

Perceived Risk and Trust as Major Determinants of Actual Purchase, Transcending The Influence of Intention

Ni Luh Putu Indiani*, I Ketut Rahyuda**, Ni Nyoman Kerti Yasa***,
and I Putu Gde Sukaatmadja***

This study analyzed online purchasing behavior in the hotel industry through an integrative framework, utilizing sets of variables rarely used in previous studies. The analysis was focused on the influence of online purchase intention, perceived risk, and trust upon actual purchase, with the idea of further determining which construct has the strongest impact. It also analyzed two new measurement items for website quality. The sample consisted of travelers who have recently made hotel reservations online. The model was tested with Structural Equation Modeling. Perceived risk was found to have the strongest impact on actual purchase followed by trust and online purchase intention. The weak influence of online purchase intention is quite interesting since it stands in contrast to previous research findings. Perceived risk also perfectly mediates the relationship between website quality and eWOM towards online purchase intention. Being descriptive in nature, this study did not manipulate the antecedents in the manner of an experimental study.

Keywords: perceived risk, actual purchase, online purchase intention, trust, website quality, eWOM, online visibility

Penelitian ini menganalisis perilaku pembelian daring (online) pada industri perhotelan menggunakan kerangka integratif, dengan set variabel yang jarang digunakan pada penelitian-penelitian terdahulu. Kami menganalisis pengaruh niat pembelian daring, persepsi risiko, dan kepercayaan pada tindakan pembelian nyata, untuk kemudian menentukan konstruk mana yang berpengaruh paling besar. Penelitian ini juga menganalisis dua item pengukuran baru untuk kualitas laman Web. Sampel penelitian ini terdiri dari sejumlah wisatawan yang pernah melakukan reservasi hotel secara online. Model ini diuji dengan Structural Equation Modeling. Kami menemukan bahwa persepsi risiko memiliki pengaruh terkuat terhadap pembelian nyata, diikuti oleh kepercayaan dan niat pembelian daring. Lemahnya pengaruh niat pembelian daring cukup menarik karena temuan ini tidak sesuai dengan hasil-hasil penelitian terdahulu. Persepsi risiko juga menjembatani dengan sempurna hubungan antara kualitas website dan eWOM terhadap niat pembelian daring. Karena studi ini berupa penelitian deskriptif, kami tidak melakukan manipulasi pada antededen seperti layaknya penelitian eksperimental.

Kata Kunci: persepsi risiko, pembelian aktual, niat pembelian *online*, *trust*, kualitas *website*, eWOM, visibilitas *online*

Introduction

The Internet has rapidly become a major factor in the tourism business within the last decade. The hospitality industry's rapid adoption of the Internet is motivated not only by the Internet's advantages as a marketing and distribution medium but also by the increased acceptance of the Internet among travelers planning their next vacation. The Internet has become a very important medium for both consumers and suppliers in accessing and providing information, communicating with each other, and conducting transactions (Law, Qi, and Buhalis, 2010).

The rapid adoption of the Internet in the tourism business as a marketing and distribution medium – particularly on the suppliers' side – is motivated by the advantages of Internet technology such as transaction efficiency, the availability of low-cost distribution channels, improved customer satisfaction through personalized service, improved service quality, cost reductions (Huang, 2008), shorter distribution chains, easier communication, and lower costs (Reino, Frew, and Albacete-Saez, 2011). Similarly, on the travelers' side of things, Internet has become the primary tool for seeking information and making reservations, which has further changed how travelers plan and purchase travel products (Pesonen, 2013) since the use of Internet offers more value to the customers. As more suppliers and intermediaries offer

travel products online, travelers are exposed to a wide range of information and options without having to spend enormous amounts of money and time (Kracht and Wang 2010); therefore, by using the Internet to plan their vacation, travelers gain better value with every transaction.

The Internet's popularity in the tourism industry has attracted interest to the issue of website effectiveness, which has provided the motivation for some empirical research to analyze the variables that influence website effectiveness. The use of the Internet in the form of hotel websites as a communication and transaction medium is expected to generate output in the form of online booking revenues. Scharl, Wober, and Bauer (2004) mentioned that a website's effectiveness can be measured through several indicators: online purchase intention, online booking, online revenue and website traffic. One effectiveness indicator that has been most frequently analyzed is online purchase intention (Cabezudo, Cillan, and Arranz, 2008; Chang, Fang, and Tseng, 2012; Kim and Lennon, 2013; Kim, Chung, and Lee, 2013; Lin, Lee, and Horng, 2011; Martin, Camarero, and Jose, 2011; Ozkan, Bindusara, Hackney, 2010; Ranganathan and Jha, 2007).

Graduate Program of Udayana University, Denpasar, Bali, Indonesia
* indi_arca@yahoo.com
** gaerahku@yahoo.com
*** manraikerti@yahoo.co.id
**** sukaatmadja@yahoo.co.id

Interestingly, actual purchase has received less research attention despite its obvious contribution to a company's financial performance.

While the Internet's popularity continues to rise in the tourism industry, there is an interesting contradiction in online buying behavior. Even as the Internet plays an increasingly important role in the planning and purchase of travel products, at the same time a large number of website visitors decide to cancel the purchase at the final stage of online transaction (*i.e.* the payment confirmation stage). Data in Table 1 shows global online sales of travel products. The data shows that travel product online sales have increased by an average of 10% each year.

The increase in online sales of travel products has not been accompanied by an increase in online transactions' completion ratio; this disparity is known as the abandonment rate and defined as the ratio of uncompleted online transactions to the total number of online transactions. Table 2 shows that abandonment rates over the past four years have averaged around 60%, which means that six out of ten visitors who reached the final stage of the transaction did not eventually make the purchase. This indicates that the Internet's potential as a transaction medium has not been fully exploited. Findings from Thongpapanl and Ashraf (2011) confirmed this phenomenon. It was found that online purchase intention did not significantly encourage actual purchase; it was argued that online purchase intention alone is not enough to trigger actual purchase, and that the contribution of other factors is needed to convert it into actual purchase.

This study seeks to address several issues identified through review of existing literature and previous empirical research. The first issue is the notion that online purchase intention does not significantly influence actual purchase, according to empirical findings by Thongpapanl and Ashraf (2011). The finding contradicts the Theory of Planned Behavior (TPB). Some studies found that perceived risks related to online transaction security form a major psychological barrier for consumers in conducting online purchases (D'Alessandro, Girardi, and Tiangsoongnern, 2012; Liu and Forsythe, 2010; Xu, Lin, and Shao, 2010). Perceived risks can be reduced through the provision of transaction security features on a website (Kim and Lennon, 2013; Kim *et al.* 2013) and eWOM (Chan and Ngai 2011). Chang and Chen (2008), Ling, Daud, Piew, Keoy, and Hassan, (2011), Salo and Karjaluoto (2007) found that a decrease in perceived risk

creates trust. Based on these empirical findings, this research seeks to resolve the first issue by testing whether a decrease in perceived risks could raise online purchase intention to the degree that it significantly influences actual purchase rates. This research also examines the impact of perceived risk upon actual purchase, both directly and mediated by trust, in order to determine which of the three factors has the strongest influence upon actual purchase.

The second issue rests upon the fact that previous studies on online purchasing behavior have rarely used an integrative approach to obtain a more comprehensive picture of online purchasing behavior. The consumer decision model describes three main factors that influence purchase decision: marketing stimuli, environmental influence, and consumer concerns and characteristics. This study analyzed online purchasing behavior by using these three factors in an integrative manner, where marketing stimuli is represented by website quality and online visibility, environmental influence is described by eWOM, and consumer concern is represented by perceived risk and trust.

Previous studies analyzing the influence of marketing stimuli on online customer behavior have investigated aspects such as website content and design (Law and Bai 2008; Lo, Chiu, and Hsieh, 2013; Loda, Techmann, and Zins, 2009; Phelan, Christodoulidou, Countryman, and Kistner, 2011), website quality (Dholakia and Zhao, 2010; Kabadayi and Gupta, 2011; Lim, Heinrichs, and Lim, 2009), or software and technological tools (Chang *et al.* 2012; Cinca, Callen, and Molinero, 2010; Malaga, 2007). Studies investigating the influence of environmental factors on online customer behavior have used variables such as eWOM (Chiou, Hsu, Hsieh, 2013; Hsu, Lin, Chiang, 2013; Lee and Shin, 2014) and subjective norms (Guo and Barnes 2011; Mahrous 2011; Zhang, Prybutok, Strutton, 2007). Studies investigating the influence of customer concerns and characteristics have covered factors such as demography (Zhang *et al.* 2007), previous purchasing experience (Chen and Barnes, 2007; Weisberg, Te'eni, and Arman, 2011), trust (Hsiao, Lin, Wang, and Yu, 2010; Hsieh and Liao, 2011, Sahney, Ghosh, and Srivastava, 2013), and perceived risk (D'Alessandro *et al.* 2012; Liu and Forsythe 2010; Xu *et al.* 2010).

Online purchase intention is influenced by website quality (Mazaheri, Richard, and Laroche, 2012; Phelan *et al.* 2011) and eWOM (Jalilvand and Samiei 2012; Lin *et al.* 2011). This causal relationship is mediated by perceived risk, whereby a high-quality website with attractive design, excellent customer service, high reliability, and transaction security reduce perceived risk (Kesharwani and Bisht 2012; Kim and Lennon, 2013). Positive eWOM can also reduce perceived risk (Chan and Ngai 2011; Chiou *et al.* 2013); the consumer's intention to make an online purchase arises when perceived risk has been reduced to an acceptable level (Cheng, Tsai, Cheng, and Chen, 2012; Martin *et al.* 2011).

Online purchase intention is also influenced by online visibility, which is the presence of a web page in Internet media that increases its exposure to Internet users. Vis-

Table 1. Global Online Sales of Travel Products

Year	Total Sales (billion US\$)	Online Sales (billion US\$)	Percentage of Online Sales to Total Sales (%)
2010	860	309	35.9
2011	917	340	37.1
2012	962	374	38.9
2013	1,011	408	40.4

Source: eMarketer, 2013

Table 2. Abandonment Rate

Year	Abandonment rate (%)
2010	61.3
2011	60.9
2012	60.8
2013	61.3

Source: eMarketer, 2013

ibility to the user in an online environment raises awareness, which is a prerequisite of online purchase intention, and thus online visibility constitutes a factor in online purchase intention (Anderson 2011; Cinca *et al.* 2010; Gofman, Moskowitz, and Mets, 2009; Malaga, 2007). Online purchase intention is a strong predictor of actual purchase according to the TPB hypothesis and findings from previous studies (Lim, 2013; Mei, Nan, and Ping, 2011). Actual purchase can also be predicted by perceived risk, where high perceived risk discourages customers from conducting online transactions (D'Alessandro *et al.* 2012; Liu and Forsythe, 2010). Decreased perceived risk encourages trust toward online vendors (Chang and Chen, 2008; Ling *et al.* 2011); the higher the level of customer trust, the higher are the chances of the customer making an actual purchase (Hsieh and Liao, 2011; Shaereef, Archer, Fong, Rahman, and Mann, 2013).

This research model will be tested in the hospitality industry in Bali, using a sample of tourists who have booked hotel rooms in Bali through online channels. Based on the research background, the fundamental research problems are as follows:

1. How do website quality, online visibility, and eWOM influence online purchase intention?
2. Does perceived risk mediate the relationship between website quality and eWOM toward online purchase intention?
3. How does perceived risk influence actual purchase?
4. Do online purchase intention and trust mediate the relationship between perceived risk and actual purchase?
5. Which of the three factors has the strongest influence upon actual purchase?

Literature Review

Theory of Planned Behavior

This theory posits that consumer behavior is shaped by attitude, subjective norms, and self-efficacy that combine to form intention, and intention then drives how one behaves. This theory forms the foundation whereby this study analyzes the effect of intention upon actual purchase.

Perceived Risk Theory

Risk is made up two dimensions, namely uncertainty and consequences (Cunningham, 1967). Uncertainty is the function of an unknown future that cannot be controlled and predicted. Consequences are limited to negative consequences; in this study, the negative consequences are those that may arise from online purchase activities. Customers seek more information in the interest of reducing risk, and as such information searching is a strategy for lowering purchase risk to a manageable level (Bettman, 1973). Online customers feel the need to gather much more information than offline customers before making a purchase (Thongpapanl and Ashraf, 2011). The perceived risks of online transaction is the customers' beliefs about the potential negative consequences

of online transaction (Kim *et al.* 2007); these consist of financial, performance, social, psychological, physical and temporal risks (Nepomuceno, Laroche, and Richard, 2012; Zhao, Lloyd, Ward, Goode, 2008). Virtual transaction is vulnerable to fraud, which may inflict financial loss to online customers and constitute a financial risk that discourage customers from making online purchases. (D'Alessandro *et al.* 2012; Liu & Forsythe 2010; Xu *et al.* 2010). Therefore, the perceived risk theory plays an important part in explaining online purchase behavior.

Website Quality

Since the late 1990s, there has been an increasing interest in analyzing website effectiveness since website quality is a factor that contributes to a website's success in achieving its goal of attracting online purchase intention (Kassim and Abdullah 2010; Kim and Lennon 2013; Kuster and Vila 2011; Mazaheri *et al.* 2012). Based on ISO/IEC (2005) standards on software quality, website quality can be defined as a website's ability to satisfy its users' needs under a particular condition. Website quality plays an important part in generating a positive online experience for users; from the online retailer's perspective, the strategy to achieve this goal is to design a website that can effectively provide information, accommodate transactions through the website interface, and provide a mechanism for online customer service (Lee and Morrison, 2010).

Generally there are two approaches that can be used by researchers to analyze website quality. The first approach is to adopt SERVQUAL dimensions, namely tangibility, credibility, responsiveness, personalization, and assurance (Kasim and Abdullah 2010; Kuster and Vila 2011). The second approach uses three dimensions based on the primary function of website, *i.e.* system/technical factors, content-related factors, and service-related factors (Kuster and Vila 2011; Rocha 2012).

The risks (financial, performance, psychological, time) encountered in online transactions are higher than in offline purchases. A high-quality website with good design, good customer service, excellent reliability and transaction security would lower perceived risk while enhancing positive experiences that generate online purchase intention (Kim and Lennon 2013; Kim *et al.* 2013). Some studies have reached the conclusion that website quality affects online purchase intention (Lim *et al.* 2009; Mazaheri *et al.* 2012; Phelan *et al.* 2011), especially through perceived risk mediation (D'Alessandro *et al.* 2012; Kim and Lennon, 2013; Kim *et al.* 2013).

A qualitative and quantitative review of empirical studies shows that website quality can be adequately represented by several indicators: information richness, attractive design, and transaction security. This study adds two more measurement items for website quality that have not been widely used in previous studies, namely booking policy and price consistency. The addition of these two items is based upon the cognitive dissonance theory, which states that an individual will experience mental stress when given information that conflicts with their values, intentions, or attitudes, and that one of the

steps that consumers may take to compensate for this is changing their attitudes, intentions or values (Festinger, 1957). This condition occurs when a customer involved in an online transaction is exposed to an unfavorable booking policy and additional costs that have not been previously disclosed. In the hospitality industry, an unfavorable booking policy from the customer's perspective can take the form of a demand for full payment in advance or cancellation conditions and fees. Sahney et al. (2013) found that an after-purchase return policy can increase trust, which in turn increases purchase intention.

The additional costs generally appear in the final payment stage, where the vendor unexpectedly charges additional fees (like tax and service charges) that have not been previously disclosed. Previous studies have found that when prices exceed customer expectations, the customer tends to cancel or postpone the purchase (Mullikin, 2003). Based on this finding, this study adds another new indicator for website quality, namely price consistency.

High website quality fulfills travelers' need of information and creates a positive experience, thereby reducing perceived risk and encouraging online purchase intention.

H1: Website quality negatively and significantly influences perceived risk.

H2: Website quality positively and significantly influences online purchase intention.

Online Visibility

Online visibility is the degree to which a product is present in the target customer's online environment. Visibility can be treated as a prerequisite for website traffic by analogy with the situation where awareness leads to purchase intention (Dreze and Zufryden, 2003). Online visibility is a form of advertising; according to Lovelock and Wirtz, (2007), advertising is a form of marketing communication that aims to increase awareness that eventually leads to the customer's purchase intention. The more visible a website's is on the Internet, the higher its chance would be to attract visitors (Gandour and Regolini, 2011), and an increase in the number of website visitors can lead to an increase in online sales. Anderson (2011) claims that online visibility serves as a billboard that attracts more visitors to a website and potentially increases online sales. Online visibility increases website traffic (Cinca *et al.* 2010; Dreze and Zufryden 2004; Malaga, 2007) and online sales (Anderson, 2011; Sin, Nor, and Al-agaga, 2012; Smithson, Devece, and Lapiedra, 2011). A review of existing literature reveals that indicators such as search engine ranking, online distribution channels, and social media empowerment can explain online visibility quite well.

The abovementioned literature review leads to the conclusion that online visibility raises awareness, which eventually may encourage online purchase intention.

H3: Online visibility positively and significantly influences online purchase intention.

eWOM

eWOM is information and recommendation about a product from the customer's perspective, made available in an online environment (Park, Lee, and Han, 2007). In the consumer decision model, eWOM forms part of the environmental influences in the information search and evaluation stage. eWOM influences purchasing decision since information in the OCR is used to evaluate products or brands. WOM plays an important role in the buying process by reassuring consumers and reducing the perceived risk in a purchase (Settle and Alreck, 1989; Sweeney, Soutar, and Mazzarol, 2008; Woodside and DeLozier 1976). eWOM is a form of electronic WOM that reduces perceived risk in online purchase (Chan and Ngai 2011), and builds trust in an online retailer, trust that later encourages online purchase intention (Kim and Song, 2010).

Quality eWOM could encourage consumers to adopt it as a decision making tool (Cheung, Lee, Rabjohn, 2008; Huang, Tsang, and Zhou, 2011); eWOM thus influences online purchase intention (Chan and Ngai 2011; Hsu *et al.* 2013; Lee and Shin, 2014; Lin, Lu, and Wu, 2012). Empirical studies show that the better indicators of quality eWOM are eWOM rating, helpfulness, visual cues, credible information sources, and information trustworthiness.

Searching for references through eWOM is part of the information searching stage in the purchasing decision process. Based on customer decision models and the perceived risk theory, eWOM lowers perceived risk and therefore encourages online purchase intention.

H4: Online consumer reviews negatively and significantly influences perceived risk.

H5: Online consumer reviews positively and significantly influences online purchase intention.

Perceived Risk and Online Purchase Intention

Prior studies have found that perceived risk is a factor that decreases customer intention to conduct transactions online. Perceived risk (consisting of financial, transaction, and channel performance risk) has a significant negative impact upon consumer intention to conduct transactions through internet banking (Zhao, Lewis, Llyod, and Ward, 2010). Cheng et al. (2012) found that consumer perception on transaction and product performance risks significantly and negatively influences consumer intention to make online purchases. Perceived product performance, financial, social, and time risks have a significant negative effect on online purchase intention (Chang and Chen, 2008). Online purchase intention is significantly influenced by perceived transaction, financial, and psychological risk (Broekhuizen and Huizingh, 2009) as well as perceived channels, social, and transaction risks (Martin et al. 2011).

Intention is a predictor of behavior as stated in the TPB. Several studies have confirmed the positive influence of online purchase intention toward actual purchase. Online purchase intention formed by eWOM has been

shown to positively and significantly influence the occurrence of actual online purchases (Mei et al. 2011). Using the Technology Acceptance Model, Lim (2013) found the positive and significant influence of online purchase intention toward actual online purchase. Formed by intrinsic and extrinsic factors as well as social influence, online purchase intention is a significant predictor of actual online purchase (Guo and Barnes, 2011). Actual online purchase rates are positively and significantly influenced by online purchase intention formed by attitudes and trust (Hsieh and Liao, 2011); or attitude, subjective norms, and perceived risk (Lin, 2008). These empirical findings underlie the following hypotheses.

H6: Perceived risk negatively and significantly influences online purchase intention.

H7: Online purchase intention positively and significantly influences actual purchase.

Perceived Risk, Trust and Actual Purchase

TPB postulates that intention is a predictor of behavior. A number of studies have confirmed the positive effect of online purchase intention toward actual purchase (Fogel and Schneider, 2010; Guo and Barnes, 2011; Hsieh and Liao, 2011; Lim, 2013; Lin, 2008). But a contrary finding was made by Thongpapanl and Ashraf (2011), whose study found that online purchase intention did not affect actual purchase. They stated that purchase intention could still be a factor in the actual purchase decision, but purchase intention alone is not enough to predict actual purchase.

In examining the factors that hinder actual purchase, perceived risk was found to be a significant factor, especially due to the lack of physical interaction between buyers and sellers (Lowry, Vance, Moody, Beckman, and Read, 2008) and concerns over the potential abuse of personal and confidential data (Mahrous, 2011). The customers' concern over transaction security and the confidentiality of personal data lowers actual purchase rates (D'Alessandro *et al.* 2012; Liu and Forsythe, 2010; Xu *et al.* 2010). On a related note, it was found that transaction security features in a website could reduce perceived risk (Kim and Lennon 2013; Kim *et al.* 2013). Chang and Chen (2008); Ling *et al.* (2011); Salo and Karjaluoto (2007) found that a decrease in perceived risk creates trust, or in other words the trust level changes according to variations in perceived risk. Decreased perceived risk increases trust, which in turn encourages actual purchase (D'Alessandro *et al.* 2012). Continuing the research by Thongpapanl and Ashraf (2011) who found the failed transformation of intention into actual purchase, this study aims to investigate whether a decrease in perceived risk could raise trust to a degree that significantly affects the rate of actual purchase, and also to understand the mediating impact of trust upon the relationship between perceived risk and actual purchase.

H8: Perceived risk negatively and significantly influences actual purchase.

H9: Perceived risk negatively and significantly influences trust.

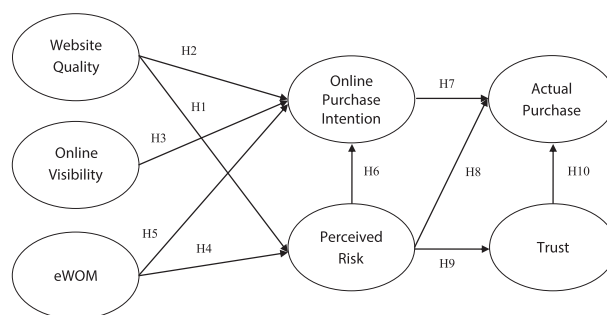


Figure 1. Conceptual Framework

H10: Trust positively and significantly influences actual purchase.

The conceptual framework for this study is depicted in Figure 1.

Methods

Data Collection

We conducted a survey to collect data with the use of a self-administered questionnaire. The questionnaire went through two stages of pre-testing. The first was an evaluation by experts on the wording of measurement items and the clarity of statements; the questionnaire was then modified to take account of this feedback. Second, a pilot survey was then conducted with 100 tourists as trial respondents with a view towards assessing the construct measurement instruments. The analysis showed that our constructs were one-dimensional and reliable with alpha levels above 0.7 (Anderson and Ortinu, 1988).

The main survey was conducted both online and offline. The online survey was run with the cooperation of hotels that are members of the Indonesian Hotel and Restaurant Association (IHRA). A total of 30 non-star and five-star hotels participated in the survey. Each hotel sent emails to 20 domestic and foreign guests in their database who had recently performed an online booking. To encourage participation, the hotels offered a lucky draw coupon for hotel spa treatment and dinner. The offline survey was conducted in Bali with trained interviewers requesting tourists' participation in filling out the questionnaire. The sample was restricted only to respondents who had been involved in online booking activities within the past month.

The questionnaire in this study is made up of two parts. The first part contains questions on the respondents' demographic profile, such as their country of origin, gender, age, education and familiarity with online shopping. The second part contains a list of questions based on the constructs in the conceptual framework. Each item is a statement, and respondents were asked to rate each statement by selecting one from a series of response options that best represents their response to each statement item.

There were 700 questionnaires distributed, 339 of which were returned. However, 53 could not be used due to incompleteness, leaving only 286 usable questionnaires. This represents a response rate of 41%.

Table 3.Measurement Items

Construct	Measurement Item	Source
Website Quality	Information richness	Huang <i>et al.</i> (2013), Kim & Lennon (2013)
	Easy navigation	Kassim & Abdullah (2010), Kim & Lennon (2013)
	Appealing layout and color	Kassim & Abdullah (2010), Lim <i>et al.</i> (2009)
	Web assurance seal	Chang <i>et al.</i> (2012), Mayayise & Osunmakinde (2014)
	Booking policy	Sahney <i>et al.</i> (2013)
	Privacy policy	Lee <i>et al.</i> (2013), Lowry <i>et al.</i> (2012)
	Price consistency	Mullikin (2003)
Online Visibility	Search engine ranking	Gandour & Regolini (2011), Xiang & Law (2013)
	Online distribution	Anderson (2011), Smithson <i>et al.</i> (2011)
	Social media empowerment	Goswami <i>et al.</i> (2013), Xiang & Law (2013)
Online Consumer Review	Review rating	Lee & Shin (2014), Zhang <i>et al.</i> (2013)
	Information usefulness	Huang <i>et al.</i> (2011), Lee & Ma (2012)
	Visual cues	Lee & Shin (2014), Lin <i>et al.</i> (2012)
	Credible source	Hsu <i>et al.</i> (2013), Huang <i>et al.</i> (2011)
	Information trustworthiness	Lin <i>et al.</i> (2012), Hsu <i>et al.</i> (2013)
Perceived risk	Worrisome transaction	Akturan & Tezcan (2012), Nepomuceno <i>et al.</i> (2012)
	Unsecured payment system	Akturan & Tezcan (2012), Zhao <i>et al.</i> (2010)
	Unsafe financial data	Akturan & Tezcan (2012), Celik (2011)
	Misused personal data	Akturan & Tezcan (2012), Zhao <i>et al.</i> (2010)
	Financially risky transaction	Akturan & Tezcan (2012), Zhao <i>et al.</i> (2010)
Trust	Online vendor trustworthiness	Hsiao <i>et al.</i> (2010), Kim <i>et al.</i> (2011)
	Online vendor's ability to protect privacy	Pan & Zinkhan (2006), Weisberg <i>et al.</i> (2011)
	Online vendor reliability	Bianci & Andrews (2012), Lee <i>et al.</i> (2013)
	Online transaction security	Shareef <i>et al.</i> (2013), Weisberg <i>et al.</i> (2011)
Online Purchase Intention	Willingness to buy	Kim & Lennon (2013), Lowry <i>et al.</i> (2012)
	Willingness to buy in the near future	Hsu <i>et al.</i> (2013), Kim & Lennon (2013)
	Willingness to depend	Lowry <i>et al.</i> (2012)
Actual Purchase	Has made online booking frequently	D'Alessandro <i>et al.</i> (2012), Lim (2013)
	Has made many online bookings	D'Alessandro <i>et al.</i> (2012), Lim (2013)
	Has booked services online	Hsieh & Liao (2011), Shareef <i>et al.</i> (2013)

Source: Previous studies

Construct Measurement

To ensure the validity and reliability of the scale, the measurement items were taken from existing literature. The selection of measurement items was based on quantity, quality, and relevance. Quantity reflects the frequency of the measurement item's usage in previous relevant literature; this study chose items with high usage frequencies. Quality reflects the ability of the measurement item to define its construct; this study chose measurement items with high loading factors in relevant literature. A rating scale from 1 (strongly disagree) to 10 (strongly agree) is used to measure the construct. Measurement items and their sources are shown in Table 3.

Data Analysis

The research structural model was tested with Structural Equation Modeling, imposing the structure of the hypothesized causal model on a series of observed data to determine the goodness of fit between the hypothesized model with the sample data (Hair, Black, Babin, and Anderson, 2010). This technique combines multiple regression and factor analysis so as to perform a simultaneous examination upon either the relationship between the measured variables and the latent constructs or the relationship between latent constructs. SEM was also used to test hypothesized mediation effects in this study.

Results and Discussion

Respondent Characteristics

Respondents were predominantly young travelers aged 20 to 40 as shown in Table 4. The majority of respondents had bachelor degrees. There was a rough parity between the numbers of male and female respondents. Respondent mostly came from Asia, followed by Europe, in line with the demographic profile of tourists visiting Bali. Nearly all respondents were familiar with the process of making online reservation, with 92% of respondents having moderate to high levels of familiarity. It confirms the trend in the travel industry whereby the Internet and online reservations have become an important part of tourists' travel planning habits.

Construct Validity

Construct and confirmatory factor analyses were performed to test construct validity by testing dimensionality and measurement reliability. The results of the analysis are shown in Table 5. The factor loading of the research constructs spanned from 0.83 to 0.96, while a good rule of thumb is that the factor loading should ideally be 0.7 or higher (Hair *et al.* 2010). High loading values indicates that the measures converge on a common point, namely the latent construct. AVE values are above

Table 4. Respondent Characteristics

Characteristic	%
<i>Country</i>	
Europe	23.5
America	5.9
Asia	43.1
Australia	27.5
<i>Gender</i>	
Male	45.1
Female	54.9
<i>Age</i>	
Below 20	0
20-30	33.3
31-40	39.2
41-50	21.6
Above 50	5.9
<i>Education</i>	
High school	7.8
Diploma	23.6
Bachelor	52.9
Master	13.7
Doctor	2
<i>Degree of familiarity with online reservation</i>	
High	43.1
Moderate	49.1
Low	7.8

Table 5. Construct Validity

Factor	Items	Factor loading	Average variance extracted	Construct reliability
Website Quality	X1	0.86	0.880	0.996
	X2	0.83		
	X3	0.91		
	X4	0.91		
	X5	0.90		
	X6	0.88		
Online Visibility	X7	0.87	0.853	0.987
	X8	0.84		
	X9	0.83		
	X10	0.89		
eWOM	X11	0.88	0.906	0.995
	X12	0.84		
	X13	0.93		
	X14	0.94		
	X15	0.94		
Online Purchase Intention	Y1	0.92	0.940	0.991
	Y2	0.95		
	Y3	0.96		
Perceived Risk	Y4	0.91	0.934	0.996
	Y5	0.91		
	Y6	0.94		
	Y7	0.95		
	Y8	0.95		
Actual purchase	Y9	0.92	0.934	0.991
	Y10	0.93		
	Y11	0.95		
Trust	Y12	0.89	0.899	0.988
	Y13	0.86		
	Y14	0.91		
	Y15	0.94		

0.84, which indicates adequate convergence. CR values are above 0.9, indicating internal consistency (in other words, all measures consistently represent the same latent construct).

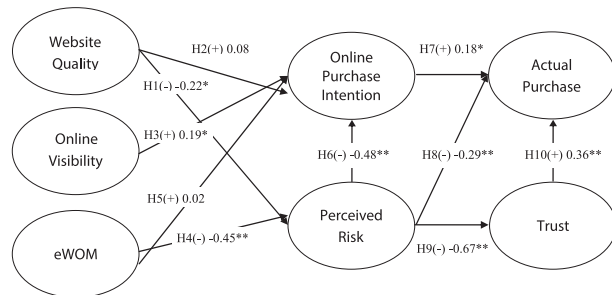
The results indicated that there were some outlier data points that had to be removed. As many as 20 data points were removed from the analysis. An assessment of normality found a multivariate critical ratio of -1.432, which falls well within the range of -2.58 to + 2.58, thus confirming that the data is normally distributed.

Table 6. Goodness of Fit

Goodness-of-fit Measure	Acceptance level (Hair <i>et al.</i> , 2010)	Result
Chi-Square	$p > 0.05$	0.676
GFI	$GFI \geq 0.90$	0.904
RMSEA	$RMSEA < 0.05$	0.000
TLI	$TLI \geq 0.90$	1.022
CFI	$TLI \geq 0.90$	1.000
AGFI	$AGFI \geq 0.80$ (Sharma, 1995)	0.887
PGFI	$PGFI : 0.50 - 0.90$	0.768

Table 7. Direct, Indirect and Total Effects

Hypothesis	Relationship	Direct effect	Indirect effect	Total effect
H1	WQ \rightarrow PR	-.220	-	-.220
H2	WQ \rightarrow OPI	.082	.106	.188
H3	OV \rightarrow OPI	.190	-	.190
H4	eWOM \rightarrow PR	-.450	-	-.450
H5	eWOM \rightarrow PI	.002	.213	.215
H6	PR \rightarrow PI	-.481	-	-.481
H7	PI \rightarrow PA	.176	-	.176
H8	PR \rightarrow PA	-.290	-.327	-.617
H9	PR \rightarrow Trust	-.673	-	-.673
H10	Trust \rightarrow PA	.360	-	.360



Note: ** p -value is significant at the .001 level and * p -value is significant at the .05 level (two-tailed)

Figure 2. SEM Results

Goodness of Fit

Goodness-of-fit indexes show a good fit for the model, representing the similarity of the theory (estimated covariance matrix) to reality (the observed covariance matrix). The goodness-of-fit indexes for our model are above the required cut-off value as shown in Table 6.

Hypothesis testing

Figure 2 shows the SEM results for both the significance and the direct effect of each construct. The results indicate support for H1 ($P < 0.001$, $\beta = -0.22$) that website quality has a significant negative impact on perceived risk. H3 ($P < 0.05$, $\beta = 0.19$) is accepted, confirming the positive and significant impact of online visibility upon online purchase intention. H4 ($p < 0.001$, $\beta = -0.45$) is accepted, indicating the significant and negative influence of eWOM upon perceived risk. H6 ($p < 0.001$, $\beta = -0.48$) is supported, confirming the presence of a negative and significant influence from perceived risk upon online purchase intention. H7 ($P < 0.05$, $\beta = 0.18$) is supported, showing that online purchase intention has a positive and significant impact upon actual purchase. H8 ($p < 0.001$, $\beta = -0.29$) is supported, indicating that perceived risk

significantly and negatively influences actual purchase. H9 ($p < 0.001$, $\beta = -0.67$) is supported, confirming the significant negative influence of perceived risk on trust. H10 ($P < 0.001$, $\beta = 0.36$) is supported, which shows that there is positive and significant influence from trust upon actual purchase.

Table 7 shows the direct, indirect, and total effect of each construct. To answer our original research questions, it can be stated that perceived risk has the strongest effect on actual purchase, followed by trust and online purchase intention. Overall the model predicts the level of actual purchase and trust quite well with $R^2 = 0.48$ and 0.45 ; it also achieves reasonable results in predicting perceived risk with $R^2 = 0.25$ and online purchase intention with $R^2 = 0.29$.

Mediation

Perceived risk completely mediates the effect of the relationship between website quality and eWOM towards online purchase intention. Under partial testing, the relationship between website quality (H2) and eWOM (H5) displayed a significant effect upon online purchase intention, H2 ($P < 0.001$, $\beta = 0.23$), H5 ($p < 0.001$, $\beta = 0.21$). But when perceived risk is included in the model as a mediator, the significance and path estimates of website quality and eWOM upon online purchase intention decreased to the point where the causal relationship is no longer significant, H2 ($p > 0.05$, $\beta = 0.08$), H5 ($p > 0.05$, $\beta = 0.002$). This indicates perfect mediation of perceived risk in the relationship; therefore, H2 and H5 are supported.

The influence of perceived risk upon actual purchase is mediated by online purchase intention and trust. These constructs' mediation is partial in nature; when both constructs are added to the model and tested simultaneously, the influence of perceived risk upon actual purchase remained significant with a reduced path estimate.

In general, the results of structural modeling analysis support the theory of online buying behavior, particularly the perceived risk theory. The results show that information in the form of website quality and eWOM can reduce perceived risk and thus increase online purchase intention and trust, which in turn encourage actual purchase.

Online purchase intention is shaped by website quality, online visibility, and eWOM, with eWOM having the strongest influence. Online visibility has the lowest influence; a possible explanation would be that online visibility is a form of advertising, and the effect of advertising is limited to boosting awareness while customers need stronger stimuli to establish online purchase intention. These stimuli can come in the form of information presented on websites and eWOM, both of which reflect the product characteristics and quality and thus exert more weight in forming purchase intention. The relationship between website quality and eWOM is completely mediated by perceived risk. A website provides information about the relevant hotel in addition to ensuring transaction security through the presence of security and privacy features. Website quality and positive eWOM reduce uncertainty and risk perception in the customer's mind; when this perception of risk falls down to an acceptable

level, online purchase intention increases. The perceived risk theory and the uncertainty reduction theory both describe information searching as a mechanism to lower perceived risk.

Perceived risk strongly affects online purchase intention; this can be explained by the fact that Internet communication is virtual in nature with no face-to-face interaction, which prevents customers from making direct contact with physical evidence about the hotel. The absence of face-to-face interactions and direct contact renders customers incapable of obtaining necessary additional information about the hotel's physical state to evaluate the hotel on a physical and emotional basis. It raises doubts about whether the information and visual clues presented in the hotel's website accurately reflect the actual situation on the ground, which in turn lead to the question of whether the transaction is worth making in the financial sense. The lack of information increases uncertainty and perceived risk, thus inhibiting the establishment of online purchase intention. Therefore, perceived risk in an online environment has great relevance and power in predicting online purchase intention.

Actual purchase is brought about by the combination of online purchase intention, perceived risk, and trust, where perceived risk has the strongest influence. This is in line with Cunningham, Gerlach, Harper, and Young (2005)'s findings that perceived financial risk is a dominant factor in inhibiting purchase decision. Consumers are concerned about potential financial loss as a consequence of conducting transactions online; since online transaction requires consumers to reveal confidential credit card information, there is the possibility that the information might be leaked to unauthorized parties who would then misuse it in the commission of a financial cybercrime.

The relationship of perceived risk to actual purchase is partially mediated by online purchase intention; when perceived risk decreases to an acceptable level, purchase intention then increases, which leads to an actual purchase. However, the influence of online purchase intention upon actual purchase is not substantively strong. This finding stands in contrast to previous studies that have consistently found a strong and robust influence from online purchase intention upon actual purchases. A possible explanation is that customers may still feel a considerable concern about transaction security since the research sample is not restricted to respondents who have made online reservations with reputable hotel brands; in fact, half of the sample made their online reservations with non-star and lower-star hotels. In general, hotels still lack information technology resources, and as a result they are still plagued by a relatively low level of security in their online transactions. This condition leads to a high degree of perceived risk that strongly influences purchasing decision, so the decision does not solely depend upon purchasing intent.

The influence of perceived risk upon actual purchase is explained by trust. A higher level of perceived risk in online transactions leads to a lower level of customer trust towards the hotel, which in turn discourages customers from making online transactions. Conversely,

when the risk perception in the customer's mind can be reduced through more complete information or positive stimuli from hotel websites and eWOM, then the customer can begin to feel confidence in the hotel's trustworthiness. The higher the consumer's confidence in the hotel, the more likely it is that the customer would make a room reservation online.

Since the goals of e-commerce – namely purchase intention and actual online purchases – are strongly influenced by perceived risk, hotels must put considerable effort into the reduction of perceived risks in order to attract online reservations. Suggested measures taken include improving website quality by ensuring information richness, ease of navigation, attractive design, the presence of transaction security seals, privacy protection, favorable booking policy, and price consistency. In addition to improving website quality, hotels can also reduce perceived risk by encouraging positive eWOM. This can be done by providing quality products and services so as to encourage hotel guests who have had positive experiences to write favorable reviews online. Online purchase intention can also be improved by increasing online visibility through SEO mechanisms, expanding online distribution channels through cooperation with online travel agents, and utilizing social media as a communication medium; these efforts seek to raise awareness that leads to increased online purchase intention.

Conclusion

In general, this study provides insights into the online purchase decision-making process. This study makes several contributions to online purchase behavior literature: first, the model in this study has been developed using an integrative approach, analyzing online purchase behavior using three main determinants of consumer decision making (as mentioned in the consumer decision model), namely marketing stimuli factors represented by website quality and online visibility, environmental factors represented by eWOM, and consumer concern factors comprised of perceived risk and trust. Second, this study adds two new measurement items for the measurement website quality in the specific context of the hotel industry, namely price consistency and booking policy. Third, this study analyzed online purchasing behavior with an extended model to include an actual purchase construct, whereas the majority of studies in this field have only taken the analysis of online purchase behavior no further than the development of online purchase intention.

This study's findings can briefly summarized as follows. First, actual purchase is strongly influenced by perceived risk, followed by trust and online purchase intention. Trust and online purchase intention partially mediate the relationship between perceived risk and actual purchase. When perceived risk declines to an acceptable level, trust and online purchase intention increase significantly; this in turn encourages actual purchase.

Second, the weak influence of online purchase intention upon actual purchasing raises an interesting issue. It is not consistent with previous research findings that have found a strong and consistent relationship. The

variation among the hotels booked by our sample respondents is one of possible explanations; these hotels range from famous five star hotels that are generally believed to be quite trustworthy in terms of transaction security to non-star hotels that must be content with a much lower level of customer trust. This indicates that intention alone is insufficient to encourage actual purchase. Customers exhibit a distinctively different behavior when purchasing online since the information available in an online environment is very limited compared to the situation in an offline environment, not to mention that the customer may harbor doubts about transaction security. These factors raise uncertainty and perceived risk, and as such perceived risk becomes a factor with a high predictive power on actual purchase, even to the point of surpassing the role and predictive power of online purchase intention.

Third, to reduce perceived risk, customers have to rely on additional information such as website quality and the hotel information presented in the website. A well-designed website ensures online transaction security and privacy protection, thereby reducing perceived risk. In addition, eWOM also constitutes a source of reliable information for customers in forming an accurate assessment about the hotel, which then affects the level of perceived risk. The role of website quality and eWOM in increasing online purchase intention can be explained entirely by a decrease in perceived risk. Fourth, online visibility is also found to significantly influence online purchase intention. Increased awareness is confirmed as a factor that contributes towards increasing online purchase intention.

This study has some limitations and there are abundant opportunities for further research. First, we cannot claim that the research results can be applied verbatim to other industries since the unique characteristics of an industry can alter the set of factors that influence purchasing behavior. Second, due to this study's descriptive nature, there was no manipulation or control of the antecedents of online purchase behavior (as would be required in an ideal experimental design), so conclusions on the relationships between constructs in this study require further and continuous study. Finally, this study measured perceived risks only in terms of financial and psychological parameters; future research may include other types of risk for a more nuanced evaluation of the type(s) of risk that predominantly affect online purchasing behavior.

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