

# Perceived Risks as an Intermediary Variable between Online Consumer Reviews and Hotel Booking Intention: An Applied Study on Hotel Customers in Saudi Arabia

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## Abstract:

This study was aimed to investigate the association between online customer reviews and hotel booking intention in Saudi Arabia through the mediation of perceived risks. The researcher relied on SPSS statistical software program. There were 413 fully completed surveys. Of the 413 respondents, 377 questionnaires were correct. The study found a significant positive correlation between online customer reviews and hotel booking intentions. It also showed a significant negative correlation between online customer reviews and perceived risks. But it concluded that there was a significant negative correlation between perceived risks and the intentions of hotel booking. It also found that there was a significant positive effect of online customer reviews on the hotel booking intention. It also noted that there was a significant negative impact of perceived risks on the hotel booking intention. It also concluded that the perceived risk significantly mediates the relationship between online customer reviews and hotel booking intention.

## 1. INTRODUCTION

Online shopping is characterized by two words - "Convenience and availability" which means you can buy from home — anytime, anywhere. Despite the prevalence of e-commerce and online shopping, consumers may feel uncertain in their online transactions due to the time/space separation between sellers and buyers, unlike traditional shopping in which sellers and buyers deal with each other face to face. Also, sellers let consumers see the actual product before purchasing it [1].

Online shopping creates a state of uncertainty in purchasing decisions for customers. This state of uncertainty can lead to wrong purchasing decisions. Therefore, the client may take some risk. These Consumers' perceived risks in online purchasing decisions increase greater than that of normal purchasing decisions. These potential risks are financial, time, performance and social risks that present barriers to e-commerce [2].

Knowledge and trust can contribute to reducing these risks through a third-party evaluation (customer reviews) which is

defined as product evaluations by customers posted on organizations' websites or other websites [3].

The aim of this research is to find out the impact of online customer reviews on the intention of hotel booking when mediating perceived risks.

The researcher selected online hotel customers as an area of application because of the increasing number of online hotel bookings, with approximately 148.3 million online travel reservations made each year [4].

## 2. THEORETICAL FRAMEWORK, PREVIOUS STUDIES, AND RESEARCH GAP

### 2.1 Theoretical Framework

#### Variable 1: Online Customer Reviews

##### 1. The Concept of Online Customer Reviews

Researchers differed in their definition of online customer reviews. Bounie and Gensollen in [5] defined it as channels for attracting information so that customers could read positive and negative product comments. Zhang and Narayanan in [6] defined them as texts describing the characteristics, comparisons, and experiences of using a particular product, providing a rich source of information to compare products to help make purchasing decisions. Mudambi and Schuff in [7] also defined as product reviews by customers that are posted on the organizations or third-party sites. Lackermair et al., in [8] also defined it as a text presentation of the client, describing the product characteristics (for example advantages and disadvantages), meaning that the product is classified according to the customer's opinion on a specific scale. For example, star rating; the higher the star rating, the higher the results for the product. Melián-González et al., in [9] defined it as customers' opinions about products they broadcast on the Internet or on social media.

##### 2. Dimensions of Online Customer Reviews

All studies seen by the researcher such as [6, 10-13], were found to have addressed online customer reviews based on three dimensions which are credibility reviews, trust in

reviews, and information quality in reviews. They can be presented as follows:

### 2.1. Reviews Credibility

The concept of credibility stems from the coding theory. The roots of this theory stems from the information economics perspective. Information economics research is based on the assumption that buyers and sellers have different amounts of information when interacting within the market. In other words, different levels of information flow between customers and organizations, causing the problem of “information disparity”, which means that customers are uncertain about the quality of the organization's product [14].

Erdem and Swait in [15] defined reviews credibility as validating product information, which requires customers to realize that the product can deliver its functionality better. Gurviez in [16] argues that reviews credibility means the customer's evaluation of the product's ability to fulfill the exchange contract's terms with the customer in the form of expected performance. Credibility is based on the degree of customer experience gained through expectations of product functionality and satisfaction.

### 2.2. Trust in Reviews

Trust is a key determinant in building a successful relationship between its parties. Confidence arises when one party wishes to rely on another trusted party [17].

According to Zhang and Narayanan in [6], trust means that one party acts in good faith and positively towards the other. The author in [18] argues that trust means the one party can rely on another party in a reciprocal relationship. Leeman in [19] points out that trust is a determining factor in the organization's relationship with the customer. The strength of this relationship is therefore based on trust. According to Leeman in [19], trust means the willingness of one party to rely on another. The key connection between trust and uncertainty is that uncertainty is a given in trust. Therefore, it means a psychological state that can be translated into expressions such as perceived probabilities, devotion, and expectation. Confidence is based on the occurrence of some positive positives from the trusted party. Therefore, the confidence of one party to another party indicates that there is a strong likelihood that one party will fulfill its promises in a positive way or at least without harm to the other. There are three approaches for defining trust; the first is the vision of psychologists. They see it as originating from individual characteristics. The second is the view of sociologists who see it as a definite expectation of a deal between two parties mutually. According to a third perspective, economists see that trust arises through the organization's interest in minimizing uncertainties, which promotes confidence among the parties regarding a deal [20].

### 2.3. Information Quality in Reviews

Information quality in reviews indicates the appropriateness, understanding, adequacy, objectivity, and persuasion of the content of the review. Thus, high-quality reviews provide

factual information about product characteristics, while low-quality emotional and subjective reviews do not provide factual information. The quality of perceived review is also derived from the concept of source credibility. The source is assessed as knowledgeable, qualified, experienced, trustworthy and able to provide objective information [11]. Information quality in reviews means the customers' personal concept of the product and their conviction of messages circulating over the Internet. This quality determines the customer's attitude towards these messages mainly through his conviction and then trading them. A higher-quality review is expected to yield more appropriate responses from customers. Similarly, the quality of information has been shown to be an important determinant for building knowledge from clients. It has also been shown to affect how customers perceive the credibility of web information. Thus, in the course of online reviews, High-quality review is expected to be more credible [10].

### The Second Variable: Perceived Risk

It will be addressed by the researcher in terms of concept and dimensions as follows:

#### 1. *The Concept of Perceived Risk*

Online perceived risk is defined as the uncertainty faced by a consumer when he or she is unable to predict the outcome of online transaction activities [21]. Consumers face a high degree of uncertainty in online purchases compared to traditional purchases [22]. Belanger and Carter in [23] defined it as an objective expectation to bear a loss when something was desired while Gao and Bai in [24] defined perceived risks in online transactions as subjective expectations of loss by an online shopper when considering buying online.

#### 2. *Dimensions of Perceived Risk*

In a review of published research on this topic, the researcher concluded that perceived risk was addressed as a multidimensional variable that included social risk, psychological risk, financial risk, and other risks. Regarding perceived risks when buying online, the researcher found that they relied on three dimensions: risk in the transaction, social risk, and risk in the channel [25]. This has led the researcher to rely on these dimensions because they are more suitable for the field of application. The researcher will present the perceived risk dimensions as follows:

#### 2.1 Risk in The Transaction

Risk in the transaction refers to the concept that the purchase of goods and services through the Internet is exaggerated and will not meet the wishes of the buyer or fails to achieve the required quality [25]. This risk is related to the product's failure to meet the buyer's expectations or it will be very expensive as evaluated by the buyer. Risk in the transaction is also known as the uncertainty associated with providing information such as credit card details to the seller during the transaction. In other words, it represents the net financial loss of the buyer; it contains the likelihood of fraudulent use of credit card information. Therefore, many customers believe that a credit card is likely to be stolen online [26].

The risks of online transactions are much higher than in the offline environment. The reason for this is that customers cannot distinguish between truthful and untruthful sellers. Consumers do not meet the seller face to face and cannot examine products in person [27].

Katos in [28] believes that Risk in the transaction has a strong negative impact on the trend towards online shopping. That is, the more likely the product is to be overpriced and fails to achieve the desired level, the lower the trend of consumers towards online shopping.

## 2.2 Social Risk

Social risks indicate how people value family and friends' opinions when buying. It also refers to a person's fear - in his or her social environment - of being foolish or unfashionable after purchasing goods and services online [1]. Social risks are related to a person's perception of others' opinions about online shopping behavior, and the possibility that shopping behavior may not be accepted by other community members. It is also related to a person's anxiety about buying a particular online product that is not compatible with the community [29]. According to Hong and Cha in [30], social risks have a strong negative impact on the trend towards online shopping. This means that the greater the social risks of using online shopping, the more negative the consumers feel about using online shopping.

## 2.3 Risk in the Channel

Risk in Channel indicates stress or anxiety during online shopping. It also suggests that individuals may withstand stress due to their purchasing habits. In other words, it represents the consumer stress resulting from their online shopping. This stress occurs when the Internet went down before the online transaction is completed, and if the requested product is not delivered quickly or is not delivered at all. This stress may also occur if buyers received products with an unsatisfactory quality level or the product that failed to meet customers' needs and wants [27, 29].

Hong and Cha in [30] believe that channel risk has a significant negative impact on the trend towards online shopping. That is, the greater the risk of the channel and the stress of using online shopping, the greater the likelihood of a negative consumer trend towards online shopping.

### **Third Variable: Hotel Booking Intention**

The most popular online hotel booking channels are the hotel website and online travel agent website. One of the main advantages of using them is that consumers can access information to compare room rates or availability of rooms at a fixed price [31].

Booking intention is synonymous with purchase intention. Purchase intention is defined as consumer preference for a particular product. In other words, it means that the consumer will buy the product after the evaluation process [32]. It is

also defined as the autonomy or personal judgment of actions that are expected to occur in the future [33].

The intention to use e-procurement is defined as the intention of buyers to enter an exchange relationship across shopping sites. The intention of online buying depends on the relationship between behavioral intention and actual behavior. The behavioral intent of an individual to take a particular action will determine the actual behavior. Thus, the technique of buying with certain online shopping sites is a factor that predicts actual behavior or decision of purchase by customers [34].

## 2.2 Previous Studies and Research Gap

To develop research hypotheses, the researcher presented the relationship between the research variables through a review of previous research on the variables involved. The researcher presents this as follows:

### *1. The Relationship Between Online Customer Reviews and Perceived Risks*

Various studies have found a relationship between electronic customer reviews and perceived risks as follows:

A recent study conducted by Kim and Choi in [35] to know the credibility in online shopping, the role of the organizational credibility, the site's reputation, and the credibility of reviews and perceived risks showed a negative correlation between customer reviews and perceived risks.

Wu et al., study in [36] aimed to know the role of reviews and perceived risks in customer willingness to pay. This study revealed a significant negative correlation between online customer reviews and product price on willingness to pay from a perceived risk perspective. It also found a negative correlation between customer reviews and perceived risk. It also found a negative correlation between customer reviews and perceived risk.

Durmus et al., study in [37], aimed to know the relationship between perceived risk and online shopping through the role of confidence, spoken word, and customer reviews. The study found a negative relationship between the customers' reviews and perceived risk.

### *2. The Relationship Between Online Customers' Reviews And Hotel Booking Intent*

Various studies have found a relationship between online customer reviews and hotel booking intentions, as follows:

Hsu et al., study in [38] investigated the impact of customer recommendations on online shopping intention. It found a positive correlation between customers' recommendations on the intention of online shopping.

In a study by Obiedat in [39], a survey was conducted to find out the relationship between online customer reviews and purchase intention. The study showed a positive correlation between online customer reviews and purchase intention.

In their research Mauri and Minazzi in [40] aimed to know the relationship between online customer reviews and hotel

booking intention. The study found a positive correlation between online customer reviews and hotel booking intentions.

Aiming to know the relationship between the quantity and classification of online customer reviews and purchase intention, a recent study by Vrânceanu in [41] found a significant positive relationship between online customer reviews and purchase intention.

### *3. The Relationship Between Perceived Risk and Hotel Booking Intention*

Various studies have found a relationship between perceived risks and hotel booking intention, as follows:

Chu and Li in [42] conducted a study to understand the relationship between risk mitigation strategies (including mark, spoken word, loyalty, advertising, the relationship between quality and price, and the possibility of cash back) and online purchase intention and found that there is a positive correlation between risk mitigation strategies and online purchase intention.

Crespo et al., in [43] study aimed to know the relationship between perceived risk and online purchase behavior and found a significant negative relationship between perceived risk and online purchase intentions.

Tavitiyaman and Qu's in [44] study aimed to find out the relationship between the mental image of the site and travel intentions to Thailand through mediating perceived risks and found a negative relationship between the perceived risk and the intention of travel.

Abdel Hamid et al., in [45] study aimed to know the relationship between perceived risks and the intentions of the adoption of new mobile devices among Egyptian university students.

Bhuyka and Singh in [46] conducted a study to know the relationship between the dimensions of perceived risk and intent to purchase and found a negative relationship between the perceived risk and intent to purchase.

Khuraym & Al-Ma'aytah's in [47] study aimed to know the impact of perceived benefits and risks on consumer intent to buy pirated digital products from the perspective of private university students in Amman and found a negative correlation between perceived risk and purchase intent.

Lee et al., in [48] study aimed to find out the relationship between perceived risk dimensions and online transactions and found a negative significant relationship between perceived risk and online dealing intent.

The previous studies reviewed by the researcher showed a direct relationship between online customer reviews and perceived risks. There was also a direct correlation between online customer reviews and hotel booking intention as well as a direct relationship between perceived risk and hotel booking intention. Thus, the research gap for this research is that there are no studies that measure the indirect relations between the research variables and these studies did not measure the direct relationships between these variables

combined. The new academic addition of this research is that it will measure the direct and indirect relationships between these variables.

### **3. RESEARCH PROBLEM AND QUESTIONS**

Although online shopping has become a vital component of everyday life, it can sometimes result in wrong decisions. Therefore, the researcher conducted a survey through the preparation of a preliminary survey list for an intentional sample of 40 individual hotel clients via websites to solicit their opinions on their decision to select the last hotel booked online. Considering data analysis, the sample was divided according to the arithmetic mean into three groups: First: Good decision, Second: acceptable decision, and Third: bad decision.

The results of the survey showed that most of the respondents believe that the decision to choose the hotel was good, and in light of this, the researcher can formulate the problem of the research to find out the answer to the question: Is the decision to make a good hotel booking due to online customer reviews and the role of perceived risks in this, and hence the problem lies in the following questions:

1. Is there a relationship between online customer reviews, perceived risks, and hotel booking intention? What is the nature of this relationship, if any?
2. What is the impact of online customer reviews on perceived risks? What kind of impact, if any?
3. What is the impact of online customer reviews on hotel booking intention? What kind of impact, if any?
4. What is the impact of perceived risks on the hotel booking intention? What kind of impact, if any?
5. Do perceived risks mediate the relationship between online customer reviews and hotel booking intention?

### **4. RESEARCH OBJECTIVES**

This study seeks to:

1. Determine the nature of the correlation between online customer reviews, perceived risks, and hotel booking intention.
2. Measure the impact of online customer reviews on perceived risks.
3. Determine the impact of online customer reviews on hotel booking intention.
4. Understand the impact of perceived risks on the intention of booking the hotel.

5. Measure the intermediary role of perceived risk in the relationship between online customer reviews and hotel booking intention.

## 5. RESEARCH SIGNIFICANCE

It is divided into academic and practical importance as follows:

### A) On the Academic Level

The importance of the topic being studied is as follows:

- Addressing a modern concept in the marketing management literature which is represented in online customer reviews, especially in light of the scarcity of Arabic studies, as far as I know. Accordingly, it represents an attempt by the researcher to root this concept and learn how to activate it to provide information that is useful to the customer when he intends to book the hotel.
- The scarcity of studies that measure indirect relationships between research variables (online customer reviews, perceived risks, and intention of booking a hotel), as well as the scarcity of studies that measure the direct relationships between these variables combined, as far as I know.

### B) On the Practical Level

The practical importance of the research is as follows:

- The contribution of its results for hotel managers in reducing perceived customer risk, if it is found to have a significant negative impact of online customer reviews on perceived risk.
- Its results can help customers support booking intentions, if there is a significant effect of online customer reviews on the intention of booking the hotel, either directly or indirectly when the risk is perceived.

## 6. RESEARCH HYPOTHESES

This research seeks to test the following hypotheses:

1. There is no significant correlation between online customer reviews, perceived risks, and hotel booking intention.
2. There is no significant effect of online customer reviews on perceived risks.
3. There is no significant effect of online customer reviews on hotel booking intention.
4. There is no significant effect of perceived risk on the intention of booking the hotel.
5. The perceived risks do not mediate the relationship between online customer reviews and hotel booking intention.

## 7. RESEARCH METHOD

It includes the data required for the study and the sources of obtaining it, the research community and the sample, the

measurement of research variables, the research tool and method of data collection, and statistical analysis methods, as follows:

### A. Data Required For Research and Sources

The researcher used two types of data

1. **Secondary data:** It was obtained by reviewing the research that dealt with the research variables and related topics, enabling the researcher to root the concepts and prepare the theoretical framework for the study.
2. **Preliminary data:** It was collected from the clients under study and analyzed to enable the researcher to test the validity of the research hypotheses and reach the results.

### B. Population and Sample

1. **Population:** Includes hotel customers in Saudi Arabia
2. **Research sample:** The researcher relied on a sample of visitors to the websites through the development of a survey list on the web due to the difficulty of determining the size of a population or setting a specific framework for it and the spread of its vocabulary, and thus the survey list became available to a large number of participants. The survey list was designed based on Google Drive and placed online for three months as of 1 April 2019. The received lists were 413 lists and 36 incomplete lists were excluded. Thus, the number of sample items entered the statistical analysis program is 377.

### C. Research Tool and Data Collection Method

The tool used in this search is the poll list. To achieve the objectives of this research, a questionnaire of four questions has been prepared. The first is to know whether the hotel is booked through the websites or not. The second involves knowing the most preferred hotels from the customer. The third contains 27 phrases to measure the research variables (the list is in the appendix). It is measured by the 5-Point Likert Scale and includes levels from fully agree (5) to not fully agree (1). The last of these questions relate to the demographic characteristics. The researcher developed and adopted these measures from previous relevant studies with 3 personality scales. The scale developed by Cheung et al., in [10] was used as a post-test to measure reviews credibility and information quality in reviews, the scale developed by McKnight et al., in [49] was used to measure trust in reviews, the scale developed by Gutierrez et al., in [25] was used to measure perceived risk, and the scale developed by Hsu et al., in [38] and Gefen et al., in [50] was used to measure customers' hotel booking intention.

### D. Validity and Reliability for Variables Used in the Study

After the initial design of the survey list, the researcher conducted the validity and reliability tests as follows:

#### 1. Validity Test

This test is used to demonstrate the validity of survey questions in measuring what they were designed for and to emphasize that the statements give the respondent the same meaning and concept that the researcher intended. The

researcher relied on Confirmatory Factor Analysis in conducting validity test. It is an application of the Structural Equation Model. It is used to test the validity of a particular model. It also provides an opportunity to make sure that the Scale statements measure what they are prepared for. The researcher conducted this analysis for each measure of the research variables using the AMOS software version 20 as follows:

• **Confirmatory Factor Analysis of Variable of Online Customer Reviews**

The results of the statistical analysis shown in Table (1) showed that all the standard parameters are significant except for the fifth statement factor (I would not hesitate to use the advice in the customer comments). Therefore, the researcher excluded this statement. The analysis also showed that the Goodness of Fit Index (GFI) (ranging from zero to the one, and the closer to the one, the model is significant) was 0.937. It also turns out that the Comparative Fit Index (CFI) (ranging from zero to the one, and the closer to the one the more significant the model) was 0.936. Thus, it indicates the significance of the scale and that the statements measure what they were prepared for.

**Table 1:** The Standardized Loadings of the Factor analysis of the online customer reviews variable

Statement Number	Standardized Loadings	
	First factor (Credibility of reviews)	Notes
1	** 0.665	
2	**0.734	
3	** 0.682	
	<b>Second factor (Trust in reviews)</b>	
4	** 0.732	
5	0.073-	The statement was excluded for non-significance
6	** 0.615	
7	** 0.613	
	<b>Third factor (Information Quality in Reviews)</b>	
8	**0.719	
9	**0.765	
10	**0.749	
11	**0.711	
12	**0.644	

\*\* Significant at the level of 0.01. The fifth statement was excluded for its non-significance. The number of statements thus became 11 as indicated in the survey list.

Source: Prepared by the researcher.

• **Confirmatory Factor Analysis of the Perceived Risk Variable**

The results of the statistical analysis shown in Table (2) showed that all the Standardized Loadings were significant. The analysis also showed that the GFI was 0.917 and the CFI was 0.937. Thus, it indicates the significance of the scale and that the statements measure what they were prepared for.

**Table 2:** Standardized Loadings for the Factor Analysis of perceived risk variable

Statement Number	Standardized Loadings
	First factor (Transaction risk)
1	** 0.560
2	**0.730
3	** 0.683
4	** 0.663
	<b>Second factor (Social risks)</b>
5	** 0.778
6	** 0.819
7	** 0.773
8	** 0.828
	<b>Third factor (Risk in the channel)</b>
9	**0.782
10	**0.733
11	**0.757
12	**0.804
13	**0.689

\*\* Significant at the level of 0.01.

Source: Prepared by the researcher.

• **Confirmatory Factor Analysis of the Hotel Booking Intention Variable**

The results of the statistical analysis shown in Table (3) showed that all the Standardized Loadings were significant. The analysis also showed that the GFI was one and the CFI was 1. Thus, it indicates the significance of the scale and that the statements measure what they were prepared for.

**Table 3:** Standardized Loadings for the Factor Analysis of Hotel Booking Intention Variable

Statement Number	Standardized Loadings
1	** 0.777
2	**0.855
3	** 0.754

\*\* Significant at the level of 0.01.

Source: Prepared by the researcher.

## 2. Reliability Test

This test is used to determine the reliability of the survey statements for reliable data. Because of the apparent variation between the research variables, the researcher relied on **Cronbach's alpha** coefficient of reliability (coefficient of reliability), as shown in Table (4).

**Table 4:** Result of reliability testing for research variables

Variables		Statement Number	Alpha coefficient
Dimensions of online customer reviews	Credibility of reviews	3	0.722
	Trust in reviews	3	0.684
	Quality of review information	5	0.838
Dimensions of perceived risk	Transaction risk	4	0.753
	Social risks	4	0.876
	Risk in the channel	5	0.865
Hotel Booking Intention		3	0.837

Source: Prepared by the researcher.

The results of the reliability analysis showed that:

- **For the Online Customer Reviews Scale**, the coefficient alpha for the scale is estimated as ranging from 0.684 to 0.838. This indicates a high degree of reliability on the scale and it is known that if the alpha coefficient is within (0.50 to 0.60), it is acceptable and enough. According to Idris in [51]: 423, Cronbach's alpha coefficient is highly reliable when reached 0.80.
- **For the perceived risk scale**, the coefficient was found to be between 0.753 and 0.876 which indicates a high degree of reliability.
- **For the scale of the hotel booking intention**, the alpha coefficient for the scale was 0.837, indicating a high degree of reliability on the scale.

## E. Statistical Analysis Methods

The researcher relied on the following statistical methods:

1. **Spearman's rank correlation coefficient:** It is used to measure the relationship between two or more variables with determining the relationship type and strength. It was used to test the first hypothesis of the research.

2. **Path analysis method and structural equation modeling:** It is used to measure the direct and indirect relationships between variables. It was used to test from the second to the fifth hypothesis.
3. **The Mann-Whitney U test:** It is used to measure the significant differences between the two groups. It was used to measure differences by type and place of residence in the sixth hypothesis.
4. **The Kruskal-Wallis H test:** It is used to measure the significant differences between more than two groups. It was used to measure differences according to the income level in the sixth hypothesis.

## 8. RESEARCH METHODOLOGY

The researcher used the descriptive method based on data collection, statistical processing and reach results.

## 9. HYPOTHESIS TESTS

The researcher tested the research hypotheses as follows:

### 1. The Correlation Between Online Customer Reviews, Perceived Risks, and Hotel Booking Intention

To find out the correlation between the search variables, the researcher formulated the first hypothesis: "There is no significant correlation between online customer reviews, perceived risks, and the hotel booking intention."

The statistical analysis conducted using Spearman's rank correlation coefficient showed the results of this relationship as shown in Table (5).

From Table 5, it is clear that the first hypothesis is rejected: There is a positive correlation between online customer reviews and the hotel booking intention at the level of 0.01. There is also a negative correlation between online customer reviews and their dimensions on the one hand and perceived risks and dimensions on the other hand at the level of significance of 0.01. These findings are consistent with Chevlier and Mayzlin's study in [52]; Grant et al., study in [53]; Hsu et al., study in [38]; Obiedat's study in [39]; Mauri and Minazzi's study in [40]; Vrânceanu's study in [41], which found a positive correlation between online customer reviews and hotel reservation intention. It also agreed with Ha's study in [54]; Kim and Choi's study in [35]; Wu et al., study in [36]; Durmus et al., study in [37] that found a significant negative correlation between customer online reviews and their dimensions on the one hand and perceived risks and dimensions on the one hand. It also agreed with the studies by [27], Cases in [54]; Chu and Li in [42]; Crespo et al., in [43]; Tavitiyaman, and Qu in [44]; Bhuyka and Singh in [46]; lee et al., in [48]; Lu in [55] which found that there was a negative correlation between perceived risk and its dimensions on the one hand and the hotel booking intention on the other hand.

**Table 5:** Correlation coefficients for research variables

Description	1	2	3	4	5	6	7	8	9
Credibility of Reviews	1								
Trust in Reviews	**0.443	1							
Quality of Review Information	**0.483	0.519	1						
Online Customer Reviews	**0.760	**0.807	**0.801	1					
Transaction risk	**0.403-	**0.407-	**0.610-	**0.558-	1				
Social risks	**0.268-	**0.413-							
Risks in the Channel	**0.478-	**0.465-	**0.593-	**0.600	**0.545	**0.375	1		
Perceived risks	**0.436-	**0.473-	**0.685-	**0.633-	**0.841	**0.757	**0.747	1	
Hotel Booking Intention	**0.477	**0.424	**0.666	**0.623	**0.511-	**0.366-	**0.595-	**0.579-	1

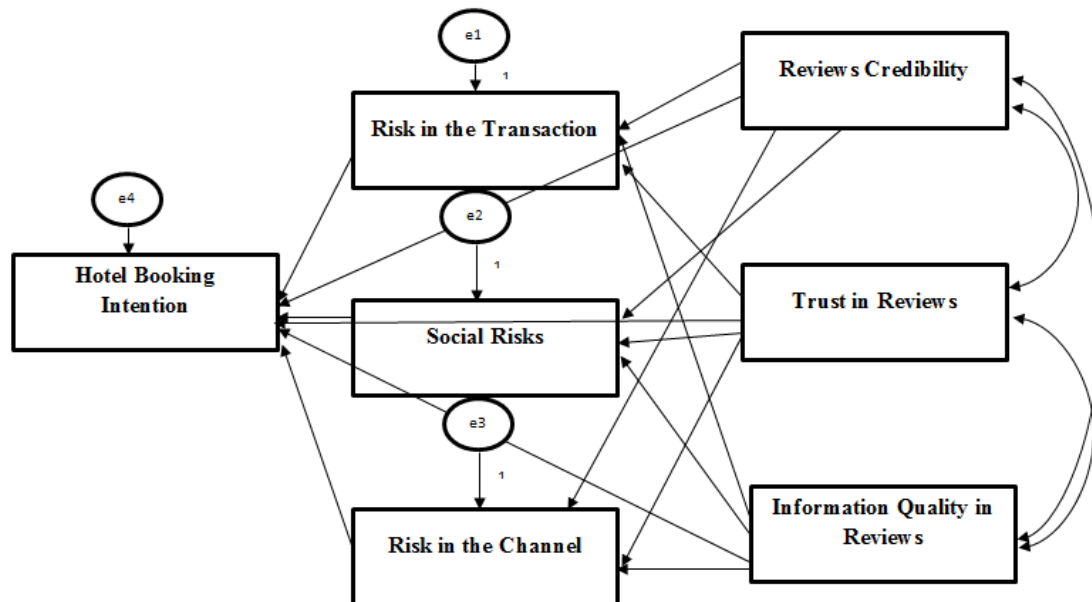
\*\* Significant at the level of 0.01.

Source: Prepared by the researcher.

**2. Direct and Indirect Impact Relationships between Online Customer Reviews, Perceived Risks and Hotel Booking Intention**

To find out these relationships, the researcher prepared the proposed model for these relationships using the structural

equation modeling through using the AMOS Version 20 software as shown in Figure 1.



**Figure 1:** The direction of relations between the research variables (Prepared by the researcher).

To determine the significance level of direct relationships between the variables of the model, the Maximum Likelihood method was used. The significance of the model was proven, and the results were as shown in Table 6..

**Table 6:** Significant indicators of the research model

Indicator	Standardized value *	Obtained Value
Chi-Square test of independence (P. value)	0.05 >	(0.000) 78.75
GFI	0.90 <	0.940
RMR	0.06 >	0.026
CFI	0.95 <	0.966

\* Standard value based on [14].

Source: Prepared by the researcher.



The statistical analysis of the path analysis method was as shown in table 7.

**Table 7:** Results of the proposed model test for the relationship between research variables

Variable			Direct path coefficient value	Indirect path coefficient value	Total path coefficient value
Dependent	intermediate	Independent			
Credibility of reviews	-----	Transaction risk	*0.109-	-----	*0.109-
Trust in reviews	-----	Transaction risk	*0.056-	-----	*0.056-
Quality of reviews info.	-----	Transaction risk	*0.682-	-----	**0.682-
Credibility of reviews	-----	Social risks	*0.060-	-----	*0.060-
Trust in reviews	-----	Social risks	**0.154-	-----	**0.154-
Quality of reviews info.	-----	Social risks	**0.609-	-----	**0.609-
Credibility of reviews	-----	Risk in Channel	**0.122-	-----	**0.122-
Trust in reviews	-----	Risk in Channel	**0.130-	-----	**0.130-
Quality of reviews info.	-----	Risk in Channel	**0.645-	-----	**0.645-
Credibility of reviews	-----	hotel booking intention	**0.097	-----	**0.097
Trust in reviews	-----	hotel booking intention	**0.106-	-----	**0.106
Quality of reviews info	-----	hotel booking intention	**0.307	-----	**0.307
Transaction risk	-----	hotel booking intention	**0.154-	-----	**0.154-
Social risks	-----	hotel booking intention	**0.053	-----	**0.053-
Risk in Channel	-----	hotel booking intention	**0.368-	-----	**0.368-
Credibility of reviews	Perceived risks	hotel booking intention	**0.097	**0.079	**0.162
Trust in reviews	Perceived risks	hotel booking intention	**0.106	**0.073	**0.179
Quality of reviews information	Perceived risks	hotel booking intention	**0.307	**0.375	**0.682

\*\* Significant at the level of 0.01.      \*\* Significant at the level of 0.05.

Source: Prepared by the researcher.

Table 7 shows the following:

**2.1 For Direct Effects, the results were as follows:**

- It was found that the direct negative impact of the dimensions of online customer reviews on the dimensions of perceived risk were statistically significant. **The second hypothesis was therefore rejected.** The researcher attributes this negative significant effect to the fact: if the customers' comments of the hotel websites are realistic, valid and accurate, and whenever the customer is satisfied with his reliance on the information contained in the customer reviews and the advice contained therein, and the more accurate, sufficient, complete and detailed this information is, the less risk the customer will face.
- The direct positive impact of online customer review dimensions on hotel booking intention was statistically significant at the level of 0.01. **The third hypothesis was therefore rejected.** This positive significant effect is due to the fact: if customers' feedback of the hotel is positive, the more this will enhance hotel booking intention.

- It is found that the direct negative impact of perceived risk dimensions on hotel reservation intention was statistically significant. The fourth hypothesis was therefore rejected. The researcher attributes this negative significant effect to the fact: If the client's perceived risk increases whether the risks are associated with transactions, associated with social risks, or associated with the channel hotel booking intention will decrease.

**2.2 For Indirect Effects, the Results were as Follows**

- The perceived risk significantly mediates the relationship between the credibility of the reviews and hotel reservation intention, improving the overall effect from 0.097 to 0.162, i.e. the value of the increase was 0.079 (the value of the indirect path).
- The perceived risk (in its three dimensions) mediates significantly the relationship between trust in reviews and hotel booking intention, improving the overall effect from 0.106 to 0.179, i.e. the value of the increase is 0.073 (the indirect path value).

- The perceived risk (in its three dimensions) mediates significantly the relationship between the quality of the review information and hotel reservation intention, improving the overall effect from 0.307 to 0.682, i.e. the value of the increase was 0.375 (the indirect path value). According to the researcher, the quality of information occupies the percentage of increase compared to both the credibility of the reviews and the trust in reviews. This can be attributed to the fact that the quality of information is a governing variable for customer reviews. Perceived risks might be reduced considerably if the information is accurate, adequate, integrated, detailed, and timely, and therefore increases hotel booking intention.

From the above, it is clear that the fifth hypothesis is rejected. The researcher attributed the significant impact of perceived risks to the fact: if the hotel customer reviews on the websites are positive, this will enhance hotel booking intention. This level can be improved if the perceived risk to the client, whether they are transaction-related, social-related or channel-related risks, is reduced.

The statistical analysis conducted the results of the Correlation coefficient as shown in table (8).

**Table 8:** Correlation Coefficients

Independent variables	dependent variable	value of the Correlation Coefficients (R square)
Reviews Credibility, trust in reviews and quality of review information	Transaction risk	0.633
Reviews Credibility, trust in reviews and Information Quality in Reviews	Social risks	0.585
Reviews Credibility, trust in reviews and Information Quality in Reviews	Channel risks	0.681
Reviews Credibility, trust in reviews, Information Quality in Reviews, transaction risks, social risks, and channel risks	Hotel booking intention	0.768

Source: Prepared by the researcher.

- The credibility of the reviews, the trust in the reviews, and the quality of the review information account for the percentage of 0.633 of the explained variation in transaction risk. The remainder is due to other factors not included in the model.
- The credibility of the reviews, the trust in the reviews, and the quality of the review information account for the percentage of 0.585 of the explained variation in social risks. The remainder is due to other factors not included in the model.
- The credibility of the reviews, the trust in the reviews, and the quality of the review information account for the percentage of 0.681 of the explained variation in channel

risks. The remainder is due to other factors not included in the model.

- The credibility of the reviews, the trust in the reviews, the quality of the review information, transaction risks, social risks and channel risks account for the percentage of 0.768 of the explained variation in hotel booking intention. The remainder is due to other factors not included in the model.

## 10. CONCLUSIONS AND RECOMMENDATIONS FOR RESEARCH

The researcher presents them as follows:

### A. Summary of Results

1. There is a positive significant correlation between online customer reviews and hotel reservation intention at 0.01 level of significance, there is a negative significant correlation between online customer reviews and perceived risks at 0.01 level, and there is a negative significant correlation between perceived risks and hotel reservation intention at level 0.01.
2. There is a significant negative impact of online customer reviews on perceived risk at 0.01 level.
3. There is a significant positive effect of online customer reviews on hotel booking intention at 0.01 level.
4. There is a significant negative impact of perceived risks on the intention of booking the hotel at 0.01 level.
5. The perceived risk mediates the relationship between electronic customer reviews and the hotel reservation intention at 0.01 level.

### B. Research Recommendations

1. Hotel Website Management and online booking sites should pay attention to the establishment of a database of online customer reviews. Results showed a significant negative impact of online customer reviews on perceived risks, there is a significant positive impact of online customer reviews on hotel booking intention, and so the researcher recommends workers at these sites paying attention to the subject of online customer reviews by doing the following:

- Paying attention to the credibility of customer reviews regarding cleanliness, comfort, hotel location, facilities, staff, value for money, Wi-Fi, etc. and work on communicating with anyone who has any problem with them and work on addressing them immediately.
- Paying attention to trust in reviews so that the customer is satisfied when relying on the information contained in the customer reviews, and to make a decision based on the information contained in these reviews.
- Quality of hotel review information must be considered so that they are enough and integrated covering all aspects of the service, detailed and accurate about the hotel and to be provided in a timely manner.

2. Hotel Website Management and online booking sites should pay attention to the perceived risks from the client. Results showed that there is a significant negative impact of the perceived risks on hotel booking intention directly. Also, the relationship between online customer reviews and hotel reservation intentions is mediated significantly. Therefore, the researcher recommends workers in these sites to pay attention to the subject of perceived risks by doing the following:

- Reducing the risk of online transactions, which includes the possibility of the customer to bear cash loss as a result of online booking, and the customer's fear that the hotel is not worth what he paid for, as well as his fear of not meeting expectations.
- Reducing social risks, which include discouraging family and friends from the idea of e-procurement, and dissatisfaction with it.
- Reducing channel risk, which includes the customer's fear of closing the Internet before the online transaction is completed, the requested product is not delivered quickly, the requested product is not delivered at all, or the hotel is of low quality.

3. Hotel Website Management and online booking sites should pay attention to the subject of the hotel reservation intention. Results showed that there is a positive correlation between online customer reviews, perceived risks, and hotel reservation intention. Therefore, the researcher recommends that those working in these sites to boost hotel booking intention by paying attention to customer reviews and improve the quality of the hotel and services provided.

4. The researcher suggests that further research is conducted on online customer reviews, perceived risks, and hotel booking intention. These suggestions are as follows:

- Relationship of online customer reviews to the mental image of the product.
- The impact of online customer reviews on trend formation.
- The intermediary role of the brand's personality in the relationship between online customer reviews and hotel reservation intention.
- The relationship of online customer reviews to perceived risks: the intermediary role of the mental image of the brand.
- Applying the current search in the aviation sector.

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