



hotel website  
DESIGN & USABILITY

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<p>ACKNOWLEDGE RECEIPT OF 2 BOUND COPIES OF THESIS</p> <p>Stavanger, 15/06/2015                      Signature administration:.....</p>	
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to my brother

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## Abstract

Research has shown the importance of the Internet technology in travel planning and decision making processes. For many hotels, therefore, the corporate website has emerged as the main tool for inter-organizational and intra-organizational information exchange, as well as for sales and promotion activities. However, having a web presence is not enough for the organization to meet or exceed visitor's expectations and convert the visitor to customer. The extent, to which the hotel websites can attract and retain traffic, significantly influences the volume of business translated on them. In order to identify antecedents and their order of significance to the hotel website's performance, this paper is based on a study of performance of 85 hotel websites. Significance of seven main factors, which influence the two measures of the hotel website performance, the REACH and LOYALTY, was checked. *Information content, Easy of Navigation, Security, Usability, and Customization* were found to be the significant predictors of the hotel website REACH. *Information Content, Easy of Navigation, Available, Customization and Security* were found to be the significant predictors of the hotel website LOYALTY. *Download Speed* did not emerge as a significant predictor of either REACH or LOYALTY. The paper further explains results and based on them, suggests guidelines for the hotel website design.

**Keywords:** hotel website reach, hotel website loyalty, hotel website design, hotel website characteristics

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# CHAPTER I

## INTRODUCTION

### **1.1. Introduction**

This chapter introduces the background information, research approach, and the problem and purpose statements of this thesis. It starts with more general or wide overview of the topic, narrowing down to the specific problem. At the end of the chapter structure of the thesis is presented.

### **1.2. The Area of Research**

Internet has existed since the late 1960s. It started as a network of computers in the US military used for research. However, it changed its nature after the development of the World Wide Web, which became a commercial proposition in 1993 (Dave Chaffey & Ellis-Chadwick, 2012).

According to the Internet World Stats (2015), in the second quarter of 2014 there were 3,035,749,340 internet users worldwide, which corresponds to 42,3 percent of the entire population on the earth (Internet World Stats, 2015).

Nowadays, the Internet is a valuable for both suppliers and consumers for information dissemination, communication, and online purchasing (Kvikne, 2013). Law, Qi and Buhalis (2010) state that in order to achieve their organizational goals e-business models are increasingly adopted by the customer-oriented and information-intensive tourism enterprises (Law, Qi, & Buhalis, 2010).

This introduction of the rapidly-developing information technology in general and the Internet in particular to the tourism has dramatically changed the industry (Ho & Lee, 2007; Law et al., 2010). Research has shown that Internet technology is in a large degree used in travel planning and decision making processes (Duman & Tanrisevdi, 2011). Moreover, the rapid growth in the number of online users and online transactions prove the popularity of the technology making the Internet an effective marketing tool in tourism (Buhalis, 2003; Buhalis & Law, 2008). Ricci (2005) indicated that tourism is the number one industry in terms of online transaction volume (Kvikne, 2013), which represented 25% of total online sales in 2013 (Euromonitor International, 2014). Moreover, according to the Euromonitor International (2014) global travel and tourism sales will increase from the US2,260 billion in 2013 to the US2,840 billion in 2017 (Euromonitor International, 2014). For this reason, Tang and Zong (2008) stated that hospitality industry is among the most successful industries to benefit from online services. Maintaining an effective website has thus become vital for a business to strengthen its customer relationships and gain a larger market segment (Law et al., 2010).

In the context of tourism, taking into account the increasing number of the online reservations for travel products and services Jang (2004) stated that online information search will become a major trend among travelers. Therefore, Corigliano and Baggio (2006) argued that monitoring the quality and performance of commercial websites are of utmost importance (Law et al., 2010).

In the web environment, users are consumers. They 'surf' the Internet, look for, download, share or like the information, buy or sell the products. The web as a whole serves consumers' needs. Moreover, particular websites deliver special services. The quality of these services plays a

similar role as the quality of face-to-face, or real-life services provided at hotels, bookstores or hospitals (Dran, Zhang, & Small, 1999). Having no face-to-face, therefore, no personal interaction with customers makes it more challenging for the service providers to meet or exceed the expectations. Thus, the design of the website gains even greater importance in completing this mission.

Neilsen (2000) suggests that the website should be both visually attractive and usable, because – “bad usability means no customers”. However, it should be noted that the design and creation of a website draws upon various components: *usability*, *content creation*, *budget allocation* (which is generally out of the hands of the designer/usability expert) and *visual performance*, which is an area normally included under the umbrella definition of usability (Haig, 2002).

Academic researchers have long advocated the importance of evaluating the website performance effectiveness. As a newly emerging research area, website evaluation has no globally accepted definition. Yet, the US Department of Health and Human Services (2006) offers its own definition that broadly characterizes website evaluation as the act of determining a correct and comprehensive set of user requirements, ensuring that a website provides useful content that meets user expectations and fulfils the usability goals (Law et al., 2010).

### **1.3. Research Approach**

Law and Bai (2006) state that published articles have presented various approaches of website design usability evaluation and suggested the ways for the quality improvement of the commercial websites (Law et al., 2010).

In general, prior studies on website evaluation fall into two broad categories: quantitative and qualitative. Quantitative studies usually generate performance indices or scores to capture the overall quality of website. Faba-Perez, Guerrero- Bote, and de Moya-Anegon (2005), for example, introduced a technique that compares web page measures such as text elements and link formatting. Automated tool was used to analyze the numerically measurable data by Suh, Lim, Hwang, and Kim (2004). The researchers checked traffic-based and time-based data, on websites. Likewise, Cox and Dale (2002) built a scoring system with binary classifications for websites of various industries. While, Hardwick and MacKenzie (2003) applied three different scoring systems to evaluate 19 miscarriage-related websites. Lastly, Yeung and Lu (2004) conducted a longitudinal study of the functional characteristics of commercial websites based on selected quantitative site attributes(Law et al., 2010).

Moreover, in order to create a systematic and comprehensive identification of antecedent to the website Tarafdar & Zhang (2007) identified seven factors that influence two different measures of the website design performance: the *reach* and *loyalty*. The researchers suggested that the website *reach* is measured by the *total number of unique visitors*, while website *loyalty* can be represented by *views per person*, or the average number of visits each person made to the website during the reporting time period. Website factors such as, *information content*, *usability*, *ease-of-navigation* and *security* were considered to be the significant predictors of *reach*, while *ease-of-navigation*, *customization*, *security* and *availability* were identified as the determinants of *loyalty*(Tarafdar & Zhang, 2007).

In qualitative studies, the generation of scores and indicators are not used. For instance, Heldal, Sjøvold, and Heldal (2004) argued that for the website evaluation the combination of branding,

human–computer interaction, and usability could be used. Consumer approach was employed in the study of Liang and Lai (2002), who derived functional requirements for e-store design. Kim and Stoel (2004) used the WebQual scale to examine the dimensional hierarchy of apparel websites. The sample comprised female e-consumers, and the empirical results showed that the quality of websites selling apparel products could be conceptualized as a 12-dimension construct (Law et al., 2010).

One of the most researched methods to evaluate the website design is the *usability testing*, which according to the tool used, can be assigned to either quantitative or qualitative methods. In usability testing it is common to use a *questionnaire*, which is filled out right after the user performs the given task on the website or the application (Ogolla, 2011).

This thesis uses the *usability testing questionnaire* method to evaluate the website performance. To do so the questionnaire adapted from Tarafdar & Zhang (2007) was applied to the specific domain- hotel industry.

#### **1.4. Problem and Purpose**

Having a huge number of details to consider, creating an effective online experience can be a big challenge. Many researchers note that hoteliers have too little knowledge on how to best design their websites, and what are the preferences of their e-consumers with regard to the overall quality of their websites (Dave Chaffey & Ellis-Chadwick, 2012; Chung & Law, 2003)

Despite all the studies done about website designs, there is no specific tool that could be applied to evaluate specifically hotel website's performance. On examining theoretical foundations three uncertainties emerge: 1. It is unclear what are the factors influencing hotel website performance. 2. It is unclear what are the factors, which has the highest significance for hotel website performance; therefore deserve bigger attention from the website builder. (Zhang & Dran, 2000). 3. It is unclear which factors of hotel website and in what extent correlate with customer loyalty. In their suggestions for the future research Tarafdar & Zhang (2007) urge to apply their questionnaire to the specific domain and check if website factors have the same importance for customer *reach* and *loyalty* for the websites of a specific domain as they have for websites in general. (Tarafdar & Zhang, 2007).

In particular, three main objectives of this research are:

1. Identify the factors, which affect the performance of hotel website.
2. Determine the most significant factors, which affect the performance of hotel website.
3. Determine the order of importance of the factors, which affect the performance of hotel website.

## **1.5. Thesis Structure**

Figure 1 (Thesis structure) illustrates the overall structure of this thesis. In order to make it easy to navigate throughout the thesis, each chapter starts with a short introduction.

**Figure 1. Thesis structure**

Ch.I Introduction- provides the information about the topic in general, research approach, problems and purpose of the thesis.

Ch.II Literature review, based on research questions and purpose- provides the theoretical foundation needed to better understand the topic.

Ch.III Methodology- introduces the participants and study cases, as well as provides the information about measurements, procedures and data analyses

Ch.IV Data presentation/Results-

Ch.V Discussion

Ch.VI Conclusion



# CHAPTER III

## LITERATURE REVIEW

### **2.1. Introduction**

This chapter provides the information about the concepts relevant for the main topic and for this research in general. The purpose of this chapter is to present the definitions, as well as main findings regarding each concept. It starts with outlining the information about customer behavior, Internet development and power of third party, website design and its content, website quality, satisfaction and loyalty. Moreover, this chapter provides the general information and empirical findings about the data collection methods, used in this study.

#### **2.2.1. Consumer Behavior**

“To know the customer” is not an easy task. However, understanding their behavior is of utmost importance. It opens up opportunities in forecasting demands, evaluating behavior in society, understanding how the brand will behave or how the company can serve the consumer in most efficient manner (Jokinen, 2011).

Horner and Swarbrooke (1996) define customer behavior as a study of why people buy the product they do, and how they make their decisions. Engel, Blackwell, and Miniard (2001) emphasize the importance of the psychological process which the consumer goes through during

the pre-purchase and post-purchase stages and suggest that consumer behavior combines the number of activities, which are directly involved in obtaining, consuming and disposing of products and services including the decision processes that precedes and follows these actions. Moreover, Solomon (1996) introduced an idea that consumers can make the purchase decisions in groups, and not just simply as individuals (Kvikne, 2013). The researchers define the consumer behavior as a process of individuals or groups selecting, purchasing, using, or disposing the products, services, ideas or experiencing the satisfaction of their needs and wants (Swarbrooke & Horner, 2007). Basic idea of consumer behavior research is the questioning of buying reasons, however, researchers suggest that in order to understand purchase and consumption circumstances, this research should be deeper (Kvikne, 2013).

Consumer behavior consists of ideas, feelings, experiences and actions of consumers with additional environmental factors like ads, prices, and comments. Furthermore, this is a dynamic process because of the continues changes in ideas, perceptions, and activities as an individual or in a group (Mutlu, 2007). Consumers are not always aware of their deeper motivation; therefore, different factors can dramatically influence their final decisions. Kotler and Keller (2005) suggest that these factors can be cultural, social, personal and psychological. However, the cultural factors have the most significant influence on the purchase behavior. The buyers' culture, sub culture and social class are the factors that tailor their wishes and behaviors. Social factors that may affect consumer behavior are factors, such as, reference groups, family and social rolls and status. Age, life stage, profession, economy, life style, personality and self-image are personal factors that may affect behavior as well. Moreover, how consumers choose to purchase is influenced by four psychological factors: motivation, perceptions, beliefs and

meanings. Kotler and Keller (2005) note that complicated and costly purchases demand even more thorough planning, and sometimes several people are included in the decision-making process (Kvikne, 2013).

In its early stage of development, the field of customer behavior was often referred to as “buyer behavior”, reflecting an emphasis on the interaction between consumers and products at the time of purchase (Solomon, Russell-Bennett, & Previte, 2012).

One of the most important models in the above-mentioned field is the *consumer's buying decision process*. This consumer behaviour model contains the decision making processes consumer goes through regarding the potential market transaction, starting before the purchase of a product and continuing during and after the transaction. The *buying decision process* (BDP) identifies seven stages leading the potential consumer towards the final purchase decision of a product. The seven stages, in the right order, are *need recognition, search for information, pre-purchase evaluation of alternatives, purchase, consumption, post-consumption evaluation* and *divestment*. The researchers suggest that in every stage the consumer will act and react differently (Doorduyn, 2012).

It should be noted that there are significant differences between offline and online consumer behavior and therefore, between offline and online buying decision processes. Websites have previously been known for being a marketing tool to supplement the work of sales and retail outlets, now they fulfill a vital function in the consumer's buying behavior (Kvikne, 2013). The researchers suggest that more and more consumers worldwide turn to the Internet for research,

purchase and service support not only to compare the prices, but also to get general information about vacation and destination characteristics, to compare different destinations and accommodation facilities and to make reservations. Moreover, technology allows the industry to use written, pictorial, and sound messages in various dimensions. It also provides travelers with a number of benefits including low information search costs, retrieval of timely information, fast and easy comparison of alternatives, direct contacting opportunity to the service providers, and exchanging information with others (Kvikne, 2013).

Davis (1986) presents the *technology acceptance model* (TAM), which is an extension of *theory of planned behavior* (TPB) and indicates that the behavioral intention of using a technology is derived from the attitude towards that particular technology. This theory suggests that there are few factors influencing consumers' decisions if and how they will use a new technology (Doorduyn, 2012).

The factors described in TAM are *perceived usefulness* (PU) and *perceived ease-of-use* (PEOU) (Davis, 1989). The model assumes that people tend to use a new system to the extent that they believe it would eventually help them perform the job better, which refers to PU. However, some new systems are not user friendly, and the benefits of using the system are counterbalanced by the difficulty of using these systems, which refers to PEOU. This can easily be applied to consumers and their relations with the Internet. In this theory, PU can be explained as a performance enhancer of the price-comparison websites for searching and purchasing online, instead of searching and purchasing products in physical stores. Whereas PEOU is the connection between comparing prices online and immediately purchasing the product at an

online store with the desirable price. This behavior consists less effort compared to going through the same behavior in physical stores (Doorduyn, 2012).

Another research by Faulkner (1992) suggests that most of the consumers are price sensitive and they want to purchase a product as inexpensive as possible. Therefore, consumers have to make an effort to search for the most desirable price and they are most likely to do it on price-comparison websites. This activity takes less effort than going to every local physical store to compare the prices. Also prices in online channels are usually lower than in offline channels. Therefore, it is expected that consumers who accept the Internet as the information channel, likewise will use the price-comparison websites to search for the most desirable price. Moreover, it is expected that consumers who receive a *positive usefulness* and *ease-of-use* towards price-comparison websites buy their products in an online store as well (Doorduyn, 2012).

Toh, DeKay and Raven (2011) investigated travelers' preferred methods in searching for, and booking, their hotel stays in the United States. The researchers found that the United States is ahead of Europe and Asia in adoption of the Internet for hotel sales; therefore, this study may provide insight into where Europe and Asia may be heading. The results of the study illustrate that 67 percent of those who used Internet to search followed up by actually booking on the Internet. 26 percent switched to telephones for booking. As the researchers suspect telephone is used to negotiate for the better prices. Very few respondents (12 out of 249 respondents) used travel agents to book hotels (Toh, DeKay, & Raven, 2011).

Toh, DeKay and Raven (2011) argue that since the pleasure travelers have more control over where to stay they placed more importance on the quality of the hotel website, compared to business travelers. Looking at the customers who made the reservations online, the channel distribution showed that hotel websites had 37 percent, third party websites had 30 percent and auction sites had 24 percent, proving that the hotel websites were the preferred channel. The researchers suggested that high usage of hotel websites in the United States may be due to the popularity of loyalty programs, where points are given only to bookings directly from the hotel website (not from third party sites). Toh et al. (2011) also stated that travelers rely on the Internet for a convenient price comparison between hotels. They check several sites for the lowest rates, and they consider the Internet to be the best source for low rates. For example, data from comScore (2008) show that only one third of all consumers visit more than one store while shopping online, while data from PhoCusWright (2009) found that leisure travelers usually visit two or three sites when purchasing leisure travel (average 2.6 sites) (Kvikne, 2013; Toh et al., 2011).

Cheung and Chan (2005) present five determinants of online consumer behavior. The first is *individual/consumer characteristics*, referring to individual factors and behavioral characteristics as motivation, trust, attitude and satisfaction. The second- *environmental influences* refers to the structural influences as market-related issues (competition, uncertainty and concentration), and national and international issues (trade restrictions, legal structure and culture). *Product or service characteristics* includes knowledge about the product (price, product type, frequency of purchase, tangibility and product quality). *Medium characteristics* are traditional information systems attributes as ease of use, quality, security, and reliability. It also includes web-specific

factors as navigation, interface and network speed. The final determinant is *merchants and intermediate characteristics*, which refers to the key attributes of the online store (Kvikne, 2013).

In conclusion, understanding the customer behavior is of utmost importance (Jokinen, 2011).

Many researchers refer to the customer behavior as “buyer behavior”, reflecting an emphasis on the interaction between consumers and products at the time of purchase (Solomon et al., 2012).

However, it should be noted that there is a significant difference between offline and online buying decision processes, therefore researchers study the online consumer behavior separately from the offline consumer behavior (Kvikne, 2013).

### **2.2.2. Internet Development and Power of Third Party Distributors**

Product and service distribution as well as pricing, has been greatly affected by the development of the Internet. In mid-90s online travel agencies such as Expedia and Travelocity, created the alliances with hotel chains and airline companies to offer travel products including the flight tickets and hotel rooms from the different suppliers directly to the customers (Gazzoli, Kim, & Palakurthi, 2008). Since, the hotel industry was slow to adapt to online distribution, the third party websites primarily dominated the beginning of online reservation. The growth of these sites, together with other consequences, resulted in changed power center and the hotel's loss of revenue due to commissions, fees and deep discounting, which on its own leads to brand destruction and rate disparity among the distribution channels (Kvikne, 2013; Morosan & Jeong, 2008).

Third-party websites are more commonly known as *online travel agents* or OTAs (Toh et al., 2011). These websites have access to the hotels' room inventory, and charge the commissions to the hotels when the rooms are booked through them. Since the small hotels are not able to negotiate on good commissions, compared to the commissions given to the larger chains, such hotels are especially affected by the power OTAs hold (Toh et al., 2011). Because of hardships involved in partnership with such websites hotels are increasingly interested in luring travelers to their own websites (Toh et al., 2011). By establishing their own websites the hoteliers can retain the control of distribution from third-party mediators (Kvikne, 2013).

There are different tools that the hotels apply to regain the control over the bookings for their own rooms. Some of these tools include lowest guaranteed rates, in which hotels claim that the lowest rates on the Internet are only available on their own web sites, direct connections with agencies and corporate clients, in which hotels try to convince corporate clients to visit the hotel-owned web sites, and industry partnerships (Morosan & Jeong, 2008). Moreover, better advertising on Google or other search engines and keyword optimization might be helpful as well. These activities ensure that the hotel's website appears high on searches. Furthermore, it is also wise for the hotel staff, in reservations and reception departments, to be trained to promote their own website, and also offer free upgrades to returning customers who use the hotel's website (Toh et al., 2011). Other recommendations are not to offer the best rooms to OTAs, and not to give the loyalty points to the guests who book through third-party websites and to embellish hotel-owned web sites with pictures, maps, and videos, to provide travelers with the greatest and richest amount of information possible (Toh et al., 2011).



In conclusion, because of the hotel industry being slow in adoption of online distributions (Gazzoli et al., 2008), the third party websites, which are often, referred to as *online travel agents*, took over this activity, resulting in the power moving from the hotels to the OTAs (Kvikne, 2013; Morosan & Jeong, 2008). In order to avoid multiple disadvantages involved in partnership with these websites, increasing number of hotels try to sell their products and services through their own websites (Toh et al., 2011), therefore regain control over their own sales. For this purpose, researchers suggest different tools and techniques.

### **2.2.3. Internet Marketing**

Internet Marketing is the strategic process of creating, distributing, promoting, and pricing goods and services to a target market over the Internet or through digital tools. It can be referred as E-marketing or Digital Marketing in different literature (Kvikne, 2013).

Due to later development of the Internet it is of the utmost importance for hotel managers to evaluate their current Internet marketing techniques in an effort to realize the full value of their websites (Kvikne, 2013).

According to Merriam Webster online dictionary (2015) the website is “a place on the World Wide Web that contains information about a person, organization, etc., and that usually consists of many Web pages joined by hyperlinks” (An Encyclopædia Britannica Company, 2015). This is the first “point of contact” with customers. Therefore, the website has to be interesting to catch the visitors’ eye long enough for them to consider the idea of buying the company’s product or service (Guttormsdóttir, 2013). Anckar & Walden (2001) suggest that the hotels which do not

have a web presence, alongside with many other cons, cannot bridge the gap between their existing and potential customers leading to their disadvantaged position (Anckar & Walden, 2001).

Kiani (1998) presented number of differences between the old media and the new one, the Internet. The researcher suggests that the biggest difference is in the Internet being a one-to-one or many-to-many communication model compared to the older one, one-to-many. Moreover, using the *internet marketing* websites can apply more individualized marketing models, which have more interactive features enabling the dialog between customer and the company rather than the monologue of the old media. This way the customer is perceived as a partner who has an input rather than simply a target for products or services with predetermined features (Guttormsdóttir, 2013).

As Epstein & Yuthas (2007) put it, the most common Internet marketing activities include preparing an organization's website, placing advertisements on the web, sending email messages, and engaging in search engine marketing efforts in order to appear high on searches for a particular product or service (Kvikne, 2013).

As Aggarwal and Carroll (2010) note in their paper on measuring the performance of search engine marketing, according to industry researcher PhoCusWright, while comparing and choosing the travel services, more potential consumers use the search engine websites than travel suppliers. Chaffey and Smith (2005) note that over 90% web users use the search engines to look for the information (D Chaffey & Smith, 2005). With nearly two-third market share of

views, Google is currently the most used search engine (Kvikne, 2013). Therefore, it is extremely important for the companies to be visible on the search engines like Google. There are different techniques they can use to assure this visibility.

One of the techniques is *search engine optimization* (SEO), which is the technique of driving web traffic to the websites. Focusing on the keywords that most visitors have used in search engines is one of the activities of SEO. This by itself assures the landing page's high relevance to what the visitors are looking for. Keywords can be broad, such as "designer cloth for purchase", which brings low-qualified visitors in the hope that they will remember the brand and website for their later use, or they can be very specific, such as "*Moods of Norway* suits for purchase", which is highly targeted to one of the products and could lead to immediate conversions on the first visit (Kvikne, 2013).

Another method for making the website visible is the *pay per click* (PPC). This is the technique where the advertiser pays for a certain amount for every click-through to the advertiser's website. The amount paid for click-through is arranged at the time of the insertion order and varies considerably (Brown, 2011). Porter (2007) suggests that this method of internet marketing is the most effective, therefore, the companies, which want to use search engine marketing as their marketing method to its fullest potential, should use pay per click marketing (Porter, 2007).

One more method is the *trusted feed*. It is a sort of an en masse paid inclusion. Using trusted feed, the content is uploaded to a search engine from a database in a fixed format (usually by

XML) automatically. This technique is mainly advised to companies with large product range, with the regular price and product description updates (Kent, 2012) .

The very first page on the website where the visitor lands on, as a result of the company's traffic acquisition efforts is called the landing page (Ash, 2008).

Conversion of the visitors landing on the website is often considered to be the main goal of the website. As Ash, Page and Ginty (2012) describe it a conversion happens when a visitor of the landing page takes a desired conversion action that has a measurable value to the business.

Creating the poor impression of the company's landing page can have big impact over the conversion rate. To illustrate this, a study by Forrester Consulting suggested that 79 percent of visitors to travel and retail websites, who experience a dissatisfying visit, are less likely to buy from that website again. The same study found that 14 percent of the visitors among the ones destructed on the website will move to another website for shopping, while 23 percent will stop shopping or walk away from their computer (Kvikne, 2013). As Ash (2012) puts it the reasons of this poor impression could be grouped in "Seven Deadly Sins" of the landing page creator. These sins are too much text on the page, visual distractions, lack of overt trust symbols, asking for too much information, too many choices, and unclear calls-to-action (Ash, 2008).

To summarize, with an increasing use of the Internet, having a website is no longer enough and the companies need to engage in internet marketing activities. This is the process of creating, distributing, promoting, and pricing goods and services to a target market over the Internet or through digital tools (Kvikne, 2013). This contemporary model of marketing significantly differs

from the old techniques. The biggest difference is in the Internet being a one-to-one or many-to-many communication model compared to the older techniques of marketing being one-to-many (Guttormsdóttir, 2013). Some researchers suggest that most people use the search engines while looking for products and services, therefore, it is extremely important for the companies to be visible on search engines (Kvikne, 2013). This visibility, can be assured by different activities such as *search engine optimization*, *pay per click*, and *trusted feed* (Brown, 2011; Kent, 2012; Kvikne, 2013; Porter, 2007). After the visitor is landed on the website the website design gains the big importance to convert the visitor into customer.

#### **2.2.4. Website Design**

Chaffey and Ellis-Chadwick (2012) define the website design as: “creating an appropriate layout of page elements to meet the goals of findability and usability” (Kvikne, 2013, p. 21)

Phelan, Christodoulidou, Countryman and Kistner (2011) note that many hoteliers have too little knowledge of how to best design their websites, and what are the preferences of their e-consumers with regard to the overall quality of their websites (Chung & Law, 2003).

According to Hamilton (1997) slow *speed* of the website loading is the number one complaint of web users (77%). The researcher notes that visitors do not want to wait for a seemingly endless page to load; therefore, they push the “stop” button on their browser and move somewhere else. Gehrke and Turban (1999) suggest that in some cases page-loading speed is out of control of the website builder. However, the issue can be at least mitigated by avoiding large graphic files and “cool” animations (Gehrke & Turban, 1999).

Morrison, Taylor, and Douglas (2004) provided a review of various approaches to website evaluation. The researchers state that different types of website evaluation approaches could be categorized into four groups based on purpose and time of conducting the evaluation and whether, the focus is on efficiency or effectiveness of website (Morrison, Taylor, & Douglas, 2004).

While most website evaluations are done by human experts Scharl, Wober and Bauer (2003), on the other hand, used an automated tool to systematically evaluate the websites. They identified important dimensions of the automated measurement of the website. These are: ease of navigation, inter- active elements such as reservation and booking features, volume of textual and graphical information, number of available languages, and the textual diversity of documents. Moreover, they suggested that precise textual information and interactive features are crucial to the success of a hotel website, measured in terms of tourists' awareness, electronic inquiries, and online bookings (Scharl, Wöber, & Bauer, 2003).

One more evaluation tool developed for websites in general was created by Tarafdar and Zhang (2007). The researchers suggested that there are two measures for the website performance. These measures are website *reach* and website *loyalty*. Website *reach* is measured by the *total number of unique visitors*, while website *loyalty* is checked by looking at *views per person*, or the average number of visits each person made to the website during the reporting time-period. In order to evaluate which characteristics of the website influence perceived *reach* and *loyalty* the researchers developed the survey questionnaire, which points out seven main factors of the website. These factors are: *Information, Navigation, Usability, Customization, Download Speed, Security* and *Available*. It was proved that for the websites in general, all these factors have

unequal influence on *reach* and *loyalty* figures, therefore, they have an unequal importance (Tarafdar & Zhang, 2007).

Ash et. al. (2012) provides three “Rules of Web Interest”. They are “Understand who the visitor is”, “Understand what the visitor is trying to accomplish”, and “Clearly present the choices for visitor consideration”(Ash, 2008). Since there are many practical issues to consider such as visual design, content and speed, creating an effective online experience can be a big challenge (Dave Chaffey & Ellis-Chadwick, 2012). As marketing director at Charles Tyrwhit (www.ctshirts.com) states a good website should always begin with the user (Dave Chaffey & Ellis-Chadwick, 2012). In other words, the creators of the website should consider who the customers are and how they use the channel to shop. Moreover, they should understand how the marketplace works in that category. (Dave Chaffey & Ellis-Chadwick, 2012). Chaffey and Ellis-Chadwick (2012) further state that while planning the website the following questions should be answered: “Who are the key audiences for the site?”, “Why should they use the site?”, “What should the content be?”, “Which services will be provided?”, and “How will the navigation around the site occur?” (Dave Chaffey & Ellis-Chadwick, 2012). Liu and Arnett (2000) note that *the information quality*, *the user’s operation experience on the site*, *playfulness of the site*, and *system design robustness* are the factors that should be taken into consideration while designing the website (Kvikne, 2013).

Gehrke and Turban (1999) made the literature review of the articles written about website design during the previous years and identified five major categories that are important for website design. These are page loading, business content, navigation efficiency, security and marketing/consumer focus (Gehrke & Turban, 1999).

*Business content* includes the quality of presentation and usefulness of the information provided on the website. Clear and concise text with proper spelling and grammar, simple background colors and textures, updated information and requesting as less information from the visitor as possible have the utmost importance (Gehrke & Turban, 1999). Chaffey and Ellis-Chadwick (2012) further suggest to write more concisely than in brochures, and to break the text into units of five to six lines at most (Dave Chaffey & Ellis-Chadwick, 2012). Roberts and Zahay (2013) state that the most visitors scan the text instead of reading it word by word (Gehrke & Turban, 1999). Ash, Ginty and Page (2012) state that when the visitors cannot quickly recognize that the website has something in which they might be interested, they will leave immediately. To improve the website's ability to get visitor's awareness, Ash et al. (2012) recommends applying the "Less-is-More" rule. In other words, including fewer and smaller graphics, shorter bulleted texts and reduced number of choices and links is wise (Ash, Ginty, & Page, 2012). Moreover, *frequently asked questions* section and least amount of *under construction* signs could also be beneficial for the website design (Gehrke & Turban, 1999).

Without efficient and user-friendly *navigation*, the user is likely to get confused, lost, or frustrated and leave the site for good. From this perspective Gehrke and Turban (1999) suggest to use accurate links, create the effective search engine within the site, use the site maps and avoid the links that open up new browsers. There is a disagreement whether the website builder should provide many alternative navigation tools or should stick to one type only. For example, Wilson (1998) supports the idea of using as many navigation techniques as possible, such as buttons, image maps, hyperlinks, search engines, and drop-down menu systems. In contrast,



Berst (1998) disagrees and claims that without being consistent in the sense of navigation on the website it is difficult for the user to understand and remember how to use the website (Gehrke & Turban, 1999).

Protecting the company's copyright and generating a confirmation letter after the purchase is made are included in the *security* part of the website design. Not having trust to the website, negatively influences the visitors decision making process, leading to leaving the website (Gehrke & Turban, 1999).

In the *marketing/consumer* focus Gehrke and Turban (1999) suggest that the website should be evaluated as to how well it markets its products and services, and also as to how well it keeps the customer in focus. The researchers provide three objectives that should be pursued: 1. create awareness, 2. generate traffic, and 3. drive sales. Questions that are needed to be answered from this perspective are: How well does it target its audience? How well understood is the customer? Does the site owner know what the customer wants? Does the owner have the customer in focus? Is the site customer-friendly? and Is the site designed to generate revenue? (Gehrke & Turban, 1999).

Hashim, Murphy and Law (2007) reviewed the articles about the website design frameworks published during the period of 1990-2006. The researchers extracted five dimensions of the website quality based on the most researched online features of tourism and in specific hospitality websites. Those dimensions identified are: *information and process, value added, relationships, trust, design* and *usability*. They assumed that the most popular features of hotel

websites were *reservations, contact information, promotions, products and services*(Hashim, Murphy, & Law, 2007).

The site appeal is important in internet marketing. According to Danaher, Mullarkey, and Essegaiier (2006) this directly impacts the amount of time a visitor spends on the website, and it also influences their purchase decisions. Failure to meet the expectation about visual side of the sites may result in reduced consumer traffic and subsequently lower online bookings. Toh et al. (2011a) suggest that the hotels' websites should have more visual aids in full color to highlight hotel's architectural structures, amenities and maps of surrounding attractions (Kvikne, 2013; Toh et al., 2011).

Phelan, Christodoulidou and Kisten's (2011) study suggests that web users visiting hotel sites, finds well-organized sites more appealing than those considered "cluttered". This could also be related to the graphic design principles, which recommends that commercial documents incorporate sufficient white space to give "breathing room" and add impact. In the same study, Phelan et al. (2011) found that inclusion of pictures, ease of use, neat and uncluttered design and the incorporation of the interesting features have the important impact on the website appeal. Moreover, mood relevant cues, which affects the level of enjoyment the customer experiences while visiting the website, together with task-relevant cues, are stated by Parboteeah, Valacich, and Wells (2009) to be highly influential on the browsers purchase decision. Furthermore, the importance of photos was the most frequently cited factor in users' assessment of hotel websites, mentioned as important by almost 70 percent of the respondents in the study. Lacking the pictures resulted in the visitors' dissatisfaction (Kvikne, 2013).

The usage of pictures is also supported in Pan, Zhang and Law's (2013) study, where it was found that pictures encouraged customers to consider a hotel that was not considered in the first place (Kvikne, 2013).

Ash et al. (2012) provides "The Seven Deadly Sins of Landing Page Design". The first issue explained is "Unclear Call-to-Action" which creates the question "What am I supposed to do on this page?". It should be easy for the visitor to answer this question. This could be done but having clear page headlines on the page, with clear purpose of every page of the website. "Too Many Choices" on the website is the second mentioned issue, which concerns the question "What am I supposed to do first?". Nowadays, people do not have so much time; therefore the visitors should be able to find an easy and quick way to achieve their goals. This issue could be avoided if the details are not presented too early in the process; related choices are grouped into a smaller number of categories, and if the visual shortcuts are used in order to reduce the reading. The third concern, included in Ash et al.'s (2012) "Seven Deadly Sins", is "Visual Distractions", or "What am I supposed to look at?". This issue is avoidable if the corporate and personal needs are put aside and the customers' perspective is considered in the first place. Some common mistakes included in this issue are too strong background colors, garish text, visual embellishments and flourishes, and use of untested rich media as animation and videos. For this reason, all the graphical elements that do not directly support the conversion actions and the colorful elements, together with untested animations should be removed. "Not Keeping Your Promises: is the next "sin" that concerns the question "Does your landing page deliver what the visitor expected?". The website creators should consider if the landing page keeps the promise that the upstream traffic source makes? Therefore, it is important to understand the upstream

traffic sources and their context. Having this information it is easier to make sure that the landing page content matches the traffic source message. Another issue is “Too Much Text”. Otherwise, the visitor might ask “Do you really expect me to read all this?”. As mentioned before the visitors are more likely to scan the text, then to read it. Keeping the text at a minimum, writing in shorter sentences and splitting it into five-line paragraphs could assist to avoid this issue. “Asking for Too Much Information” is another typical issue. Marketers often ask for the information because it might be useful for them in the future. However, Ash et. al. (2012) suggest that the questions on the website should be asked if is absolutely required. “Lack of Trust and Credibility” is the last of the “seven sins”. Today, almost anyone can quickly create a website or landing page. Many of them are untrustworthy, and reports of online scams are appearing more and more frequently. Professional website design, that involves transactional assurances (guarantees, policies, trials, alternative transaction mechanisms, safe shopping symbols) could assist to avoid this issue (Ash et al., 2012).

In conclusion, while creating the website design it is important to make sure to meet the goals of findability and usability (Kvikne, 2013, p. 21). However, the researchers suggest that other than this, the website should be visually appealing, fast to download, informative, well organized, navigable and safe to use (Gehrke & Turban, 1999; Kvikne, 2013; Toh et al., 2011).

### **2.2.5. Hotel Website Content**

Hotel website content and its presentation have become increasingly important over the years (Shoemaker, Lewis, & Yesawich, 2007). Chaffey and Ellis-Chadwick (2012) define content as

“the combination of static content forming web pages, but also dynamic rich media content which encourages interaction”(Kvikne, 2013, p. 14).

Content analysis is a method of evaluating and analyzing websites based on its contents. This mainly includes the elements of website functionality (Yeung & Law, 2006). While functionality, on its own, relates to the information richness of website (Bai, Law, & Wen, 2008).

Chu (2001) suggested that the high quality website can be produced by building a content that is attractive, interactive and informative (Chu, 2001). Moreover, the information should be useful and credible (Morosan & Jeong, 2008) and relevant and accurate (Jeong & Lambert, 2001). For example, the description of the hotel room on the website should be attractive and informative, written in clear and easy language, which is free of grammatical errors and is accurate and up-to-date (Hidayat, 2011).

Chung and Law (2003) suggest that customer perspective is necessary to be included in the website development process as they are the ones who will use and determine the eventual success of a website (Chung & Law, 2003). Therefore, if the customer expectations are not met, being functional is not enough for the hotel website to be perceived as “good”. As Zeithaml, Bitner and Gremler (2009) state “customer expectations are beliefs about service delivery that serve as standards or reference points against which performance is judged” (Zeithaml, Bitner, & Gremler, 2009, p. 75). For this reason, the researchers and the hotel executives wonder how customers evaluate service quality on the website (Parasuraman, Zeithaml, & Berry, 1994).

Chung and Law (2003) built the conceptual framework for hotel website performance. The framework includes five dimensions and attributes to each dimension. The first dimension is the *reservation information*, which refers to the features for making online facilities/ services or reservations. This dimension includes the attributes such as check rates and availability, online/real time reservations, security payment systems, view or cancels reservations, reservation policies, check in and checkout time, worldwide reservations phone number, payment options and special request forms. *Contact information* was identified as the second dimension. This dimension refers to facilities for direct communication between a hotel and its customers and encompasses the attributes about the contact information, as well as feedback forms, online forums and transportations. *Facilities* are the third dimension of this framework. Attributes of this dimension are the description of the hotel property, information about facilities and services offered. The fourth dimension is the *surrounding area information*. This dimension refers to the information about the surrounding area, general information about the city, instructions of how to get to the hotel or the information about the public holidays. *Website management* was identified as the fifth dimension, referring to the activities of maintaining a website in an efficient and effective way to ensure it is relevant and up-to-date (Chung & Law, 2003).

Wong and Law (2005) investigated travelers' online purchasing intentions. They assumed that the information quality on the website was the most relevant factor for prediction their potential buying behavior. Therefore, in order to improve the quality or the completeness of the information available on the website, the detailed information should be presented which can assist the customers in their purchasing process (Jeong & Lambert, 2001).

Features to be included on the hotel website are the features that meet the customer needs. These needs mostly include the desire to find out information about products and services and to make the reservation (Zeithaml et al., 2009). A study by Law and Hsu (2005) found that the most desired hotel website features were room rates, reservation and facility information. Other features that were highly desired in were hotel location maps, site amenities, and pictures of the hotel and the guest rooms (Kvikne, 2013). Morosan and Jeong (2008) noted that some additional interactive features such as driving directions, virtual tours of the property and even online games can further improve the visitor's impression of the website (Morosan & Jeong, 2008).

Jones and Chen's (2011) study of a search engine for travel ([www.sidestep.com](http://www.sidestep.com), now [www.kayak.com](http://www.kayak.com)), revealed attributes used by the visitors to narrow down the search. The most popular of these attributes were, listed from most popular to less popular: comparison, pictures, reviews, star-ratings and sort-by-price. Prior to the search on the site twenty four different attributes were used from which the most popular ones were non-smoking, swimming pool, high-speed internet, hot tub, fitness center, room service and set price range. The researchers claim that the hotel selection process is a two-stage process, made up of forming a consideration set, followed by a smaller choice set, from which selection is made (Kvikne, 2013).

In conclusion, website content is a vital part of the website design. This is the combination of static content forming web pages together with a dynamic rich media content, which encourages interaction (Kvikne, 2013). Content analysis is used to evaluate and analyze websites from the content perspective. This mainly includes the elements of website functionality (Yeung & Law,

2006). While functionality, on its own, relates to the information richness of website (Bai et al., 2008). Therefore, one major part of the website content is the website information. Different researchers provide suggestions regarding the website content. Chung and Law (2003) suggest that while developing the website, the main idea that should be kept in mind is- *customer perspective* (Chung & Law, 2003).

### **2.2.6. Website Quality, Satisfaction and Loyalty**

Studies about the website design quality have shown the connection between experienced design usability and website satisfaction and loyalty.

Within the traditional conceptualization of satisfaction the concept is defined as the outcome of the subjective evaluation that the chosen alternative meets or exceeds expectations (Bloemer & Ruyter, 1998, p. 501). The literature on the role of satisfaction in loyalty emphasizes that satisfaction is a key determinant of the loyalty (Castañeda, 2011).

Earlier researchers of customer studied considered and studied loyalty towards actual products. However, Gremler and Brown (1996) extend the concept of loyalty from the tangible products to the intangible products and services and define it as the degree to which a customer exhibits repeat purchasing behavior from a service provider, possesses a positive attitudinal disposition towards the provider, and considers using only this provider for the future (Gremler & Brown, 1996, p. 173).

Flavián, Guinalú & Gurrea (2006) suggest that good website design may not be a guarantee for consumer satisfaction, but it does have some power. The researchers found that consumer trust



and satisfaction positively and directly depended on perceived usability. They also observed that higher levels of trust and satisfaction had a significant effect on website loyalty (Kvikne, 2013).

Cyr (2008) defines e-loyalty as “. . . creation of positive shopping experiences that encourage shoppers to return to the Web site or to purchase from it in the future” (Kvikne, 2013, p. 33).

In their model of *expectation-disconfirmation effects on web-customer satisfaction* McKinney, Yoon and Zahedi (2002) separated the information content from the content delivery mechanism and came up with two types of website qualities: *information quality* (IQ) and *system quality* (SQ). They defined the Internet information quality as: “the customer’s perception of the quality of information presented on a Web site”, and the Internet system quality as: “the customers’ perception of a Web site’s performance in Information retrieval and delivery”. The researchers suggest that the visitor may for example not be satisfied with the layout and navigational features, but may to some degree be satisfied with the reservation process, and thus, intend to continue using the website (Kvikne, 2013, p. 32)

Luarn & Lin (2003) found that in an e-service context customer satisfaction and perceived value were each directly related to the customer loyalty. They suggest that loyalty, and therefore, commitment, should develop if the formation of customer satisfaction, trust, and perceived value is appropriately managed. Based on their findings Luarn and Lin (2003) note that consumer perceived value is improved through increasing product and service and website quality, and pricing the products/services reasonably. In other words, the attention should be placed in developing satisfying, trustworthy and highly valued e-service to ensure that customers will have

repeat Internet purchase behavior and show loyalty towards specific e-service brand (Luarn & Lin, 2003).

In their study, Wolfenbarger and Gilly (2003) came up with four factors that influence the website visitor's satisfaction and loyalty. They were: 1. *Fulfillment/reliability*, an accurate display and description of the product, so customers receive what they expected; 2. *Website design*, including the elements of the consumer's experience; navigation, information search, order processing, appropriate personalization and product selection; 3. *Customer service*, being responsive and helpful towards customers inquiries; 4. *Security/privacy*, of payment methods and privacy of the information. Moreover, the researchers found that website visitors who frequently purchased at a particular website gave the biggest weight to the website design while predicting the quality of the products or services exposed on the website. Website design was also found as the strongest factor predicting the loyalty towards the website. The researchers note that even if the purchase was satisfying, the customer was less likely to use the website again if it was difficult to use. It was found that negative performance attributes had a greater impact on overall satisfaction and repurchase intentions than positive performance did (Kvikne, 2013).

Flavian, Guinaliu and Gurrea (2005) performed a research to determine the influence that perceived website usability has on the user's loyalty and satisfaction. They suggested that website usability results in increased trust towards the system, leading to the website loyalty (Flavian, Guinaliu, & Gurrea, 2006). Their findings are confirmed by Lowry and his co-researchers (2006), who conducted the study to discover the link between interactivity and website usability. They found evidence that improved interactivity leads to increased customer

trust and thereafter to increased satisfaction, which was perceived as an important component and indicator of the website usability (Lowry et al., 2006).

In their study of online users Law and Bai (2007) found that buyers considered quality information, purchase information, and services or products information vital. Moreover, layout and graphics were important for both buyers and website users. Furthermore, the factors of functionality and usability were found positively associated with each other, and these two positively correlated to customer satisfaction. Availability of needed information and the navigation possibility were also necessary conditions for satisfaction from a website purchase (Law & Bai, 2007).

In her study, where Cyr (2008) took the sample of Canadian, German and Chinese users the researcher used three elements of design: *navigation design*- referred to navigational scheme used to help or hinder users as they access different sections of the website; *visual design*- referring to the elements connected to the balance, emotional appeal, aesthetics, and uniformity of the website overall graphical look and *information design*- including the website elements that convey accurate or inaccurate information about products or services to user. The researcher found that there was a significant relationship between the satisfaction and all three design standpoints of the website for the visitors of all three countries (Cyr, 2008).

Polites, Williams, Karahanna, and Seligman (2012) note that the satisfaction is not enough to gain loyalty. They state that e-satisfaction and loyalty consist of several perspectives. A consumer may be dissatisfied with characteristics of the website itself, the product, the service

associated with the site or a single transaction conducted through the site. Customers may also be loyal to the vendor or to a specific product that the vendor sells (Polites, Williams, Karahanna, & Seligman, 2012).

To summarize, the researchers suggest that good website design may not be a guarantee for consumer satisfaction, but it has a significant influence. (Kvikne, 2013). Cyr (2008) defines e-loyalty as creation of positive shopping experiences that encourage visitors to return to the website or to purchase from it in the future (Kvikne, 2013). Different researchers point out various factors of the website and provide different theoretical frameworks to assure customer satisfaction of the website and their loyalty towards the website.

### **2.3.1. Usability Testing**

Jakob Nielsen (2012) suggests that the website usability is a necessary condition of company's survival. If the website is difficult to use, if the homepage fails to clearly state what a company offers and what the users can do on the site, if it is easy to get lost on the website or if the information is hard to read or irrelevant, the users leave and never come back (Kvikne, 2013)

Online purchase intentions are very much influenced by the website information satisfaction. Scheuler (2005) confirmed this idea by finding that 88 percent of the website's first-time visitors returned if the first encounter was successful. Flavián, Guinalú & Gurrea (2006) note that insecurity while shopping online is a huge obstacle online shoppers experience. They further state that website attributes, especially usability, may influence the perceptions of the consumer about the website and so of the expected degree of trust. The researchers suggest that not

comprehensive content, unpleasant visual design and errors in ordering process may be results of low levels of usability. These types of errors, therefore, increase feelings of distrust and discourage future transactions (Kvikne, 2013).

*Interaction design* is the process of “designing interactive products to support people in their everyday and working lives” (Gerardo, 2007, p. 6). However, the way these products were designed has not always been the same. It evolved during the time (Gerardo, 2007).

The process of creating the *interaction design* involves four activities. These are: *the requirements gathering, prototyping, designing* and *evaluating*. This process is relatively similar to other software development life cycles, meaning that the process is repeated in several iterations until time or resource limits are reached (Gerardo, 2007).

An important term in *interaction design* is the *user centered approach* (Norman, 2002). The term describes the process where the development of a product is based on putting the users in the center in order to gain more knowledge about what the users' wants are, how they will use the software, and if the software is effective for the intended end-user (Gerardo, 2007).

Norman (1999) states that usability in general refers to being able to provide good service. It can also refer to making a product easier to use by matching its features with the user's needs and requirements (Ogolla, 2011). Flavián, Guinalú & Gurrea (2006) describe the usability with five factors: 1. The ease of understanding the structure of a system, its functions, interface, and contents observed by the user; 2. Simplicity of use of the website in its initial stages; 3. The

speed with which the users can find the item they are looking for; 4. The perceived ease of site navigation in terms of the time required and action necessary to obtain the desired results; 5. The ability of the user to control what they are doing, and where they are, at any given moment (Kvikne, 2013). Joseph, Dumas and Redish (1999) note that usability means that people who use the product can do so quickly and easily to accomplish their own tasks. This definition unifies four points: 1. Usability means focusing on users; 2. People use products to be productive; 3. Users are busy people trying to accomplish tasks and 4. Users decide when the product is easy to use (Dumas & Redish, 1999).

In order to determine the usability level of a given website, *usability testing* has to be applied.

*Usability testing* is done by having users who represent a group targeted by the system also known as representative users, to use the system and the usability tester to observe the users and listen to their complains or compliments. The usability tester can also ask some questions to the user on the general feeling while using the product (Ogolla, 2011). Joseph, Dumas and Redish (1999) referred to the usability testing as the mean of diagnosing the problems with the website or the application. The researchers provide five characteristics of the usability testing. These are: 1. The primary goal of the usability testing is to improve the usability of the product; 2. The participants represent real users; 3. The participants accomplish real tasks; 4. The participants are observed and their ideas maybe be recorded; 5. The data is analyzed, the real problem are diagnosed and the recommendations of fixing the problems are made (Dumas & Redish, 1999).

Usability tests are applied not only to measure the usability of the product but also to determine the user's satisfaction with the given product. Therefore, it helps to determine the adjustments required on the product in order to improve its performance (Ogolla, 2011)

The researchers suggest using the usability testing in the early stage of the website development. This assures the vital feedback to the developers and designers of the product while most recommended changes can still be implemented, that is before the product design and make-up becomes complicated or too concrete to change (Ogolla, 2011).

There are different methods of usability testing.

Usability evaluation methods can be grouped into three distinct categories. These are *Inspection based methods* (Expert based methods), *Model based methods*, and *Usability testing* (User based methods) (Ogolla, 2011).

*Inspection based method* refers to using the experts assessing the website or the application and giving feedback regarding its usability. He or she examines the product and estimates its usability for the certain group. There are no users other than experts involved in this method; therefore, the results are fully dependent on experts. The advantages of this method include cost and time efficiency (Ogolla, 2011).

In *model based methods*, the Human Computer Interaction (HCI) expert uses formal methods to predict user performance when carrying out a given task on the website or the application. Just

like in expert based methods, no users are involved during the usability evaluation. An evaluator pre-determines an exact sequence of events that a user will have to carry out to perform a task. An analytical model is then applied to this sequence and the index of usability is calculated. The models work effectively in predicting time taken for the completion of the error-free task and tasks that need no decision making (Ogolla, 2011).

The third one is the *user based method*. In this method, a sample of users performs a set of pre-defined tasks on the website or the application. Because of having real users, this method gives more valid and reliable results (Ogolla, 2011).

During the test the evaluator records the success rate at which the users complete the tasks and also their speed of performance of the task. After this the users are sometimes asked to give additional comments about their likes or dislikes, parts which frustrated them or part they remember the best. Moreover, they might be asked to fill in the questionnaire. After the test, the extent in which the website or the application supports the target users is measured, potential issues that the users faced are identified and re-design approach is determined (Ogolla, 2011).

Based on the technique used, to collect the information from the users, there are different methods within the user-based method of the usability testing. These methods include:

*Interviews and videos*, in which the researcher asks the questions to the user and records the interview on camera. Recorded videos help in subsequent analysis of the navigations,



transactions and problem handling that takes place during the users' interaction with the application (Ogolla, 2011).

*Unstructured user based tests* are employed in a very early stage of the website or the application building. This is the stage where it is too early to apply the quantitative assessments. In this method the user and the evaluator jointly interact with the system to agree on what works, and what does not work, what is good with the design and what should be changed (Ogolla, 2011).

Sometimes the evaluator uses *the questionnaire*. In this method the users fill in the questionnaires as they use or immediately after using the website or the application. The purpose of the usability testing should be clearly brought out in the questionnaires by designing the questions to fit the intended areas to be tested. In order for this method to work effectively the questions should also be designed in a way that they can provide measurable feedback. In this case less time to be spent in testing, approach to the wider sample and an effective analyzes is guaranteed. It is of the utmost importance for the questionnaire to be reliable and valid to ensure testing for efficiency and effectiveness of the website or the application (Ogolla, 2011).

*The observation* is another method in user-based usability testing. Evaluators observe the user's attitude, reactions, emotions, facial expressions, verbal comments, sitting adjustments and so on to establish the user's attitude towards the website or the application. Using this method qualitative data is collected (Ogolla, 2011).

*Think-aloud protocol* is the most popular method in user-based usability testing. According to Po-Yin Yen & Suzanne Bakken (2009) think-aloud protocol was developed by Lewis in 1982 to understand cognitive process. Becoming more and more used, much research has been done and some are still ongoing regarding this interesting method of usability testing. Think-aloud protocol requires the participants to perform the given tasks and still give verbal feedback concerning the task performance. One major setback with this method is that many times the users cannot communicate as fast as they think and act due to divided attention. It is, therefore, a challenge for the evaluator to connect the user's comments with his or her respective actions. This problem is usually solved when the users incur a problem on the application which makes them to slow down on their actions. During this time the evaluator has the opportunity to take the notes and to correlate what the user is saying (thinking aloud) and the action at that given moment (Ogolla, 2011).

Another solution to this issue is using the Retrospective think-aloud protocol. Guan, Lee, Cuddihy and Ramey (2006) studied the use of Retrospective Think-Aloud method (RTA) in usability testing. In contrast to the ordinary Think-aloud method, where the participant speaks out loudly what he or she is thinking during the test, Retrospective think-aloud requires the participant to solve tasks on her own and give the verbal comment on the issues experienced or about the general feelings after completing the tasks (Guan, Lee, Cuddihy, & Ramey, 2006).

There are some of the major challenges that usability testers have faced to.

*Cost-* Due to the facilities, staff, time, and equipments that might be needed for the testing exercise to be carried out successfully, the usability testing can be relatively expansive (Ogolla, 2011).

*Sample of potential Users-* There is no doubt that the larger sample of users in usability testing can provide more concrete and reliable results since it increases the chances of identifying a wide range of problems of the website. However, large sample is generally associated with higher costs, time and the more complicated tests. Therefore, very often usability testing is possible and easier with a small sample of potential representatives (Ogolla, 2011). Various studies have investigated the most effective sample sizes in usability testing. Lewis (2006) argues that sample size depends on the context of usability test. First of all, the researcher recommends determining the variance of the dependent measures of interest. This is usually obtained from the previous usability tests. The second requirement is to determine how precise the measurements should be. Therefore, it is suggested that there is no fixed sample size that can reveal the maximum amount of usability problems (Gerardo, 2007).

Another issue that should be considered while choosing the sample is the category and the personal differences of the users. Nielsen (1993) describes three main dimensions of user's experiences. These are the user's experience with *a system*, with *computers in general* and with *the task domain*. The user's experience with a system is determined by how long and how much time a person has used a system. For example, a person who has used a web browser for less than a week can be classified as a novice user. While, an individual who has used the browser for more than a week may be classified as an expert user (Gerardo, 2007).

General computer-usage experience is also an important dimension. There are differences between people who use computers for work-related topics only and people who use computers for both work and personal life or entertainment (Gerardo, 2007).

The user's domain knowledge is the final and equally important dimension. For example, the website for users with a background in engineering needs to be designed in a way that it is understandable and usable for them. In this case, people without engineering education or experience could not be used as the website testers. At the same time, the website should be designed differently for people without the same domain knowledge (Gerardo, 2007).

*Complexity in data analysis-* Analysis of the data collected via the usability testing can be a challenge for the tester. This is due to the fact that the tester is forced to "read too much" into the user's reactions, in order to uncover the true meanings of their verbal or even emotional responses. Therefore, the researchers suggest allocating enough time to the data analysis stage, in order to avoid the inaccurate results (Ogolla, 2011).

*Commitment by participants-* The researchers state that both the testers and the representative users should be committed on their part to make the whole usability testing process successful. Cases where either of the participants became reluctant on their part have resulted to slow usability testing process and at times inaccurate results due to lack of devotion to the given task (Ogolla, 2011).

*Representation of the real scenario-* The results of the usability testing provided by the representative users involved in the sample are assumed to represent the views of many users in the world who would use the website or the application tested. Since the whole process of the usability testing is very subjective the user might be biased during the testing or might give misleading results based on the external factors like personality, moods and so on. The final results might therefore vary from a real world scenario of users' perceptions on the website or the application. The smaller the variation percentage is the better and more accurate the results are. A wider variation would indicate less accurate results, meaning that most users in the real world might have a different perception on the website or the application (Ogolla, 2011).

*Evaluator effect-* One more issue observed in usability testing is called the *evaluator effect*. Hertzum and Jacobsen (2003) argue that different evaluators observe different problems and these differences are rooted in their previous experience in the usability field. The authors studied the experienced and inexperienced observers and assumed that experienced observers reveal more critical and wider range of usability issues (Gerardo, 2007).

### **2.3.2. Evaluation of Digital Channel Performance: Google Analytics**

Managing the customer information about behavioral characteristics collected online is a challenge in digital marketing. Low performing websites not only minimize hotels' return on investment, but also may damage the brand. It is therefore, of the utmost importance for the hotels and other businesses operating online, to observe and measure the website's ability to convert a visitor. For this purpose the web analytics is used (Kvikne, 2013).

The web analytics is an approach that involves collecting, measuring, monitoring, analyzing and reporting web usage data in order to understand visitor's experiences. Such tool can assist to optimize websites, therefore accomplish business goals and/or improve customer satisfaction and loyalty (Hasan, Morris, & Proberts, 2009).

As Waisberg and Kaushik (2009) define the "Web Analytics is an act of increasing a website's persuasion and relevance to achieve higher conversion rates." Moreover, the authors call it the science and the art of improving websites in order to increase their profitability through improving the customer's website experience (Waisberg & Kaushik, 2009, p. 5). Web Analytics Association (2008) suggests that the Web Analytics is "the measurement, collection, analysis and reporting of Internet data for the purpose of understanding and optimizing Web usage".

Therefore, Web Analytics is not a technology to produce reports. It is a process that proposes a virtuous cycle for website optimization (Waisberg & Kaushik, 2009, p. 5). Avinash Kaushik, in his book *Web Analytics: An Hour a Day* states that the web analytics is the analysis of qualitative and quantitative data of the website, and the competition, to drive a continual improvement of the customers and the potential customers online experience (Cutroni, 2010).

This definition encapsulates three main tasks every business must tackle when doing web analytics:

- Measuring quantitative and qualitative data.
- Continuously improving the website
- Aligning the measurement strategy with the business strategy (Cutroni, 2010)

As Clifton (2012) states the term *Web Analytics* covers many areas that require different data-collection techniques. For instance, there are *offsite tools* which measure the size of the company's potential audience (opportunity), the company's share of voice (visibility), and the buzz (comments and sentiments) that is happening on the Internet as a whole. On the other hand there are *onsite tools* used to measure the visitor's onsite journey, its drivers and the company's website performance (Clifton, 2012).

Content and transactional sites rely heavily on traffic and audience measurement, and relevant measures are defined by Roberts and Zahay (2012) as:

- Traffic data that describes activity on the site. This includes metrics such as number of visitors, sessions, and page views.
- Audience data that describes the behavior of people on the site, where they come from, what paths they take through the site, and whether they take desired actions (Kvikne, 2013).

Google Analytics, the most sophisticated web analytics tool (Fang, 2007), was launched on November 11, 2005 (Clifton, 2012). This is a straightforward tool, is easy to set up and the most importantly- is free (Kvikne, 2013).

The information that Google Analytics generate is quite big. The data generated by the Google Analytics can be illustrated as a cycle which consist the following elements: Acquisition; Behavior and Conversion. Acquisition shows where the website acquired the visitor, in other

words where the visitors found the website. This part includes the reports showing the number of visitors grouped in different channels, such as Organic search, Social Media or Paid search. Moreover, in here could be found the Referral Traffic, which is the list of websites from which the visitor moved to the company's website. Behavior illustrates visitor's activities on the website. This part includes the reports about how many page views occurred on the website during the specific time period, what was the average time spent on the page and what was the bounce rate (Kvikne, 2013). As Clifton (2012) puts it this rate illustrates the number of visitors entering and then leaving the site after having viewed only one page without any other action or event triggered (Clifton, 2012). The last element of the cycle- Conversion includes the reports about what could be learned from the previous two elements of the cycle or what are the outcomes. In order for this report to make sense the company should create the specific goals while setting up its Google Analytics. There are different types of goals which are grouped in four major categories. *Destination goal* tracks if the visitor reaches the page or the spot on the page wanted to be reached by the company. *Duration goals* show how many visitors spent the time desired to be spent by the site owner. *Number of pages goal* illustrate if the visitor visited as many pages on the website as the site owner wanted him or her to visit. And the last category of the goals is the *Event goals* that measure if the visitor took the action desired by the website owner. This action can be watching the video, downloading the application, downloading the questioner and so on (Kvikne, 2013).

One of the most important features of any analytics tool is performing *segmentation*.

Segmentation involves going deeper into the data in order to understand how the small segments



perform and how their performance influence the overall performance of the website (Cutroni, 2010).

A simple example of the segmentation is viewing the website traffic according to the physical location of the visitor. Moreover, Google Analytics can group the visitors according to their Gender, Age and Interests.

Tonkin, Whitmore and Cutroni (2010) state that the Google Analytics assists businesses doing the following:

- **Make better decisions about online strategy and tactics:** The tool gives the general understanding of what is happening with the businesses' online presence. This information can assist to raise the overall quality of the business decisions made by the marketers and the managers.
- **Be more goal-driven:** By setting the measurable goals, which correspond with real business value, Google analytics can assist taking specific actions and measuring the success of those actions.
- **Eliminate waste:** Using the tool business can see if the business initiatives fail to impact objectives, so the attention and the budges can be shifted elsewhere.
- **Reward success:** Once the success is defined and measured, the business can also take actions to reward the people and campaigns that have the most positive impact.
- **Plan for the future:** Once the base of the analytics date is built, the past performance can be used to predict future trends and estimate the success of the future campaigns (Tonkin, Whitmore, & Cutroni, 2011).

# CHAPTER III

## METHODOLOGY AND RESEARCH DESIGN

### 3.1. Introduction

This study has the correlational research design using the survey method to determine the correlation between the set of independent and dependent variables. Independent variables are the following factors: *Information, Navigation, Usability, Customization, Download Speed, Security* and *Available*; while dependent variables are hotel website REACH and hotel website LOYALTY.

This chapter starts with providing the information about website sample used in the research. Further, it presents the measures employed and discusses the procedures of the research, as well as the procedures of approaching the data collected.

### 3.2. Website Selection and Evaluation

Findings of this research are based on evaluation of 85 websites of hotels operating in different parts of the world. These websites were randomly selected from a pool of hotel websites. The required website data was collected from a Singapore-based digital marketing agency, which manages online marketing campaigns and has access to Google Analytics accounts of these hotels.

Following the selection of the sample of websites, ten raters were chosen to evaluate website characteristics using the questionnaire designed by Tarafdar and Zhang (2007). These 10 raters were divided into 5 groups (2 persons per group), were given a task and were asked to analyze 17 websites to evaluate their performance based on the survey questionnaire. In order to evaluate the website performance raters were asked to browse through each website assigned to him or her, perform the task, and answer the questions on the survey questionnaire.

### **3.3. Survey Instrument**

As mentioned before this research aims to identify the importance of the seven factors and items of those factors for a hotel websites as well as correlation between these seven factors (independent variables) of a hotel website and a hotel website *reachandloyalty* (dependent variables). Taken into consideration the researchers' suggestion for the future research, the questionnaire developed by Tarafdar and Zhang (2007) was applied to the hospitality context (Tarafdar & Zhang, 2007).

The first measure of website performance, website *reach*, is referred to as REACH in this research. This performance measure is defined as the total number of unique visitors who have visited the website at least once during the specified period. The second measure of website performance, website *loyalty*, is referred to as LOYALTY in this research. This performance measure is defined at the average number of visits by each unique visitor on the website during the specified period (Tarafdar & Zhang, 2007).

The REACH and LOYALTY figures were calculated by taking the average monthly values of REACH and LOYALTY, for twelve months from April 2014 to March 2015. These two measures of website performance, REACH and LOYALTY, together explain the overall success of each website in terms of the number of visitors, their loyalty, and their likelihood of returning again (Tarafdar & Zhang, 2007). Both REACH and LOYALTY figures were obtained from Google Analytics accounts of the samples websites (Tarafdar & Zhang, 2007).

Independent variables are the following seven factors:

*Information-*

INFO1 The range of information (variety of topics) is high

INFO2 The information is applicable to the website's activities

INFO3 The information is detailed

INFO4 The information is current

INFO5 The information is accurate

INFO6 It is easy to locate the information

INFO7 The information is useful

INFO8 The information is systematically organized

INFO9 The meaning of the information is clear

INFO10 The layout of the information is easy to understand (Tarafdar & Zhang, 2007, p. 4)

This factor includes the characteristics of the website information. These characteristics are the information range, relevance, level of detail, clarity, usefulness and accuracy (Tarafdar & Zhang, 2007).

*Navigation-*

NAV1 There are meaningful hyperlinks

NAV2 The description of the links on the website is clear

NAV3 The links are consistent

NAV4 The arrangement of the different links is easy to understand

NAV5 The use of redundant hyperlinks makes it easy to navigate the website (Tarafdar & Zhang, 2007, p. 4)

The second factor includes the characteristics that help the website visitors to navigate the website. These characteristics include the different elements, such as hyperlinks and tabs, as well as ways in which these elements are provided. Because of its big importance, this part also includes the consistency of the links. For instance, presence of the dead links is one of the frequent issues with websites (Tarafdar & Zhang, 2007).

*Usability-*

USAB1 The website is entertaining (its fun to use)

USAB2 The website is exciting and interesting

USAB3 The website is easy to use.

USAB4 The use of multimedia is effective for my tasks at the website.

USAB5 The website has an attractive layout (Tarafdar & Zhang, 2007, p. 4)

Factor three captures the features of the website usability. In other words, this factor covers aspects of how easy or challenging is it to use the website, how appealing or fun is it to use, how attractive the layout is and to what extent it uses the multimedia (Tarafdar & Zhang, 2007).

#### *Customization-*

CUST1 The website has personalization characteristics

CUST2 The website offers customized information

CUST3 The website has provisions for designing customized products (Tarafdar & Zhang, 2007, p. 4).

Customization of the website illustrates how capable the website is to provide the information tailored to the visitor's individual requirements. Most of the visitors glance through many different websites before they purchase products or services, therefore they have to remember many different details. For this reason Customization opportunities are important for many industries. However, it is interesting if this factor has the equal importance for the hotel websites (Tarafdar & Zhang, 2007).

#### *Download Speed-*

SPD1 The speed of display between pages is high.

SPD2 There is very little time between my actions (of requesting for something from the website) and the responses (having the response displayed on my computer).

SPD3 The rate at which the information is displayed is fast (Tarafdar & Zhang, 2007, p. 5).

This factor examines the download speed of the website. Increasing use of multimedia, and the growing complexity of application software makes this factor an important aspect of website design (Tarafdar & Zhang, 2007).

### *Security-*

SEC1 The website has provisions for user authentication

SEC2 The website has provisions for a secure monetary transaction (for instance, Verisign)

SEC3 The website has an information policy

SEC4 The company to which the (Tarafdar & Zhang, 2007, p. 5)

This factor looks at in which extent the website could be characterized as being “safe” (Tarafdar & Zhang, 2007).

### *Available-*

AV1 It is easy to read off the contents of the website.

AV2 The website is well — maintained so that the information is easy to acquire (no dead links, for example).

AV3 The website is available (that is, it is up) (Tarafdar & Zhang, 2007, p. 5)

These items described website capabilities of making the content available for the users to acquire and understand (Tarafdar & Zhang, 2007).

Each specific statement of the website characteristics were measured using a five-point Likert scale, with the extremes located at the end of the scales. Score 1 represented *strongly disagree*, 2-*disagree*, 3- *neutral*, 4- *agree* and score 5 represented *strongly agree*. Since the questionnaire was already tested by Tarafdar and Zhang (2007) for content and criterion validity, it was used in the original format without any modification.

### **3.4. Procedures**

The data was collected applying exactly the same procedures of *usability testing* to every participant. In order to assure participants' comfort, the data was collected in different locations. For the uniformity in computer infrastructure and networking facilities, same computer was assigned to both raters in all 5 groups. This was necessary to minimize the differences in the evaluation arising from these reasons.

Before the survey every participant got the specific hotel website opened on his or her screen and was provided with a hard copy of task scenario (Appendix 1: Website Design Research Task). They had to follow it step by step. Immediately after completing the tasks participants were directed to the questionnaire created in Google Forms (Appendix 2: Website Design Research Questionnaire).

### **3.5. Building the Task Scenario**

In order to build the task it was necessary to find out how customers see the products and services they purchase and consume from the hotel.



In many organizations managers design customer studies from their own perspective, or how they believe customers view their products and services. As a result, they get the measurement instrument that embodies the lens of the organization rather than the lens of the customer (Johnson & Gustafsson, 2006).

While building the task that would fully capture the path that more or less every visitor follows during the hotel room booking process Critical Incident Technique (CIT) was used (Johnson & Gustafsson, 2006). 18 people of different genders, age groups and occupations were asked to name three main *Items* they look at while booking a hotel room. Using this technique list of different items was generated, which were later grouped into six main domains of the hotel websites. These domains are *information about location*, *Information about price*, *Information about room*, *Information about food & drinks*, *Information about services & amenities* and *booking*. The domains were identified according to their relevance and not according to the size of the information they contain. For example, one can say that *Information about the location* is one single paragraph, while *Information about food & drinks* can include a lot more information, however, both these domains have high relevance while booking the room, therefore, they both were kept as separate domains.

Using the domains mentioned above, was created the task scenario, which includes five steps. These steps assure that participants look into every “corner” of a hotel website; therefore get familiar with the website that helped them to fill in the questionnaire afterwards.

### **3.6. Pretest**

In order to assure both the questionnaire and the task scenario were easy to understand and the technical part of the survey was error free the pretest with two participants was conducted.

During the pretest, both participants were treated the same way, in the same circumstances, as during the actual survey. Both participants used the same hotel's the same website. However, at the end of the pretest they were asked to express their opinion and suggestions for improvement of the task scenario and the process in general. Based on their feedback the task scenario was modified, however, in order to preserve the original form, no changes were made in the questionnaire. Responses of these two raters participating in the pretest were not included in final data.

### **3.7. Data Processing and Analysis**

For the data analysis *IBM SPSS Statistics 21* was used. In order to determine in what extent the two raters evaluating the same website were consistent in their responses *inter-rater reliability* was checked. After which the *factor analysis*, *reliability* and *regression analysis* were ran on the data. Analysis process is described in more details in Chapter IV (Data Analysis).

### **3.8.Limitations**

There are number of limitations of this research that must be acknowledged.

As Roberts and Zahay (2013) suggest website design, performance and usability, which is the main topic of this study, is best tested through qualitative methods (Roberts & Zahay, 2012). In this research only quantitative information is employed. Therefore, the survey method in combination with qualitative methods would provide more comprehensive results.

Moreover, as Google Analytics registers all visitors, it is impossible to identify which of these visitors are actual customers. Certain amounts of the visits come from employees and other stakeholders, who do not browse the website with the intention of booking a hotel room.

Furthermore, dependent variables: website REACH and website LOYALTY, which were retrieved from the Google Analytics, are measured in a very simple way, with one number only. For example, the LOYALTY figure does not include the offline data. There must exist number of guests, who book the hotel using the telephone or email after their first visit, instead of going back to the website. Therefore, more comprehensive measurement of these numbers would lead to more reliable results.

Many hotels have contracts with different companies, offering them discounted rates in return to people working at those companies always staying at the same hotel. Therefore, LOYALTY figure, in other words, *visits per person* can be influenced by the number of such contracts hotel has. In this case, visitors make repeated visits on the website not because of the website's high performance qualities, but because they simply "have to" book the hotel in the same hotel every time they visit the destination.

Moreover, while choosing the sample of websites, hotel location and website marketing budget was not taken into consideration. These two factors may significantly influence hotel website REACH and LOYALTY figures; therefore can have an impact on findings.

According to Danaher, Mullarkey, and Essegaiier (2006) failure to meet the expectations about visual side of website can result in reduced visitor traffic and subsequently lower online bookings (Kvikne, 2013). Therefore, hotel website REACH and LOYALTY figures can very much be influenced by the graphical design of the website, which was not considered in this thesis, indicating to one more limitation of the study.

As mentioned in section 3.2. (Website Selection and Evaluation) each rater had to evaluate 17 websites. Having already performed the task and filled in the survey questionnaire for the first website, could lead to biased answers to the evaluation of the following websites.

Finally, another limitation is what Ash et al. (2012) describe as *overgeneralization*. These researchers state that this is a common issue in landing page testing, where it is assumed that traffic sources that were not a part of an original test will behave in the same way as the tested population. Therefore, the data from 2014 may not be applicable for the visitors in 2015 (Kvikne, 2013).

# CHAPTER IV

## DATA ANALYSIS

### 4.1. Introduction

This chapter step by step provides the data analysis results of this study. It starts with introducing the hypothesis, which were developed based on the research objectives. After which *inter-rater reliability analysis*, *descriptive statistics*, *factor* and *reliability analysis* and *regression analysis* results are introduced.

### 4.2. Research Hypothesis

The objectives of this research are summarized in chapter I (Introduction), section 1.4. (Problem and Purpose). The following research hypothesis can be framed based on these objectives.

$H_{01a}$ : There is no relationship between “Information Content” and website *reach*.

$H_{01b}$ : There is no relationship between “Information Content” and website *loyalty*.

$H_{02a}$ : There is no relationship between “Ease of Navigation” and website *reach*.

$H_{02b}$ : There is no relationship between “Ease of Navigation” and website *loyalty*.

$H_{03a}$ : There is no relationship between “Usability” and website *reach*.

$H_{03b}$ : There is no relationship between “Usability” and website *loyalty*.

$H_{04a}$ : There is no relationship between “Customization” and website *reach*.

$H_{04b}$ : There is no relationship between “Customization” and website *loyalty*.

$H_{05a}$ : There is no relationship between “Download Speed” and website *reach*.

$H_{05b}$ : There is no relationship between ‘Download Speed’ and Website Loyalty.

$H_{06a}$ : There is no relationship between “Security” and website *reach*.

$H_{06b}$ : There is no relationship between “Security” and website *loyalty*.

$H_{07a}$ : There is no relationship between “Available” and website *reach*.

$H_{07b}$ : There is no relationship between “Available” and website *loyalty*.

#### **4.3.1. Inter-Rater Reliability**

While using humans as part of the measurement process there are chances that they misinterpreted the questionnaire or were distracted during the process. In order to determine in what extent the two raters are consistent in their responses *inter-rater reliability* is checked. Inter-rater reliability, which by some researchers is referred as *inter-rater agreement* or *concordance*, can indicate if a particular scale is not appropriate to measure a particular variable or if the raters need to be re-trained (Lund Research Ltd, 2013). Therefore, the first step in the data analysis process for this research is to evaluate the *inter-rater reliability* of the raters.

Weighted Kappa coefficient was used as a measure of inter-rater reliability. The inter-rater reliability for the two set of evaluations was found to be 0.693, which is above the acceptable value of 0.600 (Tarafdar & Zhang, 2007). Thus, it can be conclude that there is a high degree of agreement between the two set of raters. For the purpose of further analysis the mean score from the two set of raters was considered. This dataset with the mean score is the final dataset considered in further analysis.

#### **4.3.2. Descriptive Statistics**

The descriptive summary of all the items is presented in Table 1 (Descriptive summary of the questionnaire items). It can be observed at all the items are rated between 1 and 5 and there is no item with high standard deviation value. Further, the Kurtosis and Skewness value of all the items are within the acceptable range. This suggest that the items are normally distributed and do not show any significant deviation from the normality assumption required in regression analysis.

**Table 1. Descriptive Summary of the Questionnaire Items**

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
INFO1	85	1	5	3.976	1.012	-0.447	-0.788
INFO2	85	2	5	4.306	0.845	-0.757	-0.821
INFO3	85	1	5	4.365	0.974	-1.350	0.912
INFO4	85	1	5	4.294	0.911	-1.205	1.056
INFO5	85	1	5	4.247	0.950	-1.116	0.633
INFO6	85	1	5	4.259	0.978	-1.015	0.106
INFO7	85	1	5	4.318	0.916	-1.347	1.461
INFO8	85	2	5	4.306	0.939	-1.007	-0.291
INFO9	85	2	5	4.235	0.908	-0.684	-0.963
INFO10	85	2	5	4.306	0.887	-0.962	-0.225
NAV1	85	1	5	3.565	1.139	-0.312	-0.612
NAV2	85	1	5	3.588	1.105	-0.310	-0.627
NAV3	85	1	5	3.529	1.076	-0.137	-0.775
NAV4	85	1	5	3.729	1.106	-0.575	-0.187
NAV5	85	1	5	3.647	1.032	-0.306	-0.482
USAB1	85	1	5	3.212	1.092	0.014	-0.490
USAB2	85	1	5	3.553	0.958	-0.238	-0.499
USAB3	85	1	5	3.471	0.946	-0.129	-0.127
USAB4	85	1	5	3.553	1.029	-0.347	-0.510
USAB5	85	2	5	3.494	0.921	0.064	-0.793
CUST1	85	1	5	3.200	1.132	-0.103	-0.501
CUST2	85	1	5	3.494	1.109	-0.387	-0.527
CUST3	85	1	5	3.447	1.129	-0.196	-0.671
SPD1	85	1	5	3.459	1.097	-0.280	-0.504
SPD2	85	1	5	3.718	1.042	-0.310	-0.538
SPD3	85	1	5	3.553	0.970	-0.033	-0.603
SEC1	85	1	5	3.071	1.132	-0.242	-0.546
SEC2	85	1	5	3.412	1.126	-0.261	-0.533
SEC3	85	1	5	3.424	1.117	-0.381	-0.296
SEC4	85	1	5	3.506	1.140	-0.409	-0.491
AV1	85	1	5	3.647	1.043	-0.338	-0.261
AV2	85	2	5	3.894	0.873	-0.450	-0.421
AV3	85	1	5	3.941	0.980	-0.502	-0.476

### 4.3.3. Factor Analysis and Reliability

Once the agreement between the two sets of evaluations is established the next step is to identify the underlying factors in the final data set. These factors are considered to be the determinants of website *reach* and *loyalty*(Tarafdar & Zhang, 2007).

In order to identify the underlying factors in the dataset, factor analysis, using principal component method of extraction and Varimax Rotation, was performed (Tarafdar & Zhang, 2007).

The factor analysis results are summarized in Table 2 (Factor Analysis Results). It can be observed that there are 7 underlying factors in the final dataset and they together explain 76.37% variance in the dataset. Furthermore, it can be seen that the Cronbach's alpha, which is a measure of reliability, is greater than 0.70 for each factor identified from the factor analysis. According to Nunnally (1978) the instruments used in basic research, which results in decisions that do not influence the fate of individuals, having the reliability of 0.70 and better is good enough. Moreover, the researcher states that increasing reliabilities much beyond .80 is a waste of time with instruments used for basic research(Nunnally, 1978).

**Table 2. Factor Analysis Results**

Survey Item	Factor 1 INFO	Factor 2 USAB	Factor 3 NAV	Factor 4 SEC	Factor 5 AVAIL	Factor 6 CUST	Factor 7 DSPEED
Cronbach 's Alpha	0.937	0.873	0.914	0.914	0.766	0.863	0.871
Maximum, Minimum	50, 14	25, 5	24, 7	15, 3	15, 3	20, 4	15, 4
Mean, Standard Deviation	42.61, 7.45	18.06, 4.45	17.28, 4.27	10.14, 3.11	10.73, 2.57	13.41, 3.80	11.48, 2.59
INFO1	.884						
INFO2	.743						
INFO3	.813						
INFO4	.753						
INFO5	.778						
INFO6	.839						
INFO7	.742						
INFO8	.777						



INFO9	.794						
INFO10	.769						
NAV1			.830				
NAV2			.787				
NAV3			.779				
NAV4			.789				
NAV5			.852				
USAB1		.879					
USAB2		.840					
USAB3		.813					
USAB4		.843					
USAB5		.871					
CUST1					.897		
CUST2					.916		
CUST3					.897		
SPD1							.789
SPD2							.844
SPD3							.801
SEC1				.888			
SEC2				.775			
SEC3				.833			
SEC4				.815			
AV1						.876	
AV2						.888	
AV3						.856	

#### 4.3.4. Factor Description

The seven factors that were identified during factor analysis are labeled as *Information Content* (INFO), *Ease of Navigation* (NAV), *Usability* (USAB), *Customization* (CUST), *Download Speed* (DSPEED), *Security* (SEC), and *Available* (AVAIL).

#### 4.3.5. Determinants of Website REACH and LOYALTY

The next step in the data analysis process, after the identification of the factors, is to study the influence of these factors (the dependent variables) on website REACH and website LOYALTY (the independent variables). For this purpose the regression analysis was used to examine the relationship between the dependent and independent variables. The following regression models were used to test the relationship between the dependent and independent variables (Tarafdar & Zhang, 2007).

$$Reach = a_0 + a_1(INFO) + a_2(NAV) + a_3(USAB) + a_4(CUST) + a_5(DSPEED) + a_6(SEC) + a_7(AVAIL)$$

$$Loyalty = b_0 + b_1(INFO) + b_2(NAV) + b_3(USAB) + b_4(CUST) + b_5(DSPEED) + b_6(SEC) + b_7(AVAIL).$$

In the above regression model  $a_0$  and  $b_0$  are the constant terms, and  $a_1, a_2, b_1, b_2 \dots$  are the coefficient of each factor.

### 4.3.6. Determinants of Website REACH

The analysis results for the regression model showing the relationship between website REACH and the independent variables is summarized in Table 3 (Regression Analysis Results for Reach). The F-test results indicate that the independent factors significantly explain the variation in the dependent variable (website REACH). Further, the adjusted R-square value shows that 77.6% variation in the dependent variable is explained by the independent factors. The significance level of the regression coefficients indicates that INFO, NAV, USAB, CUST, and SEC are significant predictors of website REACH. This suggests that “Information Content”, “Ease of Navigation”, “Usability”, “Customization”, and “Security” are important determinants of website REACH. In contrast, AVAILABLE and DSPEED were found to be insignificant predictors of website REACH.

**Table 3. Regression Analysis Results for REACH**

Variables	Unstandardized Coefficients		Standardized Beta	t-value	p-value	Decision
	Beta	Std. error				
Information Content	113.153	9.189	0.677	12.314	0.000	Significant
Ease of Navigation	85.635	14.846	0.306	5.768	0.000	Significant
Usability	52.591	15.838	0.181	3.321	0.001	Significant
Customization	47.623	21.680	0.119	2.197	0.031	Significant
Download Speed	11.245	25.785	0.023	0.436	0.664	Insignificant
Security	67.482	17.738	0.206	3.804	0.000	Significant
Availabiliy	6.685	25.848	0.014	0.259	0.797	Insignificant
Intercept	-138.623	611.074		-0.227	0.821	Insignificant

The analysis of individual regression coefficients indicates the relationship of each factor with the dependent variable, website REACH. It is observed that

- The regression coefficient of *Information Content* ( $\beta=113.15$ ,  $p\text{-value}=0.00$ ) indicate that one unit increase in *Information Content* results in around 113 units increase in Website REACH. Thus, it is concluded that *Information Content* has a significant and positive relationship with website REACH.
- The regression coefficient of *Ease of Navigation* ( $\beta=85.635$ ,  $p\text{-value}=0.00$ ) indicate that one unit increase in *Ease of Navigation* results in around 86 units increase in Website REACH. Thus, it is concluded that *Ease of Navigation* has a significant and positive relationship with Website REACH.
- The regression coefficient of *Usability* ( $\beta=52.591$ ,  $p\text{-value}=0.001$ ) indicate that one unit increase in *Usability* results in around 53 units increase in REACH. Thus *Usability* is significantly impacting Website REACH and it is concluded that *Usability* has a significant and positive relationship with Website REACH.
- The regression coefficient of *Customization* ( $\beta=47.623$ ,  $p\text{-value}= 0.031$ ) indicate that one unit increase in *Customization* results in around 48 units increase in Website REACH. Thus, it is concluded that *Customization* has a significant and positive relationship with Website REACH.
- The regression coefficient of *Security* ( $\beta=67.482$ ,  $p\text{-value}= 0.00$ ) indicate that one unit increase in *Security* results in around 67 units increase in Website REACH. Thus, it is concluded that *Security* has a significant and positive relationship with Website REACH.

#### 4.3.7. Determinants of Website LOYALTY

The analysis results for the regression model showing the relationship between website LOYALTY and the independent variables is summarized in Table 4 (Regression Analysis Results for Loyalty). The F-test results indicate that the independent factors significantly explain the variation in the dependent variable (website LOYALTY). Further, the adjusted R-square value shows that 65.1% variation in the dependent variable is explained by the independent factors. The significance level of the regression coefficients indicates that INFO, NAV, CUST, SEC, AVAIL are significant predictors of website LOYALTY. This suggests that “Information Content”, “Ease of Navigation”, “Customization”, “Security”, and “Available” are important determinants of website LOYALTY. In contrast, it is found that “Usability” and “Download Speed” are insignificant predictors of website LOYALTY.

**Table 4. Regression Analysis Results for LOYALTY**

Variables	Unstandardized Coefficients		Standardized Beta	t-value	p-value	Decision
	Beta	Std. error				
Information Content	0.100	0.011	0.620	9.032	0.000	Significant
Ease of Navigation	0.084	0.018	0.313	4.732	0.000	Significant
Usability	-0.016	0.019	-0.059	-0.864	0.391	Insignificant
Customization	0.065	0.026	0.169	2.492	0.015	Significant
Download Speed	0.004	0.031	0.008	0.115	0.909	Insignificant
Security	0.045	0.021	0.143	2.111	0.038	Significant
Availability	0.097	0.031	0.209	3.123	0.003	Significant
Intercept	0.870	0.733		1.186	0.239	Insignificant

The analysis of individual regression coefficients indicates the relationship of each factor with the dependent variable, website LOYALTY. It is observed that

- The regression coefficient of *Information Content* ( $\beta=0.100$ ,  $p\text{-value}=0.00$ ) indicate that one unit increase in *Information Content* results in around 0.10 units increase in Website LOYALTY. Thus, it is concluded that *Information Content* has a significant and positive relationship with website LOYALTY.

- The regression coefficient of *Ease of Navigation* ( $\beta=0.084$ ,  $p\text{-value}=0.00$ ) indicate that one unit increase in *Ease of Navigation* results in around 0.084 units increase in Website LOYALTY. Thus, it is concluded that *Ease of Navigation* has a significant and positive relationship with Website LOYALTY.
- The regression coefficient of *Customization* ( $\beta=0.065$ ,  $p\text{-value}= 0.015$ ) indicate that one unit increase in *Customization* results in around 0.065 units increase in Website LOYALTY. Thus, it is concluded that *Customization* has a significant and positive relationship with Website LOYALTY.
- The regression coefficient of *Security* ( $\beta=0.045$ ,  $p\text{-value}= 0.038$ ) indicate that one unit increase in *Security* results in around 0.045 units increase in Website LOYALTY. Thus, it is concluded that *Security* has a significant and positive relationship with Website LOYALTY.
- The regression coefficient of *Available* ( $\beta=0.097$ ,  $p\text{-value}=0.003$ ) indicate that one unit increase in *Available* results in around 0.097 units increase Website LOYALTY. Thus, it is concluded that *Available* has a significant and positive relationship with Website LOYALTY.

# CHAPTER V

## DISCUSSION

### 5.1. Introduction

This chapter discusses the main findings of the study linking them to the research hypothesis, aims and objectives presented in the literature review, methodology and results chapters of thesis. It starts with the research hypothesis testing section, which further explains the results given in chapter IV (Data Analysis) and prepares the reader for the main part of the discussion provided in section 5.3.(Discussion of the Research Findings). Section 5.3.(Discussion of the Research Findings) is organized by starting discussing the findings about hotel websiter REACH and hotel website LOYALTY, highlighting the differences between the results of this study and the results of Tarafdar and Zhang's (2007) study. After which important, for both REACH and LOYALTY, findings are discussed.

### 5.2. Research Hypothesis Testing

The regression analysis results show the variables that significantly affect the measures of website performance. Based on the regression analysis results, hypothesis as specified in section 4.2.( Research hypothesis) were tested.

The regression analysis results for website REACH suggest that *Information Content, Ease of Navigation, Usability, Customization, and Security* are important determinants of website

REACH. In contrast, it is found that *Available* and *Download Speed* are insignificant predictors of website REACH.

Similarly, the regression analysis results for website LOYALTY suggest that *Information Content*, *Ease of Navigation*, *Customization*, *Security*, and *Available* are important determinants of website LOYALTY. In contrast, it is found that *Usability* and *Download Speed* are insignificant predictors of website LOYALTY.

**Table 5. Summary of Hypothesis Testing**

Hypothesis	Dependent Variable	Factor	Significance
Hypothesis 1a	Website Reach	Information Content	Significant
Hypothesis 2a	Website Reach	Ease of Navigation	Significant
Hypothesis 3a	Website Reach	Usability	Significant
Hypothesis 4a	Website Reach	Customization	Significant
Hypothesis 5a	Website Reach	Download Speed	Not Significant
Hypothesis 6a	Website Reach	Security	Significant
Hypothesis 7a	Website Reach	Available	Not Significant
Hypothesis 1b	Website Loyalty	Information Content	Significant
Hypothesis 2b	Website Loyalty	Ease of Navigation	Significant
Hypothesis 3b	Website Loyalty	Usability	Not Significant
Hypothesis 4b	Website Loyalty	Customization	Significant
Hypothesis 5b	Website Loyalty	Download Speed	Not Significant
Hypothesis 6b	Website Loyalty	Security	Significant
Hypothesis 7b	Website Loyalty	Available	Significant

### 5.3. Discussion of Research Findings

As pointed out in chapter I (Introduction) the main focus of this research is to identify the factors, which affect the performance of a hotel website. Three main objectives of this research were presented:

1. Identify the factors, which affect the performance of a hotel website.
2. Determine the most significant factors, which affect the performance of a hotel website.

3. Determine the order of importance of the factors, which affect the performance of a hotel website.

85 hotel websites were evaluated with the objective to understand the important factors affecting their performance. The analysis results have shown good degree of agreement between the evaluations of websites by two raters. Furthermore, the factor analysis results have shown that there are seven factors that are associated with the performance of websites. These factors were identified as *Information Content*, *Ease of Navigation*, *Customization*, *Security*, *Available*, *Usability*, and *Download Speed*. Moreover, the reliability analysis results suggest that there is above acceptable level of consistency among the items of each construct (Nunnally, 1978).

The assessment of these factors on the performance of a website was evaluated using regression analysis. It was observed that *Information Content*, *Ease of Navigation*, *Usability*, *Customization*, and *Security* are important determinants of a hotel website REACH. This finding is in a partial agreement with the finding of Tarafdar and Zhang (2007). In their study the same factors, except the *Customization*, were found to be significant determinants of website REACH. The researchers explained the insignificance of the website *Customization* for the website REACH by saying that perceived value of customization features, becomes apparent only after the repeated visits are made on the website (Tarafdar & Zhang, 2007). However, in a context of a hotel industry, where people mostly visit the website not only for “fun”, but with having a clear idea of purchasing the service, *Customization* is found to be a significant detector of a hotel website REACH. Having customization features on the website can save time and energy to the



visitor, therefore it is more likely that he or she would recommend the website to a family member, friend or colleague.

*Available*, similarly to Tarafdar and Zhang's (2007) findings was found to be insignificant for a hotel website REACH. This could be caused by the fact that availability of a hotel website, or the fact that it is up and running, is simply taken for granted. Therefore, it is not significant criterion for a hotel website REACH (Tarafdar & Zhang, 2007).

Since both evaluators used the same computer facilities and the Internet connection was more or less similar in all the research fields, all of the hotel websites used to download more or less in a similar time span; therefore the scores allocated to the items of a *Download Speed* were very similar to each other for all the websites and participants. This could explain the *Download Speed* not being significant factor for a hotel website REACH. However, this insignificance of this factor should not mislead the website builders, prompting them not to pay enough attention to this factor. In order to keep the website running in an appropriate speed adding a lot of active elements and large pictures to the hotel website should be avoided. However, as Guttormsdóttir (2013) suggests, website should be appealing enough to catch the visitor's eye long enough for them to consider buying the company's product or services (Guttormsdóttir, 2013).

Furthermore, it was observed that within these factors the most important factor that affects hotel website REACH is *Information Content*, followed by *Ease of Navigation*, *Security*, *Usability*, and *Customization*. Therefore, it is recommended for a hotel website builder to allocate the corresponding attention to these factors. Table 6 (Factors enlisted according to their

level of significance for hotel website REACH) in green rows enlists factors, according to their level of significance for hotel website REACH. Factors in red rows are not significant predictors of hotel website REACH.

**Table 6. Factors Enlisted According to Their Level of Significance for Hotel Website REACH**

Place	Factor
I	Information Content
II	Easy of Navigation
III	Security
IV	Usability
V	Customization
	Download Speed
	Available

Similarly, it was observed that *Information Content*, *Ease of Navigation*, *Customization*, *Security*, and *Available* are important determinants of a hotel website LOYALTY. It should be noted that *Information Content*, which did not emerge as a significant factor of a website LOYALTY in Tarafdar and Zhagn's (2007) study, was found to be the most significant determinant of hotel website LOYALTY in this research (Tarafdar & Zhang, 2007). This could be explained by the specific nature of the hotel industry products and services. In the hotel industry, where products and services are expansive and intangible, therefore not suitable to be seen or pre-tasted before consuming, getting the information before the purchase occurs, becomes of a highest priority.

In order to build long term customer relations, hotel websites should be available for a long period of time. Therefore, *Available*, which was not significant predictor of hotel website REACH, was found to be a significant predictor of hotel website LOYALTY.

Moreover, *Usability* was also found to be insignificant predictor of hotel website LOYALTY. As Tarafdar and Zhang (2007) suggest this could be explained by the fact that with repeated visits, *Usability* becomes less of an issue, than easy *Ease of Navigation* and *Customization* features. In other words, hotel websites, which are easy to navigate on or provide the customized information would be more likely to attract repeated visits (Tarafdar & Zhang, 2007). Importance of *Ease of Navigation* in website performance is also highlighted both by Gehrke and Turban (1999) and Scharl, Wober and Bauer (2003). They suggest using accurate links, creating the effective search engine within the site, using maps and avoiding links that open up new browsers (Gehrke & Turban, 1999; Scharl et al., 2003).

*Download Speed*, similar to hotel website REACH did not emerge as a significant predictor of LOYALTY. This again could be explained by websites downloading in a similar time span.

Further, it was observed that within these factors the most important factor that affects hotel website LOYALTY is *Information Content*, followed by *Ease of Navigation*, *Available*, *Customization* and *Security*. Table 7 (Factors enlisted according to their level of significance for hotel website LOYALTY) in green rows enlists factors, according to their level of significance for hotel website LOYALTY. Factors in red rows are not significant predictors of hotel website LOYALTY.

**Table 7. Factors Enlisted According to Their Level of Significance for Hotel Website LOYALTY**

Place	Factor
I	Information Content
II	Easy of Navigation
III	Available
IV	Customization
V	Security
	Download Speed
	Usability

It should be noted that different authors of different times highlight importance of factors found in this study to be significant for the website performance. For example, Gehrke and Turban (1999) among their five major categories of website features point out *Information Content*, *Navigation* and *Security*(Gehrke & Turban, 1999). Similarly to this study, in Gehrke and Turban's (1999) study *Information Content* or, *Business Content* as it is referred to, is found to be significant for the website performance, including both the content of the information and the way this information is presented.

However, the findings of this study oppose findings of Hamilton (1997). As mentioned earlier, *Download Speed* was found insignificant for both REACH and LOYALTY. While Hamilton (1997) claims that in his study of web users number one complaint, registering 77% of total complaints, was regarding the slow speed of websites (Gehrke & Turban, 1999). This difference in findings could be explained by the technological advancement occurring since the late 90-s, which both improved the website *Download Speed* and also made this feature being taken as granted.

Thus, it can be concluded from the above analysis that *Information Content*, *Ease of Navigation*, *Customization*, and *Security* are important factors that affect the performance of a hotel website. Out of all these factors *Information Content* is found to be the most significant, therefore the most important predictor of a hotel website REACH and LOYALTY. The range and variety of information presented on hotel websites has dramatically increased, becoming a dynamic, multimedia based content. For this reason, finding the right and useful information is becoming increasingly challenging, therefore all of information must be selected and presented in an efficient manner in order not to overwhelm the visitor (Tarafdar & Zhang, 2007). As Chaffey and Ellis-Chadwick (2012) suggest the information on website should be written more concisely than in brochures, broken into units of five or six lines, because the most visitors only quickly scan the text instead of reading it thoroughly (Dave Chaffey & Ellis-Chadwick, 2012; Gehrke & Turban, 1999). This idea on *Information Content* being an important component of the website performance can be further supported by Chung and Law's (2003) findings who built the conceptual framework for hotel website performance, and suggested five dimensions of information having high relevance in the website evaluation (Chung & Law, 2003). Moreover, Wong and Law (2005), who investigated traveler's online purchasing intentions, also highlighted the information quality as the most relevant factor for predicting the buyers online behavior (Jeong & Lambert, 2001).

Finally, having the online transactions opportunities, which by itself requires providing the personal information, *Security* of a hotel website is becoming more and more important. For this reason, the website builders should keep in mind that security is potentially one of the most important aspects to take into account (Tarafdar & Zhang, 2007).

# CHAPTER VI

## CONCLUSION

### **6.1. Introduction**

This chapter summarizes the whole thesis, providing the final conclusion, research implications and further research suggestions.

### **6.2. Conclusion**

Research has shown that Internet technology is in a large degree used in travel planning and decision making processes (Duman & Tanrisevdi, 2011). Therefore, hotels which do not have a web presence, alongside with many other cons, cannot bridge the gap between their existing and potential customers leading to their disadvantaged position (Anckar & Walden, 2001). However, having a website is not enough for the organization to meet or exceed the visitor's expectations and convert the visitor to customer. The extent, to which the websites can attract and retain traffic, significantly influences the volume of business translated on them. For this reason, it is vital for the organizations to identify factors that influence their website performance (McCarthy & Aronson, 2000). Analysis of website performance in terms of design and usability criterion and related factors is therefore an important area of enquiry (Torkzadeh & Dhillon, 2002). Different authors of different times have attempted to create website performance measuring tool. One of those tools was developed by Tarafdar and Zhang (2007) who created the questionnaire with 7 factors and 33 items and checked the significance of those factors for two indicators of website performance: website *reach* and website *loyalty*.

Despite all the studies done on website designs, there is no specific tool that could be applied to evaluate specifically hotel website's performance. Since the above-mentioned questionnaire was developed for websites in general, it was interesting to see how the same factors would behave being applied to the specific domain- hotel websites. Objectives of this study were to: 1. Identify the factors affecting the performance of hotel website. 2. Determine the most significant factors affecting the performance of hotel website 3. Determine the order of importance of the factors affecting the performance of hotel website. In order to analyze the research objectives a survey questionnaire was used. This questionnaire was adapted from Tarafdar and Zhang (2007). Each item of the questionnaire was measured on a five-point Likert Scale. Since the questionnaire was already tested for content and criterion validity, no changes or modifications were made. 10 rates were grouped into 5 groups and given a task scenario in order to get familiar with the hotel website. After which each rater evaluated 17 websites.

The results of this study have number of implications for a hotel website design. The factors, developed by Tarafdar and Zhang (2007) and in this study- applied to the hospitality context, are important characteristics, because they describe significant aspects of hotel website. All of the seven factors, except *Download Speed*, were found to be significant predictor of either hotel website REACH or LOYALTY (Tarafdar & Zhang, 2007).

It was found, that out of seven factors of a hotel website performance, *Information Content*, which includes both the content of the information and the manner in which this information is provided, is the most significant factor. Moreover, it is of utmost importance for a hotel website

to remain easy to use, so the users can accomplish their tasks effectively. Nowadays, when people are busy, having only limited time to spend on a hotel website, customization features would also be of a great assistance. Therefore, personalization tools are found to be important elements of a hotel website design.

It should be noted, that even though *Download Speed* did not emerge as a significant predictor of either website REACH or LOYALTY, this factor is also important. Insignificance of *Download Speed* is only conditioned by it being taken for granted. Therefore, absence of this factor could lead to the customer's dissatisfaction.

Furthermore, with the Internet being an important part of people's professional and personal life, confidentiality of personal information shared and the *Security* of a hotel website was also found to be an important predictor of a hotel website performance.

### **6.3. Implications**

The primary contribution of this paper is that it comprehensively analyzed the influence of seven factors developed by Tarafdar and Zhang (2007) for a hotel website performance measures: REACH and LOYALTY. Similarly, to Tarafdar and Zhang's (2007) study, in this research independent and dependent variables were measured separately, employing two different sources. Dependent variables- through the Google Analytics of sample hotel websites and independent variables- through the raters. By using the findings of this study, digital marketers and website builders could identify their hotel websites' areas deserving more attention.



### **6.3. Further Research**

The study can be extended in a number of ways. The same questionnaire can be applied to evaluate the seven factors' influence over the website performance of hotels located in the specific geographical area. Moreover, larger sample than 85 hotel websites could provide more comprehensive results. Furthermore, more thoroughly considering the graphical design of hotel websites and creating the measuring tool, which would work in combination to the questionnaire used in this study, could provide the opportunity of gaining deeper understanding of the topic and drawing more comprehensive suggestions for the website builders and digital marketing managers.

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## **Appendix 1: Website Design Research Task**

### **Website Design Research Task**

#### **Instruction**

Please follow the task step by step.

#### **Task**

*Step 1: Consider you may be interested in staying at the given hotel. The location and price fits your travel preferences.*

- Check out all information, which is relevant for you while deciding for a hotel.

*Step 2: You would like to find more information about the guest rooms.*

- Check out all the information about guest rooms.

*Step 3: You would like to find more information about eating facilities.*

- Check out all the information about eating facilities.

*Step 4: You are interested in what services and amenities the hotel offers.*

- Check out all the information about services and amenities.

*Step 5: You decided you want to stay at this hotel.*

- Book the single room for the dates 29-31May.

## Appendix 2: Website Design Research Questionnaire

### Web Site Design Research Questionnaire

#### Instructions

This questionnaire is part of a research project aimed at finding out people's perceptions of the design and performance of hotel websites.

All of the following statements involve a 5 point ratings scale. The extremes are located at the end of the scales. Please choose the one that best expresses your opinion. You can choose only one option to each statement.

#### Example a

*The information is detailed*

strongly disagree                         strongly agree

#### Example b

*The information is detailed*

strongly disagree                         strongly agree

Example a indicates that you strongly agree that the information is detailed.

Example b indicates that you strongly disagree that the information is detailed.

If you have any issues understanding or completing the questionnaire please ask the administrator for help.

Please do not write your name on the questionnaire. Your answers to the questions will be treated in confidence.

The results of the research will be published.

**Thank you for your help!**

Tato Gugenishvil

---

**Information:**

---

1. The range of information (variety of topics) is high

strongly disagree                         strongly agree

2. The information is applicable to the website's activities

strongly disagree                         strongly agree

3. The information is detailed

strongly disagree                         strongly agree

4. The information is current

strongly disagree                         strongly agree

5. The information is accurate

strongly disagree                         strongly agree

6. It is easy to locate the information

strongly disagree                         strongly agree

7. The information is useful

strongly disagree                         strongly agree

8. The information is systematically organized

strongly disagree                         strongly agree



9. The meaning of the information is clear

strongly  disagree                        strongly  agree

10. The layout of the information is easy to understand

strongly  disagree                        strongly  agree

---

Navigation:

---

1. There are meaningful hyperlinks

strongly  disagree                        strongly  agree

2. The description of the links on the website is clear

strongly  disagree                        strongly  agree

3. The links are consistent

strongly  disagree                        strongly  agree

4. The arrangement of the links is easy to understand

strongly  disagree                        strongly  agree

5. The use of redundant hyperlinks makes it easy to navigate the website

strongly  disagree                        strongly  agree

---

 Usability:
 

---

1. The website is entertaining (it is fun to use)  
 strongly disagree     strongly agree
2. The website is exciting and interesting  
 strongly disagree     strongly agree
3. The website is easy to use  
 strongly disagree     strongly agree
4. The use of multimedia is effective for my tasks at the website  
 strongly disagree     strongly agree
5. The website has an attractive layout.  
 strongly disagree     strongly agree

---

 Customization:
 

---

1. The website has personalization characteristics  
 strongly disagree     strongly agree
2. The website offers customized information  
 strongly disagree     strongly agree
3. The website has provisions or designing customized Products.  
 strongly disagree     strongly agree

---

 Download Speed:
 

---

1. The speed of display between pages is high  
 strongly disagree     strongly agree

2. There is very little time between my actions (of requesting for something from the website ) and the responses (having the response displayed on my computer)

strongly disagree     strongly agree

3. The rate at which the information is displayed is fast

strongly disagree     strongly agree

---

### Security:

---

1. The website has provisions for user authentication

strongly disagree     strongly agree

2. The website has provisions for a secure monetary transaction (for instance, Verisign)

strongly disagree     strongly agree

3. The website has an information policy

strongly disagree     strongly agree

4. The company to which the website belongs has a well-known brand.

strongly disagree     strongly agree

---

### Available:

---

1. It is easy to read off the contents of the website

strongly disagree     strongly agree

2. The website is well- maintained so that the information is easy to acquire (no dead links, for example)

strongly disagree     strongly agree

3. The website is available (that is, it is up)

strongly disagree     strongly agree



## Appendix 3: SPSS output

### Factor Analysis

[DataSet1]

#### Communalities

	Initial	Extraction
INFO1	1.000	.813
INFO2	1.000	.613
INFO3	1.000	.722
INFO4	1.000	.650
INFO5	1.000	.656
INFO6	1.000	.719
INFO7	1.000	.683
INFO8	1.000	.679
INFO9	1.000	.661
INFO10	1.000	.638
NAV1	1.000	.722
NAV2	1.000	.653
NAV3	1.000	.631
NAV4	1.000	.709
NAV5	1.000	.778
USAB1	1.000	.823
USAB2	1.000	.751
USAB3	1.000	.737
USAB4	1.000	.719
USAB5	1.000	.813

CUST1	1.000	.842
CUST2	1.000	.873
CUST3	1.000	.827
SPD1	1.000	.689
SPD2	1.000	.728
SPD3	1.000	.686
SEC1	1.000	.797
SEC2	1.000	.702
SEC3	1.000	.732
SEC4	1.000	.697
AV1	1.000	.808
AV2	1.000	.849
AV3	1.000	.786

Extraction Method: Principal Component  
Analysis.

#### Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.376	22.352	22.352	7.376	22.352	22.352	6.470	19.607	19.607
2	4.176	12.655	35.007	4.176	12.655	35.007	3.850	11.665	31.273
3	3.213	9.738	44.745	3.213	9.738	44.745	3.430	10.393	41.665
4	2.997	9.082	53.827	2.997	9.082	53.827	2.996	9.078	50.744
5	2.296	6.956	60.783	2.296	6.956	60.783	2.775	8.408	59.152
6	2.202	6.674	67.457	2.202	6.674	67.457	2.531	7.671	66.823

7	1.922	5.823	73.280	1.922	5.823	73.280	2.131	6.458	73.280
8	.720	2.182	75.462						
9	.686	2.078	77.539						
10	.664	2.013	79.553						
11	.613	1.858	81.411						
12	.578	1.752	83.162						
13	.558	1.692	84.854						
14	.505	1.530	86.384						
15	.448	1.357	87.741						
16	.430	1.304	89.046						
17	.390	1.182	90.228						
18	.368	1.114	91.342						
19	.352	1.066	92.408						
20	.314	.952	93.361						
21	.283	.857	94.218						
22	.269	.816	95.034						
23	.249	.753	95.787						
24	.228	.690	96.477						
25	.195	.592	97.070						
26	.184	.557	97.626						
27	.163	.494	98.120						
28	.145	.441	98.561						
29	.123	.372	98.933						
30	.120	.363	99.296						
31	.092	.279	99.575						
32	.073	.220	99.795						
33	.068	.205	100.000						

Extraction Method: Principal Component Analysis.

Component Matrix<sup>a</sup>

	Component						
	1	2	3	4	5	6	7
INFO1	.798						
INFO2	.701						
INFO3	.773						
INFO4	.775						
INFO5	.765						
INFO6	.761						
INFO7	.746						
INFO8	.747						
INFO9	.754						
INFO10	.654						
NAV1			-.559				
NAV2							
NAV3			-.526	.503			
NAV4			-.564				
NAV5				.550			
USAB1				-.547			
USAB2				-.559			
USAB3							
USAB4				-.585			
USAB5		.623					
CUST1							
CUST2			.547				
CUST3			.502				



SPD1							.632
SPD2							.745
SPD3							.633
SEC1		.519				.571	
SEC2		.654					
SEC3							
SEC4		.526				.519	
AV1					.776		
AV2					.783		
AV3					.762		

Extraction Method: Principal Component Analysis.

a. 7 components extracted.

**Rotated Component Matrix<sup>a</sup>**

	Component						
	1	2	3	4	5	6	7
INFO1	.884						
INFO2	.743						
INFO3	.813						
INFO4	.753						
INFO5	.778						
INFO6	.839						
INFO7	.742						
INFO8	.777						
INFO9	.794						

INFO10	.769					
NAV1			.830			
NAV2			.787			
NAV3			.779			
NAV4			.789			
NAV5			.852			
USAB1		.879				
USAB2		.840				
USAB3		.813				
USAB4		.843				
USAB5		.871				
CUST1				.897		
CUST2				.916		
CUST3				.897		
SPD1						.789
SPD2						.844
SPD3						.801
SEC1			.888			
SEC2			.775			
SEC3			.833			
SEC4			.815			
AV1					.876	
AV2					.888	
AV3					.856	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

**Component Transformation Matrix**

Component	1	2	3	4	5	6	7
1	.877	.344	.236	.000	-.071	.198	.110
2	-.288	.561	.318	.551	.376	.155	-.176
3	.327	-.177	-.663	.381	.503	-.103	-.119
4	.144	-.691	.608	.243	.262	-.037	-.053
5	-.105	-.165	-.114	-.204	.224	.921	.091
6	-.048	-.147	-.132	.660	-.557	.192	.419
7	-.082	.092	.056	-.118	.414	-.199	.870

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

## Factor Analysis

[DataSet1]

**Descriptive Statistics**

	Mean	Std. Deviation	Analysis N
INFO1	3.98	1.012	85
INFO2	4.31	.845	85
INFO3	4.36	.974	85
INFO4	4.29	.911	85
INFO5	4.25	.950	85
INFO6	4.26	.978	85

INFO7	4.32	.916	85
INFO8	4.31	.939	85
INFO9	4.24	.908	85
INFO10	4.31	.887	85
NAV1	3.56	1.139	85
NAV2	3.59	1.105	85
NAV3	3.53	1.076	85
NAV4	3.73	1.106	85
NAV5	3.65	1.032	85
USAB1	3.21	1.092	85
USAB2	3.55	.958	85
USAB3	3.47	.946	85
USAB4	3.55	1.029	85
USAB5	3.49	.921	85
CUST1	3.20	1.132	85
CUST2	3.49	1.109	85
CUST3	3.45	1.129	85
SPD1	3.46	1.097	85
SPD2	3.72	1.042	85
SPD3	3.55	.970	85
SEC1	3.07	1.132	85
SEC2	3.41	1.126	85
SEC3	3.42	1.117	85
SEC4	3.51	1.140	85
AV1	3.65	1.043	85
AV2	3.89	.873	85
AV3	3.94	.980	85

**Communalities**

	Initial	Extraction
INFO1	1.000	.813
INFO2	1.000	.613
INFO3	1.000	.722
INFO4	1.000	.650
INFO5	1.000	.656
INFO6	1.000	.719
INFO7	1.000	.683
INFO8	1.000	.679
INFO9	1.000	.661
INFO10	1.000	.638
NAV1	1.000	.722
NAV2	1.000	.653
NAV3	1.000	.631
NAV4	1.000	.709
NAV5	1.000	.778
USAB1	1.000	.823
USAB2	1.000	.751
USAB3	1.000	.737
USAB4	1.000	.719
USAB5	1.000	.813
CUST1	1.000	.842
CUST2	1.000	.873
CUST3	1.000	.827
SPD1	1.000	.689
SPD2	1.000	.728
SPD3	1.000	.686
SEC1	1.000	.797

SEC2	1.000	.702
SEC3	1.000	.732
SEC4	1.000	.697
AV1	1.000	.808
AV2	1.000	.849
AV3	1.000	.786

Extraction Method: Principal  
Component Analysis.

#### Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.376	22.352	22.352	7.376	22.352	22.352	6.470	19.607	19.607
2	4.176	12.655	35.007	4.176	12.655	35.007	3.850	11.665	31.273
3	3.213	9.738	44.745	3.213	9.738	44.745	3.430	10.393	41.665
4	2.997	9.082	53.827	2.997	9.082	53.827	2.996	9.078	50.744
5	2.296	6.956	60.783	2.296	6.956	60.783	2.775	8.408	59.152
6	2.202	6.674	67.457	2.202	6.674	67.457	2.531	7.671	66.823
7	1.922	5.823	73.280	1.922	5.823	73.280	2.131	6.458	73.280
8	.720	2.182	75.462						
9	.686	2.078	77.539						
10	.664	2.013	79.553						
11	.613	1.858	81.411						
12	.578	1.752	83.162						
13	.558	1.692	84.854						
14	.505	1.530	86.384						
15	.448	1.357	87.741						

16	.430	1.304	89.046					
17	.390	1.182	90.228					
18	.368	1.114	91.342					
19	.352	1.066	92.408					
20	.314	.952	93.361					
21	.283	.857	94.218					
22	.269	.816	95.034					
23	.249	.753	95.787					
24	.228	.690	96.477					
25	.195	.592	97.070					
26	.184	.557	97.626					
27	.163	.494	98.120					
28	.145	.441	98.561					
29	.123	.372	98.933					
30	.120	.363	99.296					
31	.092	.279	99.575					
32	.073	.220	99.795					
33	.068	.205	100.000					

Extraction Method: Principal Component Analysis.

**Component Matrix<sup>a</sup>**

	Component						
	1	2	3	4	5	6	7
INFO1	.798						
INFO2	.701						
INFO3	.773						
INFO4	.775						

INFO5	.765						
INFO6	.761						
INFO7	.746						
INFO8	.747						
INFO9	.754						
INFO10	.654						
NAV1							
NAV2							
NAV3							
NAV4							
NAV5							
USAB1							
USAB2							
USAB3							
USAB4							
USAB5							
CUST1							
CUST2							
CUST3							
SPD1							
SPD2							
SPD3							
SEC1							
SEC2							
SEC3							
SEC4							
AV1							
AV2							
AV3							



Extraction Method: Principal Component Analysis.

a. 7 components extracted.

**Rotated Component Matrix<sup>a</sup>**

	Component						
	1	2	3	4	5	6	7
INFO1	.884						
INFO2	.743						
INFO3	.813						
INFO4	.753						
INFO5	.778						
INFO6	.839						
INFO7	.742						
INFO8	.777						
INFO9	.794						
INFO10	.769						
NAV1			.830				
NAV2			.787				
NAV3			.779				
NAV4			.789				
NAV5			.852				
USAB1		.879					
USAB2		.840					
USAB3		.813					
USAB4		.843					
USAB5		.871					
CUST1					.897		

CUST2					.916		
CUST3					.897		
SPD1							.789
SPD2							.844
SPD3							.801
SEC1				.888			
SEC2				.775			
SEC3				.833			
SEC4				.815			
AV1						.876	
AV2						.888	
AV3						.856	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

**Component Transformation Matrix**

Component	1	2	3	4	5	6	7
1	.877	.344	.236	.000	-.071	.198	.110
2	-.288	.561	.318	.551	.376	.155	-.176
3	.327	-.177	-.663	.381	.503	-.103	-.119
4	.144	-.691	.608	.243	.262	-.037	-.053
5	-.105	-.165	-.114	-.204	.224	.921	.091
6	-.048	-.147	-.132	.660	-.557	.192	.419
7	-.082	.092	.056	-.118	.414	-.199	.870

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

## Reliability

[DataSet1]

### Scale: ALL VARIABLES

**Case Processing Summary**

		N	%
Cases	Valid	85	100.0
	Excluded <sup>a</sup>	0	.0
	Total	85	100.0

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
.937	10

### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
INFO1	38.64	43.258	.847	.925
INFO2	38.31	46.858	.689	.933
INFO3	38.25	44.522	.775	.929
INFO4	38.32	45.767	.727	.931
INFO5	38.36	45.163	.743	.931
INFO6	38.35	44.350	.787	.928
INFO7	38.29	45.901	.710	.932
INFO8	38.31	45.310	.740	.931
INFO9	38.38	45.571	.747	.930
INFO10	38.31	46.405	.692	.933

#### Scale Statistics

Mean	Variance	Std. Deviation	N of Items
42.61	55.550	7.453	10

## Reliability

[DataSet1]

**Scale: ALL VARIABLES**

**Case Processing Summary**

		N	%
Cases	Valid	85	100.0
	Excluded <sup>a</sup>	0	.0
	Total	85	100.0

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
.873	5

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
NAV1	14.49	12.539	.739	.837
NAV2	14.47	13.228	.665	.855
NAV3	14.53	13.585	.637	.862
NAV4	14.33	13.009	.697	.848
NAV5	14.41	12.983	.773	.830

**Scale Statistics**

Mean	Variance	Std. Deviation	N of Items
18.06	19.794	4.449	5

**Reliability**

[DataSet1]

**Scale: ALL VARIABLES****Case Processing Summary**

		N	%
Cases	Valid	85	100.0
	Excluded <sup>a</sup>	0	.0
	Total	85	100.0

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
.914	5

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
USAB1	14.07	11.066	.828	.885
USAB2	13.73	12.176	.776	.896
USAB3	13.81	12.321	.762	.899
USAB4	13.73	11.914	.746	.902
USAB5	13.79	12.264	.801	.891

**Scale Statistics**

Mean	Variance	Std. Deviation	N of Items
17.28	18.276	4.275	5

## Reliability

[DataSet1]

**Scale: ALL VARIABLES**

**Case Processing Summary**

		N	%
Cases	Valid	85	100.0
	Excluded <sup>a</sup>	0	.0
	Total	85	100.0

a. Listwise deletion based on all variables in the procedure.

#### Reliability Statistics

Cronbach's Alpha	N of Items
.914	3

#### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
CUST1	6.94	4.508	.812	.890
CUST2	6.65	4.422	.867	.844
CUST3	6.69	4.548	.804	.896

#### Scale Statistics

Mean	Variance	Std. Deviation	N of Items
10.14	9.694	3.114	3



## Reliability

[DataSet1]

### Scale: ALL VARIABLES

**Case Processing Summary**

		N	%
Cases	Valid	85	100.0
	Excluded <sup>a</sup>	0	.0
	Total	85	100.0

a. Listwise deletion based on all variables in the procedure.

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
SPD1	7.27	3.081	.602	.684
SPD2	7.01	3.226	.612	.671
SPD3	7.18	3.528	.586	.702

**Scale Statistics**

Mean	Variance	Std. Deviation	N of Items
10.73	6.604	2.570	3

**Reliability**

[DataSet1]

**Scale: ALL VARIABLES****Case Processing Summary**

		N	%
Cases	Valid	85	100.0
	Excluded <sup>a</sup>	0	.0
	Total	85	100.0

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
.863	4

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
SEC1	10.34	8.156	.773	.798
SEC2	10.00	8.667	.678	.837
SEC3	9.99	8.536	.713	.823
SEC4	9.91	8.610	.676	.839

**Scale Statistics**

Mean	Variance	Std. Deviation	N of Items
13.41	14.436	3.799	4

**Reliability**

[DataSet1]

**Scale: ALL VARIABLES****Case Processing Summary**

	N	%

Cases	Valid	85	100.0
	Excluded <sup>a</sup>	0	.0
	Total	85	100.0

a. Listwise deletion based on all variables in the procedure.

#### Reliability Statistics

Cronbach's Alpha	N of Items
.871	3

#### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
AV1	7.84	2.949	.745	.831
AV2	7.59	3.412	.785	.799
AV3	7.54	3.156	.743	.827

#### Scale Statistics

Mean	Variance	Std. Deviation	N of Items
11.48	6.705	2.589	3

## Regression

[DataSet1] C:\share\Topsis\datafile.sav

### Descriptive Statistics

	Mean	Std. Deviation	N
REACH	8723.8235	1245.33459	85
INFO	42.6118	7.45318	85
NAV	18.0588	4.44906	85
USAB	17.2824	4.27510	85
CUST	10.1412	3.11354	85
SPD	10.7294	2.56992	85
SEC	13.4118	3.79942	85
AV	11.4824	2.58941	85

### Correlations

		REACH	INFO	NAV	USAB	CUST	SPD	SEC	AV
Pearson Correlation	REACH	1.000	.757	.453	.407	.119	.119	.241	.238
	INFO	.757	1.000	.162	.227	-.071	.176	-.044	.192
	NAV	.453	.162	1.000	.147	-.016	.026	.050	.143
	USAB	.407	.227	.147	1.000	.013	.027	.110	.197
	CUST	.119	-.071	-.016	.013	1.000	-.157	.264	.033
	SPD	.119	.176	.026	.027	-.157	1.000	-.092	.072
	SEC	.241	-.044	.050	.110	.264	-.092	1.000	.042
	AV	.238	.192	.143	.197	.033	.072	.042	1.000

Sig. (1-tailed)	REACH	.	.000	.000	.000	.139	.140	.013	.014
	INFO	.000	.	.070	.018	.258	.054	.345	.039
	NAV	.000	.070	.	.090	.442	.405	.325	.096
	USAB	.000	.018	.090	.	.453	.405	.158	.035
	CUST	.139	.258	.442	.453	.	.075	.007	.383
	SPD	.140	.054	.405	.405	.075	.	.201	.257
	SEC	.013	.345	.325	.158	.007	.201	.	.350
	AV	.014	.039	.096	.035	.383	.257	.350	.
N	REACH	85	85	85	85	85	85	85	85
	INFO	85	85	85	85	85	85	85	85
	NAV	85	85	85	85	85	85	85	85
	USAB	85	85	85	85	85	85	85	85
	CUST	85	85	85	85	85	85	85	85
	SPD	85	85	85	85	85	85	85	85
	SEC	85	85	85	85	85	85	85	85
	AV	85	85	85	85	85	85	85	85

**Variables Entered/Removed<sup>b</sup>**

Model	Variables Entered	Variables Removed	Method
1	AV, CUST, NAV, SPD, USAB, SEC, INFO		Enter

a. All requested variables entered.

b. Dependent Variable: REACH

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.891 <sup>a</sup>	.794	.776	589.84041	.794	42.491	7	77	.000	1.710

a. Predictors: (Constant), AV, CUST, NAV, SPD, USAB, SEC, INFO

b. Dependent Variable: REACH

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.035E8	7	14783270.161	42.491	.000 <sup>a</sup>
	Residual	26789201.226	77	347911.704		
	Total	1.303E8	84			

a. Predictors: (Constant), AV, CUST, NAV, SPD, USAB, SEC, INFO

b. Dependent Variable: REACH

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-138.623	611.074		-.227	.821
	INFO	113.153	9.189	.677	12.314	.000
	NAV	85.635	14.846	.306	5.768	.000

USAB	52.591	15.838	.181	3.321	.001
CUST	47.623	21.680	.119	2.197	.031
SPD	11.245	25.785	.023	.436	.664
SEC	67.482	17.738	.206	3.804	.000
AV	6.685	25.848	.014	.259	.797

a. Dependent Variable: REACH

#### Residuals Statistics<sup>a</sup>

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	4138.2280	10245.9063	8723.8235	1109.92756	85
Residual	-1338.26477	1184.93127	.00000	564.72919	85
Std. Predicted Value	-4.131	1.371	.000	1.000	85
Std. Residual	-2.269	2.009	.000	.957	85

a. Dependent Variable: REACH

## Regression

[DataSet1] C:\share\Topsis\datafile.sav

#### Descriptive Statistics

	Mean	Std. Deviation	N
VisitPerWeb	8.7624	1.19751	85
INFO	42.6118	7.45318	85
NAV	18.0588	4.44906	85





NAV	85	85	85	85	85	85	85	85	85
USAB	85	85	85	85	85	85	85	85	85
CUST	85	85	85	85	85	85	85	85	85
SPD	85	85	85	85	85	85	85	85	85
SEC	85	85	85	85	85	85	85	85	85
AV	85	85	85	85	85	85	85	85	85

**Variables Entered/Removed<sup>b</sup>**

Model	Variables Entered	Variables Removed	Method
1	AV, CUST, NAV, SPD, USAB, SEC, INFO		Enter

- a. All requested variables entered.
- b. Dependent Variable: VisitPerWeb

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.824 <sup>a</sup>	.680	.651	.70776	.680	23.354	7	77	.000	1.771

- a. Predictors: (Constant), AV, CUST, NAV, SPD, USAB, SEC, INFO
- b. Dependent Variable: VisitPerWeb

ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	81.888	7	11.698	23.354	.000 <sup>a</sup>
	Residual	38.571	77	.501		
	Total	120.460	84			

a. Predictors: (Constant), AV, CUST, NAV, SPD, USAB, SEC, INFO

b. Dependent Variable: VisitPerWeb

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.870	.733		1.186	.239
	INFO	.100	.011	.620	9.032	.000
	NAV	.084	.018	.313	4.732	.000
	USAB	-.016	.019	-.059	-.864	.391
	CUST	.065	.026	.169	2.492	.015
	SPD	.004	.031	.008	.115	.909
	SEC	.045	.021	.143	2.111	.038
	AV	.097	.031	.209	3.123	.003

a. Dependent Variable: VisitPerWeb

**Residuals Statistics<sup>a</sup>**

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.2899	10.2938	8.7624	.98735	85
Residual	-1.22148	1.67788	.00000	.67763	85
Std. Predicted Value	-3.517	1.551	.000	1.000	85
Std. Residual	-1.726	2.371	.000	.957	85

a. Dependent Variable: VisitPerWeb

**Descriptives**

[DataSet1] C:\share\Topsis\datafile.sav

**Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
INFO	85	14.00	50.00	42.6118	7.45318
NAV	85	5.00	25.00	18.0588	4.44906
USAB	85	7.00	24.00	17.2824	4.27510
CUST	85	3.00	15.00	10.1412	3.11354
SPD	85	3.00	15.00	10.7294	2.56992
SEC	85	4.00	20.00	13.4118	3.79942
AV	85	4.00	15.00	11.4824	2.58941
Valid N (listwise)	85				

**Variables to Cases**

[DataSet3] C:\share\Topsis\rater1.sav

#### Generated Variables

Name	Label
id	<none>
Index1	<none>
trans1	<none>

#### Processing Statistics

Variables In	34
Variables Out	3

### Variables to Cases

[DataSet4] C:\share\Topsis\rater1.sav

#### Generated Variables

Name	Label
id	<none>
Index1	<none>
trans1	<none>

**Processing Statistics**

Variables In	34
Variables Out	3

**Variables to Cases**

[DataSet6] C:\share\Topsis\rater2.sav

**Generated Variables**

Name	Label
id	<none>
Index1	<none>
trans1	<none>

**Processing Statistics**

Variables In	34
Variables Out	3

**Descriptives**

[DataSet1] C:\share\Topsis\datafile.sav

## Descriptive Statistics

	N	Minimum	Maximum	Mean		Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Std. Error	Statistic	Std. Error
INFO1	85	1	5	3.98	.110	1.012	-.447	.261	-.788	.517
INFO2	85	2	5	4.31	.092	.845	-.757	.261	-.821	.517
INFO3	85	1	5	4.36	.106	.974	-1.350	.261	.912	.517
INFO4	85	1	5	4.29	.099	.911	-1.205	.261	1.056	.517
INFO5	85	1	5	4.25	.103	.950	-1.116	.261	.633	.517
INFO6	85	1	5	4.26	.106	.978	-1.015	.261	.106	.517
INFO7	85	1	5	4.32	.099	.916	-1.347	.261	1.461	.517
INFO8	85	2	5	4.31	.102	.939	-1.007	.261	-.291	.517
INFO9	85	2	5	4.24	.099	.908	-.684	.261	-.963	.517
INFO10	85	2	5	4.31	.096	.887	-.962	.261	-.225	.517
NAV1	85	1	5	3.56	.123	1.139	-.312	.261	-.612	.517
NAV2	85	1	5	3.59	.120	1.105	-.310	.261	-.627	.517
NAV3	85	1	5	3.53	.117	1.076	-.137	.261	-.775	.517
NAV4	85	1	5	3.73	.120	1.106	-.575	.261	-.187	.517
NAV5	85	1	5	3.65	.112	1.032	-.306	.261	-.482	.517
USAB1	85	1	5	3.21	.118	1.092	.014	.261	-.490	.517
USAB2	85	1	5	3.55	.104	.958	-.238	.261	-.499	.517
USAB3	85	1	5	3.47	.103	.946	-.129	.261	-.127	.517
USAB4	85	1	5	3.55	.112	1.029	-.347	.261	-.510	.517
USAB5	85	2	5	3.49	.100	.921	.064	.261	-.793	.517
CUST1	85	1	5	3.20	.123	1.132	-.103	.261	-.501	.517
CUST2	85	1	5	3.49	.120	1.109	-.387	.261	-.527	.517
CUST3	85	1	5	3.45	.122	1.129	-.196	.261	-.671	.517





