

**FACTORS INFLUENCING CONSUMERS' TRUST PERCEPTIONS OF  
ONLINE PRODUCT REVIEWS: A STUDY OF THE TOURISM AND  
HOSPITALITY ONLINE PRODUCT REVIEW SYSTEMS**

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A Dissertation Submitted to the Temple University Graduate Board

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In Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy

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By  
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## **BIOGRAPHICAL SKETCH**

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## DEDICATION

I dedicate this thesis at the feet of Bhagwan Sri Satya Sai Baba

and

To my grandmother Smt. Rukmini Gopal for her unwavering support throughout my life, but also for her incessant nagging and complete lack of confidence in my abilities that spurred me to do whatever little I could to prove myself. She is probably the biggest reason why I ever decided to embark on this journey called 'PhD'!

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## **ABSTRACT**

Online word-of-mouth (WOM) platforms have been referred to by various terms such as online communities, feedback systems, peer reputation systems, or consumer generated media. Such systems provide a global platform for customers to share their experiences, and also rate service providers. WOM systems are burgeoning on the Internet for products such as music and books (Amazon.com), news (Slashdot.org), consumer electronics (shopping.com), tourism and travel (Tripadvisor.com; Hotels.com), and many other products and services. As with the traditional WOM, numerous studies have shown that these systems have a significant impact on customer decision making process, their satisfaction with goods and services, and the overall value of online economic transactions. In this study, the primary focus were the product review systems (PRS). These review systems are less personal but more ubiquitous platforms for online WOM wherein consumers post reviews about the products/services they have consumed. These reviews are widely accessible to other consumers but are disseminated only when other consumer consult these reviews during the purchasing process.

However, there are still numerous problems associated with these systems. Recent studies have shown that there are numerous instances of deceptive information provided by service providers themselves or customers who have been paid by commercial parties. Added to this is the problem of anonymity in a computer mediated environment that adds to the already existing uncertainty for the consumer. Further, each review system consists of hundreds of consumer reviews associated with any given product or service. Given that consumers face these numerous problems, research is yet to examine the factors that drive the consumers develop trust in these

reviews, and base their purchasing decisions on the information gleaned from the review systems. The main objective of this study was to explore this interesting phenomenon.

To this end, this study applied uncertainty reduction theory and Social identity theory to delineate certain aspects of the online reviews that might have an impact on the consumer's assessment of online product reviews. Based on these theories, it was hypothesized that the informational content of the review and social component of the review (individuals' identity information disclosure and the consumers' perceived similarity with this information) have a significant effect on the consumers' trust in a review and subsequently the purchase intention.

Further, based on the elaboration likelihood model, it was also posited that consumers' use of these heuristics is more salient while evaluating high involvement products than low involvement products. To test the hypotheses, the study adopted a quasi-experimental design with 2x2 (2 levels each for information content and social component within-subjects) x 2 (2 involvement modes between-subjects) full factorial design. Based on two levels for each of these factors, four reviews similar to those found in sites such as tripadvisor.com were created. A total of 283 students (153 in high involvement mode and 130 in low involvement mode) evaluated these reviews and assigned trust scores as well purchase intention scores to each review. The data was analyzed using linear mixed models and structural equation modeling.

The results showed that both the main effects, information content of the review, and the consumers' perceived social identity with the reviewer contribute to an increased trust in the reviews. The study data did not support the hypothesis that involvement of the activity moderates the above mentioned relationships. Within this, information content was found to be playing an

important role in both the involvement modes whereas the social component explained more variance in the trust in the high involvement mode than low involvement mode. Some of the results concur with previous research in both traditional and online WOM. The significance of these results in the extant literature as well their implications for both product review system providers as well tourism and hospitality service providers are discussed in detail.

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## CHAPTER 1

### INTRODUCTION

#### 1.1. Online Word-of-Mouth

The emergence of the Internet has radically changed our daily lives. The way we search for information, the way we interact with each other, and more importantly, the way we shop are now all different (Foreman, Ghose, and Weisenfeld, 2008). All these changes are very relevant to the word-of-mouth communication prevalent over the Internet (online WOM). Previously, when customers needed information about a product/service, they turned to marketer generated information (advertisements and brochures), third party certifications (consumer associations and product experts), or interpersonal sources (friends and relatives). However, the online WOM platforms have subsumed all the above mentioned information sources. These platforms allow consumers to socially interact with one another, exchange product related information, and make an informed purchase decision.

The importance of WOM has long been a topic of interest for both academics and practitioners. Traditionally, word-of-mouth behavior (WOM) has always been considered as an important social process that could determine new product diffusion (Mahajan and Peterson, 1985), customer decision making process (Price and Feick, 1984; Richins, 1983), satisfaction and loyalty (Srinivasan, Anderson, and Ponnayolu, 2002). Researchers have concurred upon the fact that WOM is sometimes more effective than traditional marketing tools such as advertising and personal selling. However, WOM is gaining a new significance due to the Internet. More specifically, the Internet has emerged as an important source as well as the outlet for WOM communication. One of the most important features of the Internet as a mass communication

medium is its support for bidirectional communication. It not only enables organizations to reach consumers in a large scale, and at low cost, but, at the same time, allows the consumers to make their product /service experiences known to an organization as well as its wider community of users. Online WOM is growing in importance as organizations recognize its effectiveness in providing personalized information, their affective appeal and persuasiveness.

Online WOM platforms are referred to by various terms such as online communities, feedback systems, peer reputation systems, or consumer generated media. Such systems provide a global platform for customers to share their experiences, and also rate service providers. WOM systems are burgeoning on the Internet for products such as music and books (Amazon.com), news (Slashdot.org), consumer electronics (shopping.com), tourism and travel (Tripadvisor.com; Hotels.com), and many other products and services. They are an exemplification of '*peer production systems*' (Benkler, 2006) through which community of users pool their resources to produce high rated information goods and information embedded goods, sometimes altogether replacing the traditional mechanisms of firms and markets. As with the traditional WOM, numerous studies have shown that these systems have a significant impact on customer decision making process, their satisfaction with goods and services, and the overall value of online economic transactions (Balasubramanian, 2001; Hennig-Thurau et al., 2004).

In this study, the primary focus will be on the product review systems (PRS), and more specifically review systems related to tourism and hospitality services. Product review systems are less personal but more ubiquitous form of online WOM wherein consumers post reviews about the products/services they have consumed. These reviews are widely accessible to other

consumers but are disseminated only when other consumer consult these reviews during the purchasing process.

## **1.2. The Importance of PRS for Tourism & Hospitality Services**

Product review systems have also become an important aspect of travel planning ever since the Internet permeated the tourism and hospitality industry. Researchers have long established that consumers put more trust in the opinions of fellow consumers than in the content provided by product/service providers (Blackshaw and Nazzaro, 2005). Further, product reviews exist in the online space and can be easily accessed, linked and searched. Given that consumers are increasingly relying on search engines to search for information, consumer generated reviews will inevitably change the structure and accessibility of travel information, and subsequently, consumers' perception of various products. Consequently, there has been a proliferation of online platforms wherein consumers can exchange travel related information and experiences. Tripadvisor.com, Hotels.com and IgoUgo.com are some of the many online platforms that provide this service to consumers. For instance, Tripadvisor.com is currently known to be the largest site for travel reviews with close to two million reviews of hotels, attractions and restaurants around the world and claims to contain "*been there, done that*" inside information and the best deals for the travel plans (TripAdvisor.com, 2005). Similarly, IgoUgo.com allows consumers to create profiles and travel lists that can be accessed by other consumers looking for information. Such information allows the site users to contact each other for further questions or even to build acquaintances with fellow consumers (IgoUgo.com, 2008). The fundamental driver of the PRS is their support for online social networks. The promoters of these systems expect that consumers will take advantage of one another's experience and similarity in tastes and

preferences to narrow down on the right combination of products and services needed for a perfect trip. While this is also true for various other products and services as well, certain characteristics of tourism and travel related products and services makes these review systems even more relevant. Firstly, from the consumers' point of view, tourism products are essentially intangible and experiential in nature which lack the 'try before you buy' feature or 'return in the case of quality being below expectations' (Buhalis, 2003). This implies that the element of risk in buying these services is much higher when compared to regular products, and the appeal of reference group evaluation is even higher during the decision making process. In this regard, consumer generated reviews assume a lot of significance as they provide a more nuanced view of the travel experience, supported by ratings and rich descriptions (narrative, photos, and videos). Secondly, from the service provider's point of view, the seasonal and perishable nature of these products increases the marketing stress levels (Lewis and Chambers, 2000). Recent evidence suggests that at least 84% of consumers who search for information online have sought information from PRS and based their decision on other consumers' opinions. Similarly, a study by market research firm ComScore (2007) suggested that atleast 40% of consumers have consulted reviews before deciding on whether to book a hotel room or not, and were willing to pay a price premium of more than 20% to hotels that had excellent or 5-star ratings from other consumers. Also, the image of the tourism service providers is being significantly impacted by the content of these PRS. Review systems enable a continued conversation and connection between the customers and sometime provide a true way of differentiation. Therefore, with growing competition in the online travel related markets, properly utilizing consumer generated reviews can go a long way in providing early competitive advantage. In fact, tourism and

hospitality firms are nowadays deploying sophisticated techniques to track and consolidate consumer reviews in PRS since they believe that such information can provide an important insight into the minds of their consumer. For instance, the firm 'Standing Dog Interactive' has launched ReviewAnalyst, an online dashboard for tracking consumer-generated hotel reviews, videos and images on popular travel and social sites. ReviewAnalyst collects information from sites like TripAdvisor, TravelPost, YouTube, Flickr and Google, among others (Hotelmarketing.com, 2008). The tool not only provides reports of information posted to sites, but also tracks trends through an analysis of the comments made by consumers and facilitates a management response. Such evidence emphasizes that the importance of PRS in online commerce cannot be underestimated and will only grow in the near future.

### **1.3. Past Research in PRS**

The growing importance of PRS has spurred increasing amounts of research in the recent past. Researchers in this domain have sought to understand the dynamics of this interesting phenomenon, and covered various types of online consumer platforms.

The primary topic of interest in this specific research domain was to understand factors that drive the sustenance of online WOM platforms such as retail recommendation systems, virtual communities and Usenet groups. Some of the studies that represent this domain include the ones by Dholakia et al. (2004), Dellaracos (2003), and Wang and Fesenmaier (2003) explicated both the socio-psychological as well as consumption related characteristics that motivate consumers to express their opinions in online forums. These studies indicate that a combination of factors such as need for status, extensive product knowledge, quest for quality

control and benevolence drive consumers to share their product consumption experience over the online platforms.

The second topic that continues to receive intensive focus is the impact of online WOM on consumers' trust in e-commerce websites, product sales and price fluctuations, consumer satisfaction and organizational profitability. For instance, Ba and Pavlou (2002) investigated whether PRS have an impact on inducing trust in relevant products, and the price premiums paid by the consumers in online auction markets such as eBay. Drawing on economic, sociological and marketing theories, they demonstrated that appropriate feedback mechanisms and collective reputation systems induce credibility and trust by reducing information asymmetry and perceived risk, and enhance the overall value of the transactions. Similarly, Chevalier and Mayzlin (2005) and Pavlou and Dimoka, (2006) have applied both behavioral and econometric methods to examine the impact of consumer reviews on price premiums, and trust.

The above studies show that researchers have been unequivocal on the impact of the PRS. However, there is still a general disagreement regarding their novelty and long lasting effects. The proponents claim that such systems revolutionize the way we consume, produce and use information, and the enhancements they enable in assessing and allocating human creativity (Lessig, 2004). The skeptics argue that such systems are being misused by commercial organizations and interested stakeholders. For instance, Chevalier and Mayzlin (2006) found that while the books with positive reviews on Amazon.com have much higher sales, there is a significant bias towards positive reviews for all the books, no matter the quality (with less than 8% being negative reviews and quality being measured through average sales). Similarly, a recent investigation revealed that many articles in Wikipedia were being edited not only by

regular members, but also by political parties, lobbying firms, and the staff of elected representatives (McCullach, 2006). Due to such large variance in the quality of the reviews and varied agendas of interested stakeholders, consumer generated reviews might often become untrustworthy leaving consumers with little ability to gauge the quality of product reviews, and the actual product quality itself.

#### **1.4. PRS and the Problem of Trust**

The above discussion brings forth the trust aspect of PRS which is still a relatively underexplored area of research. In other words, research has looked at the socio-demographic profiles of people that actively post comments (product reviews and experiences), as well their motivations to do so. On the other hand, studies that measured the impact of PRS (Ba, 2001; Pavlou and Dimoka, 2006) have applied both behavioral and econometric methods to examine the impact of consumer feedback on price premiums, and trust in the products and service providers.

However, researchers are yet to understand why consumers trust product reviews themselves. In the recent past, there have been a few studies that examined certain interesting aspects of PRS. Sen and Lerman (2007) studied consumers' response to online reviews and found that the product type moderates the effect of review valence (positive or negative review), and consumers exhibit a negativity bias for utilitarian product reviews only. Furthermore, consumers' attributions about the motivations of the reviewer mediate the effect of this moderation on their attitude towards the review. The study also found that while there was considerable negativity bias in the case of utilitarian products, consumers usually did not place

great emphasis on the negative reviews during the purchase of hedonic products such as movies and music. Similarly, Smith et al. (2005) found that consumers seek and accept online reviews to actively manage the amount of information available during an online search process. In this, consumers use the mere availability of the review as a decision heuristic and the personal characteristics of the reviewer do not have any influence on the decision to accept the online review. However, given the potential for deception in the PRS, one of the most important issues that need to be understood is the antecedents of consumers trust in the PRS. While it is generally agreed upon that customers extensively use the product reviews in their decision making process, it is still not clear how and why consumers trust these reviews. This becomes even more important given the proliferation of PRS in the e-commerce domain.

Two main problems are generally cited in reference to the PRS. Mayzlin (2006) notes that on the firm's side, marketers have incentives to supply promotional chat or reviews in order to influence the consumer's evaluation of their products. They also note that, due to the relative anonymity afforded by the online medium, firms can (and do) disguise their promotions as consumer recommendations. This problem of genuineness is compounded by the fact that consumer interactions in PRS occur in a computer mediated environment. One of the main problems of computer mediated interactions is the lack of social cues (Einwiller, 2003). In traditional face-to-face communication, both sides not only exchange information but also assess each other's motivations through non-verbal cues such as facial expressions, hand movements and other important social mechanisms. Previous reputation of the information source and the contextual cues also play an important role in giving credibility to the information provider. Due to the relatively lesser social cues in online interactions, there is considerable uncertainty at the

consumers' end. Further, in the case of PRS, consumers have to deal with two different uncertainties. The first is about inferring the characteristics of the product that is being considered. This task is more difficult in the case of travel and tourism related services that are intangible and difficult to quantify in terms of features and functionalities. Secondly, the consumer has to also deal with the uncertainty regarding the integrity and intentions of the reviewer who is providing the product information. Given the abundance of consumer generated reviews in PRS, and the multitude of problems associated with these reviews, it is important to understand how consumers manage to alleviate the uncertainty inherent in PRS to actually get the information they want and are willing to trust. Consequently, the question that arises is "why does a consumer trust an online review?" In this regard, primary objectives of this study are:

1. To explicate the factors that drive consumers to develop trust in tourism and travel related PRS.
2. To understand the impact of online reviews induced trust on consumers' purchase decisions.

### **1.5. Theoretical Basis**

This study draws upon theories from information search and inter-personal communication. Consumer reviews in the PRS can be construed as social interactions that have an informational as well as a social component, both interwoven and facilitating each other. While information acquisition is the primary driver of goal directed behavior (in this case, product purchase), the systems are also used as forums for social exchange, drawing people to promote purchases and regulate user behavior. Two theoretical perspectives can be applied to

understand such online interactions. Uncertainty reduction theory (Berger, 1979; Berger and Calabrese, 1975) explains the manner in which individuals reduce the uncertainty inherent in initial interactions or unknown relationships by specifying the interaction rituals that people develop to cope with a recurring situation. Berger (1979) specifies two strategies that are generally employed: 1) passive strategies (social observation) wherein uncertainty is reduced by witnessing behaviors and drawing conclusions, 2) Active strategies (directly seeking relevant information from others) wherein individuals exert effort to obtain uncertainty reducing information. To reduce uncertainty, individuals will be attentive to each other's behavior, especially when there is a high incentive value. Applying this concept to online interactions, Ramirez et al. (2002) suggested that in reduced cues and goal directed online environments, individuals seek any information that is available to alleviate uncertainty. As Kellermann and Reynolds (1990) argue, wanting knowledge rather than lacking knowledge is what motivates information seeking in initial encounters with others. For instance, in a regular online information search process, active strategies such as website scanning, third party enquiries and search engine queries are generally employed by individuals to obtain relevant information. However, in the case of online reviews that do not have significant interaction history, the range of available options, and potential means of interaction are relatively constrained. Consequently, as explained by the social identity theory (Tajfel and Turner, 1979; Lea, Spears, and deGroot, 2001), whatever few social cues that are available become highly salient and important in forming attitudes and determining behavior. In the case of online reviews, reviewer identification information, and consumers' perceived similarity with this explicated identity can be potential drivers of trust. Given the importance of both cognitive and social evaluations in consumer's use

of online reviews, the above mentioned theories are applied to develop a conceptual model that will be empirically validated in this study.

## **1.6. Study Composition**

This manuscript is structured as follows: In the literature review section, the extant literature on consumer information search behavior, traditional and online WOM, and the dynamics underlying the computer mediated communication in the context of PRS will be reviewed. This is followed by the discussion of the conceptual framework and the relevant constructs. The constructs and their associated hypotheses will be defined and discussed in the hypothesis development section. In the methodology section, the experimental design, sample characteristics, pre-tests, stimulus and questionnaire development, and the experimental manipulation checks are presented. The results and their implications are discussed in the final chapter which concludes with the study limitations and future research opportunities. The supporting evidence such as pre-test details and survey instruments are attached as appendices.

## **CHAPTER 2**

### **LITERATURE REVIEW**

The purpose of the literature review is to create an understanding and appreciation for the large body of knowledge preceding the present study. Extant literature provides valuable insights into the issues relevant to the problem at hand and provides guidelines as to how best to study it, and the inherent limitations of this process. As mentioned in the previous chapter, the main objective of this study is to examine the antecedents and consequences of consumer trust in travel and tourism related product review systems. However, to examine this issue, one must place it in the larger context of consumer behavior and inter-personal communication. The overarching theoretical bases for this study are the uncertainty reduction theory and the social identity theory of interpersonal communication. It is proposed in this study that consumer reviews in online product reviews are essentially communication episodes between consumers with the goal of information and social exchange. These interactions are also termed as online word-of-mouth. Online WOM is one of the many external information sources that consumers use during both pre- and post- purchasing process. However, online WOM, as well as the buying process is fraught with considerable risk and uncertainty, especially for intangible goods such as tourism and travel related services. To alleviate this uncertainty, consumers look for certain social and instrumental cues in the reviews. Therefore, to understand how consumers use online product reviews, it is also important to understand the basic assumptions and current understanding of the consumer information search and buying behavior. The logical progression of this chapter is as follows: First, the literature on consumer information search behavior is explored. Then, the importance of face-to-face as well as online WOM as information sources

for the consumers is explained. This leads to the discussion on the credibility and trust problems associated with online product reviews, and how they contribute to the consumers' uncertainty. Subsequently, the theoretical bases are applied to understand the various risk alleviating factors that might contribute to consumer trust in product reviews. These factors also form the basis for the research model and the hypotheses that were tested in this study. The research model is also placed in the larger context of the literature related to 'online trust', and more specifically to the trust models proposed to explained online WOM.

## **2.1. Information Search and Uncertainty Reduction Behavior**

Risk and uncertainty are inherent in every buying process. This uncertainty arises due to both consumer or product centric factors such as low prior knowledge, unfamiliarity, product category inexperience and product complexity (Urbany, Dickson, and Wilkie, 1989). The greater this uncertainty, greater will be the information search. To reduce the uncertainty in the purchase process, consumers spend a significant amount of both pre- and post- purchasing process on information search (Schmidt and Spreng, 1996). While pre-purchase information search is considered important to reduce uncertainty by gaining product knowledge (Bettman, Johnson, and Payne, 1991), the post-purchase information is also extensively used by consumers to reduce buyers' remorse and enhance the satisfaction of product usage (Howard and Sheth, 1969). Further, it is during the information search stage that marketers can influence consumer's buying decisions. Therefore, it is not surprising that information search has been one of the most extensively researched topics in the field of consumer behavior.

As for any other products and services, or maybe even more, information acquisition is an important process that precedes consumers' selection of destinations and related services such

as accommodations and attractions. Consumers face considerable uncertainty while researching tourism and hospitality services. When compared to regular products, these services have certain characteristics that add to the uncertainty inherent in the consumer buying process.

a) It is known that travel related information search is a complex process owing to the range of activities that encompass a single trip (Pan and Fesenmaier, 2006). While some travel planning and purchases are routine, others are more involved requiring considerable planning and analysis of either multiple destinations or multiple segments of the same travel itinerary. For instance, information is necessary to ascertain the basic choice of the destination to visit as well as the during-trip activities such as selecting accommodations, transportation, activities, and tours (Gursoy and Chen, 2000). According to Fodness and Murray (1998) tourist information search encompasses multiple dimensions. The spatial search refers to whether the information is sought from internal or external sources, the temporal search refers to when the search takes place (Pre-trip, during-trip and post-trip), and the operational search deals with the objectivity of the information and its contribution to the final decision to purchase. Such complexity increases the knowledge and choice uncertainty of the consumer.

b) Another important factor that contributes to the uncertainty is the intangible and experiential nature of tourism services. Tourism services can be placed on the intangible dominant end of Shostack's (1984) continuum and are characterized by extensive people based activity. These services also involve high degree of contact between the customer and the service provider although the degree of contact varies across multiple touch points and interaction episodes. Due to so many moving parts, the quality of the service

provider is often subject to the variability of the contextual factors surrounding the service encounter.

- c) This is further compounded by the aspect of pricing information, also termed as price uncertainty (Urbany et al., 1989). Travel related products have fluctuating prices due varying demand (seasonality), and the consumers often face a distribution of prices in the period prior to the purchase. Since the customer has very little knowledge of how long to wait for and how many service providers to canvass before arriving at the right prices, the uncertainty is further enhanced.

To deal with some of the above mentioned uncertainties, consumers typically use a variety of channels for information search. Information search is defined as the “*motivational activation of knowledge stored in memory or information acquired from the external environment*” (Engel, Blackwell, and Miniard, 1995, p.14). Whenever consumers realize that they need to make a decision, information search is likely to take place. In the initial stage, this happens internally wherein a consumer uses existing product knowledge, and previous experiences to plan a trip or related activities (Vogt and Fesenmaier, 1998). When the internal information is deemed sufficient, external search does not take place (Beatty and Smith, 1987). However, more often, internal search proves insufficient and consumers are likely to depend on external sources of information.

Consumer behavior studies have broadly classified information sources into *internal sources* (from the knowledge/schema a consumer already has about a product or service) and *external sources* (service providers’ information or word-of-mouth information) (Murray, 1991).

Consumers assimilate external information cues, and match them with their internal cognitive and (or) affective schema to achieve a semblance of congruence before embarking on the actual purchase process. However, it should not be construed on this basis that there is a temporal dimension in the likely sources of information that consumers choose during their decision making process. Rather, consumers simultaneously peruse multiple sources of information to arrive at the point of decision making. Therefore, it is important to elaborate on both these information sources prior to examining their effect on decision making.

## **2.2. Internal Vs External Information Search**

Internal information, one of the two salient sources of information, has been primarily investigated on the basis of factors such as consumer product knowledge, previous experience and internal schema. Product knowledge is obtained through prior experience with a destination or trip, from the experience of others, by means of visual, verbal and sensory stimuli such as advertisements, news papers, magazines, and television programming. Information is also gained through an ongoing search process through which consumers collect relevant information, process it and store it in long-term memory, and use it when need arises (Vogt and Fesenmaier, 1998). A mix of these various forms of stored information constitutes the internal knowledge of the consumer. Previous research has operationalized prior knowledge in various forms such as familiarity and expertise (Alba and Hutchinson, 1987; Gursoy, 2003), and consumers' perceived subjective knowledge (in terms of what they think they know) (Baloglu, 2001). Prior knowledge leads to an internal schema of a product, destination or brand that occupies a place in the consumer's consideration set (Goodstein, Moore, and Cours, 1993). Internal schema includes the beliefs about the product attributes and decision heuristics for acting on those beliefs. At the

decision making level, this is primarily related to the categorization of various products and services into subsets based on their products and attributes (Cohen and Basu, 1987). Consumers use these attributes to form a partially integrated structure in the memory. While evaluating the consumer's categorization process, it should be understood that this orientation is primarily functional rather than a structural representation, in the sense that the internal knowledge has no predefined structure and a mere mental model that assists in the decision making process. Such schema driven categorization process enhances the information processing efficiency and leads to cognitive stability. As a whole, these processes allow the consumers to make causal and evaluative judgments about products and services. At the same time, while consumers are willing to make adjustments, there has to be a minimum amount of congruence between these internal knowledge structures and external information cues, the lack of which leads to cognitive dissonance and adverse decision making (Fein and Andersen, 1997). Further, studies suggest that previous knowledge has a significant influence on the extent and depth of external information search process. While some suggest that increased expertise allows consumers to formulate more questions about the product attributes (Brucks, 1985) leading to greater likelihood of external information search and subsequently, greater likelihood of being influenced by it, others (Mitchell and Dacin, 1996) suggest that it can significantly reduce the influence of external information since the consumer already has sufficient internal information and will use it to selectively gather only the required information.

While internal information is considered quite important in the consumer information search process, it is the external information search that has caught the enduring interest of both researchers and marketers for quite some time. The reason for this is quite obvious. This is the

realm which falls under the control of the marketers since knowing the antecedents and processes of external information search behavior is crucial for designing effective marketing communication campaigns and improving the accessibility and quality of information (Moorthy, Ratchford, and Talukdar, 1997).

External information constitutes a whole gamut of information that the consumer encounters in the process of searching for information during a decision making episode. Srinivasan and Ratchford (1991) identified nearly sixty variables that influence external information search including several aspects of the environment (such as difficulty of the choice task, number of alternatives, complexity of the alternatives), situational variables (previous satisfaction, time constraints, perceived risk, composition of traveling party), consumer characteristics (education, prior product knowledge, involvement, family lifecycle, socioeconomic status), and product characteristics (purpose of the trip, modes of transportation) (Fodness and Murray, 1998; 1999). They emphasized that one of the important factors in external information search is the accessibility and quality of information. Schmidt and Spreng (1996) classified these sources as marketer controlled (e.g., advertising), reseller information (e.g., information charts), third party/independent organizations (e.g. consumer associations), direct inspections (e.g., product demonstration), and finally, word-of-mouth information (e.g., friends and relatives). Similarly, tourists rely on both marketing dominated and non-marketing dominated sources to plan their trips. The former includes advertising and commercials on mass media, travel brochures, guidebooks from clubs and welcome centers; the latter includes friends, relatives, and personal experience (Fodness and Murray, 1999). Further, it is suggested that

tourists use a combination of these sources at various stages of their decision making process as well as the actual trip.

### **2.3. Information Search in the Online Domain**

Although information search has been studied along various dimensions, the advent of the digital era, especially the age of the Internet, has radically transformed the traditional understanding of the information search and the buying behavior of consumers. The tourism and travel industry is often considered as the top service category significantly affected by the emergence of this digital information infrastructure (Weber and Roehl, 1999). While tourists, previously, relied a lot on traditional media such as magazines, brochures and travel agents, the Internet has afforded them with the ability to gather abundant information at the click of a mouse (Werthner, 1999). Rapid growth of online travel inter- and info- mediaries, and websites owned by the destination marketing organizations as well as third-party operators gives the Internet-age tourist a multi-dimensional view of the services he or she is going to experience with the service provider. Tourists can now examine a destination and its activities from multiple information sources and make an informed decision. Tourists can also compare and contrast prices, bid their own prices for complete trip packages, and even have a virtual tour of the destination, the hotel or activity they intend to visit, not to mention read a detailed account of other traveler's trip experiences and personal videos of the destination.

One of the unique features of the Internet as an information search tool is the ability it affords potential tourists to select multiple suppliers at the same time, compare and contrast the quality and availability of their facilities (Susskind, Bonn, and Dev, 2003). On the other hand,

the same platform offers suppliers and marketers the ability to direct their communication to greater number of tourists that were not accessible earlier due to prohibitive geographical and financial boundaries. Further, since the Internet is a rich medium that comes with high levels of interactivity and customization capabilities, it can be used to provide highly tailored content to users according to their idiosyncratic preferences. Due to such radical transformation in the processes through which information is peddled between the supply and demand side, tourism and travel marketers have to go beyond the traditional modes of understanding they have about tourist online information search behavior. Consequently, there has been a proliferation of both practitioner and academic oriented research that attempted to understand this dynamic phenomenon (Beldona, 2005; Gretzel, Yuan, and Fesenmaier, 2000; Lehto et al., 2006; Pan and Fesenmaier, 2006). However, due to the relative newness of this medium, there are still numerous problems that prevent tourists from taking full advantage of it. Recent studies (e.g., Stolz, 1999) have shown that trip planning on the web is a frustrating experience because of numerous factors including technical difficulties such as website usability, lack of integration with brick and mortar tourism firms, credit card security, and privacy issues (Szymanski and Hise, 2000). Service providers are addressing many of these problems using recent technological advancements that have enhanced the richness of the Internet as an e-commerce tool. However, the other problem that has not been adequately addressed (and which ironically is also treated as one of the major strengths of the Internet) is the abundance of online information that often overwhelms tourists during the trip planning process and prevents them from finding what they actually search (Pan and Fesenmaier, 2006). There are very few rules that govern the credibility of the Internet postings, and consumers receive no protection from retrieving false, misleading or

outdated information. Further, lack of accurate or standardized and impartial product quality measures makes information search on the Internet even more frustrating. As tourists get bombarded with such unreliable information from more than the adequate number of sources, they tend to develop adaptive heuristics to filter out irrelevant information and assess the quality of the information they intend to use. In this process, certain information sources achieve more significance than others in their relative influence on tourists' eventual decision to purchase particular products or services.

#### **2.4. The importance of Word-of-Mouth (WOM) as an Information Source**

As mentioned previously, information overload is one of the major problems that consumers face while using the Internet as an external information source, and has an important implication for consumer decision making process. As Herbert Simon observed, “...*what information consumes is rather obvious. It consumes the attention of its recipient. Wealth of information creates a poverty of attention.*” (As quoted in Neus, 2001, p.3) Consumers are cognitive misers who do not specifically enjoy expending too much effort on a purchasing task (Payne, Bettman, and Johnson, 1993), and researchers have found a negative relationship between this effort and overall satisfaction with the purchasing process (Bechwati and Xia, 2003). Further, it is known that consumers, when faced with numerous choices and information sources tend to defer decision making, make suboptimal decisions, or feel unhappy about the choices (Brynjolfsson and Smith, 2000).

To counter this problem, they look for decision cues that help preserve precious cognitive resources (Todd and Benbasat, 2000). To assist customers in this process, marketers have

devised various mechanisms and strategies. Product ratings by experts and third-party consumer associations (e.g., AAA), automated recommendation systems that recommend products and services based on consumers' individual preferences and purchasing patterns of fellow consumers are some of the many strategies in this realm. In addition to these, consumers themselves have started using the technology to interact with one another with relative ease, and exchange critical product related information that can alleviate the uncertainty associated with the commercially generated information. Such consumer-to-consumer information exchanges over the Internet have been identified by various terms such as consumer generated media, peer recommendation, reputation systems or online word-of-mouth, and have become one of the most important aids for the consumer purchasing process.

Word-of-mouth behaviors are not new to both academics and practitioners, and have been studied under various disciplines ranging from marketing to sociology to economics. WOM is one of the important external information sources for the consumer, and sometimes considered more influential than marketer generated information. In fact, seminal theories in tourism acknowledge and appreciate the power of WOM (e.g., Cohen's (1972) 'drifter, explorer and mass tourist' typology, Plog's (1974) 'allocentric and psychocentric' theory and Butler's (1980) 'destination lifecycle' model), and are themselves based on the notion that adventurous and innovative tourists discover new destinations or tourism products, and then act as opinion leaders by sharing their experience with their 'intrepid cousins' (Dearden and Harron, 1992). This sort of information contributes to the diffusion of new destinations or tourism products. Some of the recent studies (e.g., Crick's (2003) study on Caribbean islands and O'Neill et al.'s (2002) study

on Australian wine tourism) emphasize the overwhelming negative as well positive impact of WOM on destination image and travel choices.

WOM among consumers involves three different activities. First, information is sought to reduce the risk and uncertainty inherent in the buying process. Second, information is obtained and stored for future usage and, third, information is shared in order to influence other people's decisions (Pollach, 2006). Often, this sort of information is the only source of information used by consumers (Beatty and Smith, 1987). Further, WOM was considered as an important social process that determined, at a macro-level, new product diffusion (Mahajan and Peterson, 1985), and at a micro-level, customer purchase decisions (Price and Feick, 1984), and satisfaction and loyalty (Srinivasan, Anderson, and Ponnnavolu, 2002). However, there is little understanding or consensus about what WOM is, how, when, and why it works. Scholars (Arndt, 1967; Elrod et al., 2003) have also commented on the paucity of a common theoretical basis that can bind this stream of research. Macro-level studies typically identified by the diffusion of innovation studies (Rogers, 1983) contend that the stage at which the consumers are in the adoption process will determine whether mass media or word-of-mouth sources will be consulted to proceed further. Accordingly, mass media is more influential in earlier stages of the diffusion process (i.e., awareness and interest) and WOM during the later stages (i.e., evaluation and adoption) (This observation might not hold true in the current digital age as there is widespread availability of WOM that can be easily accessed, and can contribute to the rapid growth of new products and services). The classical diffusion of medical innovations study by Coleman et al. (1966), and a more recently study by Bansal and Voyer (2000) argue that consumers use WOM not only as an important basis for the learning process that reduces risk and uncertainty but also to legitimize

one's decision by deferring it to the peer group, none of which is available through traditional mass media. On the other hand, studies at the micro-level tend to make a distinction between supply and demand WOM based on the assumption that in any WOM episode, one of the parties is a source and the other is a recipient of recommendations, opinions and information, although the influence is likely to flow both ways. This stream of literature can be categorized based on two general constituent factors: the 'supply side' and the 'demand side'. The supply side studies explored the factors that drive the consumers to engage in WOM whereas the demand side studies looked at drivers of WOM seeking behavior. Some of the 'supply' side factors include: a) need for clarity and reduction of cognitive dissonance (Gatignon and Robertson, 1986), b) affective judgments such as anger, joy, and service failure (Neelamegham and Jain, 1999), c) attitudes such as commitment, loyalty, and repurchase decisions (Bloemer et al., 1999), d) status seeking and self confirmation (Arndt, 1967), e) ego defense and projection (Frenzen and Nakamoto, 1993), and f) inherent ability to be involved and various demographic and psychographic characteristics (Gatignon and Robertson, 1986). The demand side of WOM has also been extensively studied. One of the primary drivers of WOM seeking behavior is the need to achieve congruency between the internal schema and external stimuli. Early on during the information search process, a consumer may receive product information that is incongruent with other information in the environment or existing cognitive schema. This will motivate the consumer to interpret, simplify, and restructure the meanings and implications of the ambiguous situation by engaging in verbal exchange with another consumer (Arndt, 1967). As the consumer moves closer to a purchase, he/she might feel the need for support, justification, and legitimization. This need is fulfilled by the conversations with other consumers (Gatignon and

Robertson, 1986). Following a purchase, which has created significant levels of cognitive dissonance for the consumer, the consumer will attempt dissonance-reducing activities, such as talking to dissident associates to win them over, engaging in conversations with similar-minded others to gain their backing or persuading neutrally-standing members of the social group in his/her favor (Arndt, 1967). Some of the specific demand side factors discussed in prior research include: g) purchase oriented factors such as the stage of the decision making process (Bansal and Voyer, 2000), h) costs associated with information search, task complexity and schema congruency and external stimuli (Mangold et al., 1999), i) personal innovativeness and social obligation (Arndt, 1967), and j) expertise to evaluate the WOM information (Gilly et al., 1998).

## **2.5. Online WOM and Product Review Systems (PRS)**

WOM has acquired a whole new meaning with the emergence of the Internet, and the e-commerce it has spawned. One of the important features of the Internet as a mass communication media is its support for bidirectional communication. It not only enables organizations to reach consumers in a large scale, and at low cost, but, at the same time, allows the consumers to make their product /service experiences known to the organization as well as its wider community of users. In this context, Strauss and Hill (2001, p.65) defined online WOM as *“any positive or negative statement made by potential, existing or former customers about a product or company, and which is made available to a multitude of people and institutions via the Internet and other e-commerce channels.”* Online WOM communication can take place in many ways (e.g., Web-based opinion platforms, discussion forums, Web sites, news groups, etc.) One of the popular and widespread forms of online WOM platforms that have come into vogue in the recent past is product review systems (PRS). PRS, when compared to other online WOM platforms, are

less personal but more ubiquitous. Consumers can post reviews about the products and services they consumed, and other consumers can access this information while evaluating products/services prior to the purchase. PRS have been growing in significance in the realm of e-commerce due to various reasons: 1) research shows that these systems are most widely used than any other form of online WOM platforms, with an estimated 9-10 million product or company related comments available on the websites such as epinions.com, Amazon.com and Tripadvisor.com (Henning-Thurau et al., 2004), and 2) majority of these systems, which used to be primarily third party driven, are now supported by the firms themselves, and added as features to e-commerce websites so that consumers do not have to spend too much time searching for similar information from other sources. Consequently, these systems have become one of the important mass communication tools of the present generation of consumers, and require considerable academic and practitioner attention.

Classic and much studied examples in this genre include the product review system of Amazon.com and the reputation system of eBay.com. For instance, 'Amazon.com' allows consumers to post opinions (which can be either positive or negative) on the same webpage in which product details are listed. These comments are known to have a significant impact on prospective consumers' decision making. However, the firm also sells these reviews to the product sellers who in turn post these reviews on their own websites as testaments to their product quality, thereby, creating an additional revenue source. Similarly, the online reputation system of eBay is considered the backbone of a multi-billion dollar online auctions business that is predominantly operated by relatively unknown small sellers and businesses. Through this

system, consumers and product sellers get a chance to rate each other, thereby, creating a bidirectional mechanism that controls delinquent behavior.

Recently travel and hospitality related PRS are gaining tremendous significance due to the very nature of this domain. While consumers previously had to rely mainly on the commercially generated information, there is now the option of consulting virtual strangers about the quality of the services available at a destination. Traveler reviews in PRS provide a more nuanced view of a travel experience supported by ratings and rich descriptions (narratives, photos, and videos). As a result, almost all travel inter- and info-mediaries as well as third party operators have now incorporated product review systems. The fundamental logic sustaining these systems is the ‘wisdom of the crowds’. Simply put, when judgments made by a large number of people are aggregated into a single estimate, the resultant prediction could be remarkably close to the actual condition (Surowiecki, 2004). PRS provide the platform wherein communities of consumers share their experiences, exchange product/service related information and collectively determine the reputation of service providers. The power of these systems is further enhanced by the social networks (also known as travel networks). Consumers can now create their own travel network in a PRS akin to social networking sites such as Facebook and MySpace. Through this, they can keep in touch with others who have similar tastes and preferences, and then consult each other for travel related information. While members in these networks may not ever meet in person, the weak ties they build via the technology platform can have a significant impact on the choice of destinations and other associated services. Overtime, such networks have the potential to develop into significant sources of information, both for the network members as well other consumers willing to access that information. In fact, previous research suggests that weak ties

are extremely efficient for the diffusion of informational WOM whereas strong ties are more conducive for persuasive WOM (Brown and Reingen, 1987). Given the experiential nature of travel related products, these social networks are expected to enhance the fit between the information giver and the seeker.

The market for tourism and travel related PRS has grown considerably over the past few years. Some of the many firms operating in this domain include TripAdvisor.com, Hotels.com, IgoUgo.com, Hotels.com and Travelpost. Each company has its own structure and organization, method of attracting consumer reviews, and ensuring the credibility and quality of these reviews. Further, these firms have been devising numerous tools to allow consumers to effectively search for the right information and also to make this information trustworthy. Therefore, it is important to understand the basic structure and functioning of some of the popular PRS prior to the discussion on the problems associated with them. Consider TripAdvisor.com, one of the most popular tourism and travel related PRS. According to the official website, TripAdvisor.com is currently a global website for travel information and advice, covering more than 270,000 hotels and attractions in over 30,000 destinations worldwide. It features hotels, attractions, and restaurant reviews written by consumers; a wiki for travel information similar in concept to a travel guidebook; "goLists", where users list what to see or what to do; interactive maps based on the Google Maps engine; and "TripAdvisor Forums", an active traveler message board area. With more than 10 million reviews and opinions and nearly 30 million unique visitors a month, TripAdvisor is also the largest and most popular online travel advisory site (Tripadvisor.com). The website, like any other online travel website, is modeled in such a way that visitors can narrow down on the destination, and then identify the activities and services available within that

destination. However, the major differentiating factor is the lack of a booking engine that allows the consumers to directly purchase the product/service. Any links, whatsoever, take the consumer to the websites of travel intermediaries such as Expedia and Orbitz. For instance, as shown in Figure 1, a hotel in the United States is listed on the website.

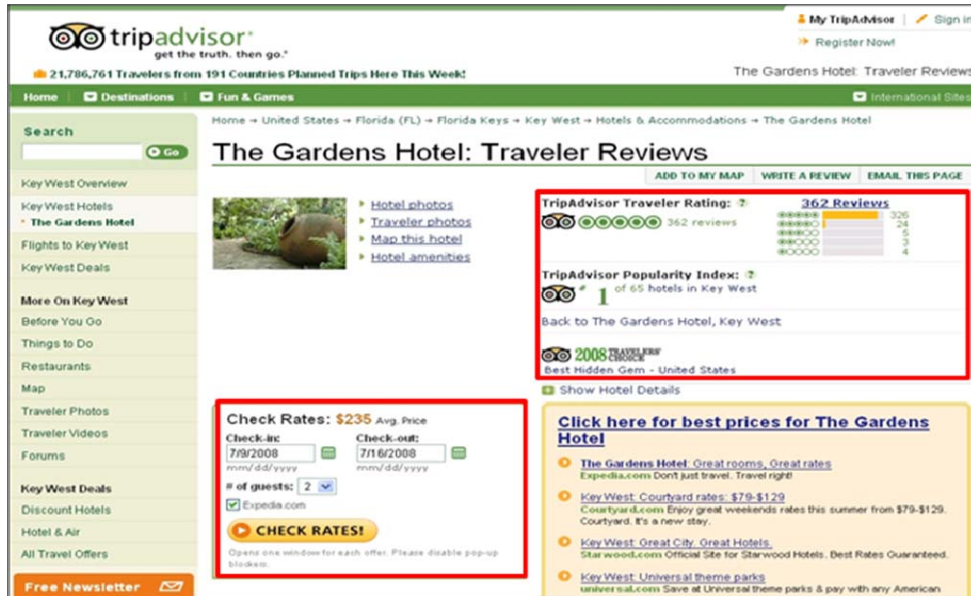


Figure 1: A typical hotel listing on TripAdvisor website

The listing contains a general description and other relevant details provided by the hotel management. The website also provides an average price tab, the star rating of the hotel, the overall rating for the hotel (average based on ratings provided by each single reviewer) and then the reviews of the consumers who have presumably stayed at this hotel. Each hotel listing is typically associated with more than 100 reviews, and larger hotels (either popular or unpopular) sometimes attract more than 300 reviews. These reviews are spread over multiple web-pages associated with the same hotel listing. The reviews themselves maybe sometimes detailed but

more often, they are not. Therefore, the website provides reviewers with the option of rating the hotel on select few attributes such as value for money, service, and sanitation. Further, website visitors can rate each review for its helpfulness (in a yes/no format), and the 'helpfulness' score is displayed alongside each review for the consumers to judge the utility of each review (see Figure 2). The consumers are also provided with tools to filter reviews based on rating valence (positive or negative), relevance to the trip and the date of posting. This gives consumers better control of which reviews to pick and choose from the vast majority of them available for every single service.

The website requires the reviewers to create a username and password before they can rate and review the hotel. The personal details provided by the reviewer are displayed if one clicks on the username associated with the review. This reviewer personal space is an idea that has evolved over time and the extent of details available in travel related websites are generally not seen in product related PRS such as Amazon.com. The personal space contains numerous features that are intended to build a trust factor for the review as well as enhance the reputation of the reviewer (see Figure 3).

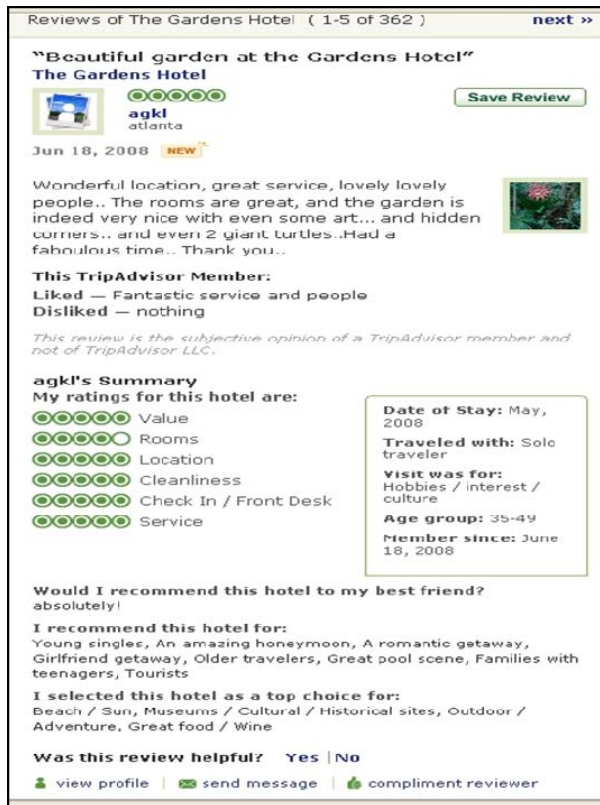


Figure 2: A typical hotel review in TripAdvisor



Figure 3: The personal space of a TripAdvisor reviewer

Firstly, the reviewers also have the option of posting pictures and videos of the property they review, and these are open to anyone accessing the website for information. The number and list of these photos and videos is shown in the personal space. Secondly, the personal space aggregates a reviewer's ratings and reviews of other properties as well (along with the attached helpful votes). The most interesting aspect of the personal space is the travel network. Reviewers are given the option of building a travel network with various other reviewers. A reviewer can study the personal background and the travel tastes and preferences of other reviewers, and akin to social networking sites, add them to the 'travel buddies' list. The reviewers can access these friends either for travel related information or just to stay in touch. These friends' lists are aggregated onto a Google map to create an individual travel network map for each reviewer, thus creating a visual artifact of common interest for groups of customers (see Figure 4).



**Figure 4: A reviewer's travel map and network**

As Lombardi (2007) says “consumers in the same network can view each others' maps for inspiration or simply to argue over bragging rights”. Both academics and practitioners agree that such social networks are a key to exchanging travel and tourism related information. It is expected that since persons in the same network might have similar tastes and preferences, the social component lowers the risk of incorrect information and misleading advice. The ultimate goal is to enhance the fit between the consumer providing information and the consumer seeking the information. Similar ideas have been implemented by smaller and less popular sites such as IgoUgo.com and Travelbuddy.com. However, the above discussed structure is not common among majority of the review sites. For instance, popular online intermediaries such as Expedia and Orbitz also provide the option of consumer reviews and filtering tools but do not provide the platform for rich social interactions (see Figure 5). Further, a general overview of these sites reveals that majority of the reviews are extremely brief in nature and do not provide specific instances to support the claims.



Figure 5: Hotel review in Orbitz.com

Since consumers read the reviews mainly for information, such brief reviews might not serve the purpose for which they are intended. While the firms operating the PRS are taking numerous steps to enhance their reputation and credibility, there are still a host of problems that need to be considered. Further, as will be discussed in the ensuing sections, the very structure and organization of these review systems also create impediments for the consumers seeking information via the PRS.

## 2.6. Research in Online Product Review Systems (PRS)

The increasing popularity and innovations in the field of PRS has attracted increasing attention from researchers in various fields ranging from marketing, and information systems to economics and social psychology. Researchers in each field, through their own paradigmatic

lens, have investigated the antecedents, the underlying processes and the consequences of this interesting phenomenon. The extant literature can be categorized into three streams, the supply-side, the demand-side and the impact- side based on the unit of analysis and whether the studies have focused on the communicator or receiver of the online advice (Kirby & Marsden, 2006) (see Table 1).

**Table 1: Categories of current literature on PRS**

<b>Unit of Analysis</b>	<b>Focus</b>	<b>Representative Studies</b>
Supply-Side	What drives consumers to provide online reviews?	Wang and Fesenmaier (2003); Wiertz and de Ruyter (2007); Wise et al. (2006)
Demand-Side	What drives people to believe in online reviews?	Dhabolkar (2006); Ba (2001); Poston and Speir (2005); Sen and Lerman (2007); Smith et al. (2005)
Impact-Side	What is the power and impact of online reviews?	Ba and Pavlou (2002); Pavlou and Dimoka (2006); Chevalier and Mayzlin (2006)

It has to be noted that the studies reviewed in this section are not only limited to specific online PRS but also related to the extensive literature on online communities, consumer forums and reputation systems in online auction sites such as eBay.

One of the initial topics of interest in this domain was to understand the antecedents of consumers' participation in and active contribution to the online PRS. While the Internet has substantially reduced the cost of communication thereby removing the traditional barriers to online WOM, consumers still have to spend enough time to participate in online conversations, acquire the minimum requisite skills to navigate the technology platforms, and eventually post

opinions about the products or services they have experienced. These activities are associated with are significant temporal and cognitive costs, that which consumers are known to avoid in the first place. Numerous studies have investigated this anomaly. For instance, Wang and Fesenmaier (2003) studied the motivations of consumers to contribute to the product newsletter of a large US based travel company. Their study revealed the primary motivations of consumers to participate in such online communities can be classified as instrumental motivations (helpfulness, relationship building, and increasing self-esteem through identity expression), efficacy motivations (sharing enjoyment, and enjoying helping others make decisions), quality assurance motivations (an inherent need to control the product quality, and enforcing service excellence, and expectancy motivations (seeking future help and assistance). Similarly, studies by Wiertz and Ruyter (2007), and Wise, Hamman, and Thorson (2006) revealed that personal innovativeness, a desire to be opinion leaders, and the some basic features of the system itself such as presence of a moderator, and average response rate are some of the factors that drive consumers to participate in PRS.

Some of the important features of the demand side research include investigation into the mechanisms employed by consumers to select a PRS and process the associated content. One of the pioneering studies in this regard was done by Dhabolkar (2006) who employed both qualitative research and laboratory experiments to investigate factors that influence consumer choice of PRS websites. The context for the study was information search on laptop computers. Her results show that credibility of the PRS web site is the most important attribute, followed by the opportunity for customization of information. In contrast, consumers did not consider important, having information on many alternatives, and considered reducing risk and saving

search effort as the ultimate underlying motives for using rating web sites. Sen and Lerman (2007) examined consumer response to online reviews and find that the product type moderates the effect of review valence (positive or negative review), and consumers exhibit a negativity bias for utilitarian product reviews only. Furthermore, consumers' attributions about the motivations of the reviewer mediate the effect of this moderation on their attitude about the review. However, while there was considerable negativity bias in the case of utilitarian products, consumers usually did not place great emphasis on the negative reviews during the purchase of hedonic products such as movies and music. Similarly, Smith et al. (2005) found that consumers seek and accept online reviews to actively manage the amount of information available during an online search process. In this, consumers use the mere availability of the review as a decision heuristic and the personal characteristics of the reviewer do not have any influence on the decision to accept the online review. Further, other studies have identified factors such as credibility of the reviewer and the rating mechanism (Ba, 2001), the extensiveness of the review (Poston and Speier, 2005) and the credibility of the institution that supports the PRS that drive consumers' usage of rating systems.

The impact studies, by far, can be considered as one of the most developed research stream related to PRS. Given the increasing managerial interest in this phenomenon, it is obvious that maximum effort has gone into understanding whether PRS have any impact on the product sales, consumer attitudes, and their subsequent satisfaction and loyalty. Two major websites, Amazon.com and eBay.com have dominated the context in which majority of the impact studies have been carried out. Ba and Pavlou (2002) investigated the trust building mechanisms in an electronic market place through rating mechanisms. Drawing upon theories from marketing and

sociology, they looked at the impact of factors such as the type of feedback (positive or negative), and the risk associated with the product (measured in terms of product price) on the consumers' perceived trust on the seller. They find that these factors play a major role in trust formation, and this induced trust has significant positive impact on the amount of price premiums willingly paid by the consumers. Pavlou and Gefen (2005) characterized buyer seller relationships in online reputation systems as a psychological contract whose violation has considerable affect on the overall transaction value and probability of future business. Similarly, Chevalier and Mayzlin (2006), Chen, Dhanasobhan, and Smith (2006), and Mudambi and Schuff (2007) studied the various factors associated with PRS in Amazon.com, and their impact on buyer trust, overall sales and the satisfaction with the buying process. In addition, research also finds that the peer recommendation on an e-commerce website improves the perceived usefulness and social presence of the website (Kumar and Benbasat, 2006). These reviews attract repeat visits to the website, increase the time spent on a website, and create a sense of community among frequent shoppers. In fact, for numerous e-commerce websites, the reviews have become the central component of value that drives website traffic and content.

## **2.7. The problem of Trust in Product Review Systems**

A review of the literature reveals that there is surprisingly little research on the 'demand side' (as explained previously) of PRS. More specifically, while researchers have extensively investigated the antecedents, and consequences of online consumer reviews, very few studies actually sought to understand the basic qualities of these reviews themselves, and how these qualities induce consumers' trust. Consequently, as Mudambi and Schuff (2007) pointed out, as PRS becomes more acceptable and widespread, it is more important to focus on the quality rather

than the quantity of the reviews being presented to the consumer. This research gap is even more conspicuous in the travel and tourism literature even though it is generally agreed upon that tourists are increasingly relying on fellow consumers' reviews for pre-purchase information (Litvin et al., 2008).

The topic of interest in this context is the credibility of the online reviews (and the reviewers), and the factors that drive consumers to trust in these reviews and review systems. Further, it is also important to understand to what extent this online PRS trust impacts consumers' purchase choices and patterns, especially in the case of experiential products such as travel and tourism. Currently, there is an ongoing debate regarding the novelty and long lasting effects of online WOM in general and PRS in particular.

The first issue of concern is the credibility and genuineness of the content (consumer generated information) found in the reviews systems. One of the well documented problems that fuel such concerns is the lack of adequate control mechanisms which regulate information exchange in PRS. More often than not, there is every opportunity for people to post reviews that might not accurately reflect the quality of the product. For instance, Chevalier and Mayzlin (2006) found that while the books with positive reviews on Amazon.com have much higher sales, there is a significant bias towards positive reviews for the majority of books in the Amazon catalogue, no matter the quality (with less than 8% being negative reviews and quality being measured through average sales). As Charles McGrath, editor of *'New York Times book review'* lamented, "...has there ever been a book that wasn't acclaimed?" (Quoted in David and Pinch, 2006; p.2). Similarly, Resnick and Zeckhauser (2002) found that on eBay.com, there is a 99.1% probability of every seller having a positive rating in almost all the transactions even if one

controlled for the price of the product. Also, a recent investigation revealed that many articles in Wikipedia were being edited not only by regular members, but also by political parties, lobbying firms, and the staff of elected representatives (Davis, 2006). Similar problems were also evident in the travel related PRS. Various travel sites have discovered that some hotels, especially the ones with considerable negative reviews, tried to induce guests with gifts, coupons and free night stays to write positive reviews, and some others offered incentives to their employees to post extremely positive reviews from time to time to counteract the impact of negative feedback from hotel guests (Sardone, 2008). Due to such large variance in the quality of the reviews, and hidden agendas of multiple stakeholders, the (presumably) consumer generated reviews might too often be perceived untrustworthy, leaving consumers with little ability to gauge the quality of product reviews, and the actual product quality.

The second issue of concern is the structure and organization of the review systems. It is known that consumers searching for information on the Internet do not and cannot read every possible online review regarding a product/service (Chatterjee, 2001). It is an impossible task given the sheer volume of review sites as well the limited time and cognitive resources available to the consumers. However, as discussed section 2.7, even a single website has hundreds of reviews associated with every single product or service. Further, there are large differences in the presentation format and organization between different websites as well as the reviews. Therefore, the very information that is aimed at easing consumers' uncertainty becomes an additional burden to the consumer, and it is still not known how consumers pick and choose the reviews they read.

Another related problem is the computer mediated nature of the PRS. Early studies in technology mediated communication (Daft and Lengel, 1984) characterize the Internet (email in the original study) as low in media richness which filters out the social cues generally used by individuals in interpersonal communication. Such communication could reduce the levels of satisfaction and productivity when compared to traditional face-to-face communication (Kiesler and Sproull, 1992). The reduction of social cues such as non-verbal nuances (e.g., gaze, body language), the physical context of the communication (e.g., meeting sites and seating arrangements), and observable social characteristics (e.g., age, race, gender), combined with the lack of inhibitions resulting from anonymity of the source can create considerable uncertainty for the consumers while evaluating the online reviews (Einwiller and Will, 2001). While the contemporary media provides numerous opportunities to explicate one's social presence, the restrictive nature of the medium will have an impact on the evaluation of the content itself.

Given the abundance of consumer generated feedback, and the multitude of associated problems, it is important to understand how consumers manage to weave through the clutter to actually get the information they want. Consequently, the question that arises is “what drives a consumer to develop trust an online review and a reviewer?” Finding answers to this question should be an issue of primary importance to researchers since the trust is the only fundamental component of value in PRS, and has a final influence on how the stakeholders judge the utility of these systems.

## **2.8. Uncertainty and Trust in e-Commerce**

The above discussion brings forth the importance of the trust in online reviews. Trust is a central construct in that sustains both interpersonal as well as economic relationships, and helps maintain the social fabric. Trust is the lubricant of commerce, essential to negotiations, and has been related to leadership, effective decision-making, innovation, and managerial effectiveness (Whitener et al., 1998). Trust is also the ambient current of the e-commerce. A lack of trust is one of the most frequently cited reasons for the consumers to avoid online transactions (Lee and Turban, 2001). Consumers perceive numerous risks and uncertainties while conducting online transactions. Firstly, online transactions do not provide simultaneous exchange of goods and services, thereby creating a spatio-temporal divide between the buyer and the seller. Second, customers have to share sensitive personal and financial information to facilitate the transaction with the entities that they do not see in person. Further, consumers are inundated with the myriad offerings and marketing messages that creates information overload. For individuals accustomed to face-to-face contact, the uncertainty and ambiguity inherent in virtual relationships is likely to raise doubts that may constrain interactions and transactions. Trust, by definition, mitigates such constraints. The underlying assumption of trust literature is that humans have a fundamental need to reduce uncertainty, and understanding how trust is built and maintained in an online environment is important to explain the dynamics in online PRS.

Researchers have proposed numerous conceptual models to explain the antecedents of trust formation in the online environment. These models address trust issues in variety of contexts such as business-to-consumer transactions, business-to-business interactions (B2B), and even consumer-to-consumer interactions (C2C).

The initial set of studies in this realm focused on the B2C commerce since that was the original business of interest in the late 90s and early part of the 2000. One of the primary online trust models was proposed by Jarvenpaa et al. (1999; 2000). The basic premise of these studies was that the website of a vendor is like a salesperson that needs to build trust in the consumer. There is, however, some degree of commonality between both offline and online trust elements. Therefore, these studies proposed that two constructs, the size and the reputation of the internet store, are positively related to consumers' initial trust in the internet store. These studies also posited that the trust in the store has a positive effect on the attitude towards the store, and this relationship is mediated by the consumers' perceived risk of buying from the store. These studies' findings suggested that the perceived reputation of the store, rather than the size, had a stronger effect on trust and purchase intentions. These studies further attempted to understand if there were any cross cultural differences in consumers' trust beliefs and found no evidence to that affect.

Another set of trust studies were conducted by Gefen (2002) and Gefen and Straub (2000). Gefen (2002) posited that the familiarity with an online vendor and the consumers' trusting disposition are positively related to trust in an online store. This study further hypothesized that the familiarity will have a positive effect on intentions to inquire and purchase a product. In this study, trust in an online vendor was conceptualized as trusting belief and the intention to inquire and purchase a product as trusting intention. The results of this study suggested that an individual's disposition to trust had a stronger positive effect on trust than familiarity with the vendor, and both these constructs had a significant effect on the intention to inquire and purchase. However, Gefen and Straub (2000) added an inter-personal dimension to

the trust construct. In this study, the researchers found that the social presence of the website (in terms of navigation, pictures, and the right tools to interact with the vendor) would enhance perceived usefulness of the website and subsequently, the purchase intentions of the consumer. Later studies have followed this line of inquiry to examine various antecedents of trust in the online domain. Some of the constructs used in this research genre include:

- a) Organizational reputation, relative advantage and perceived risk (de Ruyter et al., 2001).
- b) Trustworthiness of the Internet merchant, the technical reliability of the medium (security, third party certifications) and consumers' contextual factors (Lee and Turban, 2001).
- c) Perceived privacy and perceived security (Chellappa and Pavlou, 2001).
- d) Consumers' propensity to trust, structural assurances (safeguards and guarantees) and word-of-mouth referrals (relational content) (Kim and Prabhakar, 2002).
- e) Perceived usefulness, perceived ease of use of the vendor's website and consumers' perceived risk (Koufaris and Hampton-Sosa, 2002; Pavlou, 2003).
- f) Style, Incompleteness and Language of the website (Everard and Galetta, 2006).

A general overview of some of the above mentioned studies indicates that the focus was more on the structural elements i.e. the system specific aspects that determine the extent of the trust reposed by the consumer in online vendors and websites. It shows that the view of online trust evolved overtime. Researchers initially viewed trust as an aspect related to website security and privacy issues (Shankar et al., 2002), and later moved to the consumer comfort levels in

using the websites as well as the intertwining of both offline and online factors. However, as the fundamental notion of e-commerce stabilized and gained maturity, the focus shifted to the interpersonal and human elements of the online transactions. This was further fueled by the explosive growth of C2C commerce such as online consumer communities (where product and firm related information is exchanged) and online auctions (that support commercial transactions between consumers). Researchers have also suggested that there are certain differences between B2B and C2C commerce (Jones and Leonard, 2008). Therefore, the theories and research methods of the former cannot be unproblematically applied to the later. In the recent past, numerous trust models have been proposed to explain the dynamics of C2C online commerce. In this, online C2C sites such as eBay and Amazon have received extensive focus due their commercial implications for both buyers and sellers.

Ba and Pavlou (2002) studied the impact of eBay's seller reputation system on buyers' trust and price premiums. They posited that the feedback profile of the seller (the number of associated negative and positive reviews) impact the buyers' trust in the seller and has an indirect effect on the price premiums. However, the extent of perceived risk in the transaction (measured by the price of the item) moderates this relationship. This study adopted both experimental design and econometric methods and found that that appropriate feedback mechanisms can induce calculus-based credibility trust without repeated interactions between two transacting parties. The study found that trust can mitigate information asymmetry by reducing transaction specific risks, therefore generating price premiums for reputable sellers. Similarly, Pavlou and Gefen (2005) applied the concept of psychological contract violation (PCV) and examined its effect on buyer trust, intentions to purchase and price premiums. PCV, in this study, was defined

as the buyer's perception of having being treated wrongly regarding the terms of an exchange agreement with an individual seller. PCV is driven by the occurrence of fraud, product misrepresentation, contract default, delivery delay, and failure to follow product guarantees and payment policies. Based on the data from eBay and Amazon, the study validates the importance of PCV and its implications for buyer trust and intentions to purchase. Pavlou and Dimoka (2006) extend the analysis further and argued that while the positive and negative ratings of a seller are important, there are other minute details in the reviews that reflect the various trust aspects of the seller such as benevolence and credibility. These aspects are rarely reflected in the ratings and do influence to a large extent, the reputation of the seller in online auctions. It should be noted that this study deconstructs the trust construct into multiple elements, namely benevolence, credibility and integrity.

As mentioned previously, due to the important commercial implications, online auction sites tended to be the focus of majority of the studies. However, a growing phenomenon in the e-commerce domain is consumer reviews about products and services. These reviews are the new form of online WOM and have become pervasive over the Internet. While previous trust models are more applicable to B2B transactions, and auctions, two aspects make consumer review systems a unique phenomenon: a) When consumers read/provide reviews of products and services, only information is being exchanged, and b) as a result, there is no direct commercial implication of the exchange for both the information giver and receiver. At the same time, studies have shown that these reviews do have a significant impact on the purchase decisions of the consumer, and the extent of trust reposed by the consumer on the other mediates this relationship (Sen and Lerman, 2007). However, there is relatively less research that examined

this important dimension of the e-commerce. More specifically, there has been less focus on the methods or processes through which consumers alleviate the uncertainty concerning online reviews. This uncertainty is further enhanced when dealing with experiential products such as tourism and hospitality services where buyers are mostly concerned about inferring the product quality and characteristics. In such cases, trust in the review is dependent on whether the review provider has accurately described the product/service, and the uncertainty is primarily about the misrepresentation due the reviewer's integrity. In this regard, researchers have still not extensively debated the antecedents of consumer trust in online product reviews and the systems that host them. One of the fundamental goals of this study is to explore this research gap in extant literature. The basic premise of this study is that the online product reviews can be construed as social interactions that have an informational as well as a social component, both interwoven and facilitating each other. While informational content is the primary driver of goal directed behavior (in this case, product purchase), the systems are also used as forums for social exchange, drawing people to promote purchases and regulate user behavior. Two theoretical perspectives can be applied to explain the how consumers mitigate uncertainty inherent in. Uncertainty reduction theory (Berger, 1979; Berger and Calabrese, 1975) explains the manner in which individuals reduce the uncertainty inherent in unknown relationships by specifying the interaction rituals that people develop to cope with a recurring situation. Berger (1979) specifies two strategies that are generally employed: 1) passive strategies (social observation) wherein uncertainty is reduced by witnessing behaviors and drawing conclusions, 2) Active strategies (directly seeking relevant information from others) wherein individuals exert effort to obtain uncertainty reducing information. To reduce uncertainty, individuals will be attentive to each

other's behavior, especially when there is a high incentive value. Applying this concept to online interactions, Ramirez et al. (2002) suggested that in reduced cues and goal directed environment such as the online interactions, individuals seek any information that is available to alleviate uncertainty. As Kellermann and Reynolds (1990) argue, wanting knowledge rather than lacking knowledge is what motivates information seeking in initial encounters with others. For instance, in a regular online information search process, active strategies such as website scanning, third party enquiries and search engine queries are generally employed by individuals to obtain relevant information. However, in the case of online reviews that do not have significant interaction history, the range of available options, and potential means of interaction are relatively constrained. Consequently, as explained by the social identity theory (Tajfel and Turner, 1979; Lea, Spears, and deGroot, 2001), whatever few social cues that are available become highly salient and important in forming attitudes and determining behavior. In the case of online reviews, when the reviewers provide their background information, and the consumers' identification with the reviewer based on this information, can be potential drivers of trust. At the same time, the context in which the information exchange is taking place i.e., the factors associated with the website hosting the reviews, and some of the associated factors also contribute to the trust factor. Given the importance of both cognitive and social evaluations in consumer's use of online recommendations, the above mentioned theories are applied to develop a conceptual model that will be empirically validated in this study. The detailed discussion on these theoretical underpinnings and the resultant research model for this study are discussed in detail in the subsequent sections.

## **2.9. Conceptual Framework and Research Hypotheses**

The conceptual framework to be tested in this study is summarized under two sections: Uncertainty reduction theory (URT) and trust in PRS, the conceptual model, construct definitions and hypotheses development.

### **2.10. Uncertainty Reduction Theory and Trust in PRS**

Uncertainty reduction theory (URT) of personal communication (Berger and Calabrese, 1975) was originally proposed to explain the dynamics of human communication. One of the aspects extensively covered by URT and related theories is the communication between perfect strangers i.e., initial individuals who do not have a previous interaction history. The fundamental assumption of URT is that “when strangers meet, their primary concern is of uncertainty reduction or increasing predictability about the behavior of both themselves and others in the interaction” (Berger and Calabrese, 1975, p.100). Uncertainty, here, is defined as a cognitive state that fluctuates on a continuum between the kinds of information sought by the individual and the quality of the information actually obtained. The uncertainty level, in turn, has a significant influence on the level of liking and intimacy built between the communicating partners, and consequently, the trusting relationship between them. Both the parties in the interaction neither have the knowledge of the intentions and internal thoughts nor do they understand the effects of the messages that will be exchanged in the due course of the communication. Therefore, the primary motivation of the individuals is to reduce uncertainty and try to make sense out of the communication context. In such a scenario, the first task is to use any available information and predict the likely behavior of the other person, based on which the

person must select his own response alternatives. Berger and Calabrese (1975) built upon data gleaned from previous studies, and proposed 7 axioms and 21 propositions to explain the general recurring patterns in initial interactions. They postulated that the amount of verbal and non verbal communication is reciprocally related to uncertainty, and uncertainty is in turn related to variables such as self-disclosure, intimacy, attraction and information seeking. In other words, URT suggested that uncertainty in initial interactions is reduced through high amounts of verbal communication, non-verbal affiliative expressiveness and perceived similarities. As uncertainty is reduced, mutual liking will increase and information seeking will decrease.

Communication episodes tend to go through various stages, and in each stage, the communication partners deploy various strategies to alleviate uncertainty. At least three distinct phases of an initial interaction episode can be identified: the entry phase, the personal phase, and the attitude assessment phase. It should be noted that these three phases need not fall on a temporal dimension (although they often do). The order of their occurrence can be either simultaneous or vary depending on the background factors of the communication partners as well as the communication context.

a) Entry Phase: in this phase, the communication content tends to be somewhat structured, and the focus is more on the content and quality of the verbal communication. Further, the amount of information asked and received tends to be symmetric. At this stage, the importance of non-verbal affiliative behavior is quite less as the individuals are still trying to assess the basic rules of the communication episode. Various studies in this stream (Berger and Bradac, 1982; Kellerman and Berger, 1984) revealed that the amount of information seeking is high in the initial stages of a communication episode and gradually decreases over

the period. Thus URT postulated that the amount of information seeking is positively related to the amount of uncertainty. As the uncertainty reduces over the period of the communication, the number of questions asked goes down and individuals focus more on self-disclosure (background information) and attitude related issues.

b) Personal Phase: In this phase, the individuals focus on low intimacy demographic information. Studies by Berger (1973), and Berger and Larimer (1974) suggest that during initial interactions, communication partners spend at least the first two minutes acquiring low intimacy demographic information about each other. For instance, Taylor and Altman (1966) had both college students and navy recruits sort 671 conversational topics on an intimacy continuum, and found that topics falling into categories such as socio-demographic, biographical, hobbies and interests were exchanged in the first few minutes of the conversation, and more intimate topics such as political affiliations and religion appeared much later in the conversation. Based on this evidence, URT postulated that high levels of uncertainty in the initial stages leads to less intimate information exchange that subsequently helps the communication partners reduce their perceived uncertainty.

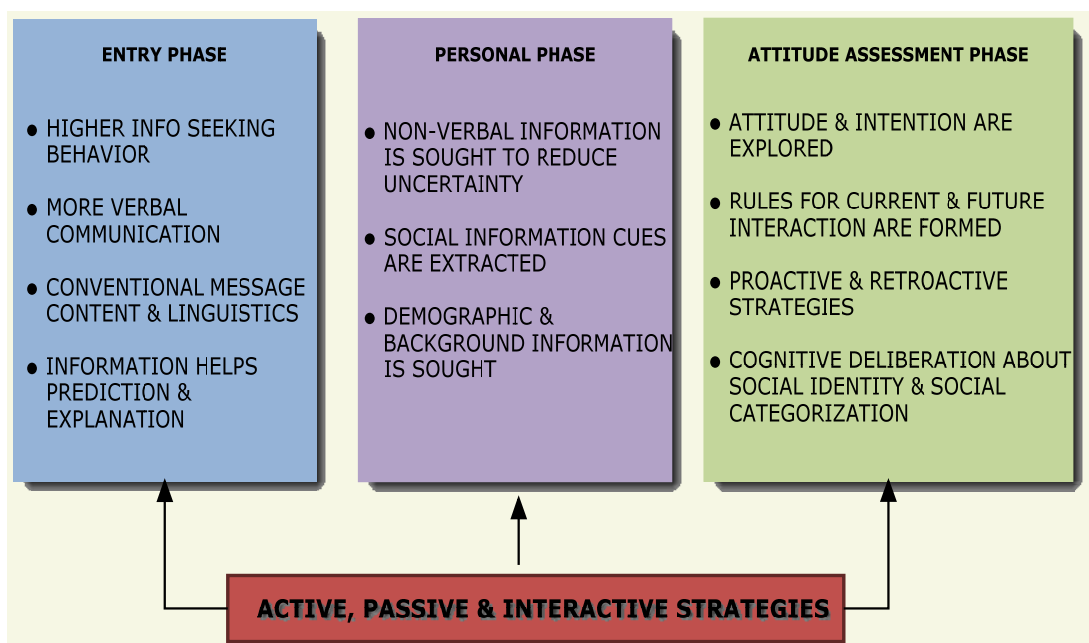
c) Attitude Assessment Phase: During this stage of the conversation, individuals begin to focus on personal attitudes and similarities/dissimilarities in background information. In this regard, most of the psychological theories emphasize on the notion of similarity as an antecedent to liking and continuance of communication (Newcomb, 1961). Similarities in attitudes and mental models of the world tend to produce interpersonal attraction and vice versa. This perceived similarity not only reduces uncertainty but also determines whether the interaction system will continue or not, and whether the interaction will go into a more

intimate phase wherein the partners begin to implicitly trust each other. Thus, URT postulated that in initial interactions, individuals use both the amount of verbal communication as well as the background information to assess the communication partner's similarities and this perceived similarity is inversely related to the amount of uncertainty.

Further, the information seeking is achieved through three types of strategies, namely, active, interactive and passive. Each strategy can be associated with different phases of the communication episode mentioned above. For instance, the active strategy reflects the efforts by the individual to directly seek information from various sources other than the communication partner. This can include the social networks of the other partner (third party enquiries) and background records. The interactive strategy involves interrogating the other individual about his/her background information. The passive strategies include passively observing the behavior of the other person as he interacts with various others and draw inferences about the attitudes and intentions.

Since its original conception, the URT has been empirically validated and modified by various researchers (Berger and Bradac, 1982; Gudykunst, 1995; Parks and Adelman, 1983). One of the complementary theories that emerged from the URT related studies is the social identity theory of inter-group behavior (Turner and Tajfel, 1979). This theory further expands the similarity construct of URT by introducing the notion of social identity. Social identity is defined as the *"...part of an individual's self concept which derives from his/her knowledge of membership in a social group together with the value and significance attached to that membership"* (Tajfel, 1978, p.63). The social identity becomes salient once the individual becomes aware of the background of the members in the social group. Tajfel's research on social

categorization demonstrates that people have the tendency to exaggerate differences in critical dimensions between groups and minimize the same within the social groups. Categories are more salient when group identities are based on several distinctions such as race, gender, religion, social and economic conditions. Such in-group or inter-group comparisons have a significant effect on uncertainty reduction in communication behavior. Subsequent researchers (Gudykunst and Hammer, 1987; Giles and Johnson, 1987) suggested that research on URT should be integrated with social identity theory to better explain communication in diverse contexts. The URT can be succinctly summarized as shown in Figure 6:



**Figure 6: Three possible stages in initial interactions between perfect strangers**

The original theories discussed above have been predominantly applied to face-to-face communication. On the other hand, the computer mediated communication (CMC) is a reduced cues environment (Culnan and Markus, 1987) that prevents or restricts individuals from assessing the attitudes and intentions or the behavior of others. This condition is exacerbated by

the relative anonymity afforded by CMC. Therefore, individuals engage in strategic cognitive deliberations to compensate for the limitations of the medium of communication. For instance, the social identification/de-individualization theory (Lea and Spears, 1995) suggests that in a reduced cues environment, individuals adjust cognitively and form impression of others with whatever limited information that is available, and the extent to which the individual and social identities are congruent influences target attributions and behavior. Further, individuals not only adapt to the remaining cues (including conventional message content and linguistics) (Tidwell and Walther, 1992) but also to the social information embedded in the messages. Ramirez et al., (2002) define such information seeking as the individual's pursuit of desired information about a target in CMC. Such information has the potential to influence uncertainty levels of the communication partners. In the pursuit of information, individuals use several strategies that vary in directness, effectiveness and efficacy. Further, some information seeking strategies require direct interaction with the communication partners whereas others completely circumvent human interaction. For instance, in online communities, some individuals seek active interaction with other members while others passively observe the ongoing proceedings (termed as lurkers by Preece et al., 2004). Other active strategies include using search engines to actively search for information. The selection of various information search strategies are also impacted by the characteristics of the communicators, the situation and context of the communication and technology related factors. Some of the individual characteristics include age, background, preferences and skills. Situation and context related factors include the institutional context in which the communication is occurring, and the even mundane factors such as availability of time and physical space. Finally, the technology related factors include the transparency afforded by

the medium and the technological efficiency of the medium that enables the communicators to effectively search for the required information. Based on the above discussion, it can be hypothesized that the amount of information exchanged, the type of information exchanged, and the extent of social identity between the communication partners is directly related to the uncertainty reduction, and influences trusting intentions and subsequently the behavior. The uncertainty reduction process is additionally influenced by the communicator related, the context related, and technology related factors.

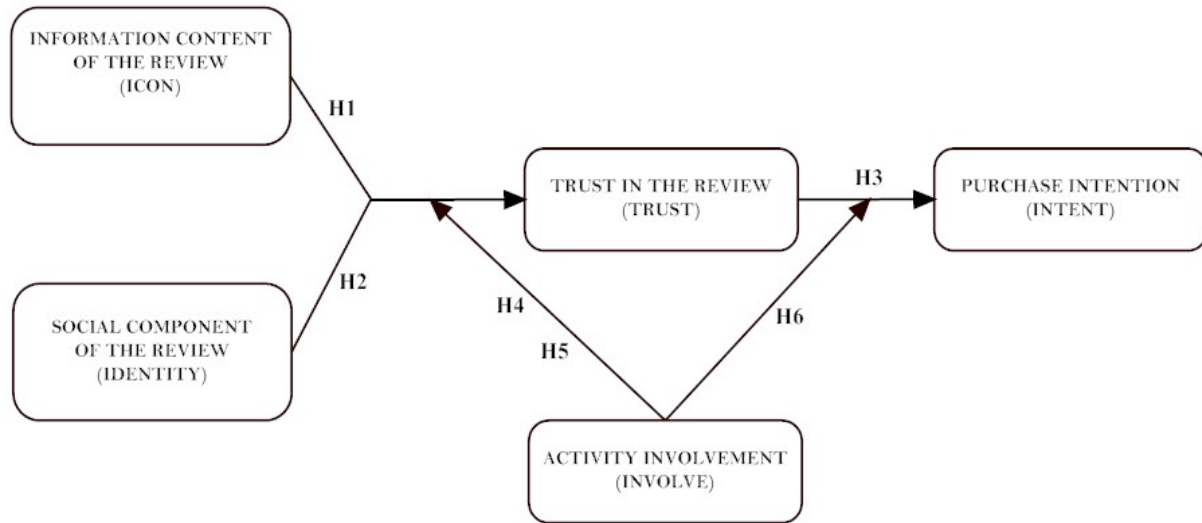
This logic can be extended to the online PRS wherein customer reviews are essentially interactions between customers with both social and informational goals. While the interactions between consumers were previously studied in the context of Usenet groups and virtual communities, one of the main differentiating factors with reference to PRS is that the interactions here do not have a previous history and the expectancy of future interaction is very low or non-existent. This gives rise to two types of uncertainty: 1) the uncertainty associated the product or service being considered by the consumer, and 2) the uncertainty regarding the intentions and genuineness of the product review and the reviewer. To reduce such high levels of uncertainty, consumers employ both active and passive strategies of information search. Active strategies involve efforts to evaluate the content of the message itself, and assess the source expertise and bias (Buda and Zhang, 2000). In this process, consumers also search for information from other sources and compare them with the given message. In the case of online reviews, this could mean scanning other reviews of the same product if there are any, or querying through a search engine. Passive strategies include social observation wherein uncertainty is reduced by witnessing behavior of others and drawing conclusions. In online interactions, even though the

availability of traditional non-verbal and contextual cues is limited, other cues or proxies for such information are used by the information seeker. As a result, alternate bases for psychological comparison of similarity such as an inclusive mindset or shared group identity might come into play rather than shared characteristics such as socio-economic status (Kollock and Smith, 1996). At the same time, technology related factors such as the efficacy of the underlying technology in enabling information search and the institutional context in which the interactions take place further reduce uncertainty, and help build trust in the reviews, and eventually the product. It is proposed in this study that consumers apply more than one of these heuristics while assessing the trustworthiness of online reviews and decide whether or not to use them as decision aids during the purchasing process. The conceptual model in this study is derived from the above discussion. The constructs and the associated hypotheses are detailed in the following sections.

### **2.11. Conceptual Model**

The research model for this study is based on the theoretical foundations presented in the previous section, and is composed of six key constructs (see Figure 7). As discussed previously, review seekers have both informational and social goals. Therefore, it is hypothesized that both the informational content in the review (ICON) and the social component of the review (IDENTITY) induce consumers' trust in an online review. The social component of the review is a combination of the consumers' perception regarding the socio-demographic characteristics of the reviewer. The induced trust (TRUST) positively influences consumers' behavioral intention (INTENT) to purchase the product. In this context, another concept of interest is the involvement (INVOLVE) of the consumer towards the product in question. It is hypothesized that

involvement has a moderating influence on the relationship between the review characteristics and induced trust as well as the relationship between induced trust and intention to purchase the product (INTENT).



**Figure 7: Conceptual Model and Hypotheses**

## 2.12. Construct Definitions and Hypothesis Development

A theory is a statement of relationships between units observed or approximated in the empirical world. The approximated units are constructs which by their very nature cannot be observed directly, may be applied or even defined on the basis of the observables (Kaplan, 1964). Variables, on the other hand, may be defined as observable units which are capable of assuming two or more values (Bacharach, 1989). The constructs constituting the conceptual model in this study and their definitions are shown in Table 2, and discussed in detail in this section. The measurement variables for each construct are discussed in the methodology section.

**Table 2: Definitions of constructs in the conceptual model**

<b>Construct</b>	<b>Definition in this Study</b>	<b>Abbreviation</b>
Information content in the review	The extent and depth of information provided in the review.	ICON
Social component of the review	The reviewer's disclosure of socio-demographic information in the review and the consumers' perceived similarity with the reviewer on these dimensions.	IDENTITY
Decision trust	Consumers' willingness to trust the information by the review and purchase the product/service	TRUST
Purchase intention	Consumers' intention to purchase the product/service	INTENT
Activity involvement	Consumers' involvement in the activity for which the product/service is being reviewed	INVOLVE

### **2.12.1. Information content in the review**

Theories pertaining to uncertainty reduction suggest that in initial interactions, the extent of verbal communication between the communication partners alleviates uncertainty. Further, the length and depth of discussion in the initial stages also reduces uncertainty and enhances the trust between the communicating parties. In the case of online reviews, consumers will rely heavily on the amount of information provided in the review. Word-of-mouth is essentially an information source that consumers use to gain knowledge about a product or service. Therefore, the extent of information available through a word-of-mouth communication episode helps the customers assess the attributes of the product as well as the source of information, and this builds trust in the source.

Informational content is considered one of the most important dimensions of trust formation in many e-commerce related studies. While traversing online websites, consumers

would like to know more about the company, its staff and its policies (Shelat and Egger, 2002). Similarly, Lee, Kim, and Moon (2000) found that comprehensive information, defined as the extent to which a customer has enough information to make a purchase decision, has a significantly positive influence on revisits and shopping intentions in online stores. Extensive information enables the consumers to reduce the inherent uncertainty in online purchasing process. Since online reviews are open ended text based communications, the amount of information definitely matters while assessing the quality of such reviews. Buda (2003) suggests that when consumers are presented with a message, they make an effort to assess whether or not it provides an accurate representation of the product. The persuasive impact of the message is diminished considerably when consumers attribute reporting bias to the source. Subsequently, the message recipient makes an assessment of message credibility in terms of the expertise and knowledge of the source providing the information. In the case of online reviews, reviewers who are high in expertise are likely to possess greater awareness and knowledge about the markets and the products within it (Mitchell and Dacin, 1996), a fact reflected by the extensiveness of their reviews.

Previous research in online reviews has studied informational content of the review mainly in terms of the number of words in the review (e.g., Mudambi and Shuff, 2007) or the overall orientation of the textual content in the review (e.g., Ba and Pavlou, 2001; Pavlou and Dimoka, 2006). However, the number of words or the orientation of the review tend to be nothing more than peripheral cues for the consumer, and do not actually help in deciphering the attributes of the product. To reduce uncertainty regarding the product, customers need to integrate and process information from various types of sources. In the case of online product

review systems, consumers face multiple reviews about a single product or service. Therefore, the extent of influence of each information source depends greatly on the way information is presented or framed. The presentation/framing of a message is termed as argument quality (Petty and Cacioppo, 1986). Individual judgments are affected not only by the outcome of the decision but also by the way the initial background and context of the choice is described. Information sources that make strong claims (claims that are relevant, objective and verifiable) tend to be more persuasive and are perceived more credible. The persuasive strength of argument quality in a message source has been established in numerous contexts. For instance, research in traditional word-of-mouth (e.g., Kempf and Palan, 2006) found that argument quality of the communication between two consumers tends to have a positive influence on subsequent brand attitudes and purchase intentions. In the context of organizational research, Scwenk (1986) found that arguments of senior managers were perceived to be more persuasive when they provided more information. Similarly, Dillard, and Shen (2005), through their research in healthcare communication, emphasize that a strong argument containing concrete facts and sound evidence has a greater likelihood of inhibiting uncertainty as opposed to message lacking in evidence and faulty reasoning. Building upon this stream of thought, it can be assumed that while increased information in an online review need not be the only driver of trust, it has some contribution to an enhanced consumer confidence in the review and the reviewer. A product review is an argument made by the reviewer to either encourage or dissuade consumers from buying a particular product or service. The manner in which the reviewer argues for or against the product increases the credibility and trust perceptions. Therefore it is hypothesized in this study that

online reviews with better argument quality and analysis (henceforth known as ICON) have a higher trust factor associated with them than brief and general reviews.

*H1: Reviews with higher ICON have a higher positive effect on TRUST than reviews with low ICON.*

### **2.12.2. Social Component of the Review**

In product review systems, while information regarding the product attributes alleviates uncertainty to a certain extent, the social mechanisms also help the consumer decipher the motivations driving the reviewers' effort to provide the review.

In this study, the social component of the review is conceptualized through two social mechanisms, namely identity claiming and granting in socially homogeneous groups (Bartel and Dutton, 2001). While identity claiming and granting are separate processes, they are manifested in the common behavior of members belonging to a group. Identity claiming is an individual's self-appraisal along a variety of attributes such as physical and cognitive abilities, personal traits and motives, and social roles (Erikson, 1980). It is also defined as a type of communication through which individuals make themselves known to others, and when others reciprocate, leads to relationship development (Taylor and Altman, 1987). It is known to increase the depth and breadth of relationships, and enhance the shared understanding among members of a group. In the case of online environments that are generally considered goal directed and lacking in non-verbal cues, individual self-disclosure and selective self-representation may lead to exchanges that are more intimate than regular face-to-face interactions (Tidwell and Walther, 2002). However, while identity is cognition of self, it is manifested in social environment when the

identity claim of an individual is recognized by others and is granted a place in the community of users. Such social identity promotes shared understanding and increases the trust and ease of communication between the involved parties. Several theories have been expounded to explain this phenomenon. Uncertainty reduction theory (Berger and Calabrese, 1975) suggests that communication partners, especially in the initial rounds of interaction, resort to uncertainty reduction strategies involving exchange and collection of information that allows them to predict one another's attitude and behavior. The more this social information, lesser is the uncertainty. Similarly, social identity theory (Tajfel and Turner, 1979) suggests that individuals reduce uncertainty in inter-personal interactions by choosing to communicate with others who share similar values, and social identity. Communication between individuals with shared identity is much more efficient and effective than between individuals from disparate backgrounds. In this sense, social identity claiming and granting are closely related since knowing the identity of the source of information (in this case, the reviewer) helps individuals find similar others (Jensen et al., 2002). On the other hand, some other researchers (Joinson, 2001; Lea, Spears, and deGroot, 2001) argue that social identity does not necessarily lead to positive outcomes in online interpersonal exchanges. The logic is simple - lack of identity related information leads to the communication partners creating an idealized image of each other, thereby leading to better relationship development that is not hampered by traditional barriers such as socio-economic status and other demographic variables. Individuals' self-disclosure disrupts this relationship flow.

The importance of the two social mechanisms discussed above has been a subject of interesting research related to online behavior and e-commerce. For instance, online

communities are formed on the basis of common consumption characteristics. In these communities, individuals come together based on common interests and establish group norms to manage the dynamics within the community. In these groups, there are certain norms of identity creation and self-disclosure (e.g., the registration process is setup in such a way as to elicit individuals' background information specific to the community needs). Individual consumers, through the very act of following these community norms of providing identity information send a signal that they are conforming to the norms of the community. Such conformity patterns are positively interpreted by other members, thereby establishing the identity of the individual (McKenna and Bargh, 1999). The identity claiming and granting mechanisms further increase the familiarity and trust between the members, and form the basis for the psychological bonds that motivate the members to emulate the community action. Similarly, previous research in knowledge management (Sussman and Seigal, 2003) identified at least two reasons why identity related information is important in online interactions. First, information acquisition is more efficient when the source is identifiable. Second, identity helps increase the credibility of the information source and as a result, the information is perceived to be more useful when the source credibility is perceived high.

Specific to the context of the study is the importance of identity in word-of-mouth behavior. Researchers have long established that word-of-mouth is socially embedded in identity groupings, and these identity related behavior is one of the primary motivators driving consumers to provide product related information in online consumer communities (Bagozzi and Dholakia, 2004; Wang and Fesenmaier, 2003). Such group identity based behaviors have been conceptualized in various forms in both sociology and marketing literature. For instance, Gilly et

al., (1998) studied social identity between interpersonal information seekers using the construct 'homophily' and 'tie strength'. Homophily is defined as the degree to which individuals' in a dyad feel similar not only in various demographic characteristics but also perceived similarity in terms of shared values, preferences and lifestyle (Lazarsfeld and Merton, 1954). Homophily is a major driver of WOM information seeking in both high and low involvement purchase, and previous research (Brown and Reingen, 1987) found that similarity between the source and the recipient is highly significant in explaining the occurrence and influence of WOM communication. The very fact that the advice is originating from a socially similar source will generate more interest in the recipient, and serves as a cue to the latter that the product or service in question might also be of interest to the former. For instance, Feldman and Spencer (1965) found that couples looking for information about physicians for their children often sought advice from other couples who were similar to them in terms of demographic characteristics. Social identity has also been studied under the construct known as 'tie strength'. Tie strength is defined as the extent of relationship between the sources engaging interpersonal information search. Studies have shown that new product diffusion and variety seeking behavior are positively correlated with the tie strength in a group or society (Coleman et al., 1966). More recently, Forman, Ghose and Weisenfeld (2008) found that when reviewers shared their demographic information such as city name, it spurred identity granting behavior from other customers, and eventually had a positive impact on sales. Building upon this discussion, it is hypothesized in this study that the reviews with a higher perceived social component (henceforth known as IDENTITY) have a positive impact on the consumers' trust in the review.

*H2: Reviews with high IDENTITY have a higher positive effect on TRUST than reviews with low IDENTITY.*

### **2.12.3. Trust in the Review: The Mediating Construct**

This study adopts Mayer and Davis's (1999, p.712) definition of trust: "*Trust is the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other party will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party*". Trust is related to competence, responsibility, dependability, likeability and honesty (Swan et al., 1988). This definition is highly apt for interpersonal communication. Trust and uncertainty form two ends of the same continuum in the sense that the higher the uncertainty, the lower the trust and vice versa. The fundamental outcome of uncertainty reduction mechanisms is enhanced trust. Further, the notion of willingness in Mayer et al.'s definition of trust reflects the trustor's perception that the other party is competent, open, concerned, reliable, and there is a complementarity of intention and expectation between the two parties (Brown et al., 2004). The literature on trust is quite confusing due to its attribution to a variety of meanings. In this, a primary distinction has been made between the willingness to trust, (an attribute of the trustor) and trustworthiness (an attribute of the trustee). For instance, the concept of benevolence trust used widely in the economics literature (Williamson, 1987) refers to a trustor's belief about the trustee's goodwill intentions, even when the trustor is aware of the trustee's opportunity to take advantage of the situation. On the other hand, McKnight, Cummings, and Chervany (1996) define trust as the extent to which one party is willing to depend on something or someone in a given situation with a feeling of relative security, even though negative consequences are possible. The concept of

trust in the realm of e-commerce has been extensively studied in various fields as diverse as information systems, e-commerce and marketing, to social psychology and strategic behavior. Due to the central importance of this construct in the study, the various attributes of trust explicated in previous research are detailed in Table 3. The level of trustworthiness of a source is directly related to how individuals perceive and respond to information (Grewal, Gotleib and Marmostein, 1994). Trust is also considered as the central cue in the consumer decision making process since it has a positive impact on the consumer's overall attitude and behavioral intention. In online PRS, the problem is that consumers might not have complete information about the reviewers, actions, thoughts or motives, thereby creating a problem of information asymmetry.

**Table 3: Trust attributes studied in extant literature**

<i>Trust attributes</i>	<i>Study Citation</i>
Competence, responsibility, dependability, likeability and honesty	Swan et al. (1988)
Benevolence, Predictability, Fairness, Reliability	Ba and Pavlou (2002); Doney and Cannon (1997)
Motivation, Ability, Integrity	Jarvenpaa and Tractinsky (1999)
Competence, Benevolence, integrity, Predictability	McKnight (2001)
Disposition to trust and willingness to trust	McKnight et al. (2002)

Even then, consumers are willing to use various heuristics to assess the trustworthiness of the source, and make a decision based on what can be a potentially misleading or false product review. Therefore, the concept of decision trust can be aptly applied in the context of this study. Decision trust denotes an element of dependency on the other person, even when the other

person is a completely unknown entity, and this trust contributes, to an extent, towards the final decision of the consumer whether to purchase the product or not. Based on the previous discussion, it is hypothesized in this study that the decision trust induced by an online review (henceforth denoted by TRUST) acts as a mediating construct between the impact of reviewer characteristics on consumer's intention to purchase the product.

*H3: The higher the TRUST in an online review, higher will be the INTENT.*

#### **2.12.4. Intention to Purchase the Product: The dependent Construct**

Purchase intention (henceforth known as INTENT) is defined as the probability that the consumer will purchase the product, in this case, the product being reviewed on the PRS. While there is a general criticism about behavioral studies that intention does not accurately measure the actual behavior, it is generally accepted that intention is the strongest predictor of behavior (i.e. the likelihood that the individual will engage in the said activity (Schiffman and Kanuk, 2000). Further, previous research also suggests that credible WOM is a strong driver of purchase intentions since it alleviates uncertainty and lowers the perceived risk associated with online product purchase, more so in the case of experiential products such as hotels and tourist activities (Jeong and Lambert, 2001). The purchasing intention concept has been studied from two different directions in the e-commerce and business literature. One direction was the technology acceptance approach that focused on the effect of the technical qualities of the medium and the user on likelihood of business transactions. The other direction was mainly oriented towards the mediating role of trust in online sources. The need for these two approaches was born out of the relative abstractness with which the general consumer behavior models treated online purchasing

behavior (the typical stages include need recognition, pre-purchase information search, evaluation of alternatives, actual purchase and post purchase evaluation) (Engel et al., 1995; Schuffman and Kanuk, 2000). However, compared to the regular shopping environment, online commerce provides two additional challenges to the customer. Firstly, they have to interact with a technology medium to complete transactions, and this gives rise to issues such as technology acceptance, usability, human computer interaction and self-efficacy. On the other hand, when we view the e-commerce channel as an information conduit, added constraints such as anonymity, reduced richness and social cues, and abundance of information give rise to the importance role played by consumer trust in driving purchase intentions. In this study, the focus is more on the latter approach since it can be assumed that consumers who actually use the PRS are relatively comfortable with the underlying technology tools. Purchase intention in this study has two dimensions: 1) the willingness to purchase the product, and 2) the willingness to recommend the product to friends and relatives. These dimensions are drawn from the services marketing literature that assesses both attitudinal and behavioral satisfaction. Attitudinal aspect reflects immediacy of the purchasing episode while the behavioral aspect reflects the consumers' willingness to recommend the product to family and friends (i.e. engage in positive word of mouth).

#### **2.12.5. Product Involvement: The Moderating Construct**

The concept of involvement has received growing attention in consumer behavior literature during the last twenty years (Broderick, Mueller, and Greenly, 1999), and has an

important role to play in the context of online peer reviews. The elaboration likelihood model (Petty and Cacioppo, 1986) suggests that the attitude towards various objects, issues and people is impacted by source expertise, the extensiveness of the message, the mood of the message recipient and various other contextual variables. In other words, attitude towards a message is formed through a combination of source credibility and recipient's involvement in the context.

Involvement has been defined as a subjective psychological state, reflecting the importance and personal relevance of an object or event (Barki and Hartwick, 1989). In this regard, the involvement construct has also received increasing attention from the leisure and tourism related studies. While tourism and travel related products are generally considered high involvement products, there can be relative difference between various activities within this single domain (Havitz and Dimanche, 1999). Three main types of involvement are generally evident in extant literature: product/activity centered, subject centered and response centered (Finn, 1983). The subject centered involvement suggests that individuals are inherently different in various involvement related variables. Response centered involvement refers to the differences in consumer involvement reaction when exposed product related stimuli. Product centered involvement, on the other hand, suggests that certain products or activities are inherently more involving than others. Research exploring all three types of involvement suggests that highly involved consumers use more criteria for product evaluation, search for more information, accept fewer alternatives and process any given information in detail (Chaiken, 1980), and will form attitudes that are more resistant to change (Celsi and Olsen, 1988). The degree of consumer involvement has an impact on information processing, decision making and response to external/product related stimuli. Extending this concept to leisure and travel, researchers have

looked at activity involvement as an important construct to explain the product centered involvement. Activity involvement is defined as the unobservable state of motivation, arousal, and interest towards a recreational activity or associated product (Havitz and Dimanche, 1999). It is evoked by particular stimulus and situation, and has drive properties. It has been recognized that involvement with leisure activities leads to greater sensitivity towards subtleties of activity attributes (knowledge of the equipment, site selection etc.), greater proportion of activity importance, and greater commitment to specific service providers or geographic locales. A simple example to differentiate high and low involvement activities could be the difference between planning a visit to an expensive restaurant for a romantic dinner with a loved one, which might suggest high involvement in comparison to planning to visit a restaurant alone for a lunch on weekday. Some of the important dimensions of activity centered involvement include interest, pleasure, perceived probability and consequence of risk, and self expression (Laurent and Kapferer, 1985). In the case of high involvement activities, the probability and consequence of risk, both monetary and non-monetary, is higher in comparison to low involvement activities. Therefore, consumers assessing online reviews and taking decisions in a high involvement mode, tend to rely on more cues and require more information than consumers in low involvement mode. Further, highly involved consumers will also ratify the information given in the online review with other informed sources before forming an opinion towards the product. Consequently, involvement should have a moderating effect on the relationship between review characteristics and attitude towards the review as well as between this attitude and behavioral intention. Therefore, in this study, it is hypothesized as follows:

*H4: The positive effect of ICON on TRUST will be greater for subjects with high INVOLVE than for subjects with low INVOLVE.*

*H5: The positive effect of IDENTITY on TRUST will be greater for subjects in high INVOLVE than for subjects in low INVOLVE.*

*H6: The positive effect of TRUST on INTENT will be greater for subjects in high INVOLVE than for subjects in low INVOLVE.*

### **2.13. Summary**

This chapter provided an extensive summary of the literature that supports this study. Researching the dimensions of consumer behavior, especially in an online context, is a complicated task owing to the multitude of dimensions that operate at any given time. To simplify this task, this chapter provided a brief overview of the basic dimensions of consumer behavior, especially, the consumer buying process. Within this, the importance of information search was established. Further, the role of online word-of-mouth and the issues surrounding consumer trust in the specific case of online product review systems were reviewed. To establish a starting point to understand consumer trust in online product reviews, this study adopted the uncertainty reduction theory. The basic notion is that product reviews are a form of social interaction between the consumer who provided the review and the consumer who is reading the review. Since this is an online environment, consumers face numerous uncertainties regarding the product, the website and the review itself. To reduce uncertainty, consumers search for numerous instrumental and social cues present in the review. Based on this argument, this study applied uncertainty reduction theory to explicate two factors that were hypothesized to influence

consumer trust in the review. The research design and methodology adopted to test these hypotheses are outlined in detail in the subsequent sections.

## CHAPTER 3

### RESEARCH METHODOLOGY

This chapter discusses the methodological issues pertinent to empirical testing of the hypotheses proposed in this study. First, the research strategy selected to achieve the objective of this empirical study is outlined. Then, the methods used to develop the experimental manipulations are discussed. Third, the research methodology, including the sample selection and, sample size, is discussed. Finally, the results from the pre-tests and manipulation checks are presented and discussed.

#### 3.1. Research Strategy

McGrath et al. (1981) explore the problems of conducting research in the social sciences. They argue that, in selecting a methods, researchers have to always makes trade-offs between the fundamental problems they want to avoid and the problems they are willing to accept. Cook and Campbell (1979) state that, *ceteris paribus*, it is always best to maximize: a) generalizability with respect to populations, b) precision in control and measurement of variables related to the behavior of interest and, c) existential realism of the context in which behavior is observed. For example, in a controlled experiment, the researcher maximizes precision in control and measurement of variables, but risks generalizability to other populations and lack of realism with respect to the context. A laboratory experiment is high in internal validity, since it allows the researcher greater control of potential extraneous variables. By reducing the noise of these potential confounding variables, the researcher can enhance the precision of testing the relationships of interest. At the same time, it should be noted that experimental research designs present several problems. A lab setting is an unnatural and foreign environment for the

participants. First, their motivation for participating in the experiment is very different from that of the normal subject because the subject participates for the incentive and not in a real life decision making environment. This motivational difference has profound effects on the subjects' behavior, as well as how they approach the entire exercise.

The primary objective of this study was to investigate two research questions:

RQ1: To explicate the factors that drive consumers to develop trust in tourism and travel related PRS.

RQ2: To understand the impact of online reviews induced trust on consumers' decision making.

To enable a scientific investigation of these questions, a conceptual model based on uncertainty reduction theory and social identity theory of interpersonal communication was proposed in the previous section. A conceptual model incorporating six constructs and their interrelationships was presented. It was hypothesized that the information content in a review (ICON), and the social component of the review (IDENTITY) have a positive effect on consumer's trust (TRUST) in the review, and this trust in turn has a positive effect on the consumer's intent to purchase a product or service (INTENT). Further, it was also hypothesized that the extent of involvement (INVOLVE) moderates the above mentioned relationships. The constructs and their associated hypotheses are outlined in Table 4.

**Table 4: Constructs in the research model and the associated hypotheses**

<b>Construct</b>	<b>Hypothesis</b>
<b>ICON</b>	H1: Reviews with higher ICON have a positive effect on TRUST than reviews with low ICON.
<b>IDENTITY</b>	H2: Reviews with high IDENTITY have a higher positive effect on TRUST than reviews with low IDENTITY.
<b>TRUST &amp; INTENT</b>	H3: The higher the TRUST in an online review, higher will be the INTENT.
<b>INVOLVE</b>	H4: The positive effect of ICON on TRUST will be greater for subjects with high INVOLVE than for subjects with low INVOLVE.  H5: The positive effect of IDENTITY on TRUST will be greater for subjects in high INVOLVE than for subjects in low INVOLVE.  H6: The positive effect of TRUST on INTENT is greater for subjects in high INVOLVE than for subjects in low INVOLVE.

Previously, to investigate topics such as the one in this study, researchers have used a range of techniques. Some used econometric methods to study the patterns and impacts of online review systems (e.g., Ba and Pavlou, 2002). On the other hand, majority of the trust related studies in the realm of e-commerce have used survey methods to elicit opinions from customers using the online PRS (e.g., Chatterjee, 2001). Similarly, studies that explored the perceptions of anonymity and uncertainty in inter-personal communication have typically used laboratory experiments or simulations (Rains, 2007). This study adopts a repeated measures quasi-experimental design for the following reasons:

- a) The independent and moderating constructs have high/low conditions (ICON and INVOLVE), present/absent conditions (IDENTITY) that cannot be easily delineated

in real life PRS. An experimental design allows one to manipulate the above mentioned constructs using specially designed manipulations.

- b) In real life PRS, consumers typically read more than one review associated with a product/service, and decide on which reviews to trust and which reviews not to trust. The repeated measures within-subject design allows for simulating this aspect in a laboratory setting.
- c) Despite several attempts, the researcher could not gain access to data from real life settings and therefore adopted the next best study design.

The two independent constructs and one moderating construct with 2 levels each led to a 2x2 (within-subjects) x 2 (between-subjects) full factorial quasi-experimental design (see Table 5).

The two levels of each construct in the study design are as follows:

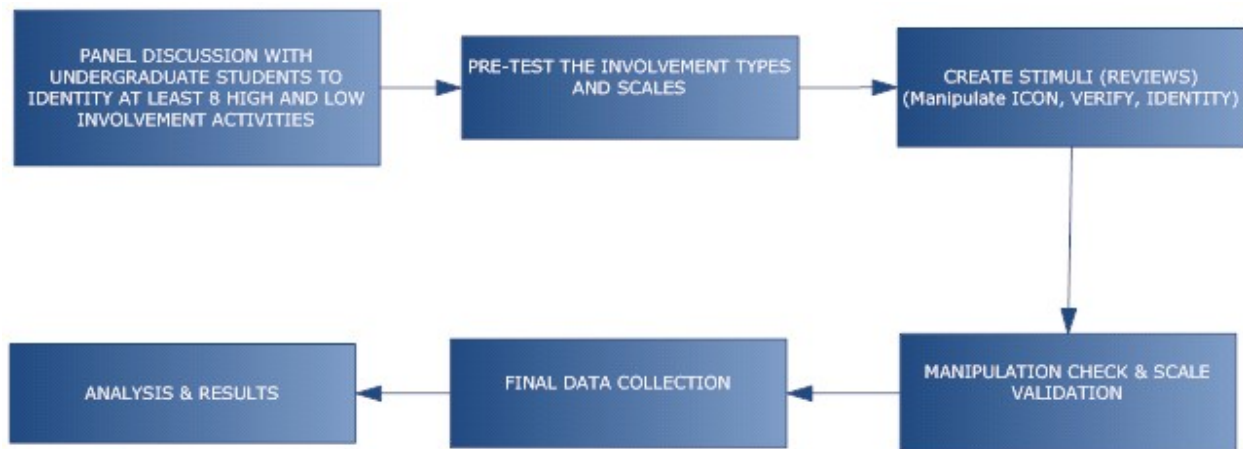
- **Informational content:** two levels, *low/high argument quality* were manipulated by developing stimuli with varying argument quality in reviews extracted from a known PRS.
- **Social component:** two levels, *presence/absence of personal photo, real name, age and place of origin, and a short statement about lifestyle* were manipulated by developing the stimuli in the above mentioned reviews. To increase the salience of this cue, a lifestyle similar to that of the sample subjects' characteristics was introduced into in the reviews.
- **Activity Involvement:** with two levels, *high/low*, were manipulated by choosing a different a set of high and low involvement activities which were presented to the subject through the review.

**Table 5: Levels of the constructs in experimental design**

<i>Constructs</i>	<i>Levels</i>	
ICON	Low	High
IDENTITY	Absence	Presence
INVOLVE	Low	High

Subjects were chosen from the under-graduate student population of a large North-Eastern university in the United States. The data collection involved six phases.

The purpose of the first phase was to elicit subjects' views regarding various high and low involvement trips they might typically face as students. To this end, 20 undergraduate students were randomly selected to participate in a group discussion. The discussion and subsequent analysis helped identify certain variables that formed the basis for manipulating the involvement levels of the trips. Based on this knowledge, numerous trip scenarios were created and tested for levels of involvement. The goal of this phase was to identify two trips/activities, one for high involvement and the other for low involvement. These two trips also served as the manipulation basis for the covariate 'INVOLVE' in the final data collection instrument. In the third phase, hotel reviews were created for each of the two trips so that the two independent factors, 'ICON' and 'IDENTITY' were manipulated as high and low. In the next phase, these survey instruments were tested for scale validity and manipulation checks. The validated instrument (with randomly placed reviews) was evaluated by 311 undergraduate students. The overall data collection procedure for this study is summarized in Figure 8:



**Figure 8: Data Collection Phases**

### 3.1.1. Panel Discussion with Undergraduate Students

One of the primary tasks prior to stimulus development in this study was to decide on the activities that actually fit into the high involvement and low involvement mode. While previous research both in tourism as well as other consumer sciences has explored this aspect, theoretical guidance is very limited. This is understandable since activity involvement has different connotations to different people and can change based on place, time and context. The same activity can sometimes be perceived as high or low involvement based on these variables. For instance, Zalatan (1998) explored the involvement of married couples in various activities of pre-trip, during-trip and post- trip process. His data suggested that booking an accommodation was a high involvement pre-trip activity when compared to finding a dining place. At the same time, Murray (1991) found that out of the fifteen activities listed by consumers, finding a fine restaurant to eat was considered a high or medium involvement activity. This change in involvement can be attributed to the multi-dimensional nature of involvement which consists of both hedonic and cognitive values. For instance, going to a fine dining place with a loved one on

a special occasion has more hedonic value than going alone for a working lunch to a restaurant. Similarly, Pan and Fesenmaier (2006) studied the mental models of tourists with reference to the activities in a destination while doing online search, and found that booking an accommodation had precedence over other activities such as dining facilities. While these findings cannot be construed as absolute evidence, it is assumed that consumers typically refer to online reviews during the pre-trip information search process.

To understand and delineate various aspects of activity involvement relevant to the intended subjects, a group discussion with undergraduate students was undertaken. The rationale for this exercise was to identify the factors that constitute a high and low involvement trip and subsequently use these factors to create various trip scenarios that the target subjects consider exciting or not. Two classes were identified, and after obtaining the permission from the instructors, an announcement was made to the students of these classes. 20 undergraduate students indicated their willingness to participate in the discussion for an extra credit. The participants were not aware of the objective of the main study, and were informed that the discussion was to understand their travel motivations and habits. In the first stage, students were provided a talking point about the excitement of travelling around the country and the world as students. In the ensuing lively discussion, students raised various issues regarding their traveling interests and motivations. During this discussion, students were encouraged to delve upon following questions were raised during the session:

- a. *Name one destination/location that you always wanted to visit but could not due to various constraints.*
- b. *Name one person (and your relationship to this person) who would be the most ideal partner on trip to your most dreamed about location*

- c. *What are the other types of trips that don't really excite you but you have to go due to pressure from others? (and who are these 'others'?).*
- d. *If you were to plan for these trips, what would be the first activity that you would undertake?*

Subsequently, at the end of the session, each student was asked to briefly write about at least two trips, one that they considered exciting (HIGH INVOLVE) and the other not so much (LOW INVOLVE). Excitement is an important affective response that determines consumers' extent of involvement in a purchasing process, and previous research (Wakefield and Blodgett, 1994) suggests that the more involved consumers' are, the more excitement they will feel towards the activities in a leisure setting, and this also directly impacts the intentions to return to the service setting. The students were also asked to briefly describe their pre-trip planning activities for each of these trips. For a sample of students' write-up, please refer to appendix A.

This qualitative data was content analyzed to understand the travel behaviors of the undergraduate students. The content was coded based on four specific variables, namely, 1) the destination/location, 2) the companions of the trip, 3) length of stay, and 4) purpose of the trip. The analysis revealed various types of trip scenarios which are summarized in Table 6 along with some of the examples. For instance, majority of the students (n=13) indicated that foreign locales were their most preferred destinations for a high involvement trip although the companions with whom they preferred to travel ranged from 'significant other' (boyfriend/girl friend), parents, friends or even alone.

**Table 6: Trip variables identified through group discussions**

<b>Variable</b>	<b>High Involve</b>	<b>Low Involve</b>
Destination/Location	International	Domestic
Companion/s	Significant other /Friends	Parents
Length of Stay	More than a week	Less than a week
Purpose	Leisure/Pleasure (e.g. honeymoon; holiday)	Business (e.g. Visiting a college)

### **3.1.2. Involvement Pretests**

In the second phase of the study process, extensive pretests were conducted to measure the subject's involvement with different types of trips. The objective of this exercise was to identify two trips for the final study - one with which students are highly involved (HIGH INVOLVE) and the one with which people are least involved (LOW INVOLVE). To this end, eight different trip scenarios were created by manipulating the different variables identified in the previous phase (see Table 7).

**Table 7: Trip types used for the Involvement pretest**

<b>Trip</b>	<b>Destination</b>	<b>Companion</b>	<b>Length</b>
T1	SanFransisco	Parents	3-day
T2	Europe	Sig. Other	2 weeks
T3	Detroit	Parents	3-day
T4	Detroit	Alone	3-day
T5	Europe	Parents	2 weeks
T6	Detroit	Parents	3-day
T7	SanFransisco	Sig. Other	3-day
T8	Europe	Alone	2 weeks

The trip scenarios were tested on 64 students. The subjects were requested to respond to the 5-item involvement scale (on a Likert scale 1-7 with 7 being strongly agree and 1 being

strongly disagree) for each of the 8 trips laid out in each page (please refer to the involvement scale development in the measurement scales section. The trip scenarios used for the involvement pretest are presented in appendix B. The trip types were randomly placed in the instrument. Tables 8 and 9 summarize the results of this phase. The trips with the highest and the lowest mean were chosen for the final manipulations. The effect size in the ANOVA is the degree of association between an effect (main effect or interaction) with the dependent variable.

**Table 8: Post Hoc analysis of mean involvement for trip types**

Trip Type	N	Grp 2	Grp 3	Grp 1
<b>T3</b>	<b>63</b>	<b>4.216</b>		
T6	62		4.942	
T1	63		5.051	
T4	62		5.093	
T5	62		5.256	
T8	63			5.741
T7	63			5.785
<b>T2</b>	<b>62</b>			<b>6.084</b>

**Table 9: Parameter estimates for the trip types**

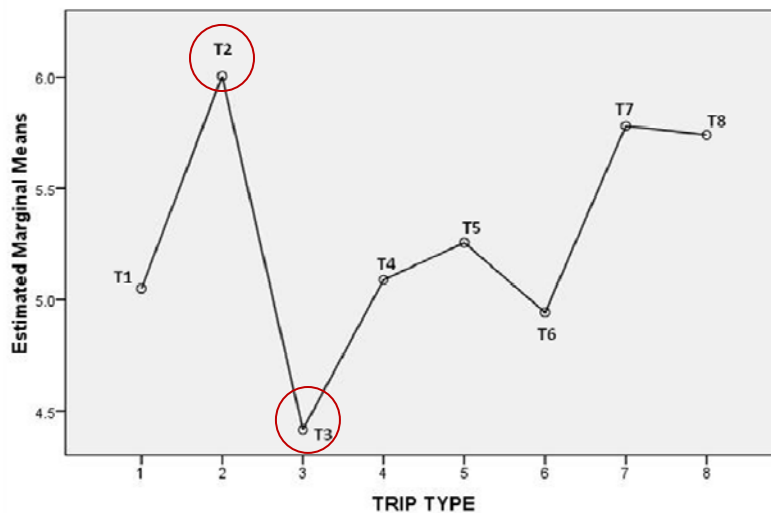
Parameter	B	Std. Error	t	Sig.	Non-centrality. Parameter	Observed Power <sup>a</sup>
Intercept	5.740	.104	55.262	.000	55.262	1.000
[TRIP 1]	-.690	.147	-4.695	.000	4.695	.997
[TRIP 2]	.264	.147	1.793	.037	1.793	.432
[TRIP 3]	-1.324	.147	-9.013	.000	9.013	1.000
[TRIP 4]	-.650	.147	-4.409	.000	4.409	.993
[TRIP 5]	-.484	.147	-3.282	.001	3.282	.906
[TRIP 6]	-.798	.147	-5.409	.000	5.409	1.000
[TRIP 7]	.040	.147	.276	.783	.276	.059
[TRIP 8] <sup>b</sup>						

a. Computed using alpha = .05

b. This parameter is set to zero

The results shown in Table 8 indicate that there were three homogeneous subsets of trips among the eight trips tested on the involvement scale. As shown in Table 9, the between-groups difference in involvement was highly significant. Non-centrality Parameter is related to the observed power while the observed Power represents  $1-b$ , where  $b$  is the probability of a Type II error (failing to reject null when it is indeed false). The significance of these tests indicates large group differences. In this case, the group differences were highly significant for Trip 3 (T3) and marginally significant for Trip 2 (T2). However, combining these results with the overall group means indicated a clear choice in terms of both high and low involvement trips (see the marked points in Figure 9).

- High Involve- Trip to Europe with Significant other (Mean=6.084)
- Low Involve- Trip to Detroit with parents (Mean=4.216)



**Figure 9: Plot of INVOLVE means for 8 trip types**

### **3.1.3. Stimulus Development for ICON, IDENTITY, and INVOLVE**

The two involvement modes formed the basis for the manipulations that were used in the survey instrument. Four reviews were designed based on the template of numerous consumer review sites that provide information and ratings on thousands of destinations and activities related to tourism, travel and leisure around the world. Some of the prominent ones include tripadvisor.com, planetearth.com, and citysearch.com (more specifically for local search such as restaurants, lifestyle, etc). One of the most popular of those sites, Tripadvisor.com was used as the context for this study. As mentioned previously, TripAdvisor.com is currently a global website for travel information and advice, covering more than 270,000 hotels and attractions in over 30,000 destinations worldwide. It features hotels, attractions, and restaurant reviews written by consumers; a wiki for travel information similar in concept to a travel guidebook; "goLists", where users list what to see or what to do; interactive maps based on the Google Maps engine; and "TripAdvisor Forums", an active traveler message board area. With more than 10 million reviews and opinions and nearly 30 million unique visitors a month, TripAdvisor is also the largest and most popular online travel advisory site. The importance of such sites is growing every day. For example, a 2007 survey by American Express hospitality monitor (which is considered as a barometer of hospitality and restaurant business trends) (Wikipedia, 2007) revealed that almost 80% of consumers are now researching online before booking a hotel or deciding on a restaurant, and at least half of them have said that they refrained from booking a hotel as a direct result of negative reviews on websites such as Trip advisor. Given such significant impact of this site on the modern consumer's decision making, TripAdvisor seemed as an appropriate context for this study.

However, online review systems are a relatively new phenomenon, and there is little precedence or academic guidance in this task. While there are numerous experimental studies related to reputation systems in both marketing and information systems domains, they were primarily relegated to the online auctions wherein the reputation systems are well established institution driven mechanisms. This is not the case in tourism and travel related PRS, and therefore immense care had to be taken to select the right stimuli that can elicit the required reaction from the subjects.

To this end, numerous reviews were extracted from the TripAdvisor site and the format of these reviews was examined. The general aspects of these reviews such as the name/screen name of the reviewer, their biographical sketches and the actual review text were extracted. This information formed the basis for manipulating the reviews that formed the basis for the final survey instrument. Also, prior to the development of the final manipulations, a decision had to be taken as to the actual product or service that would be assessed in the reviews. For a given destination, TripAdvisor has listings of numerous activities such as accommodations (hotels), restaurants, attractions and transportation. In this study, hotels were chosen to represent the activity that was assessed in the reviews mainly due to the following reasons:

- a) Once the tourist decides on a destination, booking a hotel room is the first activity they consider while planning for a trip (Pan and Fesenmaier, 2006).
- b) Consequently, hotel reviews are much more prevalent and larger in number in any given travel PRS.

- c) Hotel reviews are more structured due to the limited number of attributes that are easier to manipulate than other activities or attractions.

In this study, the stimulus for the online reviews were manipulated on three variables, information content of the review (by varying the argument quality), the social component of the review (by varying the presence of absence of identity information), and involvement (by varying the scenario of purchase based on the two involvement modes).

ICON Manipulation: As mentioned earlier, ICON has two dimensions, valence (Negative or positive orientation) that is implicit in all the reviews but not measured in this study and argument quality, that was explicitly measured. The first aspect, orientation, reflects whether the review is negative or positive. Since this variable was not being explicitly considered in this study, and incorporating both forms of orientation was not feasible given the methodological constraints, a decision had to be taken as to the orientation of all the reviews to be presented as stimuli. The literature on this issue has been quite equivocal. Klayman and Ha (1987) talked about confirmatory bias that drives consumers to look for affirmative evidence supporting a product choice already made. If that is the case, positive reviews are more likely to elicit strong responses. On the other hand, the notion of negativity bias (Mizerski, 1982) suggests that when consumers are neutral, negative reviews tends to become more salient than positive reviews. Applying this concept to online reviews, Ba and Pavlou (2002) found that in the presence of large number of positive reviews, consumers specifically seek negative reviews that they feel will help them identify specific problems with a product or service. Their study found that negative reviews have a greater influence on trusting intentions ( $\beta = 0.856$ ) than positive reviews ( $\beta = 0.541$ ). Based on this contemporary evidence, only negatively oriented reviews (for both

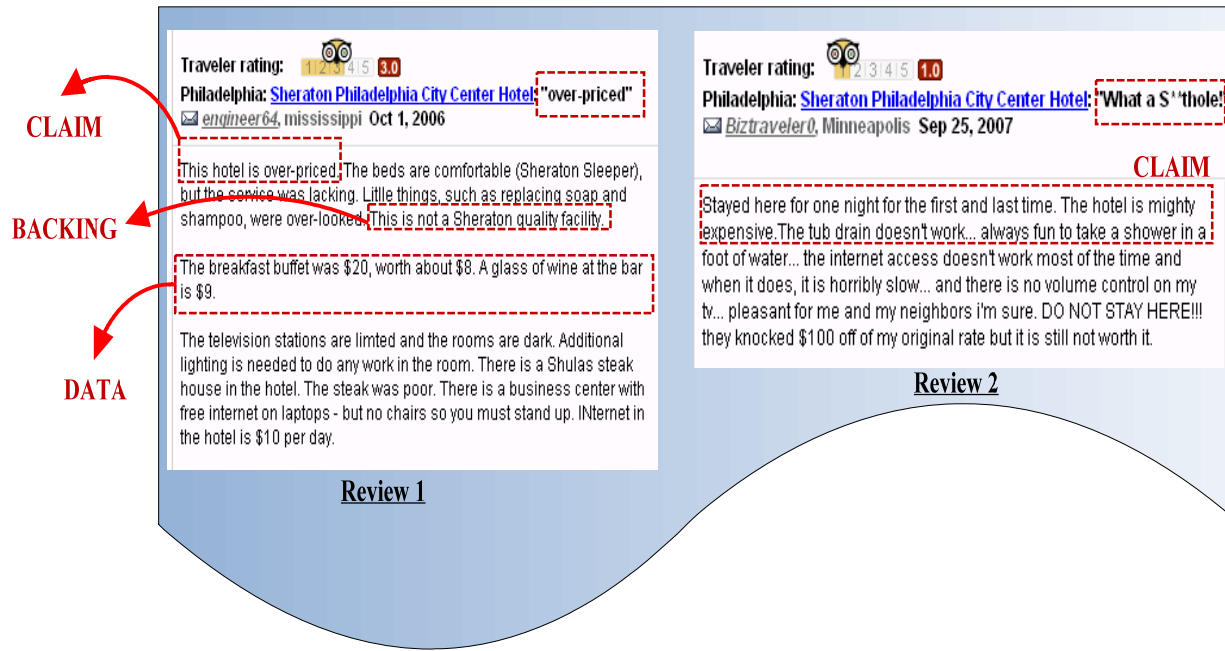
high and low ICON conditions) were used in this study. It was also assumed that in the face of high involvement, subjects would evaluate negative reviews more carefully and show stronger responses to the stimuli.

Another implicit feature of the review is the word count. Previous studies have shown that this variable forms an important basis of differentiation between trustworthy and untrustworthy reviews and shows a strong correlation with the number of helpful votes obtained by a review (Pavlou and Dimoka, 2006). To obtain this information, about 50 randomly selected reviews of hotels and restaurants are tested for word count using word processing software. The word count analysis revealed that for hotel reviews, the average word count was 382.5 (SD=229.45) with the lowest at 170 words and highest at 856, and for the restaurant reviews, the average word count was 248.1 (SD=114.85) with lowest at 113 and highest at 486. However, using more than 800 words in a review was not feasible since those review extended beyond a single page. Given that each subject had to assess four reviews at the same time, a decision was taken to incorporate only 486 words for the high ICON review and 200 words for the low ICON reviews.

The review aspect that was explicitly manipulated and measured in this study was the argument quality. As discussed previously, the measures for ICON included attributes such as reliability, argument quality, presentation format and evidence for the claims. The primary basis is that a review that contains concrete facts and is well presented is more persuasive and has a positive effect on the trust intentions. Therefore, to manipulate this aspect, Tolumin's (1958) model of argumentation as applied by Kim and Benbasat (2006) was adopted in this study. According to Tolumin, to increase a consumer's trust, the structure and content should be well

organized. A trust assuring argument should have the following components: 1) a claim which is defined as an assertion or conclusion put forward for general acceptance. This reflects the question, ‘what is one arguing for?’ 2) Data, which is defined as the evidence presented in the argument to support the claim or what can be known as the basis for the claim, and 3) backing, the portion of the argument that explains why the data and claim should be accepted. For instance, Figure 10 shows a comparison of two typical reviews from Tripadvisor.com. As can be seen, review 1 has all the components. The reviewer claims that the hotel is overpriced, and presents enough evidence to support the argument. Further, the argument is backed up by the assertion that compared to the standards set by Sheraton brand, this particular location is not up to the mark and therefore not worth the price. This indicates the reviewer’s experience about the brand, and shows his/her expertise in making the claims. In comparison, review 2 only makes a claim, and offers no evidentiary support. To extract the argumentation dimensions of the reviews, about 50 randomly selected reviews were examined. A reference sheet was created based on the various aspects of the selected reviews. For instance, the claim aspect of the review is reflected in the title of the review wherein the reviewer qualifies the hotel in a single sentence. In the review text, the reviewer explains (or does not explain in detail) why he/she made that particular claim. Some reviews went into extensive detail to support the initial claims whereas as the others merely reflected a general displeasure for the hotel’s quality. Further, reviews that contained specific examples or numbers were coded as having data as opposed to those reviews that contained a small paragraph of text. This process provided the basis for manipulating reviews based on the argumentation model. However, it has to be acknowledged that this

method still suffers from subjectivity and arbitrary judgment. To overcome this problem, this aspect was rigorously tested during the manipulation checks.



**Figure 10: Tolumin's (1958) argumentation model applied to online reviews**

IDENTITY Manipulation: The social component of the review was manipulated using reviewer's personal information such as photo, real name/screen name, place of origin, and a short statement regarding the lifestyle and tastes. These variables were drawn from the Marx's (2004) study which examined the importance of various identity attributes in anonymous interpersonal communication. This study found eleven different types of information people generally use to assess the identity of a source. The most important of these, as rated by the study subjects, included individual identification (the 'who' question), shared identification (demographics and lifestyle), geographical location (the 'where from' question), and photos

(what does he/she look like question). Real name of the source, for instance, was found to be much more reliable identity information than nick name or screen name in online communities (even though the real name provided can itself be false in many cases). Keeping these issues in mind, the stimuli were manipulated with two conditions: the presence or absence of photo, real name, and age, place of origin and bio-graphical sketch or absence of this information with only a screen name. As mentioned previously, the general attributes of the reviewer were extracted from randomly selected reviews. The analysis of these reviews revealed that majority of the reviewers used a screen name and very few either listed either their first name or full name. Therefore, two screen names and two real names were randomly selected from the list of names. To ensure that the names do not give away the gender, these names were matched with an established neutral names list. Philadelphia was chosen as the geographical location of the reviewer since the subjects resided in this city. A short bio-graphical sketch of the reviewer was also added to the review. This also helped ensure a background similarity between the reviewer and the subjects. One factor which cannot be controlled in this context is the social categorization process. The content of the review itself can form a strong basis for the subjects to draw inferences. The manner in which the review is written, the issues detailed in the review, and the tone, etc. can be sufficient cues for the subject to indulge in a social categorization process. This can be considered as a potential and yet interesting confounding affect in this study. A sample of the lifestyle description used in the manipulations is shown below:

*“I was born in the big apple (I love New York- yohooo!), spent most of my time as a kid in and around Philadelphia (Go Eagles!). As a recent college grad, I enjoy music and parties! I really get into watching MTV and going to live concerts. Overall, I consider myself to be very outgoing and pretty open-minded. I guess that is why I enjoy travelling so much. Actually, I began my exploration of the country about one year ago. In fact, I have only visited a few places. I am not*

*sure about myself most of the time but I have a few ideas about what I like. I am learning a little more each day as I savor my new hobby”*

Similarly, based on the involvement pretests, two scenarios were created for the final manipulations.

#### HIGH INVOLVEMENT MODE

*Imagine that your long awaited dream of going to a foreign location has finally come true! You are going on a trip to Europe for 2-weeks with your significant other. You plan to stay in Paris, and then go around the other countries from there. You have taken up the responsibility to plan the entire trip so that everything would be perfect. After intense search on the Internet, you found the 'Eiffel Tower hotel' to be the perfect fit to your requirements. Now, before booking a room in this hotel, you want to see what other consumers who stayed at this hotel are saying. Now, please read carefully, the Tripadvisor member's reviews about this hotel and answer the questions attached to each review.”*

#### LOW INVOLVEMENT MODE

*You do this every summer no matter what. Your parents have decided to take the entire family for a 3 day trip to Detroit to visit Aunt Betty. They requested you to plan the trip including the flight tickets, rental cars and the hotel to stay. The trip has to be short and within a limited budget. After some Internet search, you found Hotel OmniDetroit that suits your budget limitations. Now, before finally booking a room in this hotel, you want to see what other consumers who stayed at this hotel are saying. Now, please read the TripAdvisor member's reviews about this hotel and answer the questions attached to each review.”*

#### **3.1.4. Construct Measurement Scales**

This section outlines the measurement scales for each of the five constructs tested in this study.

- a) Informational content of the review (ICON): Studies dealing with informational content, especially in advertising and interpersonal communication, have mostly adopted the elaboration likelihood model's notion of a good argument. Previous research (e.g., Slater and

Rouner, 1996) has demonstrated that there is a significant interaction between source credibility, persuasiveness and argument quality, in the sense that when arguments were considered strong and of high quality, information seekers considered the sources to be more credible and persuasive. Similarly, Heron and Reason (1997) found that the quality of the arguments has a direct impact on either intensifying or mitigating cognitive responses. A strong argument is generally known to contain facts and sound evidence whereas a weak argument is considered shallow and lacking in evidentiary support. These studies confirm the assumption that the ICON construct is positively related to trust perceptions since the argument quality of a review is dependent on the amount of information and the logical fashion in which it is presented. The notion of argument quality has a long history of theorizing and empirical validation starting with Petty and Cacioppo's (1986) decision framing study. Previous studies in communication, healthcare and CMC (Boston and Mayer, 1984; Limon and Bostor, 2001) have measured this construct using the Johnson's (1991) scale containing the following variables: strong-weak; Persuasive-unpersuasive; convincing-unconvincing; reasonable-unreasonable. More recently, Rains (2007) and Rains and Turner (2007) modified the original scale to test the effect of argument quality and anonymity of the source on persuasiveness of the messages in a computer mediated environment. This scale tested for a high reliability of 0.89 and 0.91 respectively in the two studies. Given the similarity in the context, the six items (on a seven-point Likert scale) of ICON from the above mentioned studies were adopted in this study. The wordings of the measures were modified to fit the context of an online PRS. After being presented with the review, the subjects were asked to rate the review on six attributes: The review by [reviewer name] is

compelling, well-supported, contained specific facts, contained detailed information, listed concrete examples, and did not include detailed information (the last item was reverse coded during the final analysis).

- b) **Social Component of the Review (IDENTITY):** As discussed in the literature review section, social component of the review is a combination of identity claiming and granting, which are two distinct yet interrelated aspects. One is the consumers' perception that the reviewer has shared socio-demographic information and the other is the perceived similarity with the socio-demographic characteristics of the reviewer. Therefore, the measures for the social component were derived from previous studies in virtual communities (Biocca, Harms and Burgoon, 2003; Ma and Agarwal, 2007; Swann et al., 2000), and traditional word-of-mouth (Mckroskey, Richmond, and Daly, 1975; Gilly et al, 1998). The scale was based on the concepts of self-presentation in online environments. Compared to other forms of communication technologies, the Internet offers numerous opportunities for individuals to express themselves. In the case of online PRS, self-presentation tactics can include uploading ones photo, linking to a personal webpage, posting product usage pictures, reputation ranking, etc. Such features also enhance the virtual co-presence of an online PRS. Based on these concepts, 4 items of identity presentation and deep profiling are adopted for this study. The internal consistency in the Ma and Agarwal (2006) study was relatively low at 0.77. However, given the context of the study, these items were considered appropriate. Subjects, after being presented with the review, were asked to rate their agreement to the following statements (on a seven-point Likert scale): The [Reviewer name] a) has shared photos and relevant personal information with me, b) used a meaningful name in the profile, c) is not

trying to conceal any information from others. The perceived similarity between the consumer and the reviewer is essentially an attributional measure of others or broad evaluations of the relationship with the other. For instance, Gilly et al. (1998) measured the homophily construct to test the influence of word-of-mouth on consumer interpersonal information seeking behavior. Similarly, Nowak and Biocca (2000) and Choi et al. (2001) used a measure of perceived similarity (Mckroskey, Richmond, and Daly, 1975) to measure the user's perceptions of others in virtual environments. These studies used questions about the extent to which the user feels the other person could be a friend, was pleasant or offensive and whether or not the user desired future interaction. The measures used in these studies attempt to capture the sense of feeling similar to others in terms of attitudes, behavior or emotions. More recently, Smith et al. (2005) modified these scales to test the social attraction between the user and the recommender in online recommendation systems. Since the scales by Gilly et al. and Smith et al. were used in the specific context of word of mouth seeking behavior for product purchases, this three item scale was adopted for this study. The subjects were asked to rate their agreement (on a seven-point Likert scale) to the following statements

d) I think there is considerable similarity between me and [Reviewer name] in terms of outlook in life, e) I perceive considerable similarity between me and [Reviewer name] in terms tastes and preferences, f) I perceive considerable similarity between me and [Reviewer name] in terms of social background

- c) Involvement: this construct was hypothesized to play a moderating role between the review characteristics and trust, and trust and attitude towards the product. This construct was measured using a 4 item CIP (consumer involvement profile) scale developed by Laurent and

Kapferer (1995). The original scale had five dimensions, interest/importance, hedonic, sign, risk probability and risk importance. Dimanche et al. (1993), however, suggested that in the case of tourism and leisure related activities, interest/importance and hedonic dimensions can be integrated into a single item. Following the studies in this realm, we develop a 5 item scale (on 1-7 semantic differential scale). The items reflect the 4 dimensions discussed previously. The internal consistency of these items was found to be 0.91 in Gursoy and Gavcar (2003). The subjects were asked to rate their agreement (on a seven-point Likert scale) with the following statements related to the activity they were presented in the stimuli: a) I attach great importance to this activity (pleasure/interest), b) When I face a variety of choices in planning for this activity, I feel annoyed (risk probability) c) it gives me great pleasure to engage in this activity (pleasure/importance), d) If my choice about this activity proves to be bad, I will be very upset (risk importance), and e) even if I plan perfectly for this activity, there is always a possibility for things to go wrong (risk probability).

- d) Trust: This study used the construct decision trust, defined as the subjective probability of the consumer to depend on the online review and take a decision even when the other person is unknown and when there is a probability of monetary and non-monetary loss due to this dependence. Consequently, decision trust is related to the probability that the consumer acts on the information provided by the source. Such trust related behaviors demonstrate the willingness of the consumer to depend on the online information source (either the e-commerce website, or product review) that make the consumer vulnerable to risk (Mayer et al., 1995). Previous studies have conceptualized trust as a behavior (Anderson and Narus, 1990), and in the context of e-commerce, the trust related behaviors have been identified as

willingness to share personal information, acting on the information provided by the online source or making a purchase. To measure this construct, this study adopted the trusting intentions scale developed by McKnight, Choudary, and Kacmar (2002) in the context of e-commerce and online shopping. Specifically, this construct measures the consumer's intention to depend or intention to depend on the source of information in the PRS. This subjective probability is a part of trusting intentions that disposes the consumer towards behavioral intention even in relatively uncertain circumstances. Although institutional regulations and brands come into play in this scenario, studies have shown that decision trust is a distinct construct that has great implications in initial relationship formation. The scale had four items with an internal consistency of 0.91 in the original study. The subjects were asked to rate their agreement (on a seven-point Likert scale) on the following statements: a) I would feel comfortable depending on the information provided in this review, b) I would feel comfortable to act on the information given to me by the reviewer, c) I will not hesitate to use the advice given by the reviewer, d) I feel I can rely on the advice given by the reviewer.

- e) Purchase Intention: As mentioned previously, the INTENT construct reflects the probability that the consumers, after reading the reviews associated with the activity as willing to not only go ahead and buy the product but also recommend the same for family or friends. Various dimensions of this construct have been used in previous studies on e-commerce. Most commonly used include willingness to return to the website/online store, likelihood of purchase, and likelihood of building a long term relationship with the online store/website (Chatterjee, 2001; Heijden et al., 2003). However, in the case of online PRS, there are two levels of consumer affect, one towards the PRS website itself, and the other towards the

product/service being reviewed. Since we focus more on the product than the PRS website, we develop two measures that accurately reflect the intention of the consumer. The subjects answered the following questions (On a seven- point scale of highly likely- highly unlikely): Based on [Reviewer name] recommendations, a) how likely are you to go ahead and book this hotel/activity for your trip? b) how likely are you to recommend this hotel to your friends or other family members?

The questionnaire is presented in appendix E.

### **3.1.5. Manipulation Checks and Scale Validation**

A pilot study was undertaken to assess the efficacy of the manipulations and measurement scales was conducted in two rounds: First round in the last week of February and early weeks of March, 2008 with 126 undergraduate students, and the second round in the third week of March, 2008 with 86 undergraduate students. The data from the first round provided sufficient support for the measures and the instrument. As discussed in the previous sections, four reviews were used as manipulations in the instrument (see Figure 11). The final four reviews used in the instrument for both the high and low involvement modes are presented in appendix C and D.

<b>IDENTITY</b>	High	<b>JORDAN</b> <b>ICON - High</b> <b>IDENTITY-High</b>	<b>SAM</b> <b>ICON - Low</b> <b>IDENTITY-High</b>
	Low	<b>MMJOY 678</b> <b>ICON - High</b> <b>IDENTITY-Low</b>	<b>LUCKYPAL 101</b> <b>ICON - Low</b> <b>IDENTITY-Low</b>
		High	Low
		<b>ICON</b>	

**Figure 11: The final manipulations reflecting the levels in the constructs used in the study**

However, one of the manipulations did not elicit the hypothesized response. The manipulation in focus was the reviewer SAM with low information content (ICON) and social component (IDENTITY). All the other manipulations showed the expected characteristics. Therefore, the ICON of both the low manipulations was changed to maintain consistency and tested for efficacy in the second round. Previously, the low ICON for both the reviewers SAM and LUCKYPAL 101 contained approximately 200 words with low data and backing. This was changed in round 2 to 150 words with low data and backing as compared to the high ICON reviewers and some changed wording pattern. (see figure 12 and 13 for a comparison of the ICON manipulation for SAM and LUCKYPAL between pilots 1 and 2)

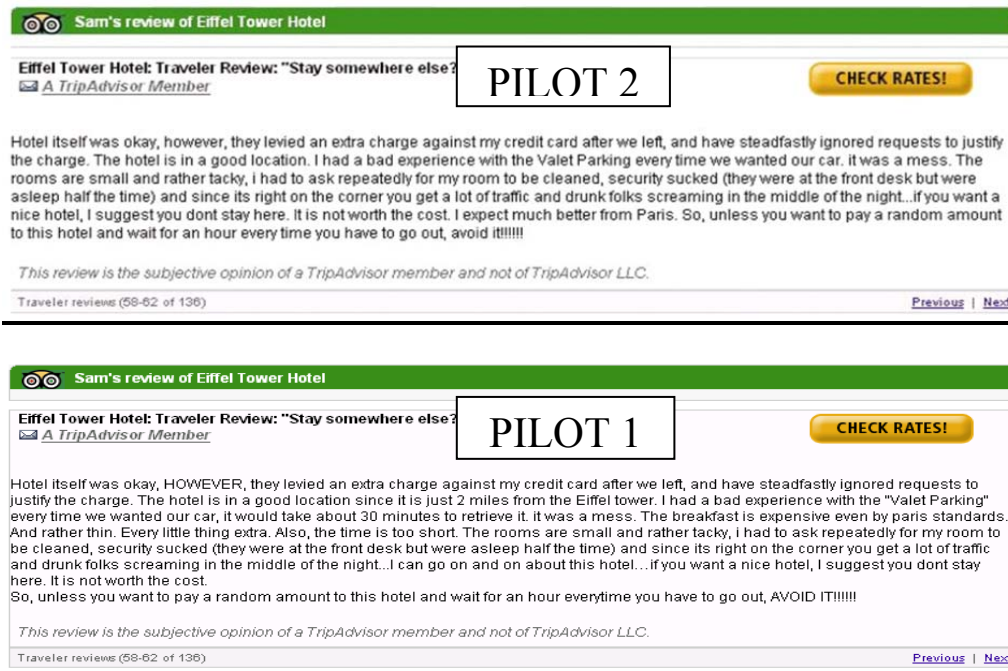


Figure 12: Comparison of ICON manipulation of SAM's review between study 1 and 2

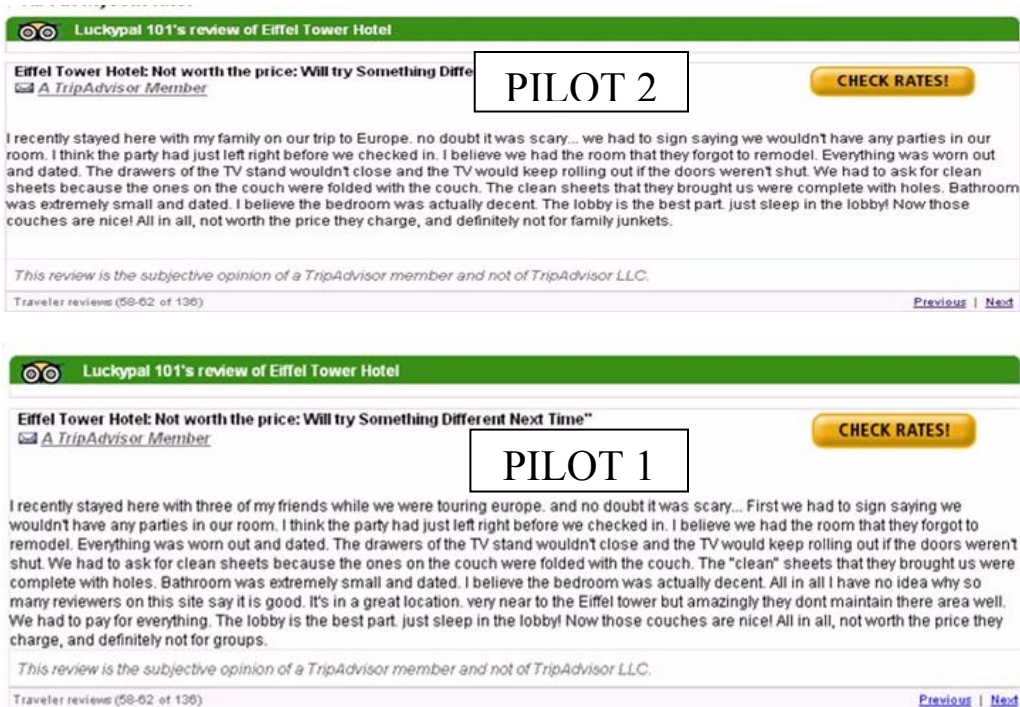


Figure 13: Comparison of ICON manipulation of MMJOY's review between study 1 and 2

### 3.1.6. Results from the Pilot study

The pilot 2 yielded a total of 86 responses (40 high and 46 low INVOLVE). Based on this data, the standard tests for assessing the efficacy of the measurement instrument as well as the experimental manipulations were conducted. The descriptive statistics and factor loadings of the measures are shown in Table 10.

**Table 10: Descriptive statistics, factor loadings and Reliability**

<b>ITEM</b>	<b>MEAN</b>	<b>SD</b>	<b>FACTOR LOADING <sup>a</sup></b>	<b>CRONBACH <math>\alpha</math></b>
ICON1	5.44	1.28	0.756	<b>0.90</b>
ICON2	5.38	1.19	0.775	
ICON3	5.56	1.28	0.871	
ICON4	5.50	1.33	0.850	
ICON5	5.55	1.23	0.814	
ICON6	4.83	1.45	0.602	
IDENTITY1	4.18	1.41	0.835	<b>0.88</b>
IDENTITY2	4.07	1.47	0.843	
IDENTITY3	4.68	1.55	0.796	
IDENTITY4	4.30	1.60	0.812	
IDENTITY5	4.41	1.58	0.854	
IDENTITY6	4.09	1.46	0.830	
TRUST1	5.08	1.44	0.739	<b>0.93</b>
TRUST2	5.13	1.41	0.761	
TRUST3	4.92	1.47	0.823	
TRUST4	5.00	1.40	0.791	
INTENT1	2.38	1.50	0.958	<b>0.96</b>
INTENT2	2.17	1.41	0.953	
INVOLVE1	5.95	1.14	0.881	<b>0.78</b>
INVOLVE2	5.62	1.31	0.831	
INVOLVE3	5.27	1.45	0.721	
INVOLVE4	5.72	1.21	0.639	
INVOLVE5	3.96	1.56	0.658	

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

### A) Involvement Manipulation Check

One of the important hypothesized effects in this study is the moderating role of activity involvement in the relation between review characteristics and trust. In the analysis, it was assessed if the means of involvement as rated by the students were different between the high and low INVOLVE modes. As Table 11 indicates, there is a significant difference in the involvement between the two trip scenarios. The means for the high and low involvement mode were 5.96 (SD=0.845) and 4.17 (SD=0.675) respectively.

**Table 11: ANOVA test of variance for Involvement between subjects**

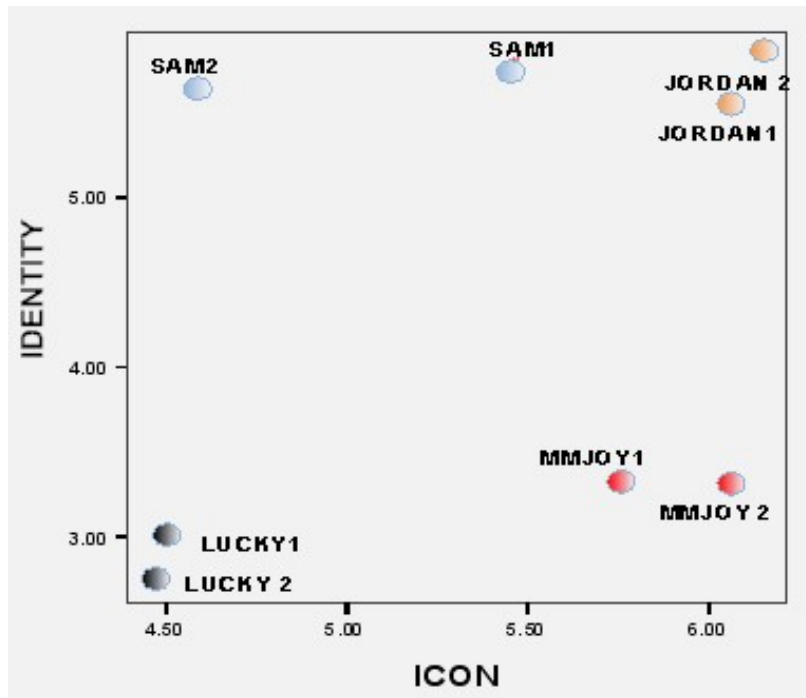
	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Between Groups	8.049	1	8.049	13.957	0.000
Within Groups	197.229	342	0.576		
Total	205.278	343			

### B) Reviews Manipulation Check

Manipulation checks for each of the reviews were conducted by creating scatter-plots. The scatter plots were created to represent the mean ICON (X-axis) and mean IDENTITY (Y-axis) of each review. The results are presented in Figure 14 and Table 12. Figure 14 shows a comparative position of each review based on pilot studies 1 and 2. (SAM 2 and SAM 1, and MMJOY2 and MMJOY 1 refer to the mean values for pilot study 2 and 1 respectively).

**Table 12: Means of the constructs ICON and IDENTITY in the two pilot studies**

<b>REVIEWER</b>	<b>ICON</b>	<b>IDENTITY</b>
<b>PILOT 2</b>		
SAM2	4.60	5.63
JORDAN 2	6.15	5.84
LUCKY 2	4.47	2.74
MMJOY 2	6.06	3.29
<b>PILOT 1</b>		
SAM1	5.47	5.74
JORDAN1	6.07	5.53
LUCKY1	4.51	2.97
MMJOY1	5.75	3.33



**Figure 14: Comparing the mean responses for each reviewer in a scatter plot**

As the results show, the effect of the SAM review had substantially improved from study 1 to 2. Further, there were minor improvements in the feedback elicited by other manipulations. One of the results that stood out in both the pilot studies was that there seems to be a floor effect in the students' use of the Likert scale. The mean ICON does not seem to go below 4.30 in both the studies. However, if the variance of each value is taken into consideration, the results seem quite satisfactory. Extending this analysis, a series of one way ANOVAs were conducted to test the differences in responses for the different reviews. As Tables 13 and 14 indicate, the differences in mean responses for the four different reviews were quite significant.

**Table 13: ANOVA for ICON measures for four different reviews**

		Sum of Squares	df	Mean Square	F	Sig.
ICON1	Between Groups	133.493	3	44.498	33.034	0.00
	Within Groups	456.647	339	1.347		
	Total	590.140	342			
ICON2	Between Groups	89.397	3	29.799	25.031	0.00
	Within Groups	400.000	336	1.190		
	Total	489.397	339			
ICON3	Between Groups	114.668	3	38.223	29.742	0.00
	Within Groups	434.373	338	1.285		
	Total	549.041	341			
ICON4	Between Groups	164.530	3	54.843	43.529	0.00
	Within Groups	424.596	337	1.260		
	Total	589.126	340			
ICON5	Between Groups	106.863	3	35.621	30.052	0.00
	Within Groups	397.084	335	1.185		
	Total	503.947	338			
ICON6	Between Groups	149.655	3	49.885	18.895	0.00
	Within Groups	889.718	337	2.640		
	Total	1039.372	340			

**Table 14: ANOVA for IDENTITY measures for four different reviews**

<b>Column1</b>	<b>Column2</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
IDENTITY1	Between Groups	388.408	3	129.469	51.307	0.00
	Within Groups	850.395	337	2.523		
	Total	1238.804	340			
IDENTITY2	Between Groups	458.556	3	152.852	69.516	0.00
	Within Groups	738.797	336	2.199		
	Total	1197.353	339			
IDENTITY3	Between Groups	327.066	3	109.022	52.009	0.00
	Within Groups	706.423	337	2.096		
	Total	1033.490	340			
IDENTITY4	Between Groups	120.841	3	40.280	18.458	0.00
	Within Groups	735.417	337	2.182		
	Total	856.258	340			
IDENTITY5	Between Groups	75.766	3	25.255	11.125	0.00
	Within Groups	767.312	338	2.270		
	Total	843.079	341			
IDENTITY6	Between Groups	65.785	3	21.928	11.410	0.00
	Within Groups	649.584	338	1.922		
	Total	715.368	341			

### **3.1.7. Tests for Design Quality**

A study is deemed ‘valid’ if its measures actually measure what they claim to and there are no errors in drawing logical conclusions from the data. Validity is synonymous with the truth, strength and value of a methodology (Brinberg and McGrath, 1985). There are four tests that are commonly used to assess the validity of any research study, irrespective of the research methods

employed in the execution of the study. These include construct validity, internal validity, external validity, and reliability (Brinberg and McGrath, 1985; Kerlinger, 1986).

- 1. Construct Validity:** it asks the question whether a study reflects the true meaning of the concepts under investigation. In other words, construct validity measures the extent to which an operational level variable reflects the conceptual level variable of interest. Construct validity is also an umbrella term that represents various kinds of validity tests. Firstly, the study should have content and face validity. Content validity requires that the measures to operationalize the constructs are representative of the domain/phenomenon under study, and have been taken from a commonly accepted pool of questions. Abstract, unclear, and improper measures will inflate the method error component of the measurement error and systematically bias the estimates. Two steps were taken to ensure this validity. Majority of the measures were adopted from previously validated research instruments in e-commerce, tourism and communication research. As Straub (1989, p.21) suggested, *“for the sake of efficiency, quantitative, positivist researchers should use previously validated instruments wherever possible, being careful not to skirt previous validation controversies or to make significant alterations in validated instruments without revalidating instrument content, constructs, and reliability”*. After careful consideration of the extensive research and debate behind the concepts of interest, the measures were adapted and modified to suit the study context. Secondly, the reliabilities of the measurement scales were assessed through multiple pilot tests that preceded the final data collection. The reliabilities of the scales ranged from 0.78 to 0.90 thus ensuring the construct validity of the concepts used in this study.

**2. Convergent and Discriminant Validity, and Multi-Collinearity Tests:** Two tests were performed to ensure that the constructs do not suffer from multi-collinearity, and show convergent and discriminant validity. Convergent validity refers to the requirement that the measures that are supposed to operationalize a construct converge strongly onto it, (they are measuring what they are supposed to measure). It was assessed through two tests: a principle component factor analysis with varimax rotation which indicated that there was a five factor solution, with all measures loading strongly onto to the associated constructs. Further, following the techniques proposed by Fornell and Larcker (1981), the average variance extracted (AVE) of measures by a construct was calculated. It has to be above 0.5 for each measure, a condition which was satisfied. Discriminant validity was tested using the AVE (Average variance extracted) test proposed by Fornell and Larcker (1981). The square root of the AVE of each construct should be greater than the correlations among the constructs. The results of this validity test shown in Table 16 indicate the square root of AVE in the diagonal cells and in bold. The square root of AVE exceeded the correlations between different constructs suggests that the discriminant validity test is acceptable. Also, the correlations between the items can cause the problem of multi-collinearity in the regression analysis. Therefore, examining the significance of correlations between the items is an important step in the analysis. None of the inter-item correlations was seen to be higher than the threshold level of 0.80 suggesting that the independence among the predictor variables is not violated and multi-collinearity is avoided. Further, the multi-collinearity tests (see Table 15) showed that the

variance inflation factor (VIF) of all the predictor variables were well below the accepted limit of 10, and the tolerance levels were much higher than 0.2 (Belsley et al., 2005)

**Table 15: Multi-collinearity tests for the independent and mediating variables**

	<b>Tolerance</b>	<b>VIF</b>
ICON	0.843	1.186
IDENTITY	0.691	1.447
TRUST	0.852	1.230

**Table 16: Discriminant validity test by AVE method and Inter-construct correlations**

	<b>AVE</b>	<b>ICON</b>	<b>IDENTITY</b>	<b>TRUST</b>	<b>INTENT</b>	<b>INVOLVE</b>
<b>ICON</b>	0.74	<b>0.86</b>				
<b>IDENTITY</b>	0.77	0.39	<b>0.88</b>			
<b>TRUST</b>	0.84	0.66	0.55	<b>0.91</b>		
<b>INTENT</b>	0.94	-0.23	0.02	-0.19	<b>0.96</b>	
<b>INVOLVE</b>	0.74	0.11	0.16	0.06	0.19	<b>0.86</b>

- 3. External Validity:** Refers to the ability afforded by the study to generalize the observations across exemplars. Two dimensions of external validity are: 1) generalizing to the persons, settings and time periods of the target population, and 2) generalizing across persons, setting and time periods. To put it another way, major questions to be asked in this regard are: “to what population does the researcher wish to generalize conclusions? Or is there something unique about the sample in terms of place, time and characteristics that prevents this generalizability?” and “To what other populations, time periods and settings are the conclusions valid?” (Cook and Campbell, 1979). In this context, certain aspects of this study need to taken into consideration. First, this study used undergraduates as subjects, and there is a general criticism that students’ online

behavior is not representative of the world at large. However, it is not uncommon to use students as subjects in studies pertaining to e-commerce and online behavior. Students are the fastest growing and most active segments for online shopping, and previous studies have shown that majority of the students do their holiday shopping online (Yoo and Donthu, 2001; Gefen, 2002). To this affect, the study design and methodology were carefully constructed to reflect the fact that only students will be used as the subjects. At the same time, the conceptual model and research hypotheses were developed to reflect the behavior of various other consumer segments, but the validation of these conceptual assertions within other consumer segments is beyond the scope of this particular study, and an interesting aspect that merits future research. Second, the study context for this study is product review systems specific to tourism and hospitality related products. Further, given the limitations of a controlled experimental study, the product category that formed the basis for the experimental manipulations was limited to hotels only. However, tourism domain consists of a vast range of products and services that are also reviewed and discussed by consumers in product review systems. Therefore, the results of this study cannot be generalized beyond this particular segment of products.

### **3.2. Final Data Collection**

The final data was collected in the month of April, 2008. The subjects were undergraduate students of a large North Eastern university in the United States. The researcher, after obtaining prior permission from the instructors, went to each class and explained the objectives of the study to the students. Subjects expressed their willingness to participate in the study in exchange for extra credit. The reviews were randomized for each class. Further, to

eliminate single source bias, an online survey instrument was distributed to almost 30% of the subjects. While this number could have been higher, certain limitations such as class schedules and instructor preferences limited the number of subjects who could be distributed with the electronic survey. The students, in the beginning of the study, were informed that the study was to understand their opinions of various online intermediaries such as expedia.com and TripAdvisor.com, and were asked to provide their honest opinion of the reviews presented in the survey instrument. At the end of the month, 311 responses were obtained. However, 22 surveys (all paper based) were incomplete, and therefore could not be included in the analysis. The data was initially screened following Tabachnik and Fidell's (2001) recommendations. Univariate descriptive statistics were examined for all variables to identify and correct out of range values. The data were also examined for the presence of univariate or multivariate outliers. Univariate outliers were detected in the ICON and IDENTITY measures. Each outlier was reassigned a value one unit larger than the upper-bound limit of the 95% confidence interval for the variable. Six multivariate outliers were removed from the data set since their value of Mahalanobis distance exceeded the limits established by Tabachnick and Fidell (2001) and was removed from the dataset. After the initial screening, the remaining 283 surveys were incorporated into the final dataset for analysis. The characteristics of the respondents are presented in Table 17. To ensure the reliability of the final measures, a series of the validity and reliability tests were conducted prior to the final analysis. One measure for ICON showed poor loading and was dropped from the final analysis. The other tests provided satisfactory results confirming the validity and reliability of the measures.

**Table 17: Characteristics of the respondents**

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Gender	Male	38%
	Female	62%
Grade	Freshman	37%
	Sophomore	19%
	Junior	23%
	Senior	21%
Age	18-23 Yrs	84%
	24-27 Yrs	12%
	28-32 Yrs	3%
	32 and Above	1%

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### **3.3. Summary**

This chapter presented the research design, methodology and data collection procedures used in this study. To recap, the primary study objective was to assess the antecedents of consumer trust in travel related online product review systems. The unit of analysis (study subjects) was undergraduate students from a large North Eastern University in the United States. The study adopted a quasi-experimental design with 2x2 (within-subjects design) x2 (between-subjects design). The context for the study was the review of a hotel in TripAdvisor.com, one of the very popular online travel advisory sites. A hotel was chosen as a context due to their relative popularity in product review sites. Further, ‘accommodation’ as a product has a more discernible structure in terms of product attributes and easier to incorporate in experimental manipulations. The main factors outlined in the literature review section were manipulated to create four product reviews which formed the basis for the survey instrument. Further, for the between-subjects involvement manipulation, two different hotels were chosen based on the purpose of the trip. The

survey instrument with the four reviews was evaluated by 311 undergraduate students. After data cleaning, a total of 130 low involvement and 153 high involvement surveys were used for the final analysis. The methods used in this study are justifiable given the lack of access of real world data despite some of the limitations as was outlined in the beginning of this chapter. In the subsequent chapters, the data analysis techniques used to analyze the data and the results of the analysis are discussed in detail.

## **CHAPTER 4**

### **ANALYSIS AND RESULTS**

It was hypothesized in this study that two main effects, information content in the review, and the social identity between the consumer and the reviewer will positively influence trust in the review and the intention to purchase a product. Further, the study also proposed that the activity involvement moderates these main effects. To test the hypotheses, a 2x2 (within-subjects) x 2 (between-subjects) design was adopted. For the within subjects manipulation, four hotel reviews were created based on two levels for each of the three main constructs. These four reviews were evaluated by 311 undergraduate students from a large North Eastern university in the United States. The main objective of this study design was to test which combinations of the main effects (manipulated in the form of reviews) contributed the maximum to the consumer's trust and purchase intentions.

Since within-subjects repeated measures design was used in this study, two sets of analysis were deemed appropriate to test the proposed hypotheses. Linear mixed model analysis (a variant of general linear models with within-subject repeated measures) was performed to test the mean differences in the trust scores, as well as the main effects and their interactions. Further, a structural equation model analysis was also performed to understand the conceptual relationships between the main constructs of the theoretical model. This chapter presents a brief description of the statistical methods used to analyze the data as well as the results from the analysis.

#### 4.1. Linear Mixed Model Analysis

Linear mixed model analysis (LMM) handles data where observations are not independent. In other words, LMM correctly models correlated errors (whereas procedures in the general linear model family (GLM) usually do not). Recent texts such as those by McCulloch and Searle (2001), and Verbeke and Molenberghs (2000), comprehensively review mixed-effects models. LMM is a generalization of GLM and better supports some of the analysis such as:

- a) Random effects: where the values of a categorical predictor variable are seen not as the complete set but rather as a random sample of all values (e.g., the variable "product" has values representing only 5 of a possible 42 brands). Through random effects models, the researcher can make inferences over a wider population than possible with GLM.
- b) Hierarchical effects: where predictor variables are measured at more than one level (e.g., the relationship between reading achievement scores at the student level and student-teacher ratio at the school level).
- c) Repeated measures: within-subjects repeated measures independent variables with or without a varying covariate (e.g., before-after studies, time series data).

In LMM, responses from a subject are treated as the linear sum of fixed and random effects. If an effect, such as the experimental treatment, affects the population mean, it is fixed. If an effect is associated with a sampling procedure (e.g., subject effect), it is random. It should be noted that random effects contribute only to the covariance structure of the data. The presence of random effects often introduces correlations between cases as well. Though the fixed effect is the primary interest in most studies or experiments, it is necessary to adjust for the covariance

structure of the data. The adjustment made in procedures like GLM is often not appropriate because it assumes independence of the data. LMM procedure solves these problems by providing the tools necessary to estimate fixed and random effects in one model. Mixed models are based on maximum likelihood (ML) and restricted maximum likelihood (REML) methods, versus the analysis of variance (ANOVA) methods in GLM. ANOVA methods produce an optimum estimator (minimum variance) for balanced designs, whereas ML and REML yield asymptotically efficient estimators for balanced and unbalanced designs. ML and REML thus present a clear advantage over GLM methods in modeling real data, since data are often unbalanced. The asymptotic normality of ML and REML estimators also allow one to make inferences on the covariance parameters of the model.

It is customary to center data prior to running LMM (Hoffman and Gavin, 1998). Centering involves removing the mean so that the mean becomes zero. The general options of data centering are either grand-mean or group-mean centering. One of the main advantages of centering is the ease of interpretation of the parameter estimates, especially in multi-level models. Further, data centering enables the researcher to avoid high correlations between random intercepts and slopes as well as cross level interactions. However, as Kreft, deLeeuw, and Aiken (1995, p.1) noted, "*the choice of centering must be made on a theoretical rather than statistical basis, and centering around the group mean amounts to fitting a different model from that obtained by centering around the grand mean or by using raw scores*". In this study, the data was centered using the group mean technique. This method was chosen because of the within-subjects repeated measures at the individual level, and two involvement mode between-subjects

design. Since each individual evaluated four reviews, and this was compiled over the two involvement groups, the group-mean centering was deemed appropriate.

In terms of data format, LMM requires one row per person per measurement. Thus if each person is measured four times for four treatments, there are four data rows for person 1, then four rows for person 2, etc. Each data row contains an identification key for each person, the treatment variable (in this study, four reviews 1-JORDAN; 2-LUCKYPAL; 3-SAM; 4-MMJOY) and the effects that are being modeled (ICON, IDENTITY, TRUST and INTENT).

One of the important considerations in running the mixed model analysis is the selection of the covariance structure. The covariance structure specified by the researcher is generally the starting point for the REML method to estimate the parameters. Through the selection of a covariance structure, one specifies the variance-covariance matrix formed by the random effects within the subject. The goodness of fit statistic provided by the algorithm (-2LL, AIC, AICC, BIC) can be used to decide on a specific covariance structure. Ehlers (2004) suggests that BIC is generally preferred for samples higher than 100 and with more than one group formed by the treatment variables. BIC is the Bayesian Information Criterion, also known as Akaike's Bayesian Information Criterion (ABIC) and the Schwarz Bayesian Criterion (SBC). BIC penalizes for sample size as well as model complexity. Specifically, BIC penalizes for additional model parameters more severely than does AIC. In general, BIC has a conservative bias tending toward Type II error (the assumption that there is poor model fit when the relationship is real). In other words, compared to other fit criteria such as AIC (Akaike's Information Criteria), BIC more strongly favors parsimonious models with fewer parameters. BIC is recommended when sample

size is large or the number of parameters in the model is small. In this study, the LMM model was specified with unstructured covariance structure since it showed the minimum BIC.

#### 4.2. Main Effects and Manipulation Effects

The analysis was performed using SPSS 16. The subject identification number and involvement mode were specified as the between-subject factor, the review number as the within-subject repeated measure, and the two constructs, ICON and IDENTITY as the main effects. The results from this analysis are as presented in Table 18. The table shows the main and interaction effects of the two independent variables as well the moderator involvement on the dependent variable (the rows in bold indicate those predictors that showed significant effects). It should be noted that in the analysis, the HIGH level of each construct was specified as the reference category, and therefore, the estimates in the table correspond to the LOW level of the main factors.

**Table 18: Type III Tests of Fixed Effects for TRUST**

	Estimate	Std. Error	Numerator df	Denominator df	F	Sig.
Intercept	5.23	0.11	1.00	355.01	8371.84	0.00
<b>ICON</b>	<b>-0.16</b>	<b>0.13</b>	<b>1.00</b>	<b>834.61</b>	<b>32.58</b>	<b>0.00</b>
<b>IDENTITY</b>	<b>-1.17</b>	<b>0.13</b>	<b>1.00</b>	<b>670.91</b>	<b>69.37</b>	<b>0.00</b>
<b>ICON*IDENTITY</b>	<b>-0.47</b>	<b>0.17</b>	<b>1.00</b>	<b>1088.47</b>	<b>7.63</b>	<b>0.01</b>
INVOLVE	0.02	0.14	1.00	355.01	1.08	0.30
ICON * INVOLVE	-0.02	0.14	1.00	834.61	0.02	0.90
<b>IDENTITY * INVOLVE</b>	<b>-0.25</b>	<b>0.13</b>	<b>1.00</b>	<b>560.32</b>	<b>4.01</b>	<b>0.05</b>

The main effect of ICON on TRUST was found to be highly significant ( $p < 0.01$ ;  $F$  value=32.58) indicating that the subjects' trust was significantly higher for reviews that have higher information content than those with higher information content. This supports the

hypothesis H1 that reviews with detailed analysis have higher positive effect on trust than reviews that are general.

The main effect of IDENTITY was found highly significant ( $p < 0.01$ ;  $F$  value=69.37). This implies that the trust factor is higher for reviews for which there is perceived identity. This supports hypothesis H2 which states that reviews with higher perceived IDENTITY have higher trust factor than reviews with lower perceived identity. However, this effect should be interpreted in the context of the interaction term  $ICON * IDENTITY$  that was found to be significant ( $p = 0.01$ ;  $F = 7.63$ ). It shows that there is a significant interaction between the information content and the social identity. Therefore, reviews that have a combination of high  $ICON$  and  $IDENTITY$  have significantly higher trust scores compared to reviews with low  $ICON$  and  $IDENTITY$ .

The moderating influence of the activity involvement was not supported by the data. For instance, the interaction effect  $ICON * INVOLVE$  was found to be not significant ( $p > 0.05$ ;  $F = 0.02$ ). The interaction terms  $IDENTITY * INVOLVE$  ( $p > 0.05$ ;  $F = 4.01$ ) was found to be marginally significant ( $p = 0.05$ ;  $F = 4.01$ ). These set of results support the hypothesis H4 but do not support H5. The analysis was also applied to test the effect of the main manipulations (the four reviews in two different involvement modes). As the estimates in the Table 19 indicate, the review format (manipulated based on the two independent factors) explains significant differences in the mean trust score (the rows in bold indicate those predictors that showed significant effects). At the same time, there was no significant difference in the trust scores between the two involvement modes (i.e., interaction effect of review and involvement mode).

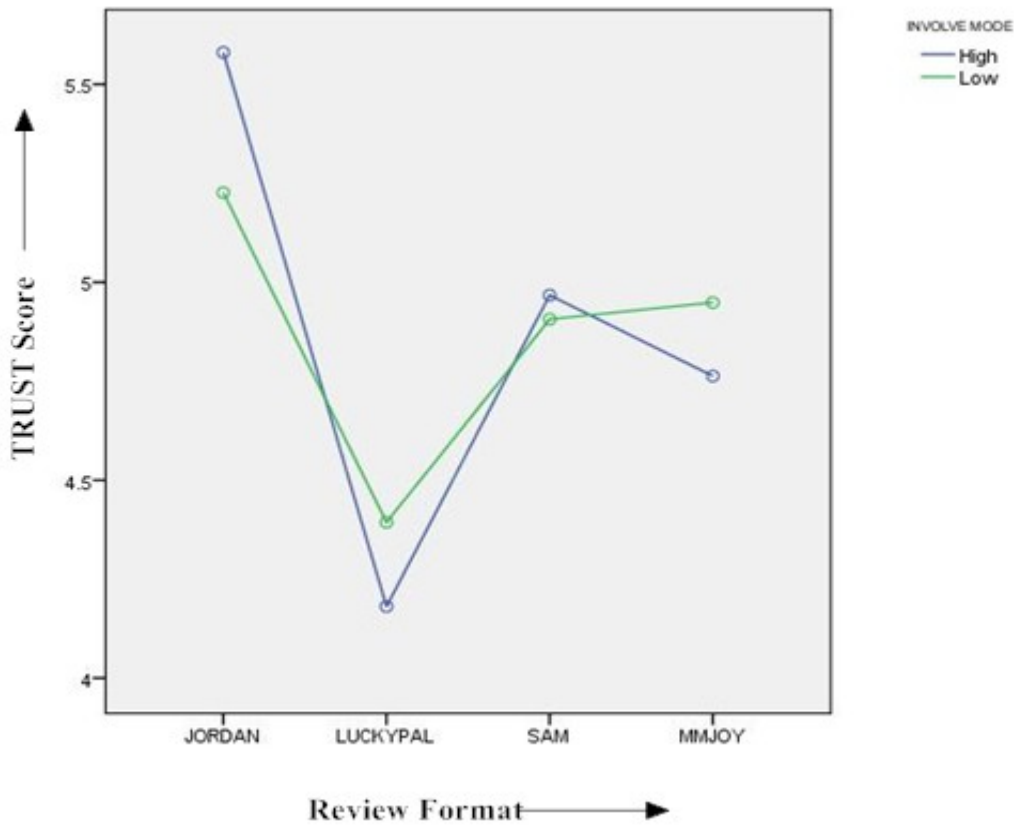
**Table 19: Summary table for the analysis of variance tests**

Source	Numerator df	Denominator df	F	Sig.
Intercept	1	277.38	6525.35	0.00
<b>REVIEW</b>	<b>3</b>	<b>278.95</b>	<b>29.32</b>	<b>0.00</b>
INVMODE	1	277.38	0.82	0.37
REVIEW * INVMODE	3	278.95	1.04	0.37

The estimated marginal means are shown in Table 20 and Figure 15.

**Table 20: Estimated marginal mean trust scores in two involvement conditions**

Involvement mode	Reviewer	Mean	Std. Error	Lower Bound	Upper Bound
High	JORDAN	5.580	.105	5.374	5.787
	LUCKY	4.181	.133	3.919	4.442
	SAM	4.967	.103	4.764	5.171
	MMJOY	4.763	.122	4.523	5.003
Low	JORDAN	5.226	.115	5.000	5.452
	LUCKY	4.394	.145	4.108	4.680
	SAM	4.907	.113	4.684	5.129
	MMJOY	4.949	.133	4.686	5.211



**Figure 15: Estimated marginal means of TRUST in the two involvement modes**

Table 20 reveals that, consistent with the results of the mixed models, JORDAN with high ICON and IDENTITY was associated with the highest trust scores in both the involvement conditions, and MMJOY with low ICON and IDENTITY showed the lowest trust scores. This analysis was further extended through a *post hoc* analysis based on Scheffe’s test of multiple comparisons. This test is a method of multiple comparisons that can be used for making not only pair-wise comparisons but all possible linear combinations of group means. This test is considered more conservative and robust for pair-wise comparisons of means, as it requires larger differences between means for significance than some other methods such as Bonferroni

correction and Tukey-HSD test (Tabachnik and Fidell, 2001). Sheffe's test (see Table 21) revealed the following:

- a) JORDAN (with high ICON and IDENTITY) was associated with significantly higher trust scores in both high and low involvement modes than SAM, MMJOY and LUCKY,
- b) MMJOY (with high ICON and IDENTITY) had significantly higher mean score than LUCKY,
- c) SAM (with low ICON and high IDENTITY) had significantly higher trust score than LUCKY, and,
- d) There is no significant difference in mean trust scores of SAM and MMJOY.

**Table 21: Scheffe's test for multiple comparisons of the review format**

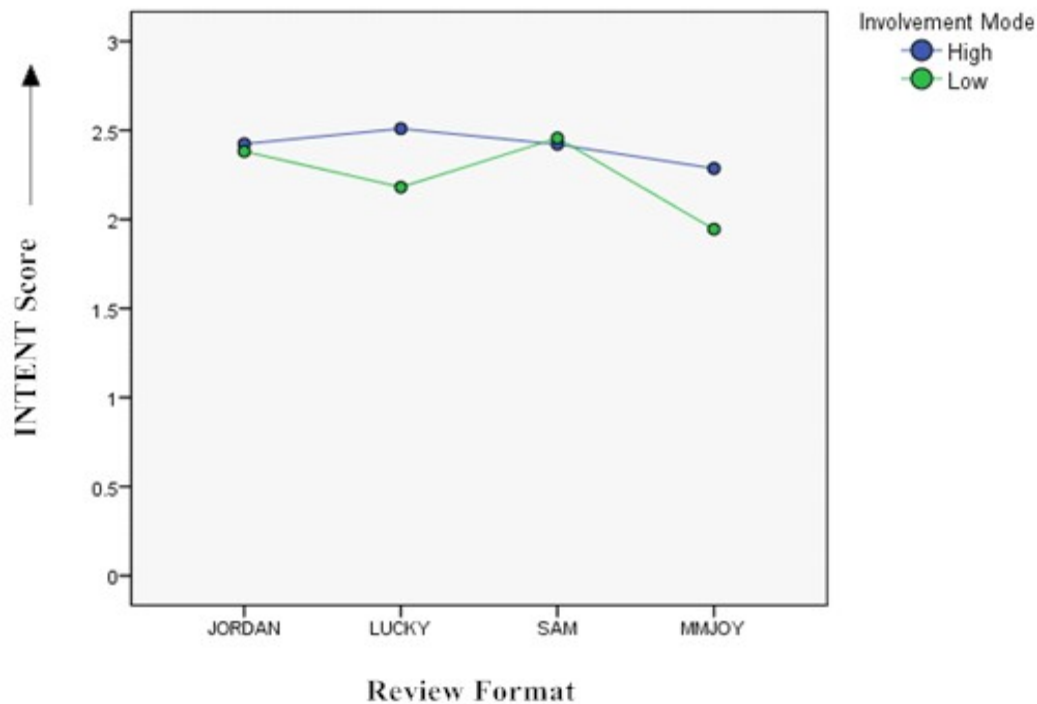
<b>(I) Reviewer</b>	<b>(J) Reviewer</b>	<b>Mean Difference (I-J)</b>	<b>Std. Error</b>	<b>Sig.</b>	<b>Lower Bound</b>	<b>Upper Bound</b>
JORDAN	LUCKY	1.077*	.111	.000	.858	1.296
	SAM	.436*	.086	.000	.266	.606
	MMJOY	.474*	.100	.000	.277	.671
LUCKY	JORDAN	-1.077*	.111	.000	-1.296	-.858
	SAM	-.641*	.097	.000	-.833	-.449
	MMJOY	-.604*	.102	.000	-.805	-.402
SAM	JORDAN	-.436*	.086	.000	-.606	-.266
	LUCKY	.641*	.097	.000	.449	.833
	<b>MMJOY</b>	<b>.038</b>	<b>.100</b>	<b>.706</b>	<b>-.159</b>	<b>.234</b>
MMJOY	JORDAN	-.474*	.100	.000	-.671	-.277
	LUCKY	.604*	.102	.000	.402	.805
	<b>SAM</b>	<b>-.038</b>	<b>.100</b>	<b>.706</b>	<b>-.234</b>	<b>.159</b>

The next step of the analysis was to test the main effect of trust on the intention to book the hotel. The results are shown in Table 22 and Figure 16. The estimated marginal means of the INTENT are shown in Table 24. The analysis revealed that TRUST has a significant effect on INTENT ( $p < 0.05$ ;  $F = 1.814$ ). There was no significant difference between high and low

involvement modes. Another important assumption in this study was the mediation effect of TRUST. The LMM model was specified with the three main effects and the INTENT as the dependent variable. None of the main and interaction effects were found significant. This analysis supports hypothesis H3 that trust mediates the impact of reviews on intention to book the hotel.

**Table 22: Main effect of TRUST on INTENT**

Source	Numerator df	Denominator df	F	Sig.
Intercept	1	562.16	0.10	0.75
<b>TRUST</b>	<b>25</b>	<b>685.93</b>	<b>5.15</b>	<b>0.00</b>
INVOLVE	1	506.07	0.03	0.86
TRUST * INVOLVE	23	727.86	1.19	0.24



**Figure 16: Estimated Marginal Means of INTENT in two INVOLVE modes**

**Table 23: Estimated Marginal Means of INTENT in the two involvement modes**

<b>INVOLVE</b>	<b>REVIEW</b>	<b>Mean INTENT</b>	<b>Std. Error</b>	<b>Lower Bound</b>	<b>Upper Bound</b>
High	JORDAN	2.424	.118	2.191	2.657
	LUCKY	2.510	.108	2.297	2.722
	SAM	2.421	.112	2.200	2.642
	MMJOY	2.286	.106	2.078	2.495
Low	JORDAN	2.382	.130	2.127	2.637
	LUCKY	2.181	.118	1.949	2.413
	SAM	2.457	.123	2.215	2.698
	MMJOY	1.945	.116	1.717	2.173

### 4.3. Homogeneity Tests

A critical assumption underlying the repeated measures analysis is that the variances due to the different treatments are equal. This is also termed as the homogeneity assumption. In the between-subjects designs, the F test is robust to the violation of the homogeneity of variance. However, the within-subjects designs that violate this assumption will have a true Type I error (i.e. the probability that the researcher falsely rejects the null hypothesis (LaTour and Miniard, 1983)). Such a violation results in a too liberal test of group differences. It is generally suggested that any within-subjects design with more than two levels should be tested for homogeneity assumption. The commonly accepted Box's M test and Levene's test of equality of error variances were applied to test the assumption that the repeated dependent measures (in this case, TRUST 1-4) are drawn from a multivariate normal distribution, and that there is homogeneity of the covariance matrices across all combination levels of both between- and within-subject factors. A finding of non-significance of these tests confirms that the assumptions of the multivariate tests as not violated. As the results in Table 24 indicate, the assumptions of the

variance analysis are robust and not violated (Garson, 2007). It should be noted that these two tests are sensitive to the lack of multivariate normality. In addition, they tend to be powerful for moderate to large samples in the sense that these tests find even trivial differences between the variance and covariance matrices. Given the large sample size in this study, non-significance emphasizes the robustness of the results.

**Table 24: Box's M and Levene's Tests for Homogeneity Assumption**

Box's M	2.506			
F	.247			
df1	10			
df2	341347.98			
Sig.	.991			
Levene's Test	F	df1	df2	Sig.
TRUST 1	.007	1	277	.933
TRUST 2	.134	1	277	.715
TRUST 3	.075	1	277	.785
TRUST 4	.239	1	277	.625

#### 4.4. Summary of Hypotheses Testing

A summary of outcome of the hypotheses from the repeated measures analysis of variance is shown in Table 25.

**Table 25: Summary of Hypotheses Testing**

<b>Hypothesis</b>	<b>Summary</b>	<b>Result</b>
H1	<i>Reviews with higher ICON have higher positive effect on TRUST than reviews with low ICON</i>	Supported
H2	<i>Reviews with higher IDENTITY have a higher positive effect on TRUST than reviews with low IDENTITY.</i>	Supported
H3	<i>The higher the TRUST in an online review, higher will be the INTENT.</i>	Supported
H4	<i>The effect of ICON will be greater for subjects with high INVOLVE than for subjects with low INVOLVE.</i>	Not Supported
H5	<i>The effect of IDENTITY on TRUST will be greater for subjects with high INVOLVE than for subjects with low INVOLVE.</i>	Supported
H6	<i>The positive effect of TRUST on INTENT is greater for subjects with high INVOLVE than for subjects with low INVOLVE.</i>	Not Supported

#### **4.5. Structural Model Analysis**

A structural equation modeling (SEM) was performed to understand the effect sizes of the main relationships in the structural model as well as between the two involvement modes. This also helped compare and contrast the results from the variance tests presented previously. To this end, the multi-group modeling in AMOS 16.0 was used to test and confirm the results provided by the LMM procedure. However, it is important to note that the data in this study violates a major assumption of structural equation modeling, i.e., the independence of observations due to the repeated measures within-subject design of the dependent variable TRUST. At the same time, this procedure provides tools to take advantage of minute variances in the independent measures for each construct that might be suppressed due to the ‘means’ based estimates in the analysis of variance.

SEM serves the purposes similar to linear regression but also accommodates modeling of interactions, nonlinearities, correlated independents and correlated error terms. In this sense, SEM is an extension of general linear models of which multiple regressions is a part. Researchers (Bagozzi and Yi, 1988; Mackenzie, 2001) have emphasized on the efficacy of this technique in solving some of the fundamental problems of organizational as well as consumer behavioral research. Various advantages of SEM include the ability to control for measurement error, an enhanced ability to test the effects of experimental manipulations, and the ability to test complex theoretical structures.

- a) Model Specification is the process by which the researcher specifies the variable effects, the effects fixed to a constant set to 1, and null effects. The main arrows specified in the model correspond to the variable effects, and the arrows that are not

- specified correspond to the null effects. The fixed effects refer those relationships that have been parameterized in prior studies or effects that are held constant to establish the reference term in the latent variable.
- b) Measurement error terms are the error factors associated with individual indicators. These measurement error terms are explicitly modeled in SEM so that they do not attenuate the path coefficients. This is one of the advantages of SEM over multiple regressions in the sense that path coefficients are unbiased by measurement errors.
  - c) Model Estimation: Maximum likelihood is the most often used method of estimation. MLE estimates the model based on the maximizing the probability of fit between the observed covariance and pre-specified theoretical covariance. In other words, MLE selects estimates that have the greatest likelihood of reproducing the observed covariance.
  - d) Multi-Group analysis: is used to compare path coefficients as well as means and intercepts between groups (Steenkamp and Baumgartner, 2000). This is done in two steps. First, the researcher tests a one sample model separately to ensure that the structural model has an acceptable fit for each of the groups. Before testing the group variance, the researcher should also establish a base line chi-square derived through by means of computing the model fit across the pooled sample of all the groups. Once these assumptions are satisfied, the final structural model across the groups is evaluated.

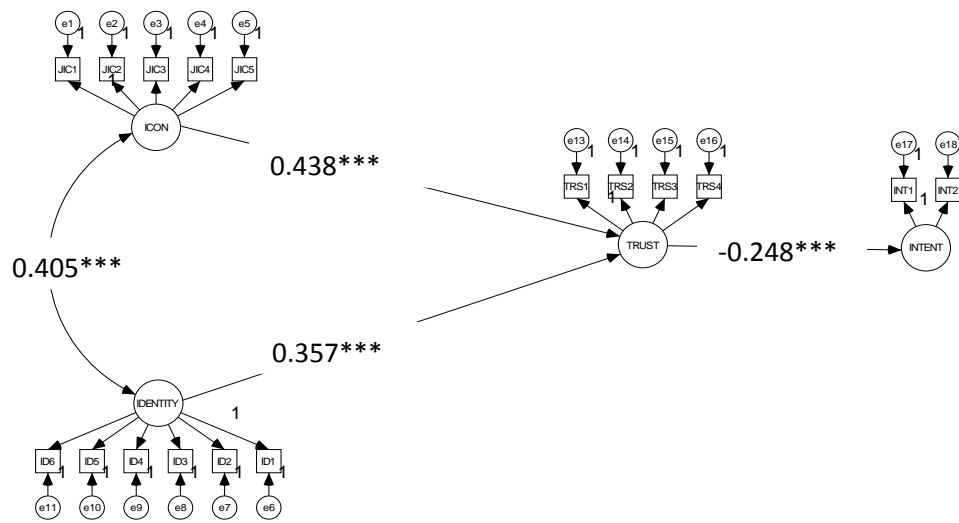
In this study, the theoretical model was specified as the structural model. ICON was measured by 5 indicators and IDENTITY by 6 indicators. TRUST was measured by 4 indicators and INTENT by 2 measures. The fit statistics (see Table 26) indicate a reasonable fit of the model with the observed data. The most commonly accepted measures such as GFI, NCP and RMSEA were highly satisfactory. The results of the group comparison are shown in Tables 27 and Figures 17 and 18.

**Table 26: Fit statistics for the Multi-Group Analysis**

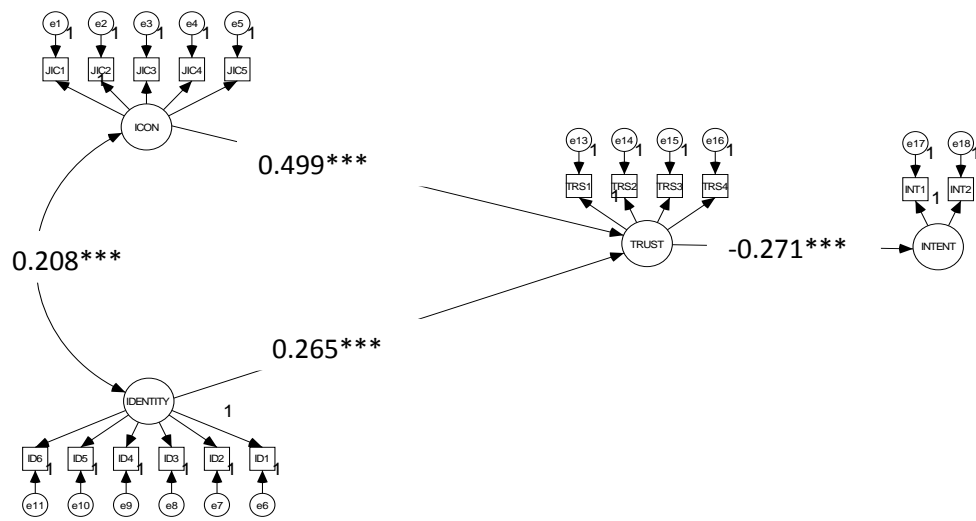
<b>Model Fit</b>	
Chi-Square	849.267
Degrees of freedom	224
Probability Level	0.000
GFI	0.921
AGFI	0.892
RMSEA	0.05

**Table 27: Path coefficients in multi-group analysis**

<b>Relationship</b>	<b>Estimate</b>	<b>S.E.</b>	<b>C.R.</b>	<b>P</b>
<b>HIGH INVOLVE</b>				
ICON---> TRUST	0.438	0.052	9.168	<0.001
IDENTITY---> TRUST	0.357	0.049	9.238	<0.001
TRUST---> INTENT	-0.248	0.037	-6.077	<0.001
<b>LOW INVOLVE</b>				
ICON---> TRUST	0.499	0.045	10.63	<0.001
IDENTITY---> TRUST	0.265	0.045	6.505	<0.001
TRUST---> INTENT	-0.271	0.049	-5.805	<0.001



**Figure 17: Path Coefficients in HIGH INVOLVE Mode**



**Figure 18: Path Coefficients in LOW INVOLVE Mode**

The structural model analysis showed some interesting results and generally supported the results drawn from the LMM. The construct ICON was significant in both the involvement modes, but showed stronger effect in low involvement mode ( $\beta=0.499$ ) when compared to the high involvement mode ( $\beta=0.438$ ). On the other hand, in the high involvement mode, IDENTITY assumed significant importance ( $\beta=0.357$ ) as opposed to the low involvement mode ( $\beta= 0.265$ ) suggesting that subjects placed great importance on the social identity of the reviewer while evaluating reviews in the high involvement mode. The TRUST-INTENT relationship was found significant in both the involvement conditions although the analysis did not reveal any significant differences in the effect size.

#### **4.6. Summary**

This chapter covered in detail, the various analysis procedures used to test the proposed hypotheses. It also provided a comparative analysis of the two distinct methods, linear mixed models and structural equation models, used to analyze the data from different perspectives. The chapter also presented a detailed look at the tests that were performed to validate the robustness and applicability of the results obtained through the analyses. The results provide strong support for the basic tenets of uncertainty reduction theory and social identity theory. The data supported all the hypotheses related to the main effects of the study but only one of the hypotheses related to the moderating role of involvement. The results show that, as in face-to-face communication, computer mediated communication also requires a social component to reassure consumers and build trust in them. Further, the results also emphasize the important influence that product reviews have on consumers' intention to purchase products and services. Interestingly, the results show that for tourism and travel related products that are generally characterized by intangibility

and ambiguity, consumers tended to trust reviews that are provided by other consumers whom the consumers perceive to be similar in socio-demographic characteristics, as well as tastes and preferences. This affect is more evident in high involvement activities as compared to low involvement activities. One of the main findings was the significance of the information content over and above the social components in the review across both the involvement modes. It shows that product reviews are essentially sources of information for the consumers, more so in a goal directed online environments. The significance and implications of these results for online product reviews systems, as well as service providers is discussed in detail in the next section.

## CHAPTER 5

### DISCUSSION AND CONCLUSIONS

This study applied uncertainty reduction theory (Berger and Calabrese, 1975) and Social identity theory (Tajfel and Turner, 1979) to delineate certain aspects of the online reviews that might have an impact on the consumer's assessment of online product reviews. Based on these theories, it was hypothesized that the informational content of the review (ICON) and the social component of the review (IDENTITY) have a significant effect on the consumers' trust in a review and subsequently the purchase intention. Further, the study also posited that consumer's use of these heuristics is more salient while evaluating high involvement products than low involvement products. To test the hypotheses, the study adopted a quasi-experimental design with 2x2 (2 levels each for information content and social component within-subjects) x2 (2 involvement modes between-subjects) full factorial design. Based on two levels for each of these factors, four reviews similar to those found in sites such as tripadvisor.com were created. A total of 283 students (153 in high involvement mode and 130 in low involvement mode) evaluated these reviews and assigned trust scores as well purchase intention scores to each review. The data was analyzed using linear mixed models and structural equation modeling.

#### **5.1. Discussion of Results**

The results shown in the previous chapter were largely consistent with the theoretical arguments proposed in this study.

Firstly, the analysis revealed a significant difference in the trust scores associated with the four reviews. The review of Jordan (with high ICON and IDENTITY) was considered more

trustworthy than all other reviews. Interestingly, there was no difference in trust scores between Sam (high IDENTITY and low ICON) and Mmjoy (low IDENTITY and high ICON).

The main effects of ICON and IDENTITY were found highly significant in the analysis. These results lend credence to the fact that consumers form impressions of others even with relatively limited non-verbal and physical cues available via computer mediated communication (Culnan and Markus, 1987; Walther, 1992). Previous research in the domain of word-of-mouth, both conventional (Duhan et al., 1997) as well as electronic (Park, Lee, and Han, 2007; Hu et al., 2008) suggests that reviewer characteristics apart from the quality and informativeness of the message have a significant impact on the consumers' evaluation of the word-of-mouth communication. This study results concurred with these assertions.

For instance, the main effect of ICON was found to be significant in this study indicating that the reviews with higher argument quality are more trusted by the consumers than reviews with low argument quality. This is evident from the results that show that information content considerably enhanced consumers' perception of credibility and trust in product reviews. This also indicates that in the absence of non-verbal cues, consumers adapt their relational behavior to the verbal and linguistic cues that are available in a computer mediated environment (Berger and Calebrese, 1975; Ramirez, et al., 2002).

Interestingly, the interaction term IDENTITY\*INVOLVE was also found to be significant. This result was further supported by the structural modeling which indicated that in the high involvement mode, IDENTITY explained significant amount of variance in the dependent variable TRUST whereas ICON assumed more importance in low involvement mode.

This result is slightly anomalous to previous research in word-of-mouth which suggested that individuals tend to consumers tend to cognitively elaborate on a message in the high involvement mode (Petty and Cacioppo, 1986). Elaboration refers to the extent to which the recipient attends to the content of the message, scrutinizes and reflects on the issues relevant to the message. The ultimate influence of the message will depend on the extent of elaboration. High levels of elaboration represent a central route to influence wherein the message recipient carefully considers the issues pertinent to the message. On the other hand, in the low elaboration (peripheral route) mode, recipients use simple decision heuristics. In this study, consumers, in the low involvement mode, had carefully analyzed the content of the message to arrive at the decision whether or not to trust the review. In the high involvement mode, they also gave importance to peripheral cues such as the demographic information of the reviewer. This result can be explained by the strong ties/weak ties concept (Coleman et al., 1966; Granovetter, 1983). More specifically, marketing literature suggests that the complexity of the task has a significant bearing on the type of information source selected by the consumer. This becomes even more salient in the case of evaluating a WOM message source. Previous research in traditional WOM has shown that when faced with a complex purchasing task, and the situation wherein ambiguous products with numerous alternatives have to be evaluated, consumers have strong preference for strong inter-personal sources (such as friends and relatives) ties that are similar in background and preferences (Feick and Higie, 1992). In the case of low involvement products, consumers prefer to explore various alternative sources of information beyond the immediate social circle as in this case, and attempt to expand their general understanding of the products being considered. Further, research showed that weak ties are more conducive for information exchange whereas

strong ties have greater behavioral influence (Brown and Reingen, 1987). The results in this study fall somewhere in between the above mentioned concepts. Online interactions, especially the ones in online product review systems can be construed as weak ties which consumers are using extensively for gathering additional product related information. Even in these weak ties, there seems to be a distinction between high and low involvements tasks.

The significance of the main effect IDENTITY also emphasizes the above conclusions. As mentioned previously, this study conceptualized the social component as a perception of the consumer regarding the effective identity communication of the reviewer as well the perceived similarity with this explicated identity. Identity communication is underscored in self-representation theory (Goffman, 1959) which suggests that people desire to explain their identities to others before concentrating on work or other goals that bring them together. By reaching a consensus on this sort of information, communication partners obtain a sense of coherence (Swan et al., 2000). Similarly, research on knowledge management and online communities (Poston and Spier, 2005; Sussman and Seigal, 2003) revealed that without knowing the identity of the contributor, knowledge adoption is difficult and leads to less efficient knowledge exchange. The results from this study suggest that the mere availability of such demographic information enhances the credibility of the information provider even when other review characteristics such as argument quality are controlled for in the analysis. These results show that identity information is important not only in face-to-face communication but also for smooth transactions in a computer mediated environment.

This result also underscores the importance of the consumers' perceived similarity with the socio-demographic characteristics of the reviewer. There is an extensive stream of literature

in various domains ranging from marketing to communication research that place high importance on the role of social identity (the level of similarity or attraction between the message source and recipient) in enhancing the outcomes of consumer to consumer interaction (Duhan et al., 1997; Forman, Ghose and Weisenfeld, 2008; Lea, Spears and deGroot, 1995). The value of a good in the market is essentially a social construction in the sense that the value is assigned a meaning by a community of consumers (Holt, 2002). Such a group sense guides individuals to develop attitudes, knowledge and behavior (Price and Feick, 1984). As discussed in the previous chapters, consumers categorize themselves in relation to the reference group of which the word-of-mouth generator is also a part. If the consumer identifies himself/herself with this reference group, there is a higher likelihood that the group behavior will be emulated. However, it should be noted that this categorization can occur even in the condition wherein the other consumer chooses to remain anonymous (as is typically the case in online interactions). The results in this study support this line of argument that social identity does play an important role in determining the extent of trust shown by the consumer in a review.

At the same time, this result should be viewed in the context of the significant interaction term  $ICON * IDENTITY$ . Research in the realm of healthcare communication suggests that there is a significant interaction between the similarity of the message source and the perceived expertise of the messenger (in this case, ICON). For instance, in a study by Feldman (1984), high school students were given a message on food nutrition by high-, medium- and low- expert source and high-, medium- and low- socially similar source, and found that the greater perceived similarity, the greater was the attitudinal change. Further, Feldman's study found significant interaction between the similarity and expertise with the message having low similarity and low

in expertise showing the least influence on the students. Such an effect is reflected in the results of this study which showed that the trust scores associated with JORDAN (high ICON and IDENTITY) were significantly higher across both the involvement conditions.

While, both the information content and the social component played a significant role in explaining trust scores, two interesting results stood out in this study. First, the consumers perceived an 'anonymous' review with high argument quality (MMJOY) equally trustworthy as an 'identified' review with low argument quality (SAM). Second, the means for all of the independent and dependent variables in both conditions were above their respective midpoint (4.00), indicating that both the unidentified and identified sources were perceived to be at least fairly trustworthy. Two assumptions can be drawn from this result. First, it shows the high impact of a review with high argument quality (ICON) on the trustworthiness of a review. Second, it suggests that a causal attribution could be at play. A potential explanation can be drawn from the attribution theory (Kelley and Michela, 1980; Shultz and Ravinsky, 1977) which suggests that causal analysis is inherent in an individual's need to understand social events. It is more pronounced when a consumer is faced with a negative word-of-mouth message, a situation in which a consumer wonders why another consumer would communicate negative information about the product (Laczniak, Decarlo, and Ramaswami, 2001). This leads to causal attribution from the message receiver, a process defined as the cognition the receiver generates to infer the cause of the communicator's generation of negative information. In this study, perhaps the consumer inferred that given the fact that the reviewer is going through the trouble to provide a review as well as conceal his or her identity, the information is important to some extent.

One of the major assumptions that were not supported by the results was the moderating role of involvement. This study posited that the consumer's evaluation of the four treatments (four reviews) will be different in the two involvement modes. However, the results seem to suggest that this is not the case. This is in contrast to the assertions of theories such as the ELM that the elaboration of the message and the source generally occurs through the central route in a high involvement mode versus the peripheral route in the low involvement mode. Subsequently, it can be conjectured based on these results that activity involvement does not play a moderating role in a consumer's evaluations of word-of-mouth in the case of tourism and hospitality products. This departure from previous research might be due the role of enduring involvement (Celci and Olson, 1988) associated with tourism products. Tourism and hospitality products are inherently intangible and complex products that are associated with high risk of purchase (Lewis and Chambers, 2000) thereby elevating the role of interpersonal influence and reference group evaluation in the decision making process. Therefore, consumers tend to place importance on the reviews for the high and low involvement travel products, a result that is starkly reflected in this study.

## **5.2. Contributions to the Literature**

Information and trust are the lifeblood of electronic market places. One form of information exchange is the consumer reviews in online product review systems. Online product review systems are becoming increasingly important sources of information to the modern consumer. Further, they are considered a highly effective and reliable metric to measure consumer satisfaction and loyalty. Consequently, businesses are competing with each other to provide this important information to the consumer. As noted earlier in this document, the

presence of consumers' reviews of products and services is known to have a significant impact on sales, customer satisfaction and purchasing behavior. As a result, there has been a growing academic interest to understand the mechanisms that enable efficient information exchange among the interactants in the electronic market place. Rightly so, previous research has examined the impact of online reviews on sales and product knowledge using variety of metrics and theoretical models (e.g. Ba and Pavlou, 2002; Chavalier and Mayzlin, 2006; Smith et al., 2005). However, while these studies have enhanced our understanding of the dynamics of reputation systems to an extent, three main aspects of these studies stand out:

- a) A common thread among these studies was the use of only the scale of the review scores or review valence (positive or negative) or extent of the review length (number of words). To some extent, the study by Pavlou and Dimoka (2006) considered the feedback textual content and its role in building seller reputation in eBay, but even their study focused only on the overall trust orientation of individual comments. While consumers use these heuristics to assess the review, they also read the reviews with the specific goal of gaining information about the product or service. Therefore, the actual information embedded in the review achieves importance.
- b) The social dynamics of the reviewer-consumer interaction are generally ignored in these studies. This is evident from many of the previous studies wherein the predictor variables explained very little variance in the dependent variables such as trust, sales and satisfaction. It can be assumed that these studies may have not considered the important missing link, the 'social' component of review systems. Even though online platforms are relatively anonymous and goal directed, most of the transactions/communications that

occur are still between two human beings. Therefore, the dynamics of human communications including the background characteristics of the communicators, the communication context and other external variable come into play. Therefore, it is important to consider both the social and economic facets of consumer to consumer interactions.

- c) Previous studies (e.g., Mudambi and Schuff, 2007; Dhabolkar, 2004; Chevalier and Mayzlin, 2006) utilized data from product-oriented sites such as Amazon.com and eBay.com, and generally overlooked the hedonic and intangible services such as those pertaining to travel and hospitality. It is generally known that due the inherent complexity of these services, WOM is an important source of information used during the purchase process. Recent evidence suggests that more and more consumers are relying on traveler reviews more than commercially generated information.

In this context, this study makes certain important contributions, specifically to the extant research on online word-of-mouth and product review systems, and e-commerce literature in general.

The first contribution is to extend the seminal uncertainty reduction theory (URT) to the domain of online product review systems. The concept of uncertainty reduction has been extensively studied in face-to-face communication as well as other CMC platforms. However, even in the CMC mode, uncertainty reduction was conceptualized in the context of direct communication wherein interactants were directly communicating with each other (e.g., online dating, chatting, and virtual communities). However, as noted earlier, consumers' use of review

systems is a form of indirect information exchange with an added spatio-temporal divide that creates a high uncertainty environment. This study delineated and quantified the finer elements of the uncertainty reduction mechanisms, and demonstrated that individuals (consumers) actively seek information in initial encounters online as they do in face to face interactions. Another compelling observation is that this information is sought despite the limited cues environment of CMC; in this, individuals seem to pay keen attention to ancillary information such as demographics to alleviate uncertainty and develop trust. This understanding can bridge the gap between the design practice and research by throwing some light on the various mechanisms that consumers use while evaluating online product reviews and product review systems. At the same time, this study opens up opportunities to expand and modify URT to enhance its explanatory power in the dynamic e-commerce environment. Previous conceptualizations of URT in online domain (e.g., Ramirez et al., 2002) indicate that consumers use numerous information search strategies to alleviate uncertainty. These include active strategies (such as directly asking the communication partner more details) or passive strategies (observing from sidelines or searching other venues for information about the partner). Given that the current crop of technologies associated with the Internet provide numerous tools for the consumer to search for information, URT must be expanded to incorporate such complexity.

Another important contribution of this study is to consider the role of the social component in explaining trust formation. It is generally believed that the primary purpose of online review systems is information, and the resultant economic exchange. Therefore, most of the research in this realm has focused mainly on the attributes of the products and services being reviewed rather than on the attributes of the reviewers themselves. However, this study

demonstrated that the patterns of social interactions that are common in face-to-face communication also permeate online review systems. Also, in the CMC environment, the concept of social information has been mostly applied to online customer communities as a way of explaining group behavior. One major difference between such communities and review systems is the lack of rich and continuous interactions that nurture trust. Even then, social exchange seems to play an important role in this relatively ‘dry’ information and goal-oriented environment. Such social mechanisms, through their impact on trust and eventually, purchase intention, have clear economic fallout that should be given equal importance in future research.

Related to the above is the contribution of this study to the literature on trust in e-commerce. As was discussed in the literature review section, trust is the fundamental element that drives e-commerce, and as studies have demonstrated earlier, lack of trust is one of the major impediments of smooth online transactions, both for B2C and C2C exchanges. Consequently, trust has been the subject of intense research in the last decade. In the case of studies in B2C context (wherein the commercial transaction is between a consumer and a firm), research has shown that structural elements of the medium (security, reliability and technical fidelity), institutional elements (reputation and size of the firm, and third party certification) are some of the important antecedents of trust. In a C2C context (wherein the transaction is between two consumers in sites such as eBay), studies have demonstrated that socially constructed collective reputation systems of both buyers and sellers as well as majority of the above mentioned structural elements determine consumer trust. As was noted earlier, one of the distinctions of the product review systems is the absence of direct economic transactions between the consumer to consumer communications. Further, owing to the anonymity afforded

by these systems, there is a considerable opportunity for deception and incorrect information provision, leaving consumers with considerable uncertainty. At the same time, these systems are relatively new and lack many of the structural and institutional assurances that protect other e-commerce transactions. Also, the relative newness of these systems means that the best practices to create reputable systems are still evolving. For instance, in a site such as TripAdvisor, the company reputation assures customer, to an extent, about the quality of information available through the site. However, there is no protection to the consumer from incorrect and deceptive reviews that are associated with many of the products and services listed on the site. This problem is compounded by the presence of large number of reviews that must be parsed before arriving at a decision about the product. Given all these question marks that consumers face while traversing product review systems, it is important to understand what factors contribute to the consumers' trust in some of the many reviews that they face. By applying URT, this study brought in the human aspects of consumer-to-consumer communication and applied to explain trust formation in online product reviews.

The third contribution of this study was to consider the information content (i.e., the presentation format and argument quality of the review) of the review and its impact on trust and purchase intentions. There is sufficient evidence to suggest that the value of the review systems lies in the product information from the reviews that reveal the true quality of products and services to the information seeker. Therefore, the primary attribute of a successful review system is a rich repository of high quality reviews. Further, this aspect has been extensively studied by prior research that focused on the volume of the words, valence (positive or negative), and dispersion of ratings (Dellaracos et al., 2005). However, as Mudambi and Schuff (2007) point

out, as the availability of review systems becomes widespread, it is more important to focus on the quality rather than the quantity of the reviews being presented to the consumer. This study operationalized this thought by applying the notion of argument quality of the review and its impact on trust. The basic assumption is that a review is essentially a reviewer's argument or a method of expression to explain the pros and cons of the product and either persuade or dissuade them from purchasing it. Therefore, the mode of presenting the argument has direct implications for consumers' trust in that particular review. To the best of the author's knowledge, there are no studies that have considered the quality of the argument as an important antecedent to trust in online review systems. Further, by combining argument quality with trust formation, this study demonstrated that it is not only important to provide information about the product attributes but also to structure this information in a fashion that is most effective in convincing the customer about the quality of the product. The results also support the fact that, all said and done, the primary aspect of importance for consumers is how convincingly and effectively has the reviewer presented the information about the product. Therefore, apart from the length (or word count) and valence of the reviews, future theories must incorporate argument quality as an important predictor of trust formation process. Further, this effect can be tested in the context of other social information present in the review to determine their competing and mutual influences.

### **5.3. Implications for Practitioners**

In the modern era, the e-commerce platform is as much an arena for extensive consumer-to-consumer interaction as it is for business-to-consumer transactions. As the electronic markets enter this phase, there is an increasing realization that such information exchange can generate unlimited value for all the involved stakeholders. More specifically, the results of this study has important implications for three sets of stakeholders, the management of product review systems, tourism and hospitality service providers, and through them the consumers themselves. Therefore, based on this study, the author suggests various strategies that can be effectively employed to enhance consumers' trust factor and influence.

The study findings indicate that argument quality of the review is one of the most important features that consumers look for in a review. In this context, there is an urgent need for review sites to devise metrics that can determine argument quality and create filters that will allow the best among the lot to be presented to the consumer. This is also important since consumers generally face overwhelming number of reviews for any given product, and this number is more pronounced in the case of experiential products such as hotels. For instance, in TripAdvisor, each hotel, on average, has more than 100 reviews spread over numerous web pages. Such information overload can create enormous cognitive load for consumers. In this regard, review sites can borrow ideas from the research in knowledge management and automated recommendation systems. Systems and algorithms that support member- or topic-centered communication spaces (Ackerman and Halverson, 2004) provide some of the necessary tools to help product review systems in this task. For instance, researchers in the recent past have developed expert finders (Mayburry et al., 2003) to support collaborative knowledge practices in

organizations. These systems direct individuals to others with whom they can strengthen social ties or build new ones. In these systems, the similarity between individuals is based on the personal information given by the users themselves. For example, Ogata et al. (2001) developed an automated expert recommender system. This system mines inter-personal communication such as emails and messages on bulletin boards based on some of the tenets of speech-act communication theory to generate the profile of a user and the problems that person is facing or the solutions he/she can provide through personal expertise. Product review systems can use similar systems in addition to document indexing tools to sort reviews based on their content and structure, and then enable the site with dynamic capabilities to provide the necessary information to the consumer on demand. Some of the travel related review sites currently provide the option of sorting out the reviews based only on the date of posting or the valence of the review. This should be extended to include an option that sorts reviews based on the amount of detail and structure of the review as well as the actual issues raised in the review. The detail and content in the review can be assessed either through some of the technologies mentioned above or through the collaborative reputations obtained by the reviewers. For instance, TripAdvisor enables consumers to rate hotels based on selected attributes such as service, value for money, security, etc. In addition, the site also allows the reviewer to the purpose of the trip, the travel companions and the date of stay. On the other hand, sites such as IgoUgo.com compute the helpful votes obtained by each review and provide tools for the consumers to sort the reviews based on this factor as well as the valence of the review (negative or positive). Such simple strategies will increase the usability of the review sites and enhance consumers' trust in these systems.

Also, the Tolumin's model of argumentation used in this study can be one of the many strategies best utilized for improving information quality and to enhance persuasiveness, the credibility, and the richness of the information—thus eventually increasing customer satisfaction with a website. To enable this, websites should provide guidelines to review writers to structure the review. This may also be accomplished by creating forms with subheadings that automatically encourage the review writer to structure the information he/she is trying to communicate.

The social component of the review is another important aspect of this study that has implications for managers. It is shown in this study that reviewers who provided more self descriptive information were considered more trustworthy and persuasive than reviewers who chose to remain anonymous. Therefore, websites need to evolve mechanisms that encourage reviewers to provide more socio-demographic information. However, as noted in prior research, there are two potential problems associated with such mechanisms: first, it leads to fears of privacy violation on the part of the reviewers; and second, it enhances the probability of deception for both economic and social purposes.<sup>1</sup> On the other hand, anonymity reduces inhibitions and fear of consequences and enhances the amount of truthful information that the reviewer is willing to give out. Some websites have discovered fairly innovative ways to allow for anonymity, but still filter out the negative behaviors that often come with it. Slashdot, a news community weblog, and Wikipedia, the online community encyclopedia, have been using a moderation system that allows registered users to vote on the quality of comments in an article.

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<sup>1</sup> Resnick's (2006) study on eBay reveals a large underground market wherein both sellers and buyers can acquire fake reputations. For the seller, reputation directly translates into price premiums. For the buyer, it prevents him/her from being ostracized by the seller community.

So, even if a user chooses to post something anonymously (for whatever reasons), that comment may still be considered of sufficient quality to be read by others. A similar strategy can be applied in the case of review sites. Sites can encourage reviewer reputation systems that enable collaborative quality control. For instance, the ‘helpful votes’ system seen in some of the popular review sites such as TripAdvisor can be a simple metric to sort out reviews. In a similar fashion, review sites can allow consumers to vote on the trustworthiness of the review. Reviews that are deemed untrustworthy or unhelpful can be automatically removed from the website. On the other hand, as the results of this study suggest, consumers seem to also give credence to the amount of detail provided by a review. Therefore, review sites can devise systems that automatically remove compute the word count of a review and remove them from the site if they do not certain standards laid down for length or depth of the review. This will considerably enhance the usefulness of the websites as well as reduce the cognitive load for the consumer. Such reviewer reputation systems also create site specific investments on the part of the consumer and enhance the lock-in periods. Also, reviewers can be provided incentives for posting self-descriptive as well as truthful information that will be deemed helpful and trustworthy by other consumers. The value of such mechanisms is gradually being recognized by review sites. For instance, IgoUgo, one of the social networks travel advisory sites, boldly displays this statement on its home page: *“Get recommendations from other consumers. See the real people behind the advice. Share your own reviews and photos to earn rewards!!!!”* Similarly, Epinions.com actively requests consumers to provide good reviews and provides monetary incentives for good reviews. Such individualized strategies will help review sites attract useful and more manageable content to their sites.

Further, as this study showed, if the consumer perceives that the source of the message is similar in social background, tastes and preferences, he/she is more likely to trust the judgment of that particular source than anything else. The multi-directional communication (many-to-many) afforded by the current crop of technologies including the Internet has placed immense power in the hands of such consumer social networks, a fact that is evident in the growing power of online product review systems. Companies previously considered this collective behavior as a negative force, but of late, firms are learning to tap into the immense potential of these networks. For instance, recent reports (Intelliseek, 2005) show that a consumer is ten times more likely to click on an advertising link forwarded by a friend or a relative as opposed to the one suggested by a commercial entity or an automated recommender system. Given the inherent complexity and social nature of travel related services, it is more likely that online consumer social networks will play an even more important role in persuasion and brand building. Consequently, every major online travel intermediary, including Google are hosting friends networks that enable consumers to exchange travel, hotel and restaurant related information with one another. A case in point is Tripadvisor, that hosts a “*places I’ve visited*” link on about 2 million MySpace profiles. As noted earlier, such social exchange is as important as information exchange, and motivates consumers to provide as well as effectively use the right information needed during travel decision making. Therefore, review websites must gradually move away from a mere information provision role to providing social platforms that encourage uninhibited information exchange between socially similar consumer networks. As Yaniv et al. (2004) suggest, while the benefits of aggregating and combining information during decision making are theoretically demonstrable and sound, the same cannot be applied in the matters of personal taste. This holds

true especially in the case of hedonic and service oriented products such as tourism and leisure. Simple aggregation of information creates conceptual difficulties as people are entitled to varied opinions. A more promising strategy would be to consider the personal match between the advice seeker and the recommender, assuming that greater the similarity, greater will be the impact and benefit of the advice received. The focus, therefore, should be not to present the optimal solution but to provide simple heuristics that help the consumer find good and relevant solutions.

The above discussed aspects of review systems also have important implications for tourism and hospitality service providers. Ever since the advent of relationship marketing in the tourism and hospitality industry, and more importantly web enabled relationship marketing, firms have been devising various metrics to understand and segment customers based on their demographic information, purchasing patterns, and tastes and preferences (Gilbert and Perry-Powell, 2002). Traditionally, such information also formed an important basis for assessing the lifetime value, loyalty based segmentation, and the switching behavior of the consumer. However, such information is often truncated and provides a uni-dimensional view of the consumer. For instance, sales and purchase data might tell the firm that a consumer has stayed loyal or switched, but does not explain why a consumer(s) has switched. In this regard, consumer reviews on review systems provide firms with a tremendous opportunity to extract rich information about consumers. Review sites are platforms through which groups of consumers actively seek and exchange information about products and services, pricing and quality, and likes and dislikes. While marketers have till now have viewed them from a rather skeptical lens, it is time to adapt to new strategies. Marketers now have the opportunity to obtain a

multidimensional view of the consumer through these reviews. Mining these reviews will help firms understand characteristics of the consumers, connect disparate consumption related characteristics, and generally get an overview of why the consumer is happy or unhappy. This information goes beyond the conventional cost-benefit analysis of the consumer, and can help firms attend to the critical aspects of their product or service.

Further, consumer reviews in review sites can be used as effective advertising tools. Concepts such as online viral/referral marketing (Strauss et al., 2003) have been built around the assumption that word-of-mouth communication, be it offline or online, has tremendous influence on brand attitudes, purchasing and satisfaction with the products. Positive communication from existing customers has the potential to enhance the credibility of a product/service as well as the service provider. Also, as noted earlier, research in product review systems suggests that the very presence of reviews on an e-commerce website enhances the trust factor from the consumer's point of view. However, it seems that tourism and hospitality forms have still not taken advantage of this powerful phenomenon. Taking into consideration the above discussed evidence, firms should look into the prospect of adding consumer reviews to their websites. Based on the characteristics of the customer as well as the purpose for which the customer is visiting the website, firms can actively link their websites to review systems so that consumers can extract relevant information and decide on whether to go ahead with the purchase or not. Such honest strategies, although sometimes counter-productive, can go a long way in enhancing the credibility of the firms in the eyes of the consumers.

#### 5.4. Limitations and Future Research Directions

There are numerous limitations to this study.

1. The subjects in this study were students who role played their decision making task in a controlled setting. There were no monetary or opportunity costs associated with taking a wrong decision (in our case, the decision to trust or not trust the review and base the decision to purchase on the review)<sup>2</sup>. Therefore, the findings cannot be generalized across all populations and different online buying tasks. The generalizability of the findings should be enhanced by using survey methods targeting actual customers visiting review sites or using hard evidence such as extracting actual reviews from sites such as Tripadvisor and Amazon.com. As mentioned earlier, these sites nowadays allow consumers to not only post reviews but also create personal profiles (akin to MySpace or Facebook). In this personal space, customers can post photos, travel pictures, their expertise status (in terms of number of reviews they posted overtime) as well as create a travel network of friends and relatives. This information can be gleaned and used as predictors of trust scores associated with reviews. Such data will allow one to understand the dynamic, reciprocal and iterative processes by which customers use both instrumental and social information in online peer recommender systems.
2. Another constraint in this study is the use of only negative reviews. As discussed in the methodology chapter, the evidence on the impact of review valence is equivocal. Therefore, the decision to use only negative reviews was based on the negativity bias theory which

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<sup>2</sup> This might be one of the reasons why the involvement hypothesis was not supported by the data. Given that there was little risk involved in the actual scenario, the subjects may have focused their entire energy on the review itself.

suggests that in the presence of large number of reviews (usually the case in review sites) consumers tend to look specifically for negative reviews. Further, the marketing literature (e.g., Herr, Kardes, and Kim, 1991) suggests that negative information is perceived more diagnostic, especially in high involvement and complex purchasing tasks. This is also supported by recent studies (e.g., Ba and Pavlou, 2002) which found that negative reviews have greater impact on trust and product sales than positive reviews. On the other hand, Mudambi and Schuff (2007) reveal that more than the valence of the review, the quality of information presented in the review has greater influence on trust scores. To the best of the author's knowledge, there are no studies that reconcile these varying streams of thought. In real life situations, consumers typically face numerous positive and negative reviews associated with any given product. This matter is further complicated by the recency bias (Pain and Sharpley, 1989; Smith and Vogt, 1995), in the sense that more recently posted reviews are more easily accessible and tend to have greater utility for the consumer although these reviews might not be the best source of information. Given these overwhelming WOM messages faced by the consumer, it is important for future research to examine how consumers manage to weave through the clutter, and the kind of simple heuristics they adopt to achieve the task at hand. Such research has important implications for the design and management of product review systems.

3. An important limitation of this study is the operationalization of the social component construct (IDENTITY). The social component was conceptualized as both the consumers' perception regarding the reviewers' identity information as well perceptual similarity between the socio-demographic characteristics of the reviewer and the subjects used in the

study. This decision was taken due to the inherent limitations of the experimental manipulations in the sense that it is difficult to delineate the mere socio-demographic information from the similarity perceptions in two different reviews. However, previous research in human communication (Lea et al., 1995) as well as e-commerce (Forman et al., 2008) suggest that individual self-disclosure about his/her background to a group, and the groups acceptance of this identity are analytically separate processes that determine satisfaction and relationship continuance. This process of identity claiming and granting becomes even more important in an online environment wherein the potential for deception is much higher than in traditional face-to-face communication. It can be assumed that consumers, while evaluating online product reviews, will go through similar bind as to whether or not to trust the identity information provided by the reviewer, and extent to which consumers perceive that this information is genuine will impact the perception of similarity. While this two step process is difficult to manipulate in an experimental condition, future research should take other approaches to delineate this important dichotomy in the case of online product review systems.

4. The dependent variables in this study are limited to trust and intention. While these are commonly accepted constructs in behavioral research, there is a general criticism that they do not accurately reflect the deviant actual behavior of the consumer. At the same time, studies in the e-commerce realm have effectively demonstrated that reviews do influence actual behavior of the consumer (in terms of purchase or intention to visit a destination). Combining the findings of this study with those of previous research, it can be strongly argued that review systems have high social and economic consequences that cannot be really delineated.

Future research should combine these varying yet interdependent perspectives. For instance, while the economic consequences of argument quality and review valence are apparent, the varying impact of the rich nuances reflected in each review need to be considered. To achieve this challenging task, researchers should borrow perspectives from discourse theory and sentiment analysis. This becomes even more important in a world dominated by keyword search and social network based advertising. The primary questions of interest are: “what is the economic value associated with a good argument?”; “what is the value of self-descriptive social information?” and “how can firms apply the power of social information to better manage online word-of-mouth?” These are some of the exciting avenues for future research.

5. Another limitation in this study is the selection of the services that formed the basis for the reviews evaluated in the two involvement modes. As the reader is familiar, this study used two different hotels (one in Paris and the other in Detroit) to create 4 review manipulations for each of the two involvement scenarios. As a result, the reviews were markedly different in their specific content (in terms of product information) in addition to their subjective levels of involvement. For instance, the review on the hotel in Paris consisted of information regarding a specific street in Paris or the hotel’s distance from the Eiffel tower. On the other hand, the reviews on the Detroit hotel contained criticisms about the renovation work, debris and related issues. This was unavoidable since it was not deemed possible in the context of the study to create similar reviews for the same hotel in both high and low involvement conditions. The unexpected fallout might be that subjects’ intention differences cannot be strictly attributed to the manipulations. Since previous literature did not provide any

particular strategy to overcome this methodological paradox, future research should try to explicate the fallouts or at least be cognizant of such limitations.

6. A major feature that has been consistently ignored in extant research on review systems is product diagnosticity. Word-of-mouth communication is fundamentally an external information source that is used by consumers to understand and appreciate products and services (in both pre- and post purchase stage). This is also the main reason why most websites provide the platform for posting and viewing reviews. However, researchers are yet to examine whether review systems actually accomplish this task, and if so, which possible ways. For instance, it is important to understand what kind of reviews enable the consumer to gather the maximum amount of information about a product. It is equally important to understand how the consumer picks and chooses only a few out of the many reviews to gain better product knowledge. 'Helpful votes' assist the consumer to some extent but more research is needed to understand this interesting phenomenon.
7. It is important to differentiate the relationship between uncertainty and trust. Recent research in recommender systems (Komiak and Benbasat, 2004; Xiao and Benbasat, 2006) as well as reputation systems (Flanagin, 2007) suggests that consumers face multiple levels of uncertainty including product and seller uncertainty as well as the uncertainty associated with the actual review system. These uncertainties take on different roles depending on the type of product/service being purchased. However, it is still not clear which uncertainty is most effectively alleviated by product reviews. Does the mere presence of reviews lend credibility to a seller or the review system? Or do other mechanisms come into play when consumers evaluate reviews and review systems? Further, given the presence of large amount of WOM,

what are the other search strategies that consumers use to reduce uncertainty? These questions should stimulate interesting research hypothesis in the future.

## **5.5. Conclusions**

This study sought to understand the factors underlying the use of online review systems by leisure and travel customers. Information technology has permeated every aspect of trip planning process. As a result, there is a growing amount of information bombarding the customer during every stage of the decision making process. To weave through this clutter, consumers are increasingly relying on peer generated information such as online review systems, virtual communities, and traveler blogs as an alternative to the commercially generated information. In this regard, understanding what drives the consumer to assess and develop trust in these important sources of information has significant implications for both researchers and practitioners.

One of the main contributions of this study was to understand the role of social factors, which apart from the main review content, can have significant influence on consumers' attitude towards the reviews. Subsequently this study hypothesized, and validated that social identity can come into picture when consumers are evaluating online reviews. For instance, results from this study reveal how identity information is essential to establish para-social presence in online review systems. Similarly, the study also contributes to extant literature by investigating an additional social parameter known as social identity. Since online review systems are essentially social interaction platforms, it is important to apply the aforementioned concepts and understand how online reviews also require certain social components apart from their pure utilitarian value.

Another important aspect of this study is the study of information content on consumer trust and decision making process. Previous research on online product review systems has looked at factors such as review orientation (negative or positive star rating) (Chevalier and Mayzlin, 2006) and number of helpful votes to a review (Ba and Pavlou, 2002; Mudambi and Shuff, 2007) as important characteristics of reviews that attract consumers (Dhabolkar, 2006). However, the content itself i.e., the way the review is written and the way it is framed and presented is an interesting factor which has rarely been investigated in the aforementioned studies, and has important implications,. Further, the review content itself acts as a parameter for social interaction between the reviewer and the review. This study shows that consumers use the content of the review to achieve certain social and utilitarian goals. Finally, to the best of the author's knowledge, this is the first study which applied such a conceptual model to peer review systems of experiential products such as travel and tourism activities. As mentioned earlier, tourism and travel related products and activities high involvement products and do not have the try before you buy feature. Therefore, traveler reviews become a more salient form of information source for the tourists before they make any decision. This study is an initial step to understand the importance of product review systems in trip planning process.

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## APPENDIX A

### INVOLVEMENT GROUP DISCUSSION STUDENT WRITE-UP

My name is Sam and I like to paint and hang with my friends. I love to spend time with my family. I enjoy the company I keep and I am more concerned with the people I spend my time with not necessarily what we do. I'm a pretty easy going person.

I have always wanted to go to Amsterdam. Van Gogh is my favorite artist and his museum is there, and I believe that Ann Frank is the most interesting person in history and her old house is there. I have been planning this trip before college and I plan to take it after I graduate as a present to myself. I want to stay for 2 weeks so I need to plan cheaply. Since I have been thinking about this for a while I need every thing to go right + it needs to fit into my budget.

I am going camping after we go on Christmas break. I am going with my friends and my mom, it does not matter where we go or how nice it is b/c I'm with the people I love. The time is important but the other details will work themselves out. There will not be too much planning.

**APPENDIX B**  
**TRIP SCENARIOS FOR INVOLVEMENT PRETEST**

T1: “Imagine that your Parents plan to take you on a 3-day vacation to San Francisco. You were given the responsibility to plan the trip. The trip should be enjoyable but also within limited budget. Based on your feelings about this trip, please rate the following statements.

T2: “Your long awaited dream of going to an exotic foreign country has finally come true! You are going on a trip to Europe for 14 days with your significant other. You plan to stay in Paris, and go around the other countries from there. You have taken up the responsibility to plan the entire trip so that everything would be perfect. Based on your feelings about this trip, please rate the following statements (Tick only one appropriate response).

T3: “Your parents have decided to take the entire family for a 3 day trip to Detroit in the summer to visit Aunt Betty. They requested you to plan the trip including the flight tickets, rental cars and the hotel to stay. The trip has to be within a limited budget. Based on your feelings about this trip, please rate the following statements (Tick only one appropriate response)

T4: “You are planning a 3-day trip to Detroit on a personal business pending for a long time. The trip is to visit a local university which you might join soon. Your plan is to stay there for a few days and checkout if the school fits your requirements. Based on your feelings about this trip, please rate the following statements (Tick only one appropriate response)

T5: “Your parents have decided to take the entire family on a 2-week trip to Europe in the summer. Their plan is to stay at Paris and go around from there. They requested you to plan the trip including the flight tickets and a hotel to stay. Based on your feelings about this trip, please rate the following statements (Tick only one appropriate response)


T6: “Your parents want to take you with them to Detroit for 3 days. The trip is to visit a local university which you might join soon. Your plan is to stay there for a few days and checkout if the school fits your requirements. Based on your feelings about this trip, please rate the following statements (Tick only one appropriate response)

T7: “You are going to San Francisco for 3 days with your significant other. You have taken up the responsibility to plan the entire trip. Everything has to be just perfect. Based on your feelings about this trip, please rate the following statements (Tick only one appropriate response).

T8: “Your dream of backpacking in the European countries has come true! You plan to take a trip to Paris, and from there, go around the other places. You want to plan the trip carefully including the flight tickets and hotels to stay, so that there is no inconvenience. Based on your feelings about this trip, please rate the following statements (Tick only one appropriate response)

## APPENDIX C

### HIGH INVOLVEMENT MANIPULATIONS




get the truth. then go.™


Eiffel Tower Hotel: Traveler Review

Welcome, Member!  
[Sign out](#) ▾ [My TripAdvisor](#) ▾ [My Trips](#)  
17,775,295 Travelers Planned Trips This Week!

**Eiffel Tower Hotel:** 12, rue de Boulaivilliers, Paris 75016, France



- Rooms: 152
- [Candid traveler photos](#)
- [Map this hotel](#)
- [Hotel amenities](#)
- [Virtual tour](#)




**Luckypal 101**

- [Send Message](#)
- [Add to my traveler network](#)

**Location:** unknown  
**Age:** Unknown  
**Joined:** Apr 26, 2007

**About Myself:** later

 Luckypal 101's review of Eiffel Tower Hotel

**Eiffel Tower Hotel: Not worth the price: Will try Something Different Next Time™**

[A TripAdvisor Member](#)

**CHECK RATES!**

I recently stayed here with my family on our trip to Europe. no doubt it was scary... we had to sign saying we wouldn't have any parties in our room. I think the party had just left right before we checked in. I believe we had the room that they forgot to remodel. Everything was worn out and dated. The drawers of the TV stand wouldn't close and the TV would keep rolling out if the doors weren't shut. We had to ask for clean sheets because the ones on the couch were folded with the couch. The clean sheets that they brought us were complete with holes. Bathroom was extremely small and dated. I believe the bedroom was actually decent. The lobby is the best part. just sleep in the lobby! Now those couches are nice! All in all, not worth the price they charge, and definitely not for family junkets.

*This review is the subjective opinion of a TripAdvisor member and not of TripAdvisor LLC.*

Traveler reviews (58-62 of 136) [Previous](#) | [Next](#)



**Eiffel Tower Hotel:** 12, rue de Boulainvilliers, Paris 75016, France



- Rooms: 152
- [Candid traveler photos](#)
- [Map this hotel](#)
- [Hotel amenities](#)
- [Virtual tour](#)



Sam

-  [Send Message](#)
-  [Add to my traveler network](#)

**THE PICTURE IS  
HIDDEN DUE TO  
PRIVACY PURPOSES**

**Location:** Philadelphia, PA  
**Age:** 18-24  
**Joined:** Jan 18th, 2007

**URL:** <http://www.tripadvisor.com/members/sam>

**About Myself:** I live in Philly, and study at a local university. I am a huge fan of punk rock and jazz (wierd combination, I know!). I travel atleast once a year, and am very close to my family. I have a sister and brother who go the same school as me, and it is irritating sometimes. My parents dont bother me much, and we mostly have a good time. Eating out with friends, dancing, and listening to music are some of my hobbies. I am an avid painter and sketch artist by the way! thats the reason I like going to Europe!

 **Sam's review of Eiffel Tower Hotel**

**Eiffel Tower Hotel: Traveler Review: "Stay somewhere else?"**

 [A TripAdvisor Member](#)

**CHECK RATES!**

Hotel itself was okay, however, they levied an extra charge against my credit card after we left, and have steadfastly ignored requests to justify the charge. The hotel is in a good location. I had a bad experience with the Valet Parking every time we wanted our car. it was a mess. The rooms are small and rather tacky, i had to ask repeatedly for my room to be cleaned, security sucked (they were at the front desk but were asleep half the time) and since its right on the corner you get a lot of traffic and drunk folks screaming in the middle of the night...if you want a nice hotel, I suggest you dont stay here. It is not worth the cost. I expect much better from Paris. So, unless you want to pay a random amount to this hotel and wait for an hour every time you have to go out, avoid it!!!!!!

*This review is the subjective opinion of a TripAdvisor member and not of TripAdvisor LLC.*

Traveler reviews (58-62 of 136)

[Previous](#) | [Next](#)



**Eiffel Tower Hotel:** 12, rue de Boulainvilliers, Paris 75016, France



- [Rooms: 152](#)
- [Candid traveler photos](#)
- [Map this hotel](#)
- [Hotel amenities](#)
- [Virtual tour](#)



**Mm joy 678**


-  [Send Message](#)
-  [Add to my traveler network](#)

**Location:** unknown  
**Age:** unknown  
**Joined:** Apr 26, 2007

-----  
**About Myself: Later**

 **Mm joy 678 's review of Eiffel Tower Hotel: Traveler Review**

**Eiffel Tower Hotel: "who says this is an international hotel? "**

 [A TripAdvisor Member](#)

**CHECK RATES!**

I went on a Euro trip. We arrived at the hotel early, around 6am on a Sunday. Since our room was obviously not ready, we decided to check out the neighborhood before breakfast. There must have been one hell of a party because the pool area was filthy and disgusting. Cigarette butts and empty cups all over the place, other trash and debris laying around. Housekeeping is not here until 7." This told me this was a regular occurrence.

The breakfast is included in the room price, they say- but they give you only toast and butter and maybe a fruit juice. If you want to have a better breakfast, you have to pay about \$15 per person. The water in the room is not free either, they charge \$4. we wanted to get some water, had to walk down the hall to get some ice from the machine. even the vending machines charge you around 2.50.

I also had an issue getting an bell staff before 7, and then I had to wait 15 minutes for someone to come and check my luggage so I could get breakfast.

Later in the day when we came back to check in, we were upgraded to a 2 bedroom suite. The room was clean, although there were hairs in the bathtub. The room was supposed Eiffel tower facing but all i could see was other hotels and apartments.

The lobby was always clean and nicely decorated. The gift shop had merchandise that looked over 20 years old.

The hotel hotel in a good left bank location within walking distance of the shops of Rue Du Bac and the Latin Quarter. but it is quite far (30 min.) to the museum so be prepared for a drive if you want to go there.

All in all, I have seen other hotels in Europe and this definitely is not my favourite.

*This review is the subjective opinion of a TripAdvisor member and not of TripAdvisor LLC.*



**Eiffel Tower Hotel:** 12, rue de Boulainvilliers, Paris 75016, France



- Rooms: 152
- [Candid traveler photos](#)
- [Map this hotel](#)
- [Hotel amenities](#)
- [Virtual tour](#)



**Jordan**

-  [Send Message](#)
-  [Add to my traveler network](#)

THE PICTURE IS  
HIDDEN DUE TO  
PRIVACY PURPOSES

**Location:** Philadelphia, PA

**Age:** 18-24


**Joined:** May 12, 2007

**URL:** <http://www.tripadvisor.com/members/Jordan>

**About Myself:** I was born in the big apple (i love newyork- yohooof), spent most of my time as a kid in and around Philadelphia . I am a college grad, I enjoy music and parties! I really get into watching MTV and going to live concerts. Overall, I consider myself to be very outgoing and pretty open-minded. I guess that is why I enjoy travelling so much. Actually, I began my exploration about one year ago. In fact, I have only visited a few places. Europe is off course my fav city. I am not sure about myself most of the time but I have a few ideas about what I like. I am learning a little more each day as I savor my new hobby.

#### Jordans's review of Eiffel Tower Hotel

**Eiffel Tower Hotel: No style, comfort or service "**

 [A TripAdvisor Member](#)

**CHECK RATES!**

I travelled in Europe before alone but this time, it was with friends and there was no budget and I wanted it to be special, so we booked this hotel. In my last trip, I stayed at the Labelle hotel, and wow, what a downgrade!

We unloaded our luggage in the pouring rain at about 11 p.m., the night clerk watched us from the window at the reception desk and had absolutely no words of welcome for us. That was our introduction to Eiffel tower Hotel. Hallways are dark, pitch black, and we had to search to find a light switch which will keep the lights on for only seconds, then the unbelievably small room (yes, we are aware that Europe has small rooms but this was absurd) with no room at all for luggage. The room we were in (on the third floor) really wasn't made to have three people in it. The three small single beds were all pushed right together, and there was almost no other free space in the room.

**Internet access:** Very slow internet connection with \$10 extra fee. Not wireless, but that doesn't bother me, as I am not heading out with this laptop.

**Cleanliness:** I don't consider this place to be overly clean. This hotel is in desperate need of remodeling. They need to be repainted. The back stairs to the garden is pretty bad. The doors need to be cleaned. I get totally turned off when I go to open a white hotel room door and see dirty black fingerprints near the knob. I need to be someplace really clean.

**Bathroom:** Is OK.

**Bed:** ok.

**Cushions on the deck furniture** needs reupholstering.

The mediocre breakfast downstairs is terribly expensive (\$15 U.S. per person) and the coffee was poor in taste. We went to a local cafe for good coffee and fresh baked goods. Who wants to pay \$4.50 for one cold boiled egg? With the exception of Simone, there was not one friendly person at the desk. We cannot recommend this hotel. We felt more like unwanted guests than clients. Service very patchy - some excellent and helpful staff, others distinctly cool. Good location, but not worth the money.

I would not stay here again. It is dingy and old. When I am in Europe, I prefer classy stuff. If the person in one of these reviews on this hotel thinks this is the best Paris to offer, they need to explore elsewhere.

APPENDIX D

LOW INVOLVEMENT MANIPULATIONS

The screenshot shows a TripAdvisor page for a hotel review. At the top, the TripAdvisor logo is on the left, and the text "Omni Detroit at River Place: Traveler Review" is on the right. Below the logo is the slogan "get the truth. then go.™". On the right side, there is a "Welcome, Member!" message with links for "Sign out", "My TripAdvisor", and "My Trips", and a statistic: "17,775,295 Travelers Planned Trips This Week!".

The main heading is "Omni Detroit at River Place: 1000 River Place, Detroit, MI 48207". Below this is a photo of the hotel building. To the right of the photo is a list of links: "Rooms: 100", "Candid traveler photos", "Map this hotel", "Hotel amenities", and "Virtual tour".

Below the photo is a profile for "Luckypal 101". It includes a profile picture, a "Send Message" button, and an "Add to my traveler network" button. To the right of the profile, it says "Location: unknown", "Age: Unknown", and "Joined: Apr 26, 2007".

Below the profile is a section titled "About Myself: later".

The review title is "Omni Detroit at River Place: Not worth the price: Will try Something Different Next Time™" with a "CHECK RATES!" button to the right. Below the title is the text "A TripAdvisor Member".

The review text reads: "This hotel was truly a dump. I stayed here for a business meeting that was held on the top floor. In my room, I found the baseboard peeling off the wall, mildew on the shower curtain, and an extremely clogged shower with stuff floating around in the built-up water. The first night, when I called for a wake-up call, no one answered. The next evening, I called the front desk several times; again, no one answered. The bathtub had rust stains in it and the tissues were soaking wet for some reason. No hot water in the morning...mentioned to desk clerk, who expressed concern, but did nothing. A previous reviewer mentioned the place should be shut down until renovations are complete. I agree, although, at the rate they're going and the amount of renovations needed, it could be years... Super Bowl fans, beware!!"

At the bottom, there is a disclaimer: "This review is the subjective opinion of a TripAdvisor member and not of TripAdvisor LLC." and a footer: "Traveler reviews (58-62 of 136)" with "Previous" and "Next" links.

[Omni Detroit at River Place:](#) 1000 River Place, Detroit, MI 48207



- [Rooms: 100](#)
- [Candid traveler photos](#)
- [Map this hotel](#)
- [Hotel amenities](#)
- [Virtual tour](#)



**Sam**


- [Send Message](#)
- [Add to my traveler network](#)

THE PICTURE IS  
HIDDEN DUE TO  
PRIVACY PURPOSES

**Location:** Philadelphia, PA  
**Age:** 18-24  
**Joined:** Jan 18th, 2007

**URL:** <http://www.tripadvisor.com/members/sam>

**About Myself:** I live in Philly, and study at a local university. I am a huge fan of punk rock and jazz (wierd combination, I know). I travel atleast once a year, and am very close to my family. I have a sister and brother who go the same school as me, and it is irritating sometimes. My parents dont bother me much, and we mostly have a good time. Eating out with friends, dancing, and listening to music are some of my hobbies. I am an avid painter and sketch artist by the way! thats the reason I like going to Europe!

 **Sam's review of Omni Detroit at River Place**

**Omni Detroit at River Place Traveler Review: "Stay somewhere else? "**

[A TripAdvisor Member](#)

[CHECK RATES!](#)

Hotel was very deceiving. For the price, this place is a joke. The hotel is in a good location since it is very near to the place I was visiting. First of all, the hotel provides each room with single toilet paper. What kind of hotel does this? As I entered the bathroom, it smelled like terrible body odor. The bathtub had rust stains in it and the tissues were soaking wet for some reason. No hot water in the morning...mentioned to desk clerk, who expressed concern, but did nothing. Used restroom right behind checkout counter in the morning before leaving and it also had no hot water!!!The tv got only few stations and the valet parking could not accommodate our SUV in their lot! If you have other options, use them because this place is not worth your money.

*This review is the subjective opinion of a TripAdvisor member and not of TripAdvisor LLC.*

Traveler reviews (58-62 of 136)

[Previous](#) | [Next](#)

**Omni Detroit at River Place:** 1000 River Place, Detroit, MI 48207



- [Rooms: 100](#)
- [Candid traveler photos](#)
- [Map this hotel](#)
- [Hotel amenities](#)
- [Virtual tour](#)




**Mm joy 678**

- [Send Message](#)
- [Add to my traveler network](#)

**Location:** unknown  
**Age:** unknown  
**Joined:** Apr 26, 2007

About Myself: Later

 **Mm joy 678 's review of Omni Detroit at River Place: Traveler Review**

**Omni Detroit at River Place:** What a place!!!

 [A TripAdvisor Member](#)

**CHECK RATES!**

I read these other reviews before staying and thought, "Oh, maybe those people are just complainers, and seriously, how bad could it be?"

Disgusting. Enough said? Disgusting doesn't even begin to describe it. I couldn't find a room anywhere else and was forced to stay there. Upon check in, I asked if they had a fitness center, and was directed to it. I went through the dirty hallways and up the dirty elevator where I found my dirty room. I peeled off the bed spread, (they aren't cleaned regularly no matter where you go) and found my rumpled sheets, obviously slept in, with make up stains, hairs (long and short), and who knows what else on them.

Debris all over the (severly stained) carpet, hair in the tub and sink, and the over all condition of the room led me to believe the bedspread was pulled up, the garbage was emptied, the towels were (oh-I sure hope so!) replaced, and housekeeping called it good. The room was in poor shape and very run down. Stained upholstery, poor lighting (probably a blessing, as I need not see what else there was), the lock was not very secure (door could have been kicked in by a five year old), and just stained grout and glue and cracks and who knows what else keeping it all together. Sheets were brought to my room in about 20 minutes. I made my bed, wiped down the bathroom, tried not to look at anything else (ok-it was so bad I laid a towel down on the chair before sitting on it), and went down to the fitness room.

The "fitness room" was small. It contained only a treadmill and a stair stepper. Fine. That's all I needed, anyway. I looked past the car seat, the coffee cups, the dirty counter and floor, the 2 large boxes and 3 big garbage bags of clothing, and hopped on the treadmill. It didn't work. Neither did the stepper. I took the stairs up to my room, disgruntled, because the neighborhood was not the best and I wouldn't be walking around the block...in fact, I saw street people entered the lobby on more than 7 occasions during my excruciatingly long four night stay.

Some of the staff was courteous, some were rude. They advertised a free shuttle within a 3 mile radius, but I was then told it doesn't start running until late afternoon. Cabs arrived pretty quick. I could go on and on, but the bottom line in this hotel was horrible, dirty, and nasty. I would expect this at \$29.95 a night, not \$100.

I am a really frequent traveler and stay in hotels over this all over the country but this is one of the worst i have seen till date.


*This review is the subjective opinion of a TripAdvisor member and not of TripAdvisor LLC.*

Traveler reviews (59-62 of 136)



[Previous](#) | [Next](#)

**Omni Detroit at River Place:** 1000 River Place, Detroit, MI 48207

- Rooms: 100
- [Candid traveler photos](#)
- [Map this hotel](#)
- [Hotel amenities](#)
- [Virtual tour](#)

**Jordan** [Send Message](#) [Add to my traveler network](#)THE PICTURE IS  
HIDDEN DUE TO  
PRIVACY PURPOSES**Location:** Philadelphia, PA**Age:** 18-24**Joined:** May 12., 2007**URL:** <http://www.tripadvisor.com/members/Jordan>

**About Myself:** I was born in the big apple (i love newyork- yohoooo!), spent most of my time as a kid in and around Philadelphia . I am a college grad, I enjoy music and parties! I really get into watching MTV and going to live concerts. Overall, I consider myself to be very outgoing and pretty open-minded. I guess that is why I enjoy travelling so much. Actually, I began my exploration about one year ago. In fact, I have only visited a few places. Europe is off course my fav city. I am not sure about myself most of the time but I have a few ideas about what I like. I am learning a little more each day as I savor my new hobby.

 **Jordan's review of Omni Detroit at River Place****Omni Detroit at River Place: No comfort or service "** [A TripAdvisor Member](#)**CHECK RATES!**

The hotel is undergoing extensive renovation to prepare to become a branded property. While it is the closest hotel to the university town, dont let that guide your decision. The hotel is a construction site. On Sunday, 3-25-07, we came back from a trip, the front desk and restaurant, that had been present only a short time before, were GONE! Dust and workmen were everywhere. The construction noise lasted all night. The lobby was all construction dust and workmen in hardhats. Why did they need hardhats and breathing masks, and we were walking around in convention clothes? Weren't we at risk too?

The staff were appropriately embarrassed by the state of the hotel and apologized profusely. But I have asthma and my companion has allergies. We both suffered the entire stay. In hindsight, we should have left the first day.

This was so not worth \$100 - \$150 a night we all paid. If they are going to continue this level of renovation, they need to vigorously notify patrons and significantly reduce the rate to around \$50 a night. This is way more than a makeover, it's a deconstruction. Be prepared to live in a construction zone. Bring a breathing mask, ear plugs, your own hardhat, and workboots. Not an upscale hotel nor a hotel for conventioners.

The hotel provides WiFi for a charge of 10\$ and breakfast for &15. so much for a budget hotel!!!! also, be prepared to ask three employees for the passcode.

Our room was recently renovated and had a strong odor of new carpet and fresh paint. We tried several different rooms - all with the same outcome. We ended up with headaches, sinus issues, and itchy, red eyes. We got a rash from the sheets, which were very rough. The towels had an odor. We had to fix our own toilet TWICE. There was almost no water pressure or hot water. When we ran out of toilet paper, we were treated rudely by the maid who practically accused us of stealing it. We were never provided an ice bucket despite asking repeatedly although

I suppose that was ok since all the ice machines were removed from the hotel. A sign said you were supposed to go to the restaurant, but when we got there, they said we needed the ice bucket - the one the front desk promised and never delivered. Also, nothing is open in that area on Sunday so be prepared to eat at Subway since the hotel no longer has a restaurant.

BTW, Detroit is not a place to visit. After many trips to these type og hotels, thats the only thing i can say. Even the service people questioned why we were there. The cab drivers all get lost. We liked the PeopleMover, but "Greektown" is basically one street.

*This review is the subjective opinion of a TripAdvisor member and not of TripAdvisor LLC.*

## APPENDIX E

### SURVEY QUESTIONNAIRE

Dear Participant,

Thank you for agreeing to participate in this study. In this survey, you will be requested to answer three sets of questions. We are interested in your opinions regarding various aspects of the online reviews in Tripadvisor.com. Just follow the instructions, study the reviews, and simply give your honest opinions. There is no right or wrong answer.

The 1st Section has questions regarding your feelings about a particular activity described in the next page. We would like to understand the level of interest that this particular activity generates in people.

In the 2nd Section, you will be requested to study four reviews given by four different reviewers regarding the activity and your opinions about the survey.

In the Final Section, please tell us briefly about yourself.

You should take less than 15 minutes to complete this small task. Your responses are completely confidential and anonymous – and your participation is totally voluntary. If you have any questions or concerns about this research, please contact Pradeep Racherla, the principal investigator, at email: [deepur@temple.edu](mailto:deepur@temple.edu).

Thank you for your participation.

Yours Sincerely



Pradeep Racherla

**You do this every summer no matter what. Your parents have decided to take the entire family for a 3 day trip to Detroit to visit Aunt Betty. They requested you to plan the trip including the flight tickets, rental cars and the hotel to stay. The trip has to be short and within a limited budget. Now, based on your feelings for this trip, answer the following questions.**

Based on your feelings about this trip, please rate the following statements (Select any one Option)

	Strongly Agree	Agree	Slightly Agree	Neutral	Slightly Disagree	Disagree	Strongly Disagree
I attach great importance to this trip	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It gives me great pleasure to plan this trip	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If any of my choices about this trip go wrong, I will be very upset	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Even if I plan this trip perfectly, there is always a possibility for things to go wrong	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel excited to plan this trip	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

“Before finally booking the hotel, you want to see what other consumers who stayed at this hotel are saying. Now, please read the TripAdvisor member's reviews about this hotel and answer the questions attached to each review.”

**[REVIEW ABOUT HERE]**

Now that you have read Jordan’s review about the Omni Detroit hotel, please rate your level of agreement to the listed statements below. Jordan provided the picture but we hazed it due to privacy purposes. When you evaluate, please assume that the picture is there (Please select only one response for each statement)

The review by Jordan was.....

	Strongly Agree	Agree	Slightly Agree	Neutral	Slightly Disagree	Disagree	Strongly Disagree

Well supported	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compelling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contained Specific facts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contained detailed information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Listed concrete examples	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did not contain detailed information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please rate the extent to which you agree with the following statements

	Strongly Agree	Agree	Slightly Agree	Neutral	Slightly Disagree	Disagree	Strongly Disagree
Jordan has shared photos and relevant personal information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jordan has used meaningful identity in the profile	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jordan is not trying to hide any information from others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
there is considerable similarity between me and Jordan in terms of outlook in life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
there is considerable similarity between me and Jordan in terms of tastes and preferences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
there is considerable similarity between me and Jordan in terms of social background	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I can see myself writing the same type of review if I were in Jordan's place	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

After reading the review, I think....

	Strongly Agree	Agree	Slightly Agree	Neutral	Slightly Disagree	Disagree	Strongly Disagree
I feel comfortable depending on the information provided by Jordan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I feel comfortable to act on the information given by Jordan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I will not hesitate to use the advice given by Jordan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I will feel comfortable relying on Jordan's advice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Based on Jordan's Reviews, how likely are you to....

	Highly Likely	Likely	Slightly Likely	Neutral	Slightly Unlikely	Unlikely	Highly Unlikely
Go ahead and book this hotel for your trip?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recommend this hotel to family or friends?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In this last section, can you tell us a little about yourself?

- Are you a.....  Freshman  Sophomore  Junior  Senior

- What is your gender?  Male  Female

- What is your age?  18-23 Years  23-27 Years  27-32  32 & Above