components from Lycos top 5%, hot100, and Soda awards

Based on three awards above, effective web sites may be measured using at least four criteria: *content*, *content quality*, *web design*, and *success*. This section discusses the first three criteria in more detail, particularly as they apply to web sites dealing with tourism. Prior to this we will discuss the driving force behind the upsurge of web site use as a means for marketing and transaction of tourism products and services. Figure 2 graphically summarizes the chapter.

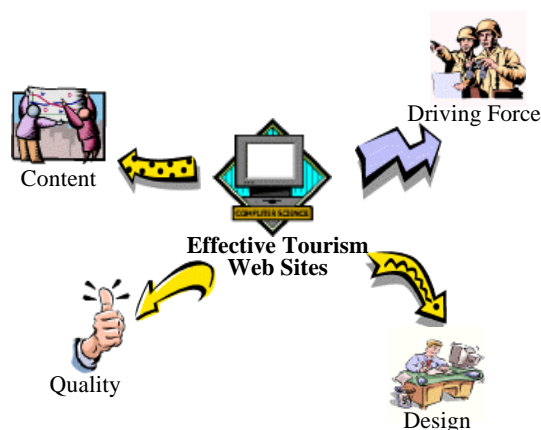


Figure 2 Components of Effective Tourism Web Sites

3.2 Driving Forces

At least three driving forces accelerate web site use as a means for marketing and transaction of tourism products and services: the CyberTrends Technology (McCann, 1997); restructuring within the tourism industry; and the interplay of the previous factors with the dynamic tourism market.

CyberTrends

McCann (1997) notes that we need to be aware of, and understand, the visions being expressed by technologists, journalists, executives and other professionals who are in a position to understand how technologies are evolving and how they will impact on various aspects of society. He collected cogent comments from these people and has used them to identify trends, termed '*CyberTrends*', which have been classified into several broad groups (technologies, digital dawn, the way we live, the way we work, media, and marketing), and subsequently into topics within each group. The following logic was used to devise the broad groups. Technologies such as microprocessors and fiber optics are the primary change enablers. These technologies are leading to a digital dawn that is giving us the Internet and related products and services. This digital dawn is impacting the media, the way we live, and the way we work. Finally, marketing is changing to accommodate these technologies, media, and societal developments (McCann, 1997). This relationship is depicted in Figure 3.

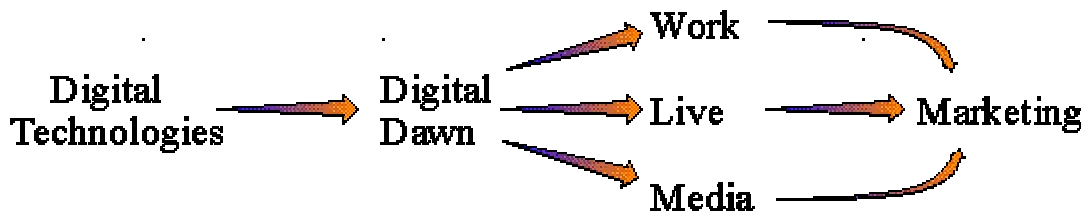


Figure 3 The CyberTrends Technology (McCann, 1997)

In the present digital dawn, Internet connections are both more available and affordable. Internet users have been growing steadily while the number of hosts and the number of web sites have been growing exponentially. More than 85 million individuals worldwide used the Internet in 1997 and number of users is estimated to grow to over 247 million in 2002 (Jupiter Communications, 1998b).

Based on an Internet Domain survey, Network Wizards (www.nw.com) estimated 36.7 million hosts (a computer that provides user accounts and/or host web sites) by July 1998. Figure 4 shows the actual and projected growth of Internet users.

The growth of Internet users and web sites has increased the number of Internet providers, brought fierce competition and brought prices down. Now web sites can even be set up for free, for example at Geocities (www.geocities.com), Tripod (www.tripod.com), Angelfire (angelfire.com), and Infoseek (www.infoseek.com) sites. At Geocities 11 megabytes (Mb) of free webpage space with subdirectories to organize files, a full set of tools, and technical support can be accessed. Similarly Tripod offers 11 Mb free space, Angelfire 5 Mb, and Infoseek offer “unlimited” free space. In comparison Lennon (1995) notes that in 1995 for “traffic” alone, a company in New Zealand had to pay NZ\$12/Mb of accessed information. A few years ago, the cost of having a web presence was out of reach for small New Zealand organizations, and for some larger ones.

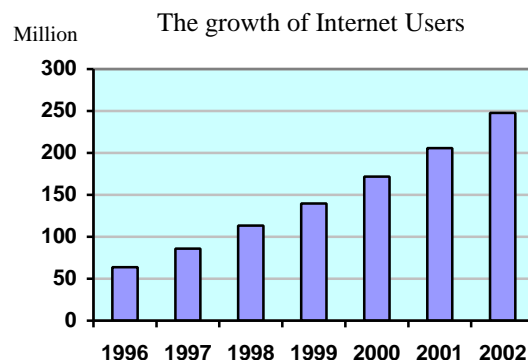


Figure 4 Actual and projected growth of Internet users (source: Jupiter Communications)

McCann (1997) concludes that the media, the way we live, and the way we work have been affected by the Internet. In many cases, the Internet is not only another medium, but has

become the main medium for a company's operation and become advantageous for customers' purchasing. For example, the largest Internet bookstore, amazon.com, performs its business solely on the Internet. Its customers from around the world can access millions of book titles from their desk and order books with a click of a button. From the tourism industry, Microsoft Expedia (www.msn.com) and Internet Travel Network (www.itn.com) provide their services (e.g. real-time air booking, car, hotel and vacation tour reservations) exclusively on the Internet.

The Internet is by nature interactive, spaceless, and timeless. Consequently products and services are marketed differently from the conventional way. The marketing on the Internet is termed "Cybermarketing" (Brady, et al, 1997; Steiner and Dufour, 1998). Steiner and Dufour (1998) define Cybermarketing as the set of actions, tools, and techniques implemented by an organisation to promote the growth of its commercial activities using the Internet. In addition the Internet facilitates "electronic commerce" with business values such as new sales channel, direct savings, time to market, customer service, customer relations, and brand image (Bloch and Segev, 1996).

Restructuring within the Tourism Industry

The tourism industry has already reported dramatic changes in its structure over the last few years. The customers desire more frequent but shorter travel. Last minute reservations, global advice, service quality, market transparency and a certain self-service mentality are required. Modern travelers have begun to gather recreational "micro-services" on their own and form a customized holiday package (Rachman and Richins, 1997). The advances in the information, computer, and telecommunication technologies that led the inception of the "cybertrend" also triggered the restructuring within the tourism industry. Steiner and Dufour (1998) note that the significant changes in the Internet-based Tourism Information Systems have lead to a reorganization of the industry chain and changed the way key players in the tourism industry offer, gather and use information. With Internet technology, accessibility of information has moved from only professional travel agents in the 70s and 80s to end users in the 90s (Buechy, 1998; Chen and Sheldon, 1997). Internet also enables direct sales from supplier to customer, which has forced the repositioning of the traditional intermediaries (Eastman, 1998).

New entrants in the industry who fully utilize the technology have also contributed to the restructuring in the industry. For example, the market of the traditional Computer Reservation Systems (CRS) has significantly been taken over by new entrants such as Microsoft Expedia and Travelocity. More convenient and effective ways of doing business will eventually replace the slow and expensive traditional ones (Eastman, 1998) which Nell (1998) describes as a "nightmare" for everyone. British Airways PLC, for example, closed all 17 of its U.S. ticket offices because customers have increasingly turned to its web site, the telephone and independent travel agencies to buy airline tickets (Gulielmo, 1998).

Other factors contributing to the restructuring of tourism industry are the convenient and profitable new ways of doing business over the Internet, the continuous capacity excess, and the price war (Alfolter, 1998; Warner, 1998). United Airlines' web site manager, Matt Meyers, said that the person who shops on-line is an advanced breed of bargain hunter. They are looking to maximize convenience and savings (Warner, 1998). Web sites offer great convenience for the consumers. For example, through the web site of United Airlines (www.ual.com), visitors can search, reserve and purchase tickets for more than 500 other airlines (Warner, 1998), and usually at a much cheaper price than can be found through a travel agency.

One of the consequences of the restructuring is the dis-intermediation of traditional distribution channels (Bloch and Segev, 1996; Karcher, 1998; Steiner and Dufour, 1998). However, dis-intermediation can mean both big opportunities and serious threats. The most significant factor separating winners and losers will be just how proactive companies are in capitalizing on the strengths of the Internet to increase efficiency and add customer value. Intermediaries that do not add value in the value chain will be big losers if they do not change. Added value can be in the form of knowledge, personal service, and customization to the ever-more-sophisticated traveler (Wilder, 1997). The winners can be new entrants such as Biztravel.com, Microsoft Expedia, and Travelocity and can be established players such as American Express and Rosenbluth Travel that have safeguarded and enhanced their physical-world brands by leading the "re-intermediation" (Bloch and Segev, 1996; Karcher, 1998) in cyberspace with prudent use of the on-line channel.

Buechy (1998) suggests new opportunities for the traditional intermediary CRS (Computer Reservation Systems) by selling new types of products such as the application interfaces, booking engines, travel shopping mall, advertising, and business travel tools. Also, profits can be made from shared revenue with other players from referral fees, technical fees, customisation fees, maintenance fees, advertising fees, trade margin booking fees, and subscriptions.

Other traditional intermediaries, such as travel agencies, also have to find ways to match direct-sales competition from airlines and hotel chains. American Express Co., the number one player in the travel and entertainment arena (earning \$9 billion in 1997) together with Microsoft Expedia have started an Internet airline and hotel booking system (AXI) that takes into account the travel policies of their business customers and has subsequently cut costs (Girishankar, 1998). Instead of live agents on-site dealing with each individual employee over the phone, large American Express customers can use AXI to connect users directly to American Express' airline booking and car rental system. The advantages of the system lie in the way views are customized for a particular business. The system automatically alerts people to the recommended fares and hotels from which they should choose. Savings for corporations such as Novartis are as much as 25 percent, which amounts to tens of millions of dollars since Novartis spends \$65 million annually in U.S. airfares and car rentals (Girishankar, 1998).

The Dynamics of Tourism Market

Travel and tourism is a dynamic market with a continuous increase in its size and its importance to people (Affolter, 1998). Its growth is influenced by the increasing number of people who can afford to travel, and the changing pattern of demands. Kumar (1998) observes the changing pattern of demands within an exploding demand from across the globe; global reach to destination across the globe; customer variety in age, interest, health, and pocket-book; trip variety in non-traditional purpose and multi-purpose trips; travel information requirements; mass individualization of “travel experience”, cost competitiveness and service quality; and expectation in the speed of response to “fickle” customers.

The dynamic nature of the tourism market is also shown by the changes in customer behavior following the transition from static to dynamic provision of information. Consumers are now more knowledgeable, more informed, more confident, and expect higher involvement in their travel decision making. They are open to innovation and expect to find the best deal in their selection (Affolter, 1998). With the tremendous amount of information available, they also expect market transparency (Affolter, 1998). More than ever, consumers now expect high performance from the tourism industry.

Travel and tourism consumers on the web expect to be serviced individually and therefore expect a high degree of customized products (Affolter, 1998; Chen and Sheldon, 1997; Ghosh, 1997). The individualized products match the criteria of the emerging one-to-one economic system, a new paradigm that will eventually replace the old paradigm of mass production system, mass media, and mass marketing (Peppers and Rogers, 1997). With the new paradigm, products will be increasingly tailored to individual tastes, electronic media will be inexpensively addressed to individual customers, and media communication will be two-way. The heart of one-to-one marketing will be a focus on winning a greater share of each customer's business precisely because marketers now have the computational power to remember every detail about customer's transaction history, including communication. Instead of trying to sell products to as many people as possible, the new game will be to satisfy each individual customer's needs (Peppers and Rogers, 1997).

It is clear that company success on the Internet is determined by how much they cater for the needs of their consumers and how well they form relationships (Berger, 1998; Dwyer, et al, 1998; Ghosh, 1997). To ensure success companies need to know customers and design a web strategy with them in mind (Ware et al, 1998). To know about their customers, companies should have a customer-oriented web site and a comprehensive, yet research-friendly, database (Berger, 1998). Databases are invaluable for determining who their customers are, and for learning about company-customer relationships. The Internet is a dynamic way to interact with existing clients and new prospects as well as to deliver information and sell products. For example, from the customer information repository companies can identify their customers, their travel preferences, travel history, customer financial history, and other related documentation (Kumar, 1998) and offer appropriate products or services. The customer

relationship developed would undoubtedly increase the “customer retention” (Dwyer, et al, 1998). Many well-known tourism web sites now collect customer's data by asking them to sign up for the services provided. Preview travel (www.previewtravel.com), for example, claims to have over 5 million registered users, and ITN (www.itn.com) 4 million users, from which they can form a win-win relationship. Companies also need to specify which customers they are targeting so that their web sites can match the expectation of their target customers. For example, the profile of the niche market that Biztravel.com captures is 85% male, makes \$120,000 a year, and belongs to seven frequent flyer programs and travels 20 times a year. This market likes to accumulate points for reward travel or to upgrade to the VIP level (Krochmal, 1997).

The interplay of the dynamic tourism market with the CyberTrends and the restructured tourism industry has accelerated web site use as a means for the marketing and transaction of tourism products and services. The travel-tourism transaction over the Internet has undergone, and is predicted to continue, its exponential growth. Figure 5 shows the actual and projected growth of on-line air travel in Europe and on-line travel in USA.

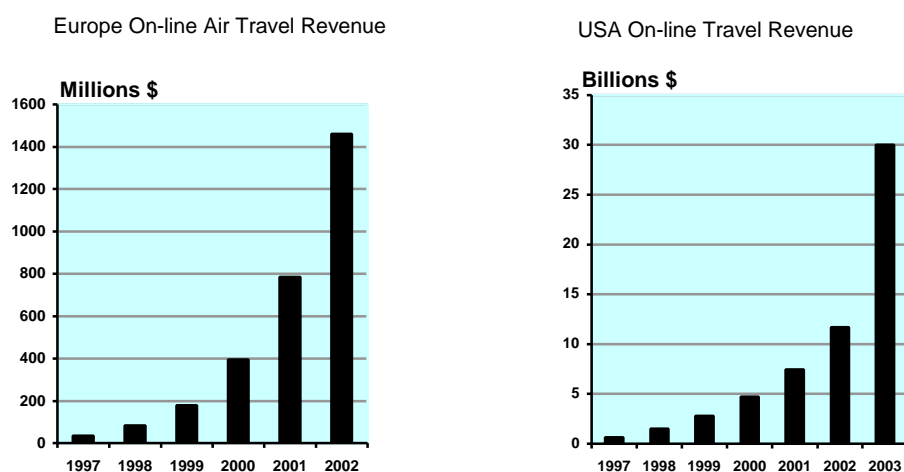


Figure 2.5 Actual and projected on-line air travel revenue for Europe and on-line travel revenue for the USA (Source: Forrester Research and Jupiter Communications)

3.2 Tourism Web Content

Research on the effectiveness of tourism web sites from the content perspective is still scarce (Chen and Sheldon, 1997; Ho, 1997; Murphy, et al, 1996a, 1996b; Rachman and Richins, 1997). Chen and Sheldon (1997) identified the challenges in the design of a destination information system, examined design options, and proposed system architecture that exploit current technological advances in heterogeneous distributed databases, intelligent multimedia communication, and global electronic commerce. One of the challenges identified was the provision of *comprehensive information content* from multiple data sources. Ho (1997) proposed a framework to evaluate web sites from a customer's perspective of *value added* and investigated 1800 sites around the world. Ho's study was not specific to tourism but to commercial web sites in general. However, part of his research was the Review of tourism

components such as airlines (transport sector), hotel/resorts (hospitality sector), and travel (distribution sector). Murphy et al. (1996a, 1996b) investigated 32 features on the web sites of 20 chain hotels and 16 free-standing hotels, and 10 features on the web sites of 37 restaurants. They also conducted an e-mail survey to all 36 hotels and 13 restaurateurs and received 13 and 9 replies consecutively. Rachman and Richins (1997) evaluated the status of New Zealand tour operator web sites using Ho's (1996) purpose-value evaluation framework. Forty-three features were investigated on fifty tour operator web sites.

Hotel reservations, book collections, newspapers, universities, and Indonesian satay recipes all have one thing in common: they are all forms of content. Once they are digitized and moved onto the Internet, any data become content, making almost anyone doing business on the Internet a content provider (Martin, 1997).

People access the web for the content. Nielsen (1998b) predicts that content is becoming a paramount concern for web publishers, and that on-line editors and writers soon will be in ascendance – like the programmers and designers before them. In his research at Sun Microsystems' lab of usability testing, users were very concerned with whether the content was something they liked and something they thought was useful. That was what they kept commenting on – not the design, layout, or navigation. Services available on the Internet can be considered as content (Ghosh, 1997; Nielsen, 1998b). Ghosh and Nielsen even argue that what is really important on the web is the services, not so much the technologies. They consider the vast majority of the value-addition and interesting issues on the web come from the service development.

Successful tourism web sites provide great content in both information and services that cater for travelers' needs (Ghosh, 1997; Nell, 1998). Martin (1997), however, suggests that content alone is almost useless in an Internet networked environment, especially if the content is available more readily through another medium. He notes that on the Internet, the context of the content is more important because it takes into account a network of surrounding issues and elements. On the Internet, content in context is a way of looking at a business from the user's point of view. Context is a combination of time, place, relevant content and technology. And context takes full advantage of the Internet nature to make fluid, malleable, responsive, and interactive content. Successful tourism web sites therefore provide information and services in the context of travelers' needs and take advantage of the Internet's nature to the fullest.

Static traditional content (like printed words on a magazine) is a one-way relationship to the user. The static content on the Internet includes transportation and accommodation, company and contact information, searchable database, and booking facilities. It can be argued that functions such as searchable databases, e-mail, and on-line reservation are examples of interactive features. However, according to Martin (1997) these functions are static content, because although they may be technically interactive functions, they do not really enhance the interactive-experience in and of themselves. Also, they are currently expected features on the

Internet as were voice mail, 800 numbers, and three-way calling capabilities in the pre-connectivity era.

Interactive content on the other hand is dynamic, inviting users to participate in the creation of content and derivation of value. An airline homepage, like Air New Zealand's, which contains everything about the company, its flights and services, is not totally interactive if the consumer must go off-line to make a reservation. Useful interactive content would be if the airline were to provide not only the reservation capability, but also seating charts, availability, automatic recall of seating and meal preferences, customized destination information, and automatic notification of special offers on frequent destinations. Companies like Microsoft Expedia and Biztravel currently offer such services. Other examples of interactive content in a traveler's context are; air-miles calculator tied to individuals' frequent flyer programs, automatic suggestions to save money, and automatic proposals based on where individuals have previously traveled (Martin, 1997).

Some of the dynamic content performs its functions with the aid of an electronic agent (Steiner and Dufour 1998; Steiner, 1997). Futurist, Nicholas Negroponte, describes an agent as a buyer tool with functions to filter, sort, prioritize, remind, highlight and hunt for things in which user may be interested (MTB, 1996). Steiner & Dufour (1998) noted that the services performed by the agent for tourists could be the information processing (filter, analyze, classify, track, recommend), travel or service planning (coordinate, schedule, integrate, solve problem, support decision, plan, execute), or electronic market functions (negotiate, compare, shop, pay). The artificial agent ideally integrates the panorama of information sources in an intelligent way and personalizes the interface between the tourists and the information about related tourist services.

Ho (1997) proposed a framework that captures both static and dynamic content of a web site. A slightly modified version of Ho's framework is used in this research to identify features required for effective tourism web sites. The framework identifies business *purposes* of a commercial web site and its *value* creation. The business *purposes* of a commercial web site are classified into three categories; the provision of data and information, promotion of product and services, and processing of business transactions. The *value* creation, on the other hand, is classified into four categories; general, timely, customised, and sensational value (see the framework of Figure 1).

The examples of static and dynamic content previously discussed, and other examples of features on tourism web sites, are displayed on Figure 6. The examples show that, within the framework, the content is becoming more *dynamic* from left to right and from top to bottom.

3.3 Web Content Quality

Repeat visitors are used as a measure of success by most of web sites (Nielsen, 1998b). If people are on the web for the content, then they will be likely to become repeat visitors of a web site only if the web site has an excellent content quality. Content quality of a web site

may be measured from the web site content's currency (up-to-date, timely), accuracy, usefulness, comprehensiveness, informativeness, innovativeness, and professionalism (Chen and Sheldon, 1997; Ghosh, 1997; Jung and Baker, 1998; Martin, 1997; Morkes and Nielsen, 1997; Swack, 1998). The following sections discuss the first three items; content currency, content accuracy, and content usefulness.

Currency

Effective web sites need to update their site design and content constantly because people do not come back to a static web site (Ghosh, 1997; McCune, 1998; Nielsen, 1998b). McCune (1998) notes that successful web sites do not stand still, but are continually maintained and developed to match their customers' expectations. Nielsen (1998b) argued that web sites should employ a "content gardener" who would regularly comb through all of the old content on the site. This person would remove outdated material, and update older content as needed (with new links or new material).

Purpose Value	Provision (data & information)	Promotion (products & services)	Processing (business transactions)
General	Products/services on sale (tours, flight tickets, incl. Customized products/services, etc.) Travel guides (history, location info, where to shop/dine, local cultural/social issues, safety, etc.)	Logo, brand name Testimonials (from customers, important person/organization)	On-line reservation/ordering Job status tracking (a facility to enable you to track the status of ordered/purchased products/services).
Timely	Price of products/services Availability checking (rooms/tours available etc.)	Special offers on products/ services (on a limited time) Web cam (camera connected to a web site to broadcast an event)	Automatic plan change (a facility to automatically change Bookings) On-line auctions (tours, ticket flight etc.)
Customized	Search engine for tourism database in general Automatic facility to customize news report in travel/tourism or to custom-make a travel guide	Search engine for a company's products/ services Automatic facility to customize travel plan (flight, itinerary, hotel, transport, budget, etc)	Automatic proposals based on where you have traveled Air miles calculator tied with individual's frequent flyer program
Sensational	Multimedia (e.g. downloadable video clips, virtual tour facility) Catchy information display (e.g. using Java Applets)	Outstanding web design Something free (e.g. free gifts, free holidays, free software)	Surprise discounts/bonuses/ instant winners (after processing a transaction)

Figure 6. Examples of tourism web site features on the purpose-value framework

Brobst (1995) notes that the greatest challenge for web site maintenance is handling constant change. One example of such change is the handling of products or services purchasing. In the early days of web growth (1995-1996), e-mail was used in conjunction with the traditional business communication tools such as phone or fax. In mid 1997, e-mail has become an

expected facility for most web sites doing business on the Internet. Rachman and Richins (1997) found that 92% of tour operator web sites in New Zealand had e-mail. The researchers found that 24% of the sites provided reservation or ordering facility using a web “form”. Filling orders using a form is more convenient because customers do not have to think too much about what information is required for closing the transaction. In comparison, several e-mails back and forth from customers to sellers may be required to close the transaction. However, in using a web form, buyers had to fill out an order form on a separate page from the product information which meant moving back and forth between the on-line catalog and the order form, or writing down product information and then retyping it on to the form (McCune, 1998). The latest method for handling products or services purchasing is by using a “shopping cart” whereby customers “click” the products they want and automatically collect them in the shopping cart.

Accuracy

Morkes and Nielsen (1997) found that users prefer factual information and distrust marketing “fluff” or overly hyped language. They tend to focus negatively on the arrogant tone and quickly click out of the site. To become more objective, Morkes and Nielsen suggest presenting information without exaggeration, cutting subjective claims, and checking boasting. With more objective content Morkes and Nielsen found increased of usability of 27%.

Usefulness

A measurement that is often used for a web design is a *usability* testing. The test basically investigates whether users can use a web site (Nielsen, 1998). Swack (1998), however, argues that there is another goal that comes before usability, and that is usefulness. If a web site were usable, but totally useless, nobody would care. Web sites that are not useful do not increase business objective. Before testing usability Swack suggests auditing the usefulness of a site. She outlines several goals that must be met on the audit; ensure useful content and features for each of a site's unique user types, communicate this content to the appropriate users, and make content accessible and useable.

Discovering how users intend to use the site and working to accommodate users' needs are important steps to increase web site usefulness. According to Swack, each user arrives with various intentions. Their objectives or goals about what to do or what to use the site for vary. Thus the web site should be structured to suit these intentions for coming to the site. One of Swack's audit projects was the user experience audit at the ever-growing ‘*Tripod*’ (www.tripod.com) site. The Tripod site has very large content and a myriad of different types of activities that users can do. After auditing, it was found that there were two types of users; those who were interested in reading content provided by Tripod, and those who came to the site with the intention of creating their own web pages. One of Tripod's business goals was to

get both types of users to pursue both types of activities. Before the audit, user web pages were completely separate from the professionally published content. The audit revealed that the business goal of integrating the two content areas could be achieved by allowing users to choose the entry point based on their original intention. Once there, users encountered the bonus of added information in other related areas. In this way, users goals are completely supported and Tripod's important business objectives are also met.

3.4 Web Design

From the design perspective, an effective web site can be measured from its speed, ease of use, interactivity, visual presentation, and accessibility (Chen and Sheldon, 1997; Kadison, et al 1998; Murphy et al, 1996a; Nielsen 1998c). These are discussed in turn.

Speed

Nielsen (1998c), considers speed as the single most important usability consideration in web design. A survey involving 1,854 users found that users thought that speed was more than three times as important as looks. Putting priority on looks came from the old-fashioned print and display advertising method, which use high-impact graphics with a high degree of color. These graphics take a considerable space, which means that they take a long time to download. As users demand speed, companies will be forced to designing pages with more content value than fancy appearance (Brobst, 1995).

According to a report by NetRatings, the average home Internet user wastes just over nine minutes per day, or 55 hours per year, waiting for web pages to load fully (26 % of all time spent on the Internet). Multiply this figure by a conservative measure of 43.1. million Internet users in the U.S., the total is 2.4 billion hours web-wasted (Tedeschi, 1998). Each time a user sends a request for a web page, it goes from the computer to its modem, to its ISP (Internet Service Provider), through their connection points on the Internet, the web site's ISP, the web site's bandwidth, and the web site's server. Nielsen (cited in Tedeschi, 1998) notes that the weakest link of the chain determines the speed, and there is no strong incentive to upgrade the links on that chain.

Countless web site owners and designers are pushing to develop ever more “glitzy” pages with heavy graphic use, which further undermines the Internet speed. Nielsen (cited in Tedeschi, 1998) also comments that these sites have the attitude of a colonial power, as if the user's time is an expendable resource. However, there is now some move back towards less graphic concentration and more towards getting the content right, especially among electronic commercial sites. Broersma (1998) reported that some of the high-profile web sites have reinvented themselves by borrowing elements from the low-bandwidth, text heavy "portal" sites such as Yahoo! He lists the sites that have significant changes including ESPN SportsZone (espn.go.com), HotWired (www.hotwired.com), Tripod (www.tripod.com), Broadcast.com

(www.broadcast.com), E*Trade (www.etrade.com), Dejanews (www.dejanews.com), and ZDNet (www.zdnet.com).

Ease of Use

Ease of use is one of the keys to successful web sites (Jung, 1998; Nell, 1998). In Jung's (1998) study, ease of use was rated second most important after content by respondents (score 6.3 using a scale of 1 to 8). However, many sites have not paid enough attention on the ease of use of their web design. In a survey conducted by NOP Business with KPMG consultants in the first quarter of 1998 among 9000 adults in France, Germany, and UK, 81% believed they needed to learn special skills to navigate the web (NUA, 1998). Studies found that people's biggest concern about cyberspace is losing their way – a process known as “info-tunneling” (Frenza and Hoffman, 1997). Info-tunneling happens when people click on anything that catches their attention, and click further and further until becoming absolutely lost not knowing where they came from and not sure where they have ended up.

One way to provide ease of use design is to provide easy navigation within a web site. Kadison et al (1998) reported that frustrated shoppers leave sites that are difficult to navigate while easy to navigate sites increase their market share by converting “lookers” to “buyers”. A navigational tool has to have a consistent look, be in the same spot on every page, and get the visitors to the information as few clicks as possible. Nielsen (1998a) suggested that micro-navigation should give users answers to three questions: Where am I? Where have I been? Where can I go? Some of Nielsen's design tips include; identification of the site on every page, allowing users to travel back up the hierarchy to any level without having to hit all the intermediate points, avoiding orphaned pages, and considering cross-architecture views for other navigational ways. Other design tips from Frenza and Hoffman (1997) are to arrange content in sections, limit the number of sections, use icons, maps, and prioritize.

Ease of use can also be enhanced with *concise* and *scannable* content. Morkes and Nielsen (1997) observed that people do not read on the Internet, they scan information. Their research also found that 79 percent of web users scan information and 25 percent read slower on-line than in print due to relatively poor resolution of the monitor. In their research, when users were presented with scannable version of a site, their performance improved by 47%. Morkes and Nielsen (1997) recommend trimming words and using headings, large font type, bold text, bulleted lists, graphics, captions, topic sentences, and tables of contents.

Interactivity

Kirsner (1997) argues that the most effective web sites offer a conversation, not a monologue. The web is the most conversational mass medium ever developed, yet Kisner observes that the majority of sites today do more self-absorbed *yammering* than fine-tuned listening. On the same note, Nielsen (cited in Selwyn, 1998) observes that many web sites are ineffective because they do not pay enough attention to the user's demand of “interactive design”. The

keys to on-line success require the knowledge of what users want from a site and how they react to what they see. Nielsen (cited in Selwyn, 1998) suggests that it is useful to sit users down in front of a browser and watch what they do and say. A web designer should first find out; what works on-line, what site visitors understand, and what they want but can not find on the designer's site.

Kirsner (1997) notes that the components of conversation on the web are control of personal information by the end user, privacy policies, and value exchange. Conversational web sites not only respect people's privacy but offer a dynamic experience with each visit. Smart web site operators are beginning to realize the advantages of knowing their customers and supplying them with relevant content. Microsoft Expedia travel service, for example, will remember what airline routes that their customers travel regularly and keep them informed of the cheapest fares.

Presentation

Although speed is more important, visual appearance is also significant. According to Nielsen (1998c) a great visual design makes users think more highly of the site. Although bandwidth limits the use of too many graphics, this limitation should not translate into "dull" sites (Sykes, 1997). The first couple of pages should be designed with special care, because the first impression counts. The design should first grab people's attention, and quality content will make them frequent visitors later on. Therefore, the "homepage" design is important because it is a visitor's first impression of a company or organization. The homepage is the gateway to a site. It is the road map, the index, the table of contents that tells visitors where to find the important information they need to make their stay at the site enjoyable and profitable. People are likely to become repeat visitors if a web site is designed professionally and artistically. If the homepage fails to entice, for example because the text can not be read, images are too large, and sound files are used with no reason, then visitors are a click away from leaving the site.

Accessibility

Accessibility here means two things: the visibility of sites to audience and accessibility by people with a disability. With now over 37 million web sites (Netcraft) roaming over the Internet, the possibility of someone stumbling across a site is highly unlikely without an effective strategy. It is a mistake to assume that customers will come to a site simply because the site is there (Ware et al, 1998). Making a web site highly visible can be done in many ways: placing an advertisement in popular sites or in on-line magazine relevant to the business (Dolgenos, 1996; Dwyer, 1998); having a web address which signifies the company (e.g. Disney's address is www.disney.com and SABRE is www.sabre.com); registering the site in search engines, directories and award sites (there are over 400 such as Yahoo at www.yahoo.com, Excite at www.excite.com, Netscape at www.netscape.com, Lycos at www.lycos.com, Infoseek at

www.infoseek.com, Altavista www.altavista.com, etc); and maximising the “meta tags” so that the site is set up to be indexed correctly by search engines and directories.

Most web sites have not considered their accessibility in terms of giving access to people with disability (Alschuler, 1998). The most common access impediments were failure to provide alternative text for an image, confusing link text, and use of server-side image instead of client-side image maps. For example “click here” is no guide for the sight-impaired. The guidelines for good practice of giving accessibility on style sheets; images and image maps; applets and scripts; audio and video; text, symbols, punctuation, phrases and paragraphs; lists and outlining; tables; links; frames; and user-input forms are available at W3C (1998).

3.5 Conclusion

The effectiveness of tourism web sites can be measured in many ways, three of which have been described in this section: from the content, the quality of content, and design perspectives. These perspectives have emerged from the responses to the Web Based Survey, which is explained in Section 4 of this report.

4. The Web Based Survey

A total of 170 responses were received out of 900 e-mails sent (19%), which included 90 responses (30%) from tourism academics, 29 responses (10%) from the tourism industry, and 51 responses (17%) from tourists/ prospective tourists. The low response from the tourism industry is not surprising. Smith’s (1997) study received only 8.1% response rate for an e-mail/web survey with similar length of questions (two types; 56 and 66 questions). Her study received a higher response rate of 13.4% when the target respondents were sent notification before sending the survey.

4.1 Open Questions

The Web Based Survey asked two open questions. The first asked the respondents’ perception for an effective tourism web site. The second asked the respondents to list the three features they consider most important in an effective tourism web sites. The responses to these two questions have the same pattern; listing features in terms of web *content*, content *quality*, and web *design*.

There were 549 total features listed, where over half (53.5%) were the same features as listed in Appendix 1. The remaining features differed in terms of web *content* (13.5%), content *quality* (23.1%), and *design* (12.9%).

The main responses ordered from the most to the least number of occurrences are listed in Table 3.

Content	Quality	Design
Price of products/services	Content Currency	Ease of use
Contact information	Timely, up-to-date, updated regularly	Systematic structure, logical layout, homogeneity in design, easy access from homepage
Products/services	Comprehensiveness	Speed
Accommodation	deep, detailed, complete, diverse, packaged & a la carte options	Presentation
Hot links	Accuracy	interesting, enticing, visually attractive, colorful
E-mail	Honest, solid, unbiased, trustworthy, reliable, actual, objective, independent, transparent	Interactivity
On-line reservation/ordering	Clarity	Accessibility
Program/activities	Concise, easy to read, efficient	easy to find, easy to search
Attractions	Usefulness	
Travel guide	Informative, practical, personalised, appropriate, specific, focused	
Transport information		
Map		
Availability checking		
Special offers		
Pictures		
Discounts		
On-line customer service		
Products/services search engines		
Advice to travelers		
Content index/ site map		

Table 3 Responses for the Open Questions (in order of the number of occurrences)

4.2 Closed Questions

This section discusses four findings from the closed questions: the overall response; the top 15 quartile features; most important category in the purpose-value framework; and different opinions between academia, the tourism industry and tourists.

Overall Response

Figure 7 shows the uniformity of the overall response from academia, the tourism industry, and tourists. The figure shows that all categories of respondents have *the same pattern* of frequency distribution of response. This suggests that all categories of respondents agreed on the importance of most of the features in the questionnaire. Most respondents considered the features presented were important or very important (about 70%). Less than 15% of the features were considered not important or not important at all and less than 20% of the features were between important and not important. This suggests that about 70% of the features presented in the questionnaire are relevant for identifying a successful web site.

The Top 15 Features

The 15 top quartile features considered important by all categories of respondents are listed in Table 4. These features are not sorted according to their relative importance (i.e., their average

score). Rather, they are arranged so it is easier to see which are the same features expected by the three categories of respondents and which features are different. They are arranged to show that the first five are features expected from any company doing business on the Internet and the remainder are features specifically expected from tourism web sites selling tourism products on the Internet. All categories of respondents, however, rated *e-mail* and information on the *price of products or services* as the most important.

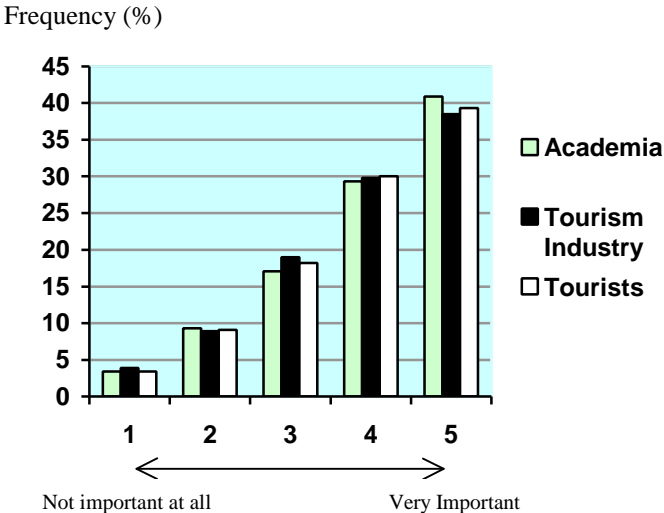


Figure 7 Frequency of Response for All Categories of Respondents

The first five features (*price of products/services, products/services information, e-mail, on-line reservation/ordering, on-line customer service*) were expected features rather than exceptions. Customers need to know what products or services are on sale and how much they cost. They also need a means to communicate with the companies and to reserve/order the products or services on-line.

The next six features (*travel schedules/planners, availability checking, maps, transport information, itineraries information, and travel guides*) were basic features that would be expected from any tourism web sites selling travel related products/ services. These features, however, may not be available on tourism web sites that do not sell any travel-related products or services.

Eleven of the top quartile features considered important are the same for all categories of respondents. For *academia* and *the tourism industry*, thirteen of the top quartile features are the same. This confirms the *tentative overall response finding* that the respondents from all categories agreed on the importance of most features. In this case, they agreed on most features considered the top priority content of tourism web sites.

Academia	Tourism Industry	Tourists
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Price of products/services	Price of products/services	Price of products/services
Products/Services	Products/Services	Products/Services
E-mail	E-mail	E-mail
On-line reservation/ordering	On-line reservation/ordering	On-line reservation/ordering
On-line customer service	On-line customer service	On-line customer service
Travel schedules/planners	Travel schedules/planners	Travel schedules/planners
Availability checking	Availability checking	Availability checking
Maps	Maps	Maps
Transport information	Transport information	Transport information
Itineraries information	Itineraries information	Itineraries information
Travel guides	Travel guides	Travel guides
Programs/activities	Programs/activities	Customized travel plan facility
New information	New information	Job status tracking
Calendars/Events information	Tourism search engine	Discounts
Special Offers	Digital Signature/Encryption	Automatic suggestion to save money

Table 4 The 15 top quartile features considered most important

For the tourism industry, the features in the top quartile considered important, but not in the top quartiles of academia and tourists are *tourism search engine* and *digital signature/encryption*. The people from the tourism industry probably considered the *tourism search engine* important because it would help tourists to find specific information and thus would attract tourists to visit the site. *Encryption facility* was probably considered important because it could attract visitors by giving them a sense of security when purchasing products or services over the Internet. However, this facility was ranked much further down by the academia (29th) and tourists (30th). This suggests that most respondents from academia and tourists do not make transactions over the Internet. Steiner and Dufour (1998) argued that most web surfers are lookers instead of buyers. Currently most surfers use Internet mainly for researching and gathering information. Jupiter Communications (www.jup.com) found that only one booking is made on-line for every seventy-four queries (cited in Steiner and Dufour, 1998).

For tourists, the top quartile features considered important are features that will save them money in the form of *automatic suggestions to save money* or just a straight *discounted price*. These features were ranked lower by academia (22nd and 20th consecutively) and tourism industry (30th and 28th). This confirms Matt Meyers' (United Airlines' web site manager) description of a person who shops on-line as an "*advanced breed of bargain hunter*" (Warner, 1998).

Most Important Category in the Purpose-Value Framework

The category considered most important by respondents can be deduced from the distribution of top quartile features in the purpose-value framework. When the top quartile of features considered most important are put in the purpose-value framework, it can be observed that the concentration of the features is consistent for all categories of respondents. The features are listed mainly in three categories: *general-provision*, *timely-provision*, and *general-processing* (see Figure 8).

	Academia				Tourism Industry				Tourists			
	Provision	Promotion	Processing		Provision	Promotion	Processing		Provision	Promotion	Processing	
General	4,5,6,7,9, 12,13	-	1,3,10	10	5,6,8,9, 11,12,13	-	1,4,10, 15	11	3,4,8,9, 11,12	-	2,5,14,15	10
Timely	2,8,11, 14	15	-	5	2,3,7	-	-	3	1,6	-	-	2
Customised	-	-	-	0	14	-	-	1	-	13	7	2
Sensational	-	-	-	0	-	-	-	0	-	10	-	1
	11	1	3		11	0	4		8	2	5	

Figure 8 Purpose-value framework showing the top 15 quartile features considered most important
 (Note: The numbers one to fifteen shows the features’ ranking of importance)

The concentration on the *general* and *timely provision* can be explained from the fact that the two categories have the largest number of features (19 and 11 respectively). However, the concentration on the *general processing* is an exception because there are only 5 features in the category, which may highlight its relative importance.

The small variations of response in the framework can be explained by features that were selected by one category of respondents but not by the others. The 15th feature in academia is the *special offers*. The 14th feature in the tourism industry is the *tourism search engine*. The 7th, 10th, and 13th features for tourists are those for *saving money* and for *customizing travel plans*.

Percentage of the Top 15 Quartile Features Present in the Framework

The percentages of the total number of features present in the three main categories (*general-provision*, *timely-provision*, and *general-processing*) are used to compare which category is considered most important. For example, the percentage of the *general-provision* for *academia*, 37%, is based on 7 features present out of 19 total features. Using a percentage system, the *general processing* for *academia* is higher although the number of features present

in the category is smaller (3 out of 5 = 60%). Figure 9 shows the comparison for the three main categories.

	Academia			Tourism Industry			Tourists		
	Provision		Processing	Provision		Processing	Provision		Processing
General	37%		60%	37%		80%	32%		80%
Timely	36%			27%			18%		
Customized									
Sensational									

Figure 9 The purpose-value framework showing the percentage of features present in the three main categories (Note: A percentage in a category shows the number of features present against the total number of features within the category)

The figure shows that the percentage is consistent for all categories of respondents. *General-processing* category has the *highest* percentage of occurrence, which means that all respondents consider this category most important. The second most important category is the *general provision* followed by *timely provision*. The concentration on the three categories in the framework suggests that most respondents still focus on the importance of the basic content of tourism web sites.

Different Opinions between Academia, the Tourism Industry, and Tourists

Academia, the tourism industry, and tourists have different opinions on the importance of the features in the questionnaire. A T-test was used to find the features on which they have different opinions. Table 5 provides a list of features and their rankings where there is a statistically significant difference of opinions from tourism academia, the tourism industry, and tourists. The ‘*’ sign indicates a statistically significant difference of opinions with other respondent categories ($p \leq 0.01$). For example, for *discount* feature there is statistically significant difference of opinions between industry and academia (I-A); and between industry and tourists (I-T).

Features	Rank		
	T	I	A
Automatic suggestion to save money	7*	22*	30*
Discounts	10	20*	28

Job status tracking	14*	26*	38*
Automatic proposals	27*	43	41
Multimedia	33	37*	46
Warranty & return policies	40*	35	23
Affiliations	52*	42	35
Logo, brand name	54*	36	32
Company information	55*	51	42
Press releases	57*	56	49
Awards	58*	54	50

Table 5 The ranking of features where there is a statistically significant different opinion between tourism academia (A), tourism industry (I), and tourists (T)

(* indicates a statistically significant difference of opinion, with $p \leq 0.01$)

From the high ranking on most features in Table 5, it can be concluded that the respondents disagree mainly on features they considered unimportant. The table shows that only three features are in the top quartile features considered important by tourists (highlighted). These are features that will save tourists money (*discounts* and *automatic suggestion to save money*) and the facility to *track the products or services* that tourists have purchased. For these features, academia ranked them lower (20th, 22nd, and 26th) and tourism industry much lower (28th, 30th, 38th).

This section has discussed the findings of the Web Based Survey comprising the responses to the open and closed questions. The responses to the open questions determine the perception of the tourism academia, members of the tourism industry, and tourists/prospective tourists of what constitutes an effective web site; and their perception of which tourism web site features they considered most important. The responses to the closed questions determine the overall response; the top 15 quartile features; most important category in the purpose-value framework; and the different opinions between academia, the tourism industry, and tourists.

The respondents consider an effective tourism web site from three dimensions; the web content, the content quality, and the web design. They agreed on most features considered important and disagreed on relatively unimportant ones. About seventy percent of the features used in the Web Based Survey are considered relevant for identifying an effective tourism web site. The top 15 features consist of standard features for doing business on the Internet, standard features for tourism web sites selling travel related products/services, and specific tourists' requirement features. In the purpose-value framework these features are present mainly in the three top left categories; general provision, general processing, and timely processing. This suggests the expectation of basic content rather than context oriented features.

5. Conclusions

This report has reviewed the literature and current trends for tourism, with a specific focus on tourism web sites. The findings of a Web Based Survey comprising responses to open and closed questions has been discussed. The responses to the open questions determine the expectation of the tourism academia, members of the tourism industry, and tourists/prospective tourists as to what they consider constitutes an effective web site; and their perception of which tourism web site features they considered most important. The responses to the closed questions determine the overall response; the top 15 quartile features; the most important categories in the purpose-value framework; and the different opinions between academia, the tourism industry, and tourists.

Figure 10 shows the main elements of the responses to the open question in a graphic form. The respondents from academia, the tourism industry, and tourists consider an effective tourism web site from the web content, content quality, and web design perspectives. The figure shows a list of twenty main content features and five features for both content quality and web design.

The twenty main responses to the open questions of the Web Based Survey in Figure 10 are listed in three groups; standard content, tourism content, and other content. The standard content consists of *products/services, price of products/services, contact information, e-mail, on-line reservation/ordering, on-line customer service, availability checking, products/services search engines, hot links, pictures, and content index/site map*. These features are usually present at a web site selling a product on the Internet. The tourism content consists of *program/activities, travel guide, transport information, map, attractions, accommodation, and advice to travelers*. These features are usually present at tourism web sites selling travel related products. Other content, *special offers and discounts*, is promotional content which is often present at a web site trying to convert more lookers into customers.

The closed questions showed that within the purpose-value framework, the important categories are general provision, general processing, and timely processing. This suggests the expectation is of basic content rather than context oriented features. The ability for processing and real time interaction is valued; email being one of the simplest mechanisms for achieving this. Users of tourism web sites place relatively little value on promotional material – it is rather that they come to a site for information and / or the ability to conduct transactions.

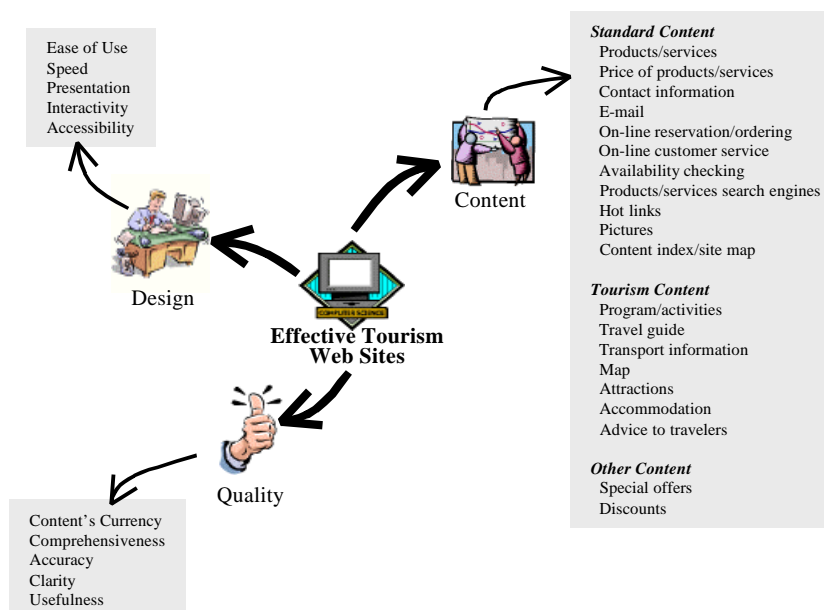


Figure 10 Elements of an effective tourism web site according to academia, the tourism industry and tourists

Part 2 of this study will describe the findings from the review of tourism web sites using the same features as in the Web Based Survey. The results of the Web Based Survey and the review of tourism web sites will then be used in the discussions of expectations vs. delivery and in providing an effectiveness measure for tourism web sites.

References

- Affolter, Daniel (1998). The Electronic Tourism Market Place New Challenges, ENTER'98, www.tis.co.at/enter/, The 5th International Conference on Information and Communication Technologies in Tourism, Istanbul, Turkey, 21-23 January 1998.
- Allard, Ken (1998). Web Site Infrastructure: Key Challenges in Planning, Investing, and Implementation, Jupiter Communications. www.jup.com, Analyst Report, Strategic Planning Services, July.
- Alschuler, Liora (1998). Making Your Web Site Accessible: Barriers (and How to Remove Them), Seybold Reports, ZDNET, www.zdnet.com, July 15.
- Au, Norman and Hobson, J.S. Perry (1997). Gambling on the Internet: A Threat to Tourism, *Journal of Travel Research*, Spring, 36(4), pp. 77-81.
- Berger, Melanie (1998). It's your move, *Sales & Marketing Management*, 150(3), pp. 44-53, March.
- Bloch, Michael; Pigneur, Yves; and Steiner, Thomas (1996). The IT-enabled Extended Enterprise, Applications in the Tourism Industry, Proceedings of the ENTER'96 conference in Innsbruck, Spring. <http://pchech128-2c.unil.ch/people/tsteiner/Publications/ENTER/ENTER96.HTM>
- Bloch, Michael and Segev, Arie (1996). The Impact of Electronic Commerce on the Travel Industry: An Analysis Methodology and Case Study, The Fisher Center for Information Technology and Management, Walter Haas School of Business, University of California, www.stern.nyu.edu/~mbloch/docs/travel/travel.htm
- Brady, R., Forrest, E., and Mizerski, R. (1997). *Cybermarketing: Your Interactive Marketing Consultant*, NTC Business Books, Illinois, USA.
- Brobst, John (1995). How to develop and maintain an effective Web site, *Infoworld*, 17(25), pp. 63, 69, Jun 19.
- Broersma, Matthew (1998). You call this a makeover? Why more sites are choosing the 'Yahoo!' look, September 10, ZDNN, www.zdnet.com
- Buechy, Juergen (1998). CRS/GDS in the Virtual Marketplace: Can they keep their place?, Proceeding of the ENTER'98, The 5th International Conference on Information and Communication Technologies in Tourism, Istanbul, Turkey, 21-23 January, 1998.
- Cano, Virginia and Prentice, Richard (1998). Opportunities for endearment to place through electronic 'visiting': WWW homepages and the tourism promotion of Scotland, *Journal of Tourism Management*, 19(1), pp. 67-73.
- Chen, Hong-Mei and Sheldon, Pauline J. (1997). Destination Information Systems: Design Issues and Directions, *Journal of Management Information Systems*, Fall, 14(2), pp. 151-176.
- Dolgenos, Peggy (1996). Keys to an effective Web presence, *Infoworld*, 18(19), pp.88-89, May 6.
- Dwyer, Phil; Jones, Nick; and Stewart, Catherine (1998). *Commerce: Winning European Customers, From Both Sides of The Pond*, Jupiter Communication, www.jup.com, Strategic Planning Service, European Internet Strategies, June.
- Eastman, Richard (1998). *Essays on Factors that Influence Travel Product Distribution*, Eastman Group, March, www.eastmangroup.com
- Forrester Research, www.forrester.com
- (1998). Press Release, November 19, 1998. Growth Spiral In On-line Retail Sales Will Generate \$108 Billion in Revenues By 2003.
- Frenza, J.P. and Hoffman, Leslie (1997). Organizing your Web site content, *Nonprofit World*, 15(6), pp.14-16, November/December.

- Ghosh, Shikhar (1997). Selling on the Internet: Achieving competitive advantage and market lead, *Planning Review*, 25(3), pp. 53-55, May/June.
- Girishankar, Saroja (1998). Virtual Markets Create New Roles For Distributors, *INTERNETWEEK*, www.techweb.com, April 06, Issue 709.
- Gulielmo, Connie (1998). Travel Business Packs 'Em In Online, *Inter@ctive Week*, February 18, 8:11 AM PT.
- Ho, James (1997). Evaluating the World Wide Web: A Global Study of Commercial Sites, *Journal of Computer Mediated Communication*, 3(1), June, www.ascusc.org/jcmc/vol3/issue1/ho.html
- Ho, James (1996). Evaluating the World Wide Web: A Study of 1000 Commercial Sites, *Information Decision Sciences*, University of Illinois, Chicago, June, www.uic.edu/~jimho/www1000.html
- Jung, Hyung-Soo (1998). The Use of Internet as a Marketing Tool by National Tourism Organisations: Demographic profiles and tourism intentions of KNTTO internet users, *School of Management Studies for the Service Sector*, University of Surrey.
- Jung, Hyung-Soo and Baker, Michael (1998). Assessing the Market effectiveness of the World Wide Web in National Tourism Offices, *School of Management Studies for the Service Sector*, University of Surrey.
- Jupiter Communications, www.jup.com,
 (1998a). Press Release, November 9, 1998. Jupiter Finds 42 Percent of Web Sites Fail At Customer Service.
 (1998b). *Digital Digest*, October 23, 1998. Jup Stat – Global Online Usage.
 (1998c). Press Release, July 28, 1998. Jupiter to Web Businesses: Look to Germany for Online Commerce – Germany's \$1.85B in Online Travel, Books, Music and Software Will Lead European Commerce Market.
 (1998d). Press Release, July 21 1998. Online Travel Number One by 2002
 (1998e). Press Release, April 2, 1998. Jupiter Predicts Soon-to-be \$11.7 Billion Online Travel Industry Will Open Opportunities "Beyond Air".
- Kadison, Maria LaTour; Weisman, David E.; Modahl, Mary; Lieu, Ketty C.; and Levin, Kip (1998). The Look-TO-Buy Imperative, *Online Retail Strategies*, The Forrester Report, www.forrester.com
- Karcher, Karsten (1998). Tour Operators in the Electronic Marketplace, *ENTER'98*, www.tis.co.at/enter/, The 5th International Conference on Information and Communication Technologies in Tourism Istanbul, 21-23 January, 1998.
- Kirsner, Scott (1997). Close Encounters: The most effective Web sites offer user a conversation, not a monologue, *CIO WebBusiness*, October 1, 1997. www.cio.com/archive/webbusiness/100197_main_content.html
- Krochmal, Mo (1998). Travel Services To Dominate E-Commerce, *TechWeb*, www.techweb.com, 08/21/98; 8:38 p.m. ET
- Kumar, Kuldeep (1998). Virtual Organizations and Dynamic Networks: Gossamer Webs in the Information Age, *ENTER'98*, www.tis.co.at/enter/, The 5th International Conference on Information and Communication Technologies in Tourism Istanbul, 21-23 January, 1998.
- Lennon, Martin (1995). Tourism Promotion using the World Wide Web, *INET'95 Hypermedia Proceedings*, April, ttp://ftp.isoc.org/HMP/PAPER/028/html/paper.html
- Marcussen, Carl H. (1997). Marketing European Tourism Products via Internet/WWW, *Journal of Travel and Tourism Marketing*, 6(3/4), pp. 23-34.
- Martin, Chuck (1997). *The Digital Estate: Strategies for Competing, Surviving, and Thriving in an Internetworked World*, McGraw-Hill.

- McCune, Jenny C. (1998). Making Web sites pay, *Management Review*, 87(6), pp. 36-38, June.
- McCann, John M. (1997). Technology CyberTrends, Fuqua School of Business, Duke University, www.duke.edu/~mccann/cyb-quot.htm
- Morkes, John and Nielsen, Jacob (1997). Concise, Scannable, and Objective: How to Write for the Web, www.useit.com/papers/webwriting/writing.html
- MTB (Journal of Management Technology Briefing). 1996. How smart agents are changing selling, (3:4) September, pp.5
- Murphy, Jamie; Forrest, Edward J.; Wotring, C. Edward; and Brymer, Robert A. (1996a). Hotel Management and Marketing on the Internet: An Analysis of Sites and Features, *Hotel and Restaurant Administration Quarterly*, June, 37(3), pp. 70-82.
- Murphy, Jamie; Forrest, Edward J.; and Wotring, C. Edward (1996b). Restaurant Marketing on the Worldwide Web, *Hotel and Restaurant Administration Quarterly*, February, 37(1), pp.61-71.
- Nell, Lawrence (1998). Changes in the Tourism Market Place: The Effect of the Internet, ENTER '98, www.tis.co.at/enter/, The 5th International Conference on Information and Communication Technologies in Tourism Istanbul, 21-23 January, 1998.
- Network Wizards, Internet Domain Survey, www.nw.com/zone/WWW/top.html
- Nielsen, Jacob (1998). www.useit.com
- (1998a). C|NET, www.builder.com, October 4, 1998, User Interface Tips
- (1998b). August 5, 1998, Content is a service, www.contentius.com/articles/1-5/
- (1998c). Jan13, 1998, Sun's New Web Design, www.sun.com
- NUA (1998). www.nua.ie
- Jun 5 1998: Ecommerce Will Flourish When the Web is Made Simple
- Peppers, Don and Rogers, Martha (1997). One-to-One Media in the Interactive Future: Building Dialogues and Learning Relationships with Individual Customers, (eds.) Brady, R., Forrest, E., and Mizerski, R. (1997). *Cybermarketing: Your Interactive Marketing Consultant*, NTC Business Books, Illinois, USA.
- Rachman, Zulfikar M. and Richins, Harold (1997). The Status of New Zealand Tour Operator Web Sites, *The Journal of Tourism Studies*, 8(2), December, pp. 62-82.
- Schonland, Addison M. and William, Peter W. (1996). Using the Internet for travel and tourism survey research, Experiences from the net traveler survey, *Journal of Travel Research*, Fall, 35(2), pp. 81-87.
- Selwyn, Jeremy (1998). Web design pro says look to users for guidance, *Computerworld*, Online News, 07/4/98 12:30 PM
- www.computerworld.com/home/news.nsf/CWFlash/9807142webdesign.html
- Smith, Christine B. (1997). Casting the Net: Surveying an Internet Population, *Journal of Computer Mediated Communication*, 3(1), June,
- www.ascusc.org/jcmc/vol3/issue1/smith.html
- Steiner, Thomas and Dufour, Arnaud (1998). Agent-based Cybermarketing in the Tourism Industry, Proceedings of the ENTER '98 conference in Istanbul, Spring.
- <http://pche128-2c.unil.ch/people/tsteiner/Publications.htm>
- Steiner, Thomas (1997). Distributed software Agents for WWW-based Tourism Information Systems (DATIS), Proceedings of the ENTER '97 conference in Edinburgh, Spring. <http://pche128-2c.unil.ch/people/tsteiner/Publications.htm>
- Steiner, Thomas (1995). Information Technologies and Destination Management in Tourism, MBI Thesis, University of Lausanne, Switzerland.
- Swack, Terry (1998). Case Studies in Strategy and User-Centered Design, webreview.com
- Sykes, Rebecca (1997). Tips fo designing an effective web site, *InfoWorld Electric*, Aug 20, 1997, 1:07 PM. www.infoworld.com/cgi-bin/displayIcommerce.pl?970821design.html

- Sumarlin, Christina (1995). Information Technology Policy and Destination Marketing on the Internet, *Tourism and Hospitality Review*, George Washington University, Summer 1996, gwis.circ.gwu.edu/~iits/journal/ej.htm
- Tedeschi, Bob (1998). Report Puts a Number on the World Wide Wait, *Technology Cybertimes*, August 8, www.nytimes.com
- Tellini, Arden (1995). Models of Hotel Promotion on the WWW, *Tourism and Hospitality Review*, George Washington University, Summer 1996, gwis.circ.gwu.edu/~iits/journal/ej.htm
- W3C (1998). www.w3.org, WAI Accessibility Guidelines : Page Authoring, W3C Working Draft, September 18.
- Ware, James P., Gebauer, Judith; Hartman, Amir; and Roldan, Malu (1998). 5 Sins of Doing Business on the Web, *Informationweek*, 682, pp. 73-88, May.
- Warner, Benhard (1998). Prepare for takeoff, *Mediaweek*, 8(3), pp. 46-48, Jan19.
- Wilder, Clinton (1997). Web Takes Flight – Business travel site helps companies get costs under control, *INFORMATIONWEEK*, March, issue 671.
- William, Peter W.; Philbert, Bascombe; Brenner, Nancy; Green, Donna (1996). Using the Internet for Tourism Research: “Information Highway” or “dirt road”?, *Journal of Travel Research*, Spring, 34(4), pp.63-70.
- WTTC (1998). The Travel and Tourism Satellite Account, World Economic Impact, World Travel and Tourism Council, www.wttc.org

APPENDIX 1 Fifty-nine Tourism Web Site Features

Purpose Value	Provision (data & information)	Promotion (products & services)	Processing (business transactions)
General	<ol style="list-style-type: none"> 1. Products/services on sale (tours, flight tickets, customised products/services, etc.) 2. Travel schedules/planners (time and dates of tours, flight schedules etc.) 3. Information on programs/activities (detailed activities on trekking, skiing, fishing etc.) 4. Itineraries information (pictures, plan, route, places etc.) 5. Maps (of tours, routes, cities, tour destinations, etc.) 6. Transport information (how to get there, distance from other places, flight/bus/train schedules, etc) 7. Travel guides (history, location info, where to shop/dine, local cultural/social issues, safety, local language, customs, laws/regulations/ govt. policy etc.) 8. Tips/FAQ (frequently asked questions) 9. Important organisation contacts (visa, customs, travel agents, police, etc) 10. Information on payment methods (VISA, MasterCard, cheque, on-line transfer etc.) 11. Information on online security transaction 12. Information on warranty & return policies 13. Travel insurance information 14. Company information (name, founder, year founded, etc.) 15. Contact Information (picture of staffs, contact person, ph./fax/0800 number, address, etc.) 16. Benchmarking information (comparative product information with other companies, financial reports, growth information etc.) 17. Research data (customer survey or other survey results) 18. Hot links to other travel/tourism information 19. Multi-language support (Japanese, French etc.) 	<ol style="list-style-type: none"> 35. Awards for a company or its web site (tourism awards, best 10% site award, Magellan award) 36. Logo, brand name 37. Affiliations with big companies/organisations (e.g. World Tourism Organisation or very important person (e.g. Minister of Tourism) 38. Accreditation (e.g. ISO 9001) 39. Testimonials (from customers, important person/organisation) 	<ol style="list-style-type: none"> 48. E-mail 49. On-line reservation/ordering 50. Digital signature/encryption facility 51. Online customer service/consulting 52. Job status tracking (a facility to track whether a flight or part of a tour is cancelled/delayed).
Timely	<ol style="list-style-type: none"> 20. Price of products/services 21. Availability checking (rooms, flight, etc.) 22. New information (new package tours, new facilities etc.) 23. Chat/discussion forum 24. Calendars/events information (festivals, sport events etc.) 25. Press releases 26. Employment opportunities 27. Company's stock quotes 28. Weather report (or snow report) 29. Exchange rates 30. Current time (e.g. in tour destination) 	<ol style="list-style-type: none"> 40. Special offers on products/ services (on a limited time) 41. Web cam (camera connected to a web site to broadcast an event) 	<ol style="list-style-type: none"> 53. Automatic plan change (a facility to automatically change your bookings when one chain of a tour is delayed/cancelled) 54. Facility for interactive brokering 55. On-line auctions (tours, ticket flight etc.)
Customise	<ol style="list-style-type: none"> 31. Search engine for tourism database in general 32. Automatic facility to customise news report in travel/tourism 	<ol style="list-style-type: none"> 42. Search engine for a company's products/ services 43. Automatic facility to customise travel plan (flight, itinerary, hotel, transport, budget, etc) 	<ol style="list-style-type: none"> 56. Automatic suggestion to save money 57. Automatic proposals based on where you have been 58. Air miles calculator tied with individual's frequent flyer program
Sensation	<ol style="list-style-type: none"> 33. Multimedia (e.g. downloadable video clips, virtual tour facility) 34. Catchy information display (e.g. using Java Applets) 	<ol style="list-style-type: none"> 44. Outstanding web design 45. Discounts 46. Contests, sweepstakes 47. Something free (e.g. free gifts, free holidays, free software) 	<ol style="list-style-type: none"> 59. "Surprise" discounts/bonuses/ instant winners (after processing a transaction)

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