Cure or Poison? The Impact of Identity Disclosure and Fake Reviews on Customer Intentions in Egyptian Hotels and Travel Agencies

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Abstract
Identity disclosure and fake reviews play a vital role in purchase intention and avoidance intention. The current study aims to investigate the effect of identity disclosure on fake reviews and to examine the mediation effects of positive and negative fake reviews on purchase intention and avoidance intention. A quantitative method was employed, using a survey to collect data from a random sample of relevant managers in Egyptian hotels and travel agencies. Using structural equation modeling (PLS-SEM) via WarpPLS software version 7.0 and SPSS version 22 for data analysis, the results revealed that identity disclosure has negatively affected fake reviews. In addition, positive fake reviews have positively affected purchase intention, while negative fake reviews have positively affected avoidance intention. These findings have empirical implications for policymakers, trip planners, travel marketers, hoteliers, and academics.

Keywords: Identity disclosure, fake reviews, purchase intention, avoidance intention, hotels, travel agencies, Egypt.

Introduction
The shift from the traditional offline mode to online digitization has become mandatory for every business looking to spread and influence the decision of customers. The hospitality and tourism sector comes at the top of that need for digitization, as the processes of reservation, payment, and service evaluation can be done electronically. Online reviews are a robust source of information that direct consumer behavior, this leads the hospitality and tourism business to manipulate users’ perceptions about service providers (Hajek and Sahut, 2022). The recent prompt growth of social networks has led to a spreading of social information, such as customer reviews and product ratings in the online market community (Kesgin and Murthy, 2019). Moreover, the specialty of the hospitality and tourism industry coming from the rating upon consumption of a service or a product made it very sensitive to such online reviews which often suggest evaluations of products' and services' quality (Hajek and Sahut, 2022).

Notable growing numbers of travelers tend to share their experiences of agencies, restaurants, hotels, and destinations via online platforms such as Yelp or TripAdvisor (Xiang et al., 2017; Hou et al., 2019; Hajek and Sahut, 2022). Hence, online reviews became one method of consumer information that is earning growing commercial value and consumer power (Hunt, 2015). As a result, with a speed browse, travelers can acquire helpful information in selecting the proper hotel from customers who have experienced the service in their previous travels (Moon et al., 2019). Tran (2020) inferred that online reviews mostly involve three forms: textual forms, contextual pictures, and numerical ratings. In human interaction, social media is one of the quickest reached communication networks (Sulthana and Vasantha, 2021).

Importantly, Anderson (2012) pointed out that the "guest experience" is the most significant factor in hotel preference, even more than the "location". He also reported that a 20% increase in the consumer rating scale (one more star out of five in total) would allow the hotel to increase its prices by 11% while keeping the same occupancy level (Moon et al., 2019). Today, most
travel bookings are done online, and after consumption, travelers have the opportunity to reveal their feedback in an online manner (Martinez-Torres and Toral, 2019). Indeed, a few years after the beginning of the second millennium, a remarkable increase in the level of fake reviews in the hospitality and tourism industry has been witnessed (Hajek and Sahut, 2022), as evidenced by recent reports demonstrating that a third of TripAdvisor's reviews on hotels or restaurants are fake ones (The Times, 2018). Tourism service providers have two posting policies on online platforms; the first allows anyone to publish their own experience (open access), and the second allows only customers who have already purchased a service or product to publish their experience (closed access) (Moon et al., 2019). For instance, in the hospitality industry, there are many open review policy platforms (i.e., TripAdvisor.com, Yelp.com) and closed review policy websites (i.e., Expedia.com, Hotels.com) (Moon et al., 2019).

The controversy attached to the originality and reliability of reviews may hurt both consumers (by blocking fake reviewers from further posts), and businesses (by the propaganda around these fake reviews) (Moon et al., 2019). In the case of the tourism and hospitality industry, customers believe in reviews as they are (i) coming from independent sources not related to the business itself, (ii) delivering the earlier experience of other tourists using their mindset and own words (Zhu and Zhang, 2010; Toral et al., 2018; Martinez-Torres and Toral, 2019), and (iii) a lack of direct information about the quality of services offered by hospitality businesses (Viglia et al., 2016).

Regarding the relationship between online reviews and other variables, studies related to online reviews as a form of Electronic Word-of-Mouth (eWOM) demonstrated that an acceptable level of online review feedback is an essential element for customer purchase intention (DINH and DOAN, 2020). Ahmad and Sun (2018) concluded that online hotel reviews are a driver that directs customer behavior and decisions. Further, experience, customer trust, and social presence are predictors of intention to purchase online services (Weisberg et al., 2011).

On many platforms, identity disclosure is as important as product details, and the credibility of the message source affects the whole online space (Forman et al., 2008). Thus, suitable levels of disclosure identity are crucial for increasing trust and purchase intention (Furner and Zinko, 2017). Using data from over 2.3 million reviews of 4,709 hospitality firms, Lappas et al. (2016) discover that 50 faked reviews are enough for a competitor to gain better online visibility to consumers. It's because data intelligence is used in the tourism industry that many people are trying to make automatic tools that can tell when people are giving false reviews (Hajek and Sahut, 2022).

Furthermore, Malbon (2013) indicated that consumers depend heavily on online reviews when making a purchase decision. Consequently, sellers and marketers facilitate generating positive fake reviews to gain fake customer trust, to improve their products/services' reputation, or to harm competitors' reputations (Martínez Otero, 2021). Regarding the analysis of fake reviews in the tourism industry, Reyes-Menendez et al. (2019) recommended that (i) the analysis is a multidisciplinary effort including Computer Science and Business Management disciplines, (ii) analysis methods involve algorithms and sentiment approaches more than other techniques, and (iii) contemporary detection of deceptive reviews could include new technologies such as Blockchain beside traditional ones (i.e., emotional techniques, semantic analysis).

As for the academic gap that the current study addresses, recent hospitality, and tourism literature has emphasized the importance of highlighting the consequences of fake reviews on the sector’s activities (Fedeli, 2020). However, earlier studies have addressed the association between online review credibility and sales levels, but few focused-on customers' identity disclosure while posting these reviews (Forman et al., 2008). Additionally, although the significant presence of online reviews has been realized by users, the way online reviews influence customer intentions in the hospitality and tourism sectors remains under
investigation (Zhang and Hanks, 2018). The underlying processes of consumer attitude towards online hotel reviews are still seen as a research gap (Ahmad and Sun, 2018). To date, the prior research did not entirely cover the effect of reviewers’ identity disclosure on others' purchase intentions (Forman et al., 2008). Therefore, "this kind of research is still in the infancy phase and seems promising" (Moon et al., 2019, p.95).

The current study digs into how identity disclosure can be associated with fake reviews generated by the customer of Egyptian hotels and travel agencies. Following, the study examines the extent of the mediation effect of positive and negative fake reviews on both purchasing and ignoring intentions. Following the introduction section, the study provides a theoretical framework on its variables (identity disclosure, fake reviews, purchase intention, and avoidance intention) that aids in the formulation of the study's three hypotheses. Then, it introduces the methodology of data gathering and analysis techniques to test the hypotheses before discussing the main results. Based on the given results, in the last parts of the study, the study makes some implications, conclusions, and further research.

**Literature Review and Hypotheses Development**

**Identity Disclosure and Fake Reviews**

It is crucially important to disclose the sender's identity in the case of establishing communications, persuasions, and promotions (Munzel, 2015). Based on the systematic use of extremely positive or negative words, Moon et al. (2019) had empirically reported a higher level of manipulation and fake reviews aiming at promoting the businesses of hospitality and tourism. Identity disclosure is a necessity in both cases of regular peer consumer reviews and expert reviews hired by the business itself (Akhtar et al., 2019). In other words, there is a significant effect for both peer and expert faked identities on deception level and consequently customer dissatisfaction and service failure in the hospitality and tourism industry (Akhtar et al., 2019). However, the relationship between identity disclosure and source credibility has obtained limited attention. It is also controversial between the customer's right to blindly review the service to avoid any expected penalties in case of negative reviews, and the need for identity disclosure to avoid posting fake reviews (Kim et al., 2015).

Fake online reviews are wrong and deceptive digital information that does not reflect the true experience of the publisher (Hunt, 2015). They are intentionally written phrases that are used to promote a product or service for a company in a way that isn’t fair and to help people make decisions about buying it (Yoo and Gretzel, 2009). Since online reviews involve a high degree of anonymity, it is an effortless way to share fake information (Zhang et al., 2016). Hence, hotel and travel agency managers and other employees are often participants in this disfavored manipulation by themselves (Filieri, 2016) or by hiring online freelancers for the same purpose (Hajek and Sahut, 2022). Whether for free or for a fee (Choi et al., 2017). Evaluating the credibility of online reviews is different from the traditional face-to-face style because of the anonymity of users' full details. As a result, customers usually turn to the rating of the reviewer by others (Cheung et al., 2009). In that case, the meaning of tourist reviews and the emotions they show are good indicators of fake reviews (Hajek and Sahut, 2022).

In hotels and travel agencies, fake identity which the current study means could occur when: (i) people posting digital reviews are not the real customers who bought the product/service; (ii) people posting digital reviews use the fake identities of other people; and (iii) reposting more than one review by a person using different names (Anderson and Simester 2014; Ahmad and Sun, 2018; Akhtar et al., 2019). A crisis of trust often faces customers regarding online reviews. While it is extremely helpful as it offers vital data for people to spend their hard-earned money on a product/service, it is also a blind trust tool for customers (Salminen et al., 2022). Consequently, in the international hospitality market, customers show more trust in
Positive reviews posted from different social backgrounds than in reviews coming from individuals with similar backgrounds (Zhang and Hanks, 2018). Indeed, detecting fake reviews is a complicated mission. However, some laws and regulations restrict the conduction of bias and misinformation (Malbon, 2013). Missing a source's honest feedback about the quality of products or services is an obstacle to investing efforts in improving a firm's services (Kim et al., 2015). Accordingly, to eliminate deception, service review platforms often adopt one of two approaches for identity disclosure: (i) optional disclosure (i.e., Yelp, Amazon) and (ii) obligatory disclosure (i.e., Airbnb, Google) (Kim et al., 2015). Moreover, other than TripAdvisor.com, Expedia.com requires a proven accommodation experience at the hotel to enable customers to post a review to prevent creating an atmosphere that generates more fake reviews (Choi et al., 2017). Thus, Mayzlin et al. (2014) demonstrated that reviews on Expedia.com tend to be less faked.

Online community users rate reviews of known identity and shared location as more effective, and they think that these reviews are associated with sales growth (Forman et al., 2008). By contrast, the growing number of online fake stories threatens a useful source of information for both service providers and individuals planning to deal with them (Munzel, 2016). Accordingly, researchers have focused on the role of verified reviewers who purchased a product or experienced a service (Anderson and Simester, 2014). Using the number of checks per review, Munzel (2016) studied 9707 declined and accepted online reviews and showed that identity disclosure is a crucial requirement in the inclusion and exclusion process of reviews by people.

To sum up, the identity disclosure of a user achieves the validity and reliability of the message besides other variables such as message quality and credibility, source credibility, and expected message benefit (DINH and DOAN, 2020). Also, there is a consensus arguing that more attention should cover identity disclosure of the review-producer and the contents of the review itself, including factors such as login time, the number of comments, the history of the validity of reviewer activities, and the type of terms used, as well as covering all service attributes while evaluation (Tuomi, 2021).

Extant studies have highlighted the relationship between identity disclosure and fake reviews (i.e., Anderson and Simester, 2014; Munzel, 2016; Akhtar et al., 2019; Moon et al., 2019; DINH and DOAN, 2020; Tuomi, 2021). Therefore, this study has explored the relationship between the two variables by the following hypothesis (H1):

**H1.** The more the identity of a hotel or travel agency reviewer is disclosed, the fewer fake reviews will be posted by the reviewer.

**Fake Reviews and Purchase Intention**

As previously mentioned, fake online reviews are created and published on numerous digital review platforms for more than one purpose (Luca and Zervas, 2016). It could be created by the business itself and/or customers using fake identities to enhance the firm's image or to cause harm to competitors using unethical and incredible reviews (Luca, 2016; Li et al., 2020). Two opposite results are identified by Ahmad and Sun (2018) regarding consumer behavior in online spaces: negative electronic reviews and intentions of repeat purchasing. Elements of both cases have not yet been given adequate consideration. Hancock (2007) defines “digital deception” as the intentional management of information in an online message to produce a mistaken thought in the mind of the receiver. Digital deception then must be intentional and created to deceive ideas. Consequently, a fake review is a form of digital deception (Choi et al., 2017). Customers increasingly appreciate reviews as a source of product information, otherwise, the usefulness of online reviews is often restrained by fake reviews that give a misleading view of product quality (Salminen et al., 2022). Fake reviews are posted by customers or service providers.
Digital product reviews often have a strong impact on other consumers' purchase intentions. Consequently, some companies try to develop encouraging reviews for their activities or hire "digital brand reputation management services" (i.e., KwikChex, Oler) to eliminate the negative effect of bad reviews (Moon et al., 2019). These procedures can undesirably lead to manipulated reviews and, accordingly, can lead to a suboptimal and inaccurate customer purchase decision (Dellarocas, 2006; Moon et al., 2019). Although the popularity and acceptability of the argument suggest that online reviews have a substantial impact on the intentions of consumers to purchase specific services or goods at both managerial and academic levels, the absence of identity disclosure by the reviewer is a contemporary tool of fraudsters to manipulate future customers by posting fake reviews (Martinez-Torres and Toral, 2019).

While numerous factors may influence mainstream customer intentions to deal with the hospitality industry during a dining experience, digitally published feedback is notably expressing one of the most important online information references (Hennig-Thurau et al., 2010; Zhang and Hanks, 2018). Hence, online reviews can succeed if they are credible and able to influence the attitude towards a service provider and increase the purchase intention of actual consumers (Banerjee et al., 2017).

In the hospitality and tourism settings, extant studies of online reviews have specifically addressed the effect of online reviews on a set of factors (i.e., consumer purchase attention, helpfulness, source quality, destination reputation, and economic competitiveness) (Li et al., 2020). Mayzlin et al. (2014); and Moon et al. (2019) proposed that academia has focused on continuous long-term rating policies to detect fake reviews at the small business level, otherwise, the notion of how digital fake review posting influences the purchase intention of customers of macro-level businesses (i.e., hotel and travel agency services) is still unclear and needs more academic effort.

Furthermore, several current studies have tried to identify the parties responsible for and the purpose of writing fake online reviews. Two parties are determined as the publishers of this deceptive information: (i) the owners of the business (i.e., manufacturers, hoteliers, restaurant managers, etc.) and (ii) hired people for different motives (Li et al., 2020). In the tourism and hospitality industry, however, most of the attention has been given to studying the phenomenon of fake client reviews. Hlee et al. (2021) have explored the recent trends of online reviews of the popular and newly opened restaurant (both positive and negative) and argued that two aspects of online restaurant reviews could be used to detect review manipulation, including text content and publishers’ online engagement.

Purchase intention instructors used in this study are adapted from Shaouf et al. (2016) and Alalwan, (2018), and include (i) customers becoming interested in purchasing the hotel's/agency's products/services, (ii) customers are willing to purchase products/services that are advertised by the hotel/agency, (iii) customers prefer to purchase products/services promoted on the hotel's/agency's online platforms (Girish et al., 2022), (v) customers will purchase products/services that are advertised on the hotel's/agency's online platforms, and (vi) customers plan to purchase products/services that are promoted on the hotel's/agency's online platforms (Tran, 2020).
Tran (2020) discussed that there is an integration between social media reviews and online trust; thus, a business could exploit online reviews to achieve optimal levels of purchase intention. Likely, the recommendations and feedback posted on online platforms (i.e., Twitter, Instagram, Facebook, YouTube, and other social media applications) are linked with purchase intention through customer trust (Sulthana and Vasantha, 2021). Therefore, marketers should focus more on online brand image and perceived value, which significantly impact the purchase intention of tourists (Chakraborty, 2019).

Generally speaking, word of mouth (WOM) has a considerable effect on consumer behavior, and online reviews are a form of electronic word of mouth (EWOM) that is broadly realized as the most impactful digital source on consumers’ purchase intention (Choi et al., 2017). Studying ethnic restaurants, Ali et al. (2018) suggested that brand quality, brand image, customer satisfaction, customer trust, and customer loyalty significantly influence consumer purchase intention. Thomas et al. (2019) concluded that online review credibility has a mediation effect on consumers’ purchase intentions with the existence of other factors (i.e., comprehensive and quantity of online reviews, and related cues including publisher expertise, product/service rate, and platform reputation).

When making purchase decisions, travelers often consider experiences that other individuals share online. However, the trustworthiness of those travelers is negatively affected by fake reviews (Munzel, 2015). Gunawan and Huarg (2015) said that the credibility of the source and the level of social influence are important in forming attitudes about review usefulness and personal norms that influence customers’ purchase intention. They also said that customers pay more attention to the source's credibility than the quality of the review. Friends and relatives, on the other hand, can influence customers’ norms in a way that isn’t fair. Ranjbarian et al. (2012) stated that indicators like perceived quality, firm image, guest satisfaction, and re-purchase intention are all linked to each other.

To conclude, an increase in consumer-generated product online reviews is caused by the notion that positive or negative information about a product is an antecedent of purchase or avoidance intentions (Forman et al., 2008). Based on the results of the above-mentioned literature, the study formulated hypothesis two (H2) as follows:

**H2. Customers who read positive fake reviews are more likely to buy from a hotel or travel agency.**

**Fake Reviews and Avoidance Intention**

In online spaces, two policies for writing reviews are acceptable: the first is called "open policy" and allows anybody to post a review, and the second is "closed policy" which invites only people who have had an experience to evaluate it (Moon et al., 2019). The open review platform produces more fake reviews than closed review websites. This is because hiding the identity or 'anonymity' provides a suitable environment for manipulation of those who bought or did not buy the good (Moon et al., 2019).

Due to the much greater customer trust in independent reviewers than in marketers, marketers often disclose a customer's fake identity when posting online ratings and comments. This produces information bias (Goh et al., 2013). Fighting against the deception of digital information is a focus for the hospitality and tourism sectors, as it can minimize buyers’ belief in online channels to avoid the avoidance intention of customers (Martinez-Torres and Toral, 2019). Thus, disclosing the details of fake review detection algorithms on different sources (i.e., ReviewMeta, Yelp, FakeSpot) to the public can prevent manipulators from using their algorithms (Moon et al., 2019).

In their attempt to develop a model for the hospitality and tourism sectors, Ahmad and Sun (2018) found that hiding the reviewers’ identity has a direct influence on customer distrust,
which accordingly produces a case of consumers’ psychological discomfort that extremely affects avoidance intention. In addition, (Munzel, 2016) said that the effect of the reviewer's level of revealed identity profile on both purchase intention and avoidance intention is clear. This effect is also influenced by the perceived reliability of the review's source. Although impersonating confidential users' profiles and comments remains the main challenge for online fraudsters (Martinez-Torres and Toral, 2019). Hunt (2015) highlighted that fake online reviews and their impacts on deceiving consumers could breach consumer laws and damage market efficacy. The present studies have underlined the prospect reflections of low levels of trustworthiness in online reviews through the medium and extended term, including avoidance intention, and have shown that there is a directed effect of fake reviews on behavior intentions toward the service provider (Munzel, 2016). Given the previous discussions, this study explored the relationship between the two variables through hypothesis three (H3):

**H3. Customers who read negative fake reviews are more likely to stay away from hotels and travel agencies.**

**Research Framework**

The present study adopts and integrates partially the research models developed in literature studies (Munzel, 2016; Wu *et al.*., 2019) to explore interrelationships among the direct effect of identity disclosure on fake reviews. In addition, the impact of fake reviews (mediator) on purchase intention and avoidance intention in the Egyptian hotels and travel agencies (Figure 1). Based on the proposed research model, we formulated three hypotheses as follows:

**Figure (1): A research framework.**

**Methodology**

**Measures**
The present study consists of four reflective latent variables (Fig. 1), adapted from previously studied models. Identity disclosure was measured using six indicators. Fake reviews were measured by four items. Five indicators of purchase intention and four for avoidance intention were determined to assess the relationships.

**Sampling Design and Data Collection**
The study adopted a quantitative research approach and employed both offline and online questionnaire survey strategies to obtain primary data from the target respondents. It was used
to compile data from Egyptian hotels’ and travel agencies’ managers and supervisors using a questionnaire written in English and Arabic. The current study investigates the elements that influence customer intentions according to the perceptions of hotel and travel agency managers. A total of 585 responses were collected through a simple random sample from 362 Egyptian five-star and 240 four-star hotels (Egyptian Hotel Association, 2022) and 2281 Egyptian travel agencies (Egyptian Travel Agents Association ETAA, 2022) as a whole community of the study.

The travel agency managers provided 285 responses, while the hotel managers provided 300. Travel agencies in category (A) are authorized to work in inbound and outbound tourism. Five-star hotels cater primarily to international visitors and are known for being innovative luxury hotels with strong financial backing. Many clients turn to travel firms for information on vacations, destinations, prices, and reservation procedures. Table 2 shows the results of 19 indicators relating to the size of the constructions studied. A five-point Likert scale was developed for measuring the research model indicators, ranging from strongly disagree (1) to strongly agree (5). Data were collected between September and December 2021 from department managers of hotels and travel agencies using a questionnaire form. The study included top-level managers such as general managers, marketing managers, public relations managers, reservation managers, and customer service managers (Hunt, 2015; Ahmad and Sun, 2018). This may sufficiently reflect all job categories and attributes of the target population for assessing fake reviews’ mediation role between identity disclosure and customer intentions.

Analysis Methods

For data analysis in this study, the Partial Least Squares Structural Equation Modeling (PLS-SEM) software version 7.0 is recommended (Kock, 2020). Furthermore, in empirical tourism research, PLS-SEM is commonly used (Eluwole et al., 2022; Girish et al., 2022). It uses a regression-based SEM technique appropriate for evaluating constructed models, such as the one used in the current study (Manley et al., 2021). In addition, PLS-SEM is an appropriate approach for some study scenarios, including complicated models with direct and indirect causal linkages and the assessment of multi-item constructs (Hair Jr et al., 2021).

Results

Respondents’ Profile

According to the demographic profile of participants, as shown in Table 1, the respondents’ demographics show that males are the dominant respondents regarding hotels (64.4%), while females are regarding travel agencies (54.2%). Most respondents of hotels are aged 20–35 years old (45.8%), while most respondents of travel agencies are between 36 and 50 years old (56.2%). Both categories of respondents (66.7% for hotels and 56.2% for travel agencies) tend to have had a university education. In addition, most respondents of hotels are public relations managers (42.7%), while most respondents of travel agencies are customer service managers (41.8%). Looking at table 2, the hotels managers had a positive opinion regarding identity disclosure (mean = 3.289), fake reviews (mean = 3.208), purchase intention (mean = 3.374), and avoidance intention (mean = 3.403). Managers of travel agencies also had a positive view of identity disclosure (3.691), fake reviews (3.664), purchase intentions (3.582), and avoidance intentions (3.472).
Table (1): Profile of respondents

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Hotels (%)</th>
<th>Travel agencies (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>64.4</td>
<td>45.8</td>
</tr>
<tr>
<td>Female</td>
<td>35.6</td>
<td>54.2</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-35</td>
<td>45.8</td>
<td>38.6</td>
</tr>
<tr>
<td>36-50</td>
<td>50.1</td>
<td>56.2</td>
</tr>
<tr>
<td>More than 50</td>
<td>4.1</td>
<td>5.2</td>
</tr>
<tr>
<td><strong>Qualifications</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school</td>
<td>28.2</td>
<td>39.5</td>
</tr>
<tr>
<td>University</td>
<td>66.7</td>
<td>56.2</td>
</tr>
<tr>
<td>Postgraduate</td>
<td>5.1</td>
<td>4.3</td>
</tr>
<tr>
<td><strong>Professional category</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General manager</td>
<td>20.3</td>
<td>19.7</td>
</tr>
<tr>
<td>Public relations manager</td>
<td>42.7</td>
<td>18.3</td>
</tr>
<tr>
<td>Customer service manager</td>
<td>17.8</td>
<td>41.8</td>
</tr>
<tr>
<td>Sales and marketing manager</td>
<td>19.2</td>
<td>20.2</td>
</tr>
</tbody>
</table>

Table (2): Descriptive statistics of the research model constructs

<table>
<thead>
<tr>
<th>Constructs</th>
<th>*Hotels</th>
<th>**Travel agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td></td>
<td>Std. Deviation</td>
</tr>
<tr>
<td></td>
<td>Hotels</td>
<td>Travel agencies</td>
</tr>
<tr>
<td>Identity disclosure</td>
<td>3.289</td>
<td>3.691</td>
</tr>
<tr>
<td>Fake reviews</td>
<td>3.208</td>
<td>3.664</td>
</tr>
<tr>
<td>Purchase intention</td>
<td>3.374</td>
<td>3.582</td>
</tr>
<tr>
<td>Avoidance intention</td>
<td>3.403</td>
<td>3.472</td>
</tr>
</tbody>
</table>

Measurement model
Running the measurement model, the model fit indices showed a good model fit. Look at Table 3, which shows that convergent validity is evident for all constructs when AVEs > 0.50, and discriminant validity exists when the square root of AVE exceeds the correlation among constructs, as shown in Table 4. (Hair Jr et al., 2021; Kock, 2020; Manley et al., 2021). In addition, the model is reliable when Cronbach’s alpha and composite reliability exceed 0.70 (Kock, 2020).

Table (3): Measurement model statistic

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Indicators</th>
<th>*Hotels</th>
<th>**Travel agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Loading</td>
<td>CR</td>
</tr>
<tr>
<td>Identity disclosure</td>
<td>X1</td>
<td>0.793</td>
<td>0.899</td>
</tr>
<tr>
<td></td>
<td>X2</td>
<td>0.794</td>
<td>0.706</td>
</tr>
<tr>
<td></td>
<td>X3</td>
<td>0.706</td>
<td>0.706</td>
</tr>
<tr>
<td></td>
<td>X4</td>
<td>0.712</td>
<td>0.712</td>
</tr>
<tr>
<td></td>
<td>X5</td>
<td>0.811</td>
<td>0.811</td>
</tr>
<tr>
<td></td>
<td>X6</td>
<td>0.811</td>
<td>0.811</td>
</tr>
<tr>
<td>Fake reviews</td>
<td>X1</td>
<td>0.859</td>
<td>0.929</td>
</tr>
<tr>
<td></td>
<td>X2</td>
<td>0.916</td>
<td>0.916</td>
</tr>
<tr>
<td></td>
<td>X3</td>
<td>0.916</td>
<td>0.916</td>
</tr>
<tr>
<td></td>
<td>X4</td>
<td>0.847</td>
<td>0.847</td>
</tr>
<tr>
<td></td>
<td>X5</td>
<td>0.847</td>
<td>0.847</td>
</tr>
</tbody>
</table>
### Model fit indices values for hotels:
Average Path Coefficient = 0.802, P < 0.001, Average R-squared = 0.684, P < 0.001, Average Adjusted R-Squared = 0.647, P < 0.001, Average full collinearity VIF = 4.626 (< 5), Tenenhaus GoF = 0.638 (large), Sympson's paradox ratio = 1 (ideal), R-squared contribution ratio = 1 (ideal), statistical suppression ratio = 1 (ideal) and nonlinear bivariate causality direction ratio = 1 (ideal).

### Model fit indices values for travel agencies:
Average Path Coefficient = 0.589, P < 0.001, Average R-squared = 0.352, P < 0.001, Average Adjusted R-Squared = 0.350, P < 0.001, Average full collinearity VIF = 2.178 (< 5), Tenenhaus GoF = 0.444 (large), Sympson's paradox ratio = 1 (ideal), R-squared contribution ratio = 1 (ideal), statistical suppression ratio = 1 (ideal) and nonlinear bivariate causality direction ratio = 1 (ideal).

### Structural Model
The structural model describes the causal relationships among constructs. Testing the three hypotheses of the study. Figure (2) revealed that identity disclosure is significantly affecting the fake reviews for hotel customers ($\beta_1=0.87$ and $P<0.01$) and travel agency customers ($\beta_2=0.68$ and $P<0.01$), and the first hypothesis is supported). It explains 77% of the variance in customers' perceptions of adopting fake reviews in hotels ($R^2_1=0.77$) versus 46% in travel agencies ($R^2_2=0.46$) and has a large effect size on the fake reviews. Furthermore, fake reviews significantly influence purchase intention for hotel customers ($\beta_1=0.83$ and $P<0.01$) and travel agency customers ($\beta_2=0.58$ and $P<0.01$), and the second hypothesis is supported). It explains 70% of the variance in customers attitudes to adopting purchase intention in hotels ($R^2_1=0.70$) versus 33% in travel agencies ($R^2_2=0.33$). Fake reviews significantly affect the avoidance intention of hotel customers ($\beta_1=0.70$ and $P<0.01$) and travel agencies customers ($\beta_2=0.51$ and $P<0.01$), and the third hypothesis is supported). It explain 48% of the variance in customers attitudes to adopting purchase intention in hotels ($R^2_1=0.48$) versus 26% in travel agencies ($R^2_2=0.26$). Table 5 summarises the hypotheses testing.

### Table 5

<table>
<thead>
<tr>
<th></th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoidance intention</td>
<td>0.703</td>
<td>0.912</td>
<td>0.914</td>
<td>0.834</td>
</tr>
<tr>
<td>0.908</td>
<td>0.863</td>
<td>0.714</td>
<td>2.377</td>
<td>0.669</td>
</tr>
<tr>
<td>0.833</td>
<td>0.728</td>
<td>0.784</td>
<td>0.841</td>
<td>0.747</td>
</tr>
<tr>
<td>0.572</td>
<td>2.103</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: AVE: Average Variance Extracted; CA: Cronbach’s Alpha; CR: Composite Reliability

#### Figure (2): The structural model
Table (4): The square root of AVEs and inter-constructs correlations

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Identity disclosure</th>
<th>Fake reviews</th>
<th>Purchase intention</th>
<th>Avoidance intention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identity disclosure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>(0.773)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>(0.754)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fake reviews</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>0.671</td>
<td>(0.876)</td>
<td>(0.736)</td>
<td>(0.746)</td>
</tr>
<tr>
<td>B</td>
<td>0.654</td>
<td>(0.746)</td>
<td>(0.736)</td>
<td>(0.746)</td>
</tr>
<tr>
<td>Purchase intention</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>0.632</td>
<td>0.731</td>
<td>(0.736)</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>0.584</td>
<td>0.573</td>
<td>(0.827)</td>
<td></td>
</tr>
<tr>
<td>Avoidance intention</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>0.668</td>
<td>0.683</td>
<td>0.754</td>
<td>(0.845)</td>
</tr>
<tr>
<td>B</td>
<td>0.418</td>
<td>0.477</td>
<td>0.718</td>
<td>(0.756)</td>
</tr>
</tbody>
</table>

Note: A: values for hotels and B: values for travel agencies

Table (5): Testing the hypotheses

<table>
<thead>
<tr>
<th>No.</th>
<th>Hypotheses</th>
<th>β Value</th>
<th>P Value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hotels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Travel agencies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H1</td>
<td>Identity disclosure – Fake reviews</td>
<td>0.87</td>
<td>0.68</td>
<td>P&lt;, 01</td>
</tr>
<tr>
<td>H2</td>
<td>Fake reviews – Purchase intention</td>
<td>0.83</td>
<td>0.58</td>
<td>P&lt;, 01</td>
</tr>
<tr>
<td>H3</td>
<td>Fake reviews – Avoidance intention</td>
<td>0.70</td>
<td>0.51</td>
<td>P&lt;, 01</td>
</tr>
</tbody>
</table>

Table (6): Results of the predictive relevance of the research model

<table>
<thead>
<tr>
<th>Variables</th>
<th>Hotels R-squared</th>
<th>Travel agencies R-squared</th>
<th>Hotels Adj. R-squared</th>
<th>Travel agencies Adj. R-squared</th>
<th>Hotels Stone-Geisser (Q2)</th>
<th>Travel agencies Stone-Geisser (Q2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fake reviews</td>
<td>0.765</td>
<td>0.465</td>
<td>0.764</td>
<td>0.463</td>
<td>0.765</td>
<td>0.460</td>
</tr>
<tr>
<td>Purchase intention</td>
<td>0.696</td>
<td>0.335</td>
<td>0.695</td>
<td>0.332</td>
<td>0.696</td>
<td>0.330</td>
</tr>
<tr>
<td>Avoidance intention</td>
<td>0.484</td>
<td>0.257</td>
<td>0.482</td>
<td>0.255</td>
<td>0.482</td>
<td>0.259</td>
</tr>
</tbody>
</table>

By applying PLS-SEM, as well as blindfolding procedures recommended by (Chin, 1998). This study predicts the model’s relevance (Q2). Values greater than zero or near one show that the study model is relevant, exhibiting the power of interrelationships (Geisser, 1975). Q2 values for hotels presented in (Table 6) show that fake reviews, purchase intention, and avoidance intention were 0.765, 0.696, and 0.482. In addition, Q2 values for travel agencies show that fake reviews, purchase intention, and avoidance intention were 0.460, 0.330, and 0.259, respectively, all greater than zero, demonstrating the significant connections between exogenous constructs and estimating that the study's core problem was empirically relevant.

Conclusions

The departments of public relations, customer service (Hunt, 2015), marketing (Malbon, 2013; Hunt, 2015; Chakraborty, 2019), and general managers (Ahmad and Sun, 2018) are responsible for online fake reviews in one way or another. Moreover, hotel/travel agency managers and their staff are often participants in dealing with fake reviews (Filieri, 2016; Hajek and Sahut, 2022). Hence, using a sample of employees in these departments, the current study aimed to evaluate the relationship between identity disclosure and producing more fake reviews, then the mediating role of fake reviews on both customer purchase and avoidance intentions.
The results of our research indicated that customers generate more online fake reviews when keeping anonymity and once they disclose their identity, more real reviews are posted. This argument comes in line with (Mayzlin et al., 2014; Zhang et al., 2016; Akhtar et al., 2019). The first reason for anonymity is to avoid prosecution for unjustly defaming the hotel's or travel agency's reputation. However, the first reason for writing fake reviews is the hiring process by the hotel/agency itself (positive faked reviews) or by a competitor (negative faked reviews). The relationship between identity disclosure and the mediating factor (fake reviews) shows the indirect relationship between identity disclosure and both purchase and avoidance intentions. Positive fake reviews, whether they are paid or charitable (Choi et al., 2017), are positively associated with customer purchase intentions in Egyptian hotels and travel agencies. Hotels and travel agencies would frequently hire employees to write positive reviews and/or respond to negative online feedback (Li et al., 2020). However, positive fake reviews remain related to fake identity and significantly affect customer purchase intentions. On the other hand, our results pointed out that the hospitality and tourism sector usually depend on internal or external employees to post negative fake reviews about competitors as a part of a 'reputation online war' (Luca, 2016; Li et al., 2020). Such manipulation, although defending efforts, could mislead customers into avoiding intentions which is known as 'digital deception' (Hancock, 2007).

The relationship between the two types of fake reviews and customer purchase and avoidance intentions, that the current study has addressed, presents a recent loud voice in the academic field of tourism and hospitality (see; Salminen et al., 2022; Moon et al., 2019; Choi et al., 2017; Munzel, 2016). The relationship became more powerful when they got sharper by ignoring identity disclosure requirements (Martinez-Torres and Toral, 2019; Zhang et al., 2016). Therefore, the current study, based on the results, will provide some managerial and theoretical implications in the following lines, and further research will be recommended as well.

**Implications and Further Research**

**Managerial Implications**

Customer online reviews assist decision-makers in maintaining relationships with potential customers of hospitality and tourism, as well as encouraging managers to improve the quality of products and services (Martinez-Torres and Toral, 2019). Accordingly, it should obtain the required attention at the top of social media and marketers' priorities. The notion that the detection of fake reviews is inevitable for any successful business (Reyes-Menendez et al., 2019; Moon et al., 2019; Akhtar et al., 2019; Ren and Ji, 2017; Hunt, 2015; Kim et al., 2015) led us to highly encourage hotels and travel agencies to adopt strategic methods for eliminating the expected harm of fake reviews (see, Mayzlin et al., 2014).

Based on the findings of the study and the claim of Moon et al. (2019), we strongly recommend that hotels and travel agencies use the close strategy when allowing their customers to post an online review. The close strategy is more confidential and can reduce rates of biased and deceptive reviews that produce untrue customer intentions. At the same time, ensuring tourist safety when writing logical negative feedback with a disclosed identity is a mission of the hotel (Chakraborty, 2019). The purpose here is to make the customer safer and freer to post actual experiences showing the shortage of service that needs action plans and improvements. Besides, the business should also maintain using automatic machine learning policies for more trustfulness in online reviews (see; Martinez-Torres and Toral, 2019). Following tourist education about online reviews protects the hotel/agency from any potential legal, technical, and industrial harm (Hunt, 2015).

As Airbnb.com and Expedia.com require an actual previous booking and a disclosed identity, they are, in our point of view, two of the best online websites that generate credible online reviews. Businesses can exploit that whether to see a true image about themselves in the
customer mirror or to evaluate how tourists rate the competitors. Generally speaking, tourism managers should carefully and comprehensively treat the issue of tourist reviews (Tuomi, 2021). This is because the struggle against deceptive reviews needs strong managerial structures supported by adequate resources (Martínez Otero, 2021).

**Theoretical Implications and Further Research**

Given the academic argument arguing that studies of online review are valuable and still rare (Ahmad and Sun, 2018; Moon et al., 2019), particularly in the field of hospitality and tourism (Zhang and Hanks, 2018; Fedeli, 2020). In addition to the absence of such inquiries in the Egyptian hospitality and tourism sector. Therefore, the current study is expected to present a useful and practical contribution to theory. It also introduces four contemporary indicators including (identity disclosure, fake reviews, purchase intentions, and avoidance intentions) and draw statistically the relationships between the variables through specific measurement items that are documented in the theoretical sections.

The credible online review study in light of electronic randomness should be focused and narrow (Thomas et al., 2019). That led the current study to determine specific keywords related to variables under investigation while compiling the literature review, in addition, we considered the careful selection of participants who take the responsibility of detecting writers’ fake identities and fake reviews besides their comprehensive awareness of how that faked feedbacks could affect customer purchase and avoidance behavior. The methodology used could help scholars to conduct future studies with the needed levels of validity.

Since we faced a limitation that the organizational structure of both hotels and travel agencies may differ from one hotel to another and from one agency to another, then we propose that: (i) employees are aware of the actual effect of fake reviews on customer behavior more than a sample of customers themselves, (ii) dealing with fake reviews is a shared responsibility, and (iii) field studies should include all the responsible departments. While data gathering, the limitation of the low response rate of one distributing strategy can be bypassed by following both online and offline methods.

The current study investigated the issue of fake identities and fake reviews in high-rate hotels and travel agencies, further research could address the topic in low-rate businesses whether using the same variables or by adopting other models. Covering different contexts i.e., ethnic restaurants, quick-service restaurants, and airlines might be beneficial for the hospitality and tourism sector.

**References**


**Development of a scale to measure skepticism toward electronic word-of-mouth**

Aim: The aim of this study was to develop a scale to measure skepticism toward electronic word-of-mouth (EWM) in the context of hotel and tour agencies. The scale was developed through a literature review and expert validation. It consists of 35 items covering five dimensions of skepticism, namely the perceived credibility of online reviews, the ability to identify biased reviews, the susceptibility to influence by others, the perception of the credibility of sources, and the perceived length of time it takes to access information.

Method: A survey was conducted with a sample of 585 hotel and tour agency employees in Egypt. The data was analyzed using SPSS and WarpPLS structural equation modeling software.

Results: The results showed that the scale has good reliability and validity. The items had high factor loadings and the overall model fit was good. The scale was found to be a useful tool for measuring skepticism toward EWM in the hotel and tour agency context.

Conclusion: The scale developed in this study provides a valuable tool for researchers, practitioners, and policy makers interested in understanding the skepticism toward EWM in the hospitality industry. Further studies are recommended to explore the scale's applicability in other industries and to adapt it for cultural contexts outside of Egypt.