

The effect of consumer review on the perceived trustworthiness of online retailers: Item response theory perspective

Riadh Jeljeli^{a*}, Faycal Farhi^a and Mohamed Elfateh Hamdi^b

^aAl Ain University, United Arab Emirates

^bCollege of Arts and Sciences, Qatar University, Qatar

CHRONICLE

ABSTRACT

Article history:

Received: February 17, 2022

Received in revised format: March 26, 2022

Accepted: May 29, 2022

Available online: June 1 2022

Keywords:

Positive Word of Mouth

Trust Worthiness

Brand Image

Product Quality

United Arab Emirates

Word of Mouth also works as a primary determinant of people's positive attitude towards online shopping and retailers. Notably, people are more likely to spend online shopping if they trust online retailers. This study also focuses on the online retail industry in the United Arab Emirates. The Item Response Theory primarily supports the conceptual model of the current research. We employed a cross-sectional design and selected a sample of $n=304$ online consumers. Results revealed that the relationships between Positive Word of Mouth, Brand Image, and Causal Attributions are strongly validated ($p > 0.000$). Besides, the relationships between Product Quality, Brand Image, and Causal Attributions are also affirmed with the path value at 1.014 and significance value at $p > 0.000$. Moreover, we also found a potentially significant relationship between Positive Word of Mouth and Product Quality ($p > 0.000$). We also affirmed that the relationship between Brand Image and Causal Attribution is also validated with the significance values at $p > 0.000$. Lastly, the proposed relationships between we proposed a significant relationship are also validated ($p > 0.000$). Thus, we conclude that, today, when competition is increasing day by day, it is crucial to examine the consumer psychology that may highlight our several factors as done by the Item Response Theory. Further, we have discussed the study limitations and contributions accordingly.

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1. Introduction

Trust is an essential aspect of one's personality, basically developed through their prior experiences, convictions, and established feelings about a phenomenon. In this respect, if the consumer has low trust or dissatisfaction, they will reflect it in their shopping intentions. Talking specifically about online shopping, this trust is comparatively of more significance in the online shopping environment (Sevim & Eroğlu Hall, 2014). Notably, there are several online channels accelerating product and service distribution worldwide. However, their broader distribution depends on several factors directly associated with the consumers. For instance, trust is one of the dynamic mechanisms that govern the exchange of products and services among retailers and consumers. Besides, it is also defined as an ethical obligation and bond that bridges the gap between retailers and consumers, leading to positive or negative purchase behavior (Connolly, 2017). Trust in general can also be defined as an expectation that the opposite party will behave correctly and favorably, resulting in a two-way benefit. Mainly, trust between the sellers and buyers through the internet is widely investigated as an important consideration for the business and retail industry researchers (Khan et al., 2015). As noted by (Xiao et al., 2019), the term “trust” does not indicate any short-term consideration. Especially when talking about the business and retail industry in general, trustworthiness ensures the success and compatibility of the seller. This trust matters more when electronic shopping decisions are made, and consumers perform the transactions. Moreover, this trust primarily relies on three essential features attributed to the seller, their products, and

* Corresponding author.

E-mail address: riadh.jeljeli@aau.ac.ae (R. Jeljeli)

overall reputation: reliability, predictability, and fairness. Trust works as an economic calculation that explores the value of service and development based on their quality.

Similarly, regarding trust, customers' reviews or Word of Mouth also work as a determining factor highlighting the product or service quality. (Utz et al., 2012) called "perceived trustworthiness" as a primary determinant of people's positive attitude towards online shopping. As noted, people are more likely to spend online shopping if they trust online retailers. While talking about perceived trustworthiness, factors consumers' reviews or, in more specific terms, Word of Mouth (WOM) is omnipresent and integral to customers' online shopping journey. Precisely speaking, consider a service or product which is just introduced but does not contain any reviews, with the initial probability of its purchase (Askalidis & Malthouse, 2016). Over time the product/service will attract customers. They will observe its relevance with their requirements and share their opinions with others. This opinion sharing in the online environment indicates the extent to which existing consumers can influence others' buying decisions by sharing their statements (Alzate et al., 2021). According to a survey conducted by Deloitte, more than 85% of consumers first check the product reviews and then make the buying decision, indicating the importance of consumer reviews as a primary determinant of revenue for the retailers (Lee & Hong, 2019). Overall, we assume a strong relationship between perceived trustworthiness and customers' reviews on the buying intentions of the potential customers, as also affirmed by Baskaran et al. (2021). For (Khwaja et al., 2020), consumers generated comments about products/services that are organic and indicated their trust in the retailer. Consequently, the future consumers take help and guidance from these comments, which further work as an essential element of their buying decision.

It is also notable that the online retail industry in the United Arab Emirates is booming. Especially after the first outbreak of the Covid-19, people preferred online shopping as a safe and only option to buy products and services without physical visits. Increased preference for online shopping also increased the number of comments after the purchase, attracting more consumers towards online retailers (South, 2020). Thus, the current project also aims to examine the impacts of the consumers' reviews on the perceived trustworthiness of Emirati online retailers. We chose Item Response Theory (IRT) to support the study's conceptual mod to further provide substantial theoretical grounds to our propositions. We have divided this article into five relevant parts per the formal research requirements to systematically and empirically materialize the research objectives.

2. Literature Review

2.1 Positive Word of Mouth, Brand Image, and the Causal Attribution

Retailers realize that the secret to attaining the success of their products lies in the fact that their products or services are of good quality and positively influence the customers. Satisfied and happy customers share their reviews (WOM) about their experiences that are suggestions and unilateral advice for future consumers. However, many researchers argue that consumers' reviews are more than just talking about their experiences as it is one of the most influential psychological approaches that affect others' behavior and decision-making process (Maisam & Mahsa, 2016). As a result, we assume that consumers' reviews are directly associated with the brand image that can positively or negatively influence the perceptions of the particular brand in the market. For example, optimistic consumers' reviews about Islamic banking in the United Arab Emirates have attracted many people and created a positive brand image among the masses. Consumer reviews (WOM) and increased brand image of Islamic banking are further accelerated in the UAE due to the banking representatives' social media and solid online involvement. These representatives communicate with the people or advertise their services and answer the general queries that further lead to an increased brand image among the consumers, leading to a positive service experience among them (Nuseir, 2019). Thus, as an essential type of marketing communication, consumer reviews greatly influence the brand image. These reviews are instant, accessible, non-commercial, and effective for prospective consumers who actively search for reliable products and services (DAM, 2020).

Similarly, the existing literature highlights the relationship between positive word of mouth or consumer reviews and causal distribution. (Martensen & Grønholdt, 2016) describe causal distribution as a determinant of identification regarding why a behavior occurs? In this regard, positive word of mouth and causal distribution are strongly correlated as a positive opinion about a product or service potentially affects future consumers' behavior to consider and reconsider the same brand. As noted by (Nikbin et al., 2012), if the Word of Mouth (WOM) is positive, the others will not switch to the other choices that would benefit the brand image and goals regarding the revenue. There is several evidence of positive consumer reviews influencing and attracting other consumers to explore the brand and retailer further to purchase the products they need. Hence, Word of Mouth (WOM) provides a measure of evaluative consensus as sharing the reviews and influencing others is an important part of marketing communication and online retailing business (He & Bond, 2015)

H1a: *Positive Word of Mouth has a significant impact on brand image.*

H1b: *Positive Word of Mouth has a substantial impact on causal attribution.*

2.2 Product Quality, Brand Image, and the Causal Attribution

According to (Hendra et al., 2017), globalization has dramatically altered the marketing and retailing patterns. As the new media offers increased accessibility, both retailers and consumers can access each other, observe the products, analyze the audience's needs, and make purchase decisions. In this regard, retailers are more cautious about brand awareness and image

as the ultimate goal is to satisfy the potential consumers and generate the desired revenue. As noted by (Diputra & Yasa, 2021), the advancement of innovative technology has also increased people's concern regarding online shopping. They observe the product itself and other factors, including the reviews that existing consumers share about their experiences. For instance, the quality of Samsung smartphones and smartwatches is a crucial consideration. The success of Samsung directly relies on the original quality products, consumers' satisfaction, and on-time customer services that are considered necessary in a positive brand image.

Consequently, consumers trust Samsung as an internationally reliable brand, keeping pace with the new technology and providing the best quality product and services. Thus, product quality is an essential determinant of the brand image among consumers. It is evident that if the product quality is good, it will create a positive brand image. Otherwise, poor-quality products affect the brand image and harm the retailers' overall reputation (Fitrajaya & Nurmahdi, 2019).

Likewise, besides brand image, product quality is also correlated with the causal attribution, which further leads the customers to decision-making. For instance, food manufacturing companies in the European Union primarily rely on product quality as a fundamental mechanism behind consumers' consideration. Coca-Cola in Belgium is one of the distinguished manufacturers that is considered to have a solid brand image and affect the consumers due to the quality and services they provide. As a result, the relationship between product quality and causal attribution further facilitates the product evaluation process, as a good quality further leads people to take the products under scrutiny for the decision-making process (Zhang, 2013). Further affirmed by (Zhang, 2013) in the Emirati scenario, they examined the impacts of hotel services quality on the consumers' behavior. The researchers applied the case study method and found that the hotel services positively influenced the consumers' opinion to revisit and share their experiences with their peers and other family members. The consumers indicated their satisfaction with the hotel management's highly supportive and problem-solving behavior that further influenced their opinion about the overall services.

H2a: *Product Quality has a significant impact on brand image.*

H2b: *Product Quality has a considerable effect on causal attribution.*

2.3 Positive Word of Mouth and Product Quality

Regardless of the nature of online retail and shopping, customer opinion about a product/service can potentially influence other clients. For (Pradana, 2019), these reviews are an important promotional message that provides information about a product/service and motivates others to check and evaluate the product/service for their selection. When existing consumers share the positive word of mouth, they are comparatively more effective than simple promotional campaigns or advertisements. (Rahmawati & Dewi, 2020) further cited an example of the impacts of customer reviews on the brand image of the Malaysian automobile industry. As argued, as the competition is continuously increasing among the Malaysian automobile companies, these companies mainly focus more on improving the product and service quality than providing improved products to the consumers. These companies also understand the impact of positive Word of Mouth (WOM) that affects future customers to keep their products under consideration and make favorable decisions.

An empirical study conducted by (Virvilaite et al., 2015) also examined the influence of consumer reviews of exceptionally positive Word of Mouth (WOM) on brand equity and brand image in Lithuania. The researchers employed the case study method and selected a sample of $n= 276$. Findings revealed that positive Word of Mouth (WOM) remained the most vital factor affecting the brand image and consumers' perceptions among all the other factors. Two critical factors in online word of mouth remained highly considerable for the respondents, including perceived ease of use and usefulness, which further helped make the crucial decision. Thus, retailers considering customer satisfaction and their reviews as an essential factor in enhancing their interest are more likely to benefit from their efforts. Satisfied and happy customers are significant to attract more customers; that is a substantial benefit of word of mouth (WOM)(Hassan et al., 2021).

H3: *Positive Word of Mouth has a significant impact on brand image.*

2.4 Brand Image and the Causal Attribution

According to (Suh-hee & A, 2015), sometimes online consumers encounter confusion regarding product selection and purchase. They consider what is trending or the retailers having the most credible sales and purchase record in such a situation. In this regard, the quality of the brand and its previous form, more specifically causal attribution, works as a motivating factor, accelerating consumers' intention to consider the relevant sellers. A study conducted by Yu et al. (2018) also examined the potential relationship between brand age and causal attribution in China. The researcher executed a cross-sectional design and found that brands with good quality products and a positive reputation are more likely to attract other consumers looking for suitable products. Both positive image and fine quality products work as a causal attribution, motivating others to consider the relevant retailers.

Faisal Farid and Akhter (2017) further cited the importance of causal attribution as a significant factor in accelerating one's behavior. As stated, individuals like to act accordingly when they positively perceive something. This positive perception is known as a belief that causes a specific action. The same case is when causal belief works in considering the online retailers.

If the brand image is good, it attracts people. Here each consumer is valuable as one satisfied customer influences more customers to view the relevant retailers and their products/services leading to materializing the desired sales and purchase goals (Joghee & Dube, 2016).

H4: *Brand image has a significant impact on causal attribution.*

2.5 Brand Image, Causal Attribution, Brand Evaluation

Failure to satisfy the customers and provide them with sub-standard products/ services can adversely affect the brand image. As the brand image is mainly defined as the brand name, product/service quality, and distinguished features, violating any ethical consideration to serve the consumer can be of more significant concern. It is also notable that when a brand provides good quality products and services, it attracts the existing consumers to reconsider the same brand and prospective consumers in general. In this regard, satisfied consumers can benefit in a dichotomous way, i.e., first, they share positive opinions about their experiences openly. Second, their positive opinion directly or indirectly attracts other individuals to take the relevant brand under consideration (Paula, 2017). To further validate the relationship between brand image and brand evaluation (Algharaibeh & Ariffin, 2021) cited an example of Malaysian airline passengers. As noted, a sustainable image of Malaysian airlines is a strong determinant of positive behavioral intentions among the customers. These consumers not only enjoy affordable travel packages but also receive better quality services that attract them in the future and appeal to more customers to take the Malaysian airlines' services under consideration. People today are vigilant enough to save their time through online observation and purchasing. They click and enter their desired shopping platforms and observe the products they need. Thus, in a digital environment, where timesaving and fewer efforts are two essential considerations, the brand image further works as an attraction for the potential consumers (Atidira, 2019).

Similarly, causal attribution is another essential factor to attract consumers for the brand evaluation and decision-making process. However, once again, the previous product/service quality and brand performance are considered. Significantly, previous consumers' experiences that share their personal opinion to scrutinize further the brand and its products/services (Barajas & Cruz, 2015). According to (Dew, 2019), when online retailers have a good product record, their causal attribution is their performance that motivates other individuals to compare their needs and make the purchase decision accordingly. In such a situation, causal attribution strongly affects brand evaluation as a dynamic mechanism to attract and convince future customers.

H5a: *Brand image has a significant impact on brand evaluation.*

H5b: *Causal attribution has a substantial effect on brand evaluation is having a considerable impact on brand evaluation.*

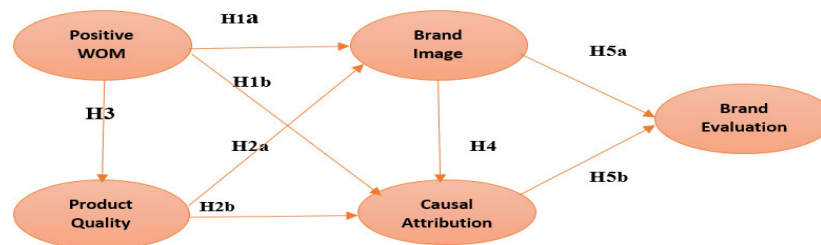


Fig. 1. Conceptual Model (Item Response Theory)

3. Item Response Theory (IRT)

According to Ogunsakin and Shogbesan (2018) Item Response Theory provides a pathway to measure the respondents' responses and then numerically represent them as a reliable source of information. In other words, item Response Theory ensures the participants as representative of their population regarding their response to the research questions. As noted by (Mark Nord, 2014), personality, ability, and intelligence scales are empirically examined to propose the generalizable results under the relevant theory. Thus, Item Response Theory provides solid conceptual support to the current study. We also aim to investigate the impact of consumer reviews on the trustworthiness that further attracts prospective consumers to consider the online retail shops for buying purposes. As noted by (Martensen & Mouritsen, 2014), talking about a brand, sharing opinions about it, and inspiring others is a core concept in online retailing today. The inspiring nature of word of mouth indicates how an existing customer trusts the brand and service quality and delivers their message to others. Thus, the shared opinion bridges the gap between the other consumers, selling offers, consumers' interests, and, eventually, purchasing decisions.

Similarly, in terms of Items Response Theory, new customers respond to these online consumer reviews as the critical determinants of trust that further help them to evaluate the product/service and decide accordingly (Zinko et al., 2021). (Zinko et al., 2021) also cited an example of consumer reviews as primary determinants of trust, further leading to buying decisions among Indian customers. As stated, consumer reviews provide online retailers with a tremendous opportunity to listen to their

consumers, respond to their concerns, and increase their trust. Notably, a satisfied customer can attract more customers towards the product/service through their online response to the buying experience (See Fig. 1).

4. Research Design and Methods

4.1 Methods and Research Tool

This research is experimental as according to the research gap and hypothetical assumptions; practical techniques were the most suitable one as suggested by (Hole, 2011). We executed structured questionnaires designed at Five-Point Likert Scale, sent through email and WhatsApp. According to (Ahmed, 2009), questionnaires help gather data directly from the respondents having a relevant exposure to the study problem. Furthermore, we manipulated and assessed the data by using IBM Statistical Package for Social Sciences (SPSS) and Amos version 26 for the Structural Equation Modelling (SEM), as suggested by (Habes et al., 2021).

4.2 Sampling Procedure and Informed Consent

Although the study population involves online consumers across the United Arab Emirates, we randomly selected a sample of $n=330$ individuals. The appropriate sample size in the current research is ideal as, according to (Tryfos, 1996), Structural Equation Modelling-based studies should contain a sample size of a minimum of $n=200$ respondents to ensure the generalizability of results and sample representativeness. It is also notable that we provided our respondents with informed consent as an essential ethical consideration in research suggested by (Roache, 2014). We informed our participants about the study objectives and their perceived outcomes. We also allowed them to quit filling questionnaires whenever they wanted without any restrictions.

5. Statistical Analysis and Findings

5.1 Convergent Validity Analysis

As the first requirement of the Structural Model Analysis (SEM), we examined the internal consistency of the survey items. In this regard, we conducted a convergent validity analysis that involved analyzing the Factor Loading, Average Variance Extracted, Cronbach Alpha, and Composite Reliability values as suggested by (Dijkstra & Henseler, 2015) (See Table 1). First, we calculated the Factor Loading (FL) and Average Variance Extracted (AVE) Values. As shown in the table below, all the Factor Loading values range from .564 to .778, and Average Variance Extracted (AVE) values range from .668 to .707, indicating them as successfully passing the threshold value of 0.05. Besides, we calculated the Cronbach Alpha and Composite Reliability values to examine the construct reliability of the measurement model. In this regard, we found that all the Cronbach Alpha values range from .843 to .917, and Composite Reliability Values range from .702 to .803, indicating all the values are successfully surpassing the threshold value of 0.5. Thus, we conclude that the convergent validity of the measurement model is successfully established.

Table 1
Convergent Validity and Construct Reliability

Latent Variables	Constructs	FL	AVE	CA	CR
Positive Word of Mouth	PWOM1	.734	.707	.842	.751
	PWOM2	.641			
	PWOM3	.746			
Product Quality	PQY1	.741	.704	.913	.787
	PQY2	.770			
	PQY3	.602			
Brand Image	BMG1	.743	.753	.917	.727
	BMG2	.739			
	BMG3	.778			
Causal Attribution	CAU1	.622	.698	.904	.803
	CAU2	.723			
	CAU3	.749			
Brand Evaluation	BEN1	.564	.668	.906	.702
	BEN2	.695			
	BEN3	.747			

According to Henseler et al. (2015), two techniques are essential to affirm the discriminant validity of the measurement model. Thus, discriminant validity further supports the structural model analysis in general. Therefore, by keeping in view the relevant recommendation, we examined the discriminant validity of our measuring model. First, we employed the Heterotrait-Monotrait Ratio Scale and calculated the appropriate values (See Table 2). Results revealed an HTMT value at 0.261, indicating that the obtained value is significantly smaller than the threshold value of 0.9 as suggested by (Civelek, 2018). Besides, we calculated the squares of all the Average Variance Extracted (AVE) values. All the squares of Average Variance Extracted (AVE) values indicated greater than the correlation values given in Table 3 below. Thus, we found that the discriminant validity of the measurement model is also established.

Table 2
Heterotrait-Monotrait Ratio Scale

	PROM	PQY	BMG	CAU	BEN
PROM	.499				
PQY	.008	.495			
BMG	-.074	-.110	.567		
CAU	-.060	-.103	-.066	.487	.446
BEN	-.061	-.189	-.185	-.005	

Note: PWOM is Positive Word of Mouth, PQY is Product Quality, BMG is Brand Image, CAU is Causal Attribution, and BEN is Brand Evaluation

Table 3
Fornell-Lacker Criterion

	PROM	PQY	BMG	CAU	BEN
PROM					
PQY	-.558				
BMG	-.028	-.478			
CAU	-.285	.029	-.298		
BEN	-.179	-.152	.157	-.387	

Note: PWOM is Positive Word of Mouth, PQY is Product Quality, BMG is Brand Image, CAU is Causal Attribution, and BEN is Brand Evaluation

5.2 Model Fit

According to Alhawamdeh et al. (2020), conventional statistical tests usually involve limited means of examining the problem and calculating the data. However, structural equation modeling involves in-depth analysis and calculations, providing several insights into the data. Thus, model fit as an essential part of structural equation modeling helps determine the potential of the measurement model, i.e., Root Mean Square Error of Approximation (RMSEA) and Comparative Fit Index (CFI). Thus, current research also involves model fit analysis that revealed the Comparative Fit Index (CFI) value at $\chi^2 = 317.918$ ($df = 82$) and the probability level at 0.000. Besides, the Root Mean Square Error of Approximation (RMSEA) value remained at .097, indicating that the measurement model can support the structural model analysis (Hooper et al., 2008).

5.3 Demographics of Study Respondents

We used descriptive statistics to calculate the respondents' demographics, mainly frequencies and percentages. In this regard, we first found that a majority of respondents ($n = 515$ or 50.3%) were females while $n = 151$ or 49.5% were males ($M = .500$, $SD = .501$). Concerning the age group of the participants, we found that $n = 139$ or 45.6% of participants were 41 to 50 years old, $n = 80$ or 26.0% were 21 to 30 years old, $n = 54$ or 17.7% were 51 to 60 years old, $n = 21$ or 9.5% were 61 years old or above, and only $n = 3$ or 1.0% of respondents were 31 to 40 years old ($M = 1.84$, $SD = 1.260$). Finally, we calculated the qualification of the respondents. We found that a majority of respondents ($n = 108$ or 35.4%) had Post Graduation, $n = 76$ or 24.9% were having Graduation, $n = 42$ or 13.8% were having under Graduation, $n = 29$ or 9.5% were having Doctorate and Professional Diploma a=or Certification, and only $n = 21$ or 6.9% marked "other" as their educational level ($M = 2.43$, $SD = 1.298$). Furthermore, we employed a one-way analysis of variance to examine any potential difference based on respondents' demographic variables as suggested by (Ponto, 2015). Findings revealed that the demographics of respondents strongly affect their responses as all the variables showed a significant relationship between WOM and Demographics. Thus, we found that the demographic variables are not controlled. Table 3 indicates the results of the One-Way Analysis of Variance (ANOVA).

Table 3
Demographical Data of Respondents

Variables	Constructs	N	%	M	SD	f-value	Sign
Gender	Male	151	49.5%	.500	.501	.588	.556
	Female	154	50.3%				
Age	21-30 YEARS	80	26.0%	1.84	1.260	.123	.884
	31-40 years	3	1.0%				
	41-50 YEARS	139	45.6%				
	51-60 years	54	17.7%				
	61 years or above	29	9.5%				
Qualification	Diploma/Certification	29	9.5%	2.43	1.298	.068	.934
	Undergraduate	42	13.8%				
	Graduate	76	24.9%				
	Post Graduate	108	35.4%				
	Doctorate	29	9.5%				
	Other	21	6.9%				

5.4 Structural Model Assessment

Coefficients of Determination R^2 is considered an essential part of Structural Modelling assessment. It indicates the potential variance of exogenous variables on the endogenous variables and helps determine the predictive power of endogenous

variables in general (Figueiredo Filho et al., 2011). Table 3 below represents the findings of the R^2 analysis. We found that all the R square values range from .648 to .837, indicating that the exogenous variable fundamentally impacts the endogenous variable. Also, all the endogenous variables have a strong predictive power.

Table 3

R^2 Analysis of Variance:

Latent Variables	R^2	Strength
Product Quality	.837	Fundamental
Brand Image	.683	Fundamental
Causal Attribution	.732	Fundamental
Brand Evaluation	.648	Fundamental

To examine the structural relationships between the study variables, we conducted path analysis accompanied by regression weights, t -values, and significance values. According to (Westland, 2015), path analysis is an important technique to examine the linear relationships between study variables in causal relationships-based studies. Thus, path analysis in the current study revealed that the ties proposed between Positive Word of Mouth and Brand Image are strongly validated with the path value at 1.357 and significance value at $p > 0.000$ (**H1a**). Besides, the relationship between Positive Word of Mouth and Causal Attribution is also validated with the path value at .419 and significance value at $p > 0.000$ (**H1b**). Moreover, in **H2a** and **H2b**, we proposed a significant relationship between Product Quality, Brand Image, and Causal Attributions. First, the results affirmed a robust and significant relationship between Product Quality and Brand Image with the path value at .565 and significance value at $p > 0.000$. Second, the relationship between Product Quality and Causal Attribution is also affirmed with the path value at 1.014 and significance value at $p > 0.000$. Moreover, in the **H3** of the study, we proposed a potentially significant relationship between Positive Word of Mouth and Product Quality. Analysis authenticated the proposed relationship with the path value at .043 and the significance value at $p > 0.000$. Similarly, the relations assumed in the **H4** of the model between Brand Image and Causal Attribution are also validated with the path value at -.033 and the significance value at $p > 0.000$. Finally, in the **H5a** and **H5b**, we proposed a significant relationship between Brand Image, Causal Attribution, and Brand Evaluation. First, we found a substantial relationship between Brand Image and Brand Evaluation, with the path value at .427 and the significance value at $p > 0.000$. Second, the relationship between Causal Attribution and Brand Evaluation is validated with the path value at .776 and the significance value at $p > 0.000$. Thus, all the proposed relationships between the study variables are significantly validated (See **Table 4**).

Table 4

Path Analysis, Regression Weights, P -Values

Hyp	Path	t -Value	Sign.	Decision
PWOM>BMG	1.357	31.810	0.000***	Accepted
PWOM>CAU	.419	5.060	0.000***	Accepted
PQY>BMG	.565	10.141	0.000***	Accepted
PQY>CAU	1.014	48.321	0.000***	Accepted
PWOM>PQY	.043	8.529	0.000***	Accepted
BMG>CAU	-.033	-7.190	0.000***	Accepted
BNE>BEN	.427	10.901	0.000***	Accepted
CAU>BEN	.776	16.040	0.000***	Accepted

Note: PWOM is Positive Word of Mouth, PQY is Product Quality, BMG is Brand Image, CAU is Causal Attribution, and BEN is Brand Evaluation

6. Discussions

Consumers' reviews or Word of Mouth are peer-generated opinions about a product/ service that determine the relevant retailer's market performance. Especially in the online environment, these reviews are essential both for the consumers and the retailers. As for the retailers, these reviews are necessary to understand the consumer needs of current market trends and improve the quality of products/services. For the consumers, on the other hand, these reviews are essential as they not only indicate their trust in the relevant retailer but also attract other consumers who actively search to invest their money and gain a maximum benefit (Surachman, 2016). Despite context may differ, similar assumptions are given in the Item Response Theory as it also explains some persuasive factors to attract potential consumers for further consideration in online shopping (Zinko et al., 2021).

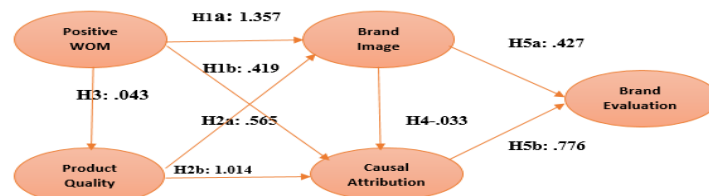


Fig. 2. The results of examining the hypotheses

Precisely speaking, our residents showed great relevance with the assumptions made under Item Response Theory. First, we asked them about their online shopping experiences in general, their habits, points of consideration, and their preferences about a retailer. A majority of respondents strongly agreed that they consider online shopping as highly preferable due to their busy routine. However, they first consider retailers' overall reputation, prices, and what other people say about them. These responses showed a strong consistency with the study conducted by (Martensen & Mouritsen, 2014), as they also found the relevant point as considerable while making online shopping decisions.

In **H1a** and **H1b**, we proposed the relationship between Positive Word of Mouth, Brand Image, and Causal Attributions. Respondents strongly agreed that they consider positive reviews from the previous consumers as part of brand image and recognition, which further helps them adopt a positive attitude about the particular brand/retailer. These results are strongly consistent with the studies previously conducted by (Fitrajaya & Nurmahdi, 2019; Huete-Alcocer, 2017; Virvilaite et al., 2015). According to (Huete-Alcocer, 2017), Positive Word of Mouth is a direct determinant of a good brand image that further leads to a practical action towards consideration. Consumers depend on online communication; they consider Positive Word of Mouth as a pathway to pion and action.

Moreover, in the **H2a** and **H2b** of the current research, we proposed significant relationships between Product Quality, Brand Image, and Causal Attributions. Both hypotheses are significantly validated with the path value at $p > 0.00$ and indicated a more vital consistency with the studies conducted by (Bhandari & Rodgers, 2018; Hendra et al., 2017; Zhang, 2013). According to (Marín et al., 2016), positive mouth and brand image also obligates a brand to show consistent improvements and keep pace with the rapidly changing consumers' demands. Today, business ethics are even more strict when retailers want to enhance their access and revenue through factors like causal attribution. Besides, **H3** of the current research proposed a significant relationship between Positive Word of Mouth and Product Quality. Here, trustworthiness should be kept in mind as a dynamic mechanism and underlying objective of online retailers. As online retailers provide products in a virtual environment, building trust to increase positive reviews through product quality improves their brand image and motivates future consumers (Askalidis & Malthouse, 2016). Thus, the relationship between Positive Word of Mouth and Product Quality remained strongly significant ($p > 0.000$), indicating the potential compatibility of the study conducted by (Virvilaite et al., 2015) as they also found a causal relationship between these two variables in the Lithuanian context.

Similarly, the relationship between Brand Image and Causal Attribution is also affirmed with the significance value at $p > 0.000$, indicating that H4 of the study is strongly approved. As noted by (Mao et al., 2020), purchase intention and consideration widely rely on the brand image and previous performance. As today's digitalized era has facilitated consumers with ease of access and greater observability, consumers are primarily motivated by brand name and image to proceed with buying considerations. Finally, **H5a** and **H5b** proposed relationships between Brand Image, Causal Attribution, and Brand Evaluation. First, the relationship between Brand Image and Brand Evaluation is strongly validated ($p > 0.000$), indicating these results are consistent with the arguments made by (Kim & Chao, 2019). As noted, brand evaluators play a special consideration to brand image as a fundamental aspect of online shopping. In other words, brand image can be considered as a potent mechanism behind accelerating the buyers' attention. Second, the relationship between Attribution and Brand Evaluation is also validated with the significance level at $p > 0.000$, showing uniformity with the study conducted by (Barajas & Cruz, 2015). Hence, today, when competition is increasing day by day, it is crucial to examine the consumer psychology that may highlight our several factors as done by the Item Response Theory (Dew, 2019).

7. Study Contributions and Limitations

This study involves a comprehensive and empirical analysis of the Item Response Theory. However, the theory contains four prominent variables. We have added Product Quality as an additional variable to extend and check its role, which is explicitly affirmed by the results. This extended model can be used for future studies. However, this research also contains two primary limitations. First, this research is conducted in the United Arab Emirates, so the generalizability of the results is limited online to Emirati consumers. Second, certain mediating factors can positively or negatively affect the consumers' trustworthiness while considering online retailers, narrowing the scope of current research.

8. Conclusion

This study systematically and empirically analyzes different factors indicating consumers' intentions to take a product or service under consideration. Primarily, we resorted to Positive Word of Mouth and Product Quality as the accelerating, the role of Item Response Theory remained prominent to provide the theoretical support to current research. The study's findings offer profound insights to online retailers and sellers to keep the product quality and consumers' demand under consideration to provide the services and products consistent with their needs and standards. Moreover, it is also essential to research consumer psychology as adopting consumer-centered approaches can help sellers materialize the criteria set by potential consumers. Therefore, despite many studies addressing brand image and causal attribution in terms of word of mouth and brand evaluations, we still have a scarcity of studies carried out under Item Response Theory, specifically in the Emirati region. Thus, we also recommend that future researchers further extend the Item Response Theory in the online shopping context to examine in-depth aspects regarding online purchase behavior and trustworthiness.

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