



## Role of Two-Way Asymmetrical Communication in Sustaining Public Relations

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### Abstract

Internet technology's worldwide success and adoption have provided organizations with direct access to their constituents and customers. Especially, organizations relying on online platforms provide comparatively better services and have strong relations with their clients. This research also focused on relevant phenomena in the United Arab Emirates banking sector organizations. The researchers employed a cross-sectional design and randomly selected a sample of  $n=400$  individuals. Results revealed a significant impact of customer support services on providing product information ( $p>0.008$ ) and service quality ( $p>0.000$ ). Further, the effect of service quality on Artificial Intelligence also remained significant ( $p>0.000$ ). Besides, Artificial Intelligence is also found significantly impact the Public Relations of Emirati banks ( $p>0.006$ ). Finally, the mediating impact of communication skills on Artificial Intelligence and Public Relations remained significant ( $p>0.088$ ). Moreover, the Artificial Neural Network (ANN) revealed the Sum of Square Values at 568.19, the Overall Relative Error value at 0.813, and the accuracy level at 18.7% (training). While, regarding the testing, the Sum of Square Values remained at 256.80 and the Average Overall Relative Error value remained at 0.861, indicating an overall accuracy of 13.9%. Thus, it is concluded that the importance of two-way communication can be determined because it helps determine and understand the customers' needs and demands. The more an organization understands its customers, the more it fulfills their expectations, indicating the importance of two-way communication. Finally, this research recommends more studies regarding AI-enabled Emotional Intelligence in other sectors to dig out in-depth results.

### Keywords:

Public Relations;  
Artificial Intelligence;  
Emotional Intelligence;  
United Arab Emirates;  
Banking Sector.

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## 1- Introduction

Emotional intelligence (EI), also known as emotional quotient (EQ), encloses a broad set of skills related to understanding and managing emotions, motivating oneself, identifying emotions in others, and navigating social interactions. This concept, popularized by Goleman [1], has acquired significant attention in different fields such as business, organizational behavior, management, psychology, leadership studies, and public relations over the past two decades. It is widely recognized that EI plays a critical role in fostering effective communication and building relationships, both in personal and professional contexts. In the field of public relations (PR), which prioritizes

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relationship-building and excellence, early researchers like Jin et al. [2] and Yeomans [3] emphasized the importance of emotional understanding and control for successful PR practices. They argued that PR professionals should have emotional sensitivity, insight, and control to navigate various situations effectively. Indeed, practitioners have recognized the value of EI in PR, particularly in managing communication during emotionally charged events or crises, where sensitivity and empathy are essential [4]. Also, high EI contributes to adaptability and stability in the fast-paced PR industry and helps individuals cope with stressors [5].

Consequently, today, Public Relations professionals prioritize Emotional Intelligence as constantly creating and sustaining important connections with clients, customers, and other professional organizations. The importance of Emotional Intelligence can be determined by the fact that Emotional Intelligence facilitates working cooperatively with co-workers, correspondence with crucial media contacts, communicating successfully with clients, etc. [6]. Similarly, internet technology's worldwide success and adoption have provided organizations with direct access to their constituents and customers. Its impacts can be seen when national and international organizations also access their customers regardless of barriers. Besides, the internet also provides clients to stay connected for 24 hours and enjoy improved support services [7]. For example, the banking sector in the United Arab Emirates provides its services 24/7 to its customers, believing that excellence in customer service is a key to organizational success in general [8]. We assume that organizations relying on online platforms provide comparatively better services and have strong relations with their clients. Notably, these platforms are also modified by incorporating smart technology, i.e., Artificial Intelligence, that further bridges the gap between an organization and its clients [9].

According to Picard [10], these online platforms are carefully equipped with empathy, self-recognition, self-awareness, communication skills, and others that further enable them to create and sustain balanced [11], two-way, asymmetrical communication between the organizations and their potential clients. This communication increases clients' certainty and leads them to understand their needs and solve their concerns accordingly [12]. As noted by Babatunde [13], organizations across the globe spend more than 80% of their time communicating with their clients. These organizations fully understand and acknowledge the importance of communication, as it keeps them connected with their clients and helps them cope with conflicting situations. Despite its practical relevance, scholarly attention to emotional intelligence in PR has been limited, especially in public relations and communication research. This lack of focus may stem from the historical emphasis on rationality in organizations and a bias toward cognitive factors in PR research. Also, with the current trend toward data-driven decision-making and analytics in PR, emotions are sometimes viewed as potential obstacles to rationality and efficiency. However, understanding and integrating emotional intelligence into PR practices can improve decision-making, communication effectiveness, and overall organizational performance [14].

By keeping in view the growing incorporation of EI-enabled Artificial Intelligence to achieve the desired goals of Public Relations, this research also focused on the relevant phenomenon in the United Arab Emirates. The researchers mainly focused on the banking sector, as Emirati banks provide online services reflecting customers' trust and satisfaction, as also witnessed by Sleimi et al. [8]. The banking sector is crucial to the UAE's economy and vital to its growth and development. It provides financial services to individuals, businesses, and government entities, facilitating investment, trade, and commerce. The banking sector significantly contributes to the country's GDP and attracts foreign investment. The UAE has a well-regulated banking industry that is constantly evolving to meet the changing needs of its customers [15]. The UAE's status as a global financial hub makes its banking sector a pivotal player in the global economy. Based on the excerpt provided, a general gap that this research aims to fill could be the lack of understanding or exploration of the integration of emotional intelligence (EI)-enabled Artificial Intelligence (AI) within the context of public relations (PR), especially within the banking sector of the United Arab Emirates (UAE). While AI technologies are increasingly used in different industries to enhance efficiency and decision-making processes, there needs to be more research on how these technologies, specifically those infused with EI capabilities, are applied in PR within specific sectors such as banking. The research addressed this gap by focusing on how EI-enabled AI is incorporated to achieve PR goals in the UAE banking sector. This gap suggests a need to explore and analyze the potential benefits, challenges, and implications of integrating AI with EI capabilities into PR practices within the banking sector, considering the sector's significance to the UAE economy and the global financial landscape. Therefore, this research is conducted on a systematic and empirical basis and is divided into five relevant sections that will assess the study problem accordingly. The first section is comprised of introducing the study topic, problem, aims, and gaps identified by current research. The second section is focused on reviewing the existing literature and formulating the study hypotheses. The third section involved discussion and justification of the methodological approaches applied in the current research. The fourth section included data analysis and results. Finally, the fifth section involves discussion on the result, conclusion, and limitations.

## **2- Literature Review**

### ***2-1-Online Customer Support, Product Information, and Service Quality***

According to KPMG International, customer support services are an important pathway to brand image and customer loyalty. As every customer wants an individual and improved problem-solving system, they expect the service provider

to be efficient and supportive to the maximum [16]. As a result, customers' expectations and demands have reached a level where organizations have to keep the customers' support under special consideration. Existing literature on the role and importance of customer support service shows that customers value their experiences more than products and services, as more than 86% spend more money to attain better services. However, Appel et al. [17] argued that investing in customer services is costly and sometimes risky. Merely recruiting PR practitioners, training professionals, and retaining customers' loyalty and satisfaction rely on the products' quality of services and information.

As noted by Zolkiewski & Lewis [18], despite customers' support services being important, customer turnover is widely observed if the relevant agents fail to provide clear and accurate product information. In this regard, the secret lies in the fact that satisfied customers are those whose queries are suitably answered, uncertainties are removed, and quality services are provided that further help them develop brand loyalty. Jaiswal & Singh [19] suggested that customer support officers should be sufficiently trained, as service management and product information are the core components of solid customer relations. However, it is also important to consider that only imitating other organizations cannot be successful. Instead, personalizing the services is also important, as every organization has its own criteria, resources, products, and services that require specific product information and service quality for its customers [20]. As a result, organizations follow a two-way communication process and provide product information to their customers, which may help them evaluate the product according to their needs and determine the service quality [21], which further helps to prefer the relevant organization for current and future use. The core belief is that the accessibility of the internet has enabled the public to obtain information, observe the products, check their relevance, and then make a favorable decision accordingly [8]. As Hölbling et al. [22] noted, the patterns of consumers' communication have changed during the past few years as they give strong consideration to knowing about the products and checking the quality of the customer support services. Consequently, customer support services are among the most significant untapped resources, prioritizing customers' feedback and improving their products and services accordingly.

### ***2-2-Artificial Intelligence, Product Information, and Service Quality***

Artificial Intelligence aims to revitalize Information Technology (IT). Artificial Intelligence can be determined because it has transformed existing IT systems into intelligent systems worldwide. As Information Technology mainly involves software, computer systems, and data transmission, Artificial Intelligence plays an important role in the relevant domain [12]. According to Cioffi et al. [23], Artificial Intelligence is an identity that further defines future technology and its applicability across various industries. For instance, Artificial Intelligence carries an organization's data about its products in the retail sector. Artificial Intelligence helps activate the ancillary system on broader levels, i.e., recommendations, site search or Outfitting, Personalization engines, and Fit algorithms. Notably, the Artificial Intelligence process provides data from ordinary to, such as product name, description, summary, metadata, or category relations. As a result, organizations that tend to build or improve their online services understand the hierarchy of needs as AI helps obtain product information, increases visibility, and thus leads to better relations with customers [24].

Here, Soni et al. [25] cited an example of a chatbot-based customer support and service system that successfully tackles hundreds and thousands of queries worldwide. As noted, chatbots are well-capable of addressing the daily challenges regarding customers' queries and concerns, as problem-solving capabilities widely accompany them. These chatbots provide efficient answers, reducing the conventional patterns of customer support systems where human practitioners were needed to bear the burden. Consequently, the most significant impact of Artificial Intelligence is transforming customer support services into automated, hassle-free, and fast. Early adopters of Artificial Intelligence in customer support services have attained several benefits, including improved customer service, cost reduction, increased efficacy, and increased revenue. Notably, Artificial Intelligence enhances their understanding of customers' requirements and goals. As noted by Soni et al. [26], Artificial Intelligence is a technological revolution that has opened doors for real-time customer support services. The relevant technology can alter the ways of customer service solutions. Thus, Artificial Intelligence enabled systems for customer support services are advancing innovative technology and revolutionizing customer strategies. Today, incorporating technology is the need of the day; AI-based customer support means efficacy, speed, personalized support, and cost-effectiveness.

### ***2-3-Impact of Artificial Intelligence on Public Relations***

Since Artificial Intelligence is designed to automate and narrow down tasks, Public Relations experts are investing broadly to incorporate AI into their systems. Public Relations practitioners are using AI with communication approaches as they believe that AI has the power to change the existing approaches and methods in Public Relations [27]. In this regard, it is noted that Artificial Intelligence uses its system to provide effective and efficient campaigns for Public Relations. As a result, Artificial Intelligence has become an important part of Public Relations practices. It is an umbrella term covering several evolving machines and technologies to perform cognitive operations [28]. As noted by Abdelrahman Alawaad [29], Artificial Intelligence offers organizations extraordinary opportunities that further lead to decreased costs and increased revenue. Consequently, we assume that Artificial Intelligence has a strong positive impact on marketing communication and Public Relations.

Moreover, Artificial Intelligence is accompanied by several capabilities that provide solutions to business organizations across the globe. Indeed, the solutions offered by Artificial Intelligence have revolutionized and, therefore, improved Public Relations practices. Today, Public Relations is accepting new technology to create automated tasks, predict issues, content production, run data-driven campaigns, and analyze conversations [30]. Besides, Public Relations

experts also prefer using technology for social media management, monitoring website analytics, and exploring customers' sentiments. Hence, both micro and macro-level organizations benefit from Artificial Intelligence, especially when they have to deal effectively with customers and process the bulk of information [31].

#### 2-4- Empathy and Communication Skills in AI-based Public Relations

Empathy is an important component of Emotional Intelligence as it helps to understand what other individuals feel or need. Empathy in the frame of Emotional Intelligence is accompanied by social awareness, transcendence, self-awareness, and self-actualization [32]. According to Sherman [33], Artificial Intelligence systems contain Emotional Intelligence as one of their core components. When an organization tends to update its system by incorporating AI, Empathy becomes an essential component. However, it is notable that Artificial Intelligence contains coded Empathy as the primary consideration is towards incorporating Empathy as situational, personal, and based on the appropriate intentions. According to Mohammadi et al. [34], Artificial Intelligence-based systems are smart enough to be fully equipped with artificial Empathy as machines have also learned to recognize and understand what consumers want. Particularly for the Public Relations practitioners, Empathy is crucial for the product and services they offer. Consequently, when customer services contain Empathy, organizations gain greater respect, acknowledgment, and customer loyalty.

Likewise, communication is critical to better customer experiences. For example, when customers search for details regarding their online orders, it contains several layers of communication. From the written content on the website to the automated customer support system, communication helps customers try, evaluate, and decide about their future preferences [35]. As noted by Abdelrahman Alawaad [29], communication is important in customer service and helps determine customer needs and how well these needs will be fulfilled. In this regard, Artificial Intelligence contains communication skills. Today, language and speed technology are utilized to create avatars that help communicate effectively. Notably, Artificial Intelligence and communication skills are interrelated, especially during interpersonal communication. For instance, providing better suggestions to customers affects not only customer-organization relations but also ensures an improved Public Relations system.

#### 2-5- Two-Way Asymmetrical Model of Communication

According to Lane [36], the two-way asymmetrical model of Public Relations is specially designed to ensure that the decisions made by the organization are based on a balanced approach, ensuring positive outcomes for all the involved parties. The goal of the asymmetrical model is that the organization equally values its customers' opinions and designs its strategy for mutual benefaction. As noted by Mukhtar et al. [37], the asymmetrical communication model provides a democratic framework for Public Relations practitioners. According to Willacy [38], a sense of open communication builds trust through the two-way asymmetrical communication process, as it ensures an organization is in a favorable position. Under the relevant mode of communication, customer-organization solid relations are crucial to successful Public Relations. A two-way asymmetrical communication model helps PR practitioners have the customers' voice at the executive table. Notably, the two-way asymmetrical model of Public Relations plays a vital role in negotiating and mutual understanding between the customers and the organization [39]. The relevant model provides a pathway to adopt effective communication skills and strategies to create a strong company reputation that may ensure strong relationships as both the organization and customers are provided a voice not only to share their concerns but also to solve the issues and sustain customer loyalty and satisfaction [40]. Thus, based on the above literature and theory, this study proposes the following conceptual framework (see Figure 1) and hypotheses:

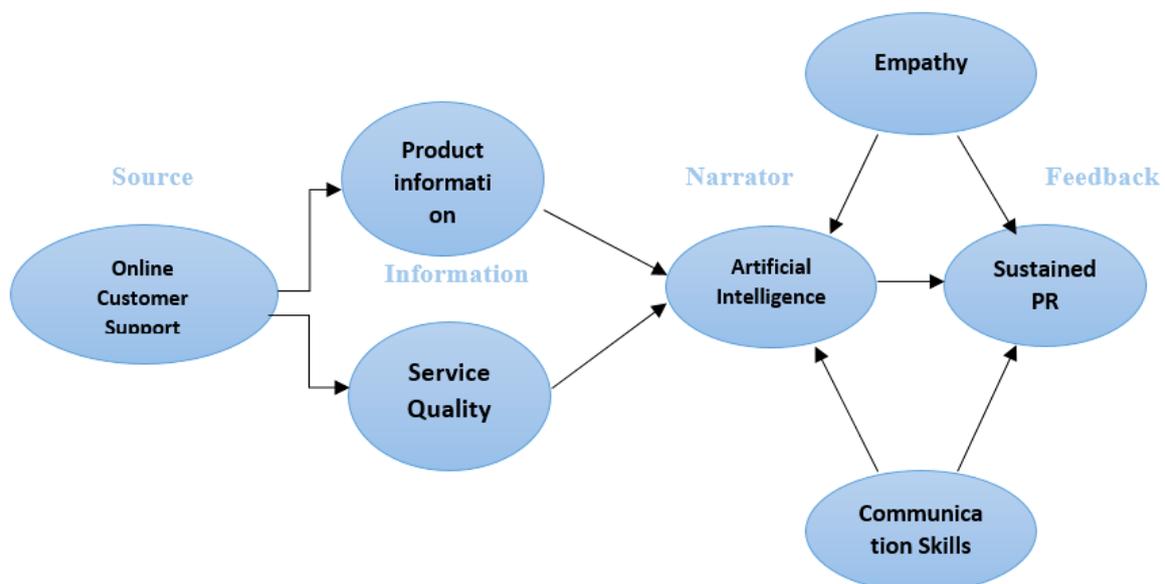


Figure 1. Conceptual model of the current study

H1a: Online customer support has a significant impact on product information;

H1b: Online customer support has a significant impact on service quality;

H2a: Product information has a significant impact on Artificial Intelligence (AI);

H2b: Service quality has a significant impact on Artificial Intelligence (AI);

H3: Artificial Intelligence has a significant impact on sustaining PR with the customers;

H4a: Empathy significantly mediates the relationship between Artificial Intelligence and Public Relations;

H4b: Communication skills significantly mediate the relationship between Artificial Intelligence and Public Relations.

### 3- Research Methodology

#### 3-1- Study Design

The researchers employed a cross-sectional design in the current study due to its wider adaptability and a brief period of data gathering directly from the participants [41]. The researchers used structured questionnaires on the five-point Likert scale for the relevant design. Table 1 provides the details of the questionnaire, including the items and sources. The researchers sent the questionnaires directly through email, as the targeted respondents were customers of the Emirati banking sector, using online services for different purposes [42]. The respondents were provided with informed consent, which ensured data confidentiality. Notably, this study involves the Statistical Package for Social Sciences and IBM Amos for the data analysis. The researchers applied Structural Equation Modelling and Artificial Neural Network Analysis (ANN) to dig out in-depth results [43].

**Table 1. Questionnaire items and sources**

Constructs	Items	Sources
Online customer support	<ol style="list-style-type: none"> <li>1. I find reaching customer support online with queries about the bank's products easy.</li> <li>2. Online customer support representatives are knowledgeable about the products and services offered by the bank.</li> <li>3. Online customer support promptly responds to my inquiries or concerns.</li> </ol>	
Product information	<ol style="list-style-type: none"> <li>1. The product information the bank's website or app provides is comprehensive and easy to understand.</li> <li>2. I trust the accuracy of the product information provided by the bank.</li> <li>3. The online product information helps me make informed decisions about the bank's offerings.</li> </ol>	
Service quality	<ol style="list-style-type: none"> <li>1. The bank consistently delivers high-quality service through its online platforms.</li> <li>2. I am satisfied with the level of service I receive from the bank's online channels.</li> <li>3. The bank's online services meet or exceed my expectations in terms of quality.</li> </ol>	[44, 45]
Artificial Intelligence	<ol style="list-style-type: none"> <li>1. I believe the bank uses artificial intelligence effectively to improve its online customer experience.</li> <li>2. The integration of artificial intelligence technology improves the efficiency of the bank's online services.</li> <li>3. I trust the recommendations or suggestions provided by the bank's AI-powered systems.</li> </ol>	[46]
Public Relations	<ol style="list-style-type: none"> <li>1. The bank's online communication strategies effectively maintain a positive relationship with customers.</li> <li>2. The bank's online interactions and communications make me feel valued and appreciated.</li> <li>3. The bank's online engagement with customers contributes to a sense of trust and loyalty.</li> </ol>	[47]
Empathy	<ol style="list-style-type: none"> <li>1. The bank's online interactions demonstrate an understanding of my needs and concerns.</li> <li>2. The bank genuinely cares about addressing my issues or inquiries when interacting online.</li> <li>3. The online support team at the bank shows empathy and compassion in their responses to customers.</li> </ol>	[48, 49]
Communication skills	<ol style="list-style-type: none"> <li>1. The bank effectively communicates information and updates through its online channels.</li> <li>2. I find the bank's online communications clear, concise, and easy to understand.</li> <li>3. The bank maintains open and transparent communication with customers through its digital platforms.</li> </ol>	[50, 51]

#### 3-2- Sampling Method

As the current study population involves customers of the banking sector in the United Arab Emirates, the researchers randomly selected the customers of  $n = 4$  private sector banks across the country. Recent data shows that the banking sector in the United Arab Emirates (UAE) significantly contributes to the country's economy. The Central Bank of the UAE regulates the sector, which supervises and licenses banks, financial institutions, and exchange houses in the country. As of 2021, there are a total of 61 banks operating in the UAE. Out of these, 22 are national banks, 19 are foreign banks, 12 are branches of foreign banks, and 8 are Islamic banks. In terms of ownership, private and public sector banks are in the UAE. Most of the banks are privately owned. However, there are some significant public sector banks in the country, including the Abu Dhabi Commercial Bank, Dubai Islamic Bank, and Emirates NBD [52].

Notably, the researchers randomly selected a sample of  $n=400$  individuals. However, the sample size chosen was justified as the minimum sample size of  $n=200$  participants is considered suitable in the Structural Equation Modeling based studies, as also approved by the existing studies [47, 53]. Thus, it is assumed that the sample size of  $n=400$  participants was ideal for the current research. Further, the convenience sampling technique was applied for data gathering purposes.

### 3-3-Response Rate

The response rate in the current research remained 85.7%, as  $n=57$  or 14.3 of the questionnaires were either missing or incompletely filled by the participants. Data was gathered from January 1<sup>st</sup>, 2022, to March 15<sup>th</sup>, 2022. The researchers also provided informed consent to our participants as the primary ethical requirement of research [54]. Besides, the participants were given autonomy to quit recording their responses whenever they wanted without obligation.

## 4- Data Analysis

### 4-1-Convergent Validity Analysis

To examine the internal consistency of the measurement model, the researchers first conducted the convergent validity analysis, including Factor Loading, Average Variance Extracted, Cronbach Alpha, and Composite Reliability analyses, as suggested by the existing literature. First, calculation of the Factor Loading values revealed most of the relevant values surpassed the threshold value of 0.5 [55]. Besides, all the Average Variance Extracted values surpass the threshold value of 0.5. Further, the values of Average Variance Extracted range from 0.774 to 0.931, and the values of Composite Reliability range from 0.723 to 0.850, also surpassing the designated value of 0.7 [56]. Thus, it is found that convergent validity is favorably established (see Table 2).

**Table 2. Measurement Model Analysis (Convergent Validity)**

Constructs	Items	Factor Loadings	Average Variance Extracted	Cronbach Alpha	Composite Reliability
Online customer support	OCS1	0.831	0.806	0.726	0.747
	OCS2	0.782			
	OCS3	0.625			
Product information	INFO1	0.804	0.882	0.745	0.723
	INFO2	0.941			
	INFO3	0.903			
Service quality	SQL1	0.917	0.931	0.830	0.850
	SQL2	0.964			
	SQL3	0.913			
Artificial Intelligence	AI1	0.686	0.774	0.757	0.783
	AI2	0.862			
	AI3	-0.067			
Public Relations	PR1	0.772	0.828	0.801	0.774
	PR2	0.788			
	PR3	0.925			
Empathy	EMY1	0.855	0.869	0.800	0.799
	EMY2	0.883			
	EMY3	0.045			
Communication skills	CSK1	0.187	0.816	0.774	0.781
	CSK2	0.903			
	CSK3	0.730			

### 4-2-Discriminant Validity

After examining the convergent validity, the next step is to assess the discriminant validity of the measurement model. According to Henseler et al. [57], two criteria are important to examine the discriminant validity of the measurement model, including the Heterotrait-Monotrait Ratio and Fornel-Larker Criterion. First, calculating the square of all the Average Variance Extracted values revealed suitably higher than the correlation values given in Table 3 (0.649 to 0.866). Moreover, the Heterotrait-Monotrait Ratio value remained at 0.140 (see Table 4), which is smaller than the threshold value of 0.85 [58]. Thus, it is affirmed that discriminant validity is also established.

**Table 3. Fornel-Larker Criterion**

	OCS	INFO	SQL	AI	PR	EMY	CSK
OCS	0.649						
INFO	0.142	0.777					
SQL	0.420	0.165	0.866				
AI	0.231	0.011	0.374	0.599			
PR	0.134	0.657	-0.003	-0.054	0.685		
EMY	-0.071	-0.026	-0.040	0.063	-0.072	0.755	
CSK	0.172	0.080	0.467	0.162	0.106	0.113	0.665

Note: OCS is Online Customer Support, INFO is Product Information, SQL is Service Quality, AI is Artificial Intelligence, PR is Public Relations, EMY is Empathy, and CSK is Communication Skills.

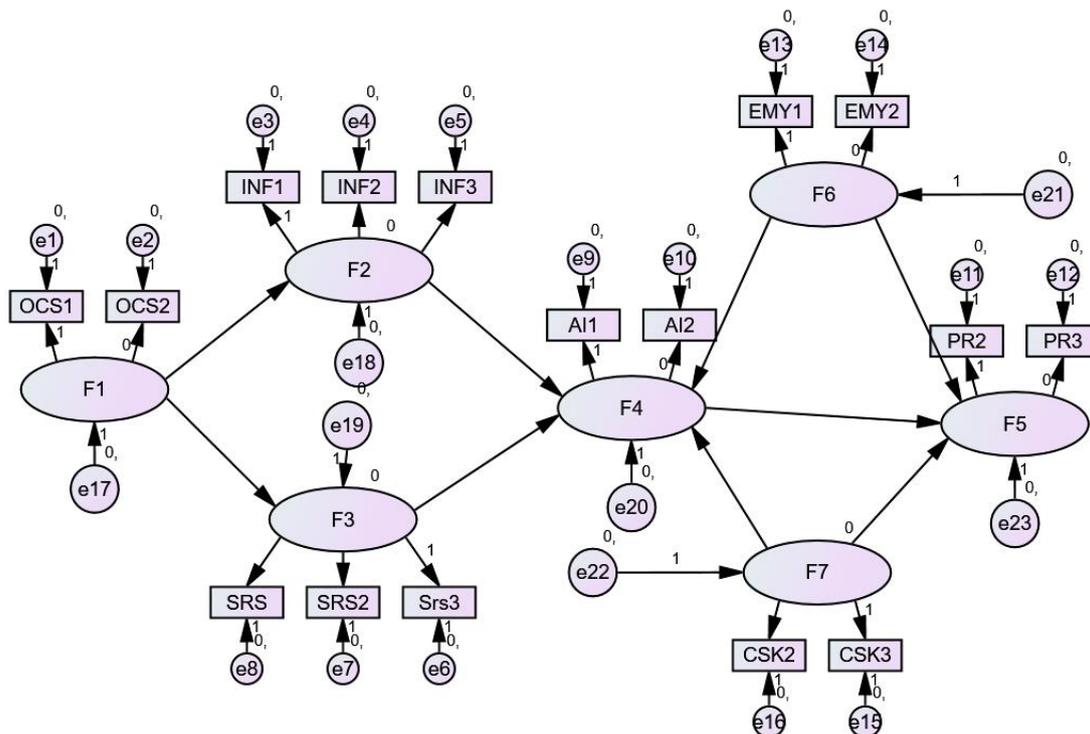
**Table 4. Heterotrait-Monotrait Ratio Scale**

	OCS	INFO	SQL	AI	PR	EMY	CSK
OCS							
INFO	0.153						
SQL	0.066	0.087					
AI	0.000	-0.058	-0.061				
PR	0.036	-0.007	0.002	-0.003			
EMY	0.342	0.052	0.030	0.041	-0.014		
CSK	-0.144	-0.055	0.134	-0.023	-0.061	-0.002	

Note: OCS is Online Customer Support, INFO is Product Information, SQL is Service Quality, AI is Artificial Intelligence, PR is Public Relations, EMY is Empathy, and CSK is Communication Skills.

**4-3- Model Fit**

According to Stage et al. [59], examining the goodness of fit is an important step in studies based on Structural Equation Modeling (SEM). We mean determining how well the observations fit the data distribution by the goodness of fit. Thus, in the current research, the model fit analysis revealed the  $X^2=0.488$  (95) and probability level at 0.003. Further, the Akaike Information Criterion (AIC) value remained at 1307.5 with the Standardized Root Mean Square (RMSEA) value at 0.076, smaller than the 0.9 as suggested by Civelek [58], indicating that the measurement model fits the structural model analysis. Figure 2 represents the adjusted model tested for goodness of fit. Execution time summary.



**Figure 2. Goodness of Fit Model**

#### 4-4- Structural Model Analysis

##### 4-4-1- Coefficients of Determination $R^2$

According to Figueiredo Filho et al. [60], coefficients of determination  $R^2$  help determine the predictive power of exogenous variables. As an important criterion in Structural Equation Modeling-based studies, his research also involves coefficients of determination  $R^2$  analysis. Results showed that the  $R^2$  values of all the endogenous variables range from 0.334 to 0.657, indicating their strength as fundamental. Table 5 summarizes the results of the coefficients of determination  $R^2$ .

**Table 5.  $R^2$  Analysis of Endogenous Variables**

Variable	$R^2$	Strength
Online customer support	0.334	Fundamental
Product information	0.657	Fundamental
Service quality	0.403	Fundamental
Artificial Intelligence	0.355	Fundamental
Empathy	0.572	Fundamental
Communication skills	0.644	Fundamental

##### 4-4-2- Hypotheses Testing

After examining the coefficients of determination  $R^2$ , structural model analysis is done. According to Weston & Gore [61], structural model analysis involves path analysis, including regression weights. As noted by Schermelleh-Engel et al. [62], path analysis is commonly used by the researchers conducting the experimental studies. The relevant methodology is important as it also helps to dig out deeper insights regarding the relationships proposed between the study variables. Thus, in H1a and H1b of the current research, the researchers proposed a significant relationship between Customer Support Services, Product Information, and Service Quality. Results revealed that the relevant hypotheses are validated with significance values at  $p > 0.008$  and  $p > 0.000$  ( $t = 2.656$  and  $t = 8.553$  respectively). Further, in H2a and H2b, significant impacts of Product Information on Artificial Intelligence and Service Quality on Artificial Intelligence are proposed. Findings revealed that the impact of Product Information on Artificial Intelligence remained insignificant, with the  $p$ -value at  $p > 0.122$ . Yet the impact of Service Quality on Artificial Intelligence appeared significant, with the  $p$ -value at  $p > 0.000$ . Besides, results also showed a significant impact of Artificial Intelligence on Public Relations with a significance value of  $p > 0.006$  ( $t = -2.727$ ). Overall, the research results show that online customer support has a significant effect on providing product information and service quality in the Emirati banking sector. Especially when it comes to offering product information, online customer support plays a positive role, although the effect is relatively weak. Yet, it is still statistically significant, meaning it has a noticeable effect. Further, the study indicates that online customer support has a more pronounced effect on service quality. It significantly contributes to improving the quality of services provided by banks in the UAE. The statistical analysis confirms this, showing a strong and significant relationship between online customer support and service quality.

Finally, the researchers conducted a mediation analysis of the structural relationships proposed in H4a and H4b of the study. First, the researchers conducted the path analysis and then performed the Sobel Test to examine the Indirect Effects as suggested by Westland [63]. In this regard, the mediating effect of Empathy on the relationship between Artificial Intelligence and Public Relations remained insignificant, with the significance value at 0.217 and the Indirect Effects value at 0.016. However, the proposed mediation of Communication Skills on the relationship between Artificial Intelligence and Public Relations remained significant, with the  $p$ -value at  $p > 0.088$  and Indirect Effects value at 0.005. Table 6 represents the summary of the path analysis.

**Table 6. Path Analysis,  $t$ -value, Significance value**

Hyp.	Hypotheses	Path	$t$ -value	Sign.
H1a	Online customer support > Product information	0.079	2.656	0.008
H1b	Online customer support > Service quality	0.029	8.553	***
H2a	Product information > Artificial Intelligence	0.033	1.546	0.122
H2b	Service quality > Artificial Intelligence	0.083	7.727	***
H3	Artificial Intelligence > Public Relations	0.030	-2.727	0.006
	Hypotheses	Path	Indirect Effects	Sign.
H4a	Artificial Intelligence > Empathy > Public Relations	0.074	0.016	0.217
H4b	Artificial Intelligence > Communication skills > Public Relations	0.104	0.005	0.088

#### 4-5-Importance Performance Map Analysis (IPMA)

Current research further involves Importance Performance Map Analysis (IPMA), as also suggested by Ringle and Sarstedt [64]. The researchers applied  $n=7$  variables to the IPMA, including Online Customer Support, Product Information, Service Quality, Artificial Intelligence, Public Relations, Empathy, and Communication Skills. Thus, results showed that the Service Quality scored highest with a Mean value at  $M= 3.96$ . Empathy scored the second highest ( $M=3.95$ ), while Artificial Intelligence scored the third-highest variable ( $M=3.93$ ). Followed by Customer Support Services ( $M= 3.91$ ), Product Information scored  $M=3.83$ . Notably, Communication Skills scored lowest with a Mean value at  $M= 3.80$ . Figure 3 illustrates the findings of the Importance Performance Map Analysis (IPMA), calculated using Microsoft Excel 2016 (see Figure 3).

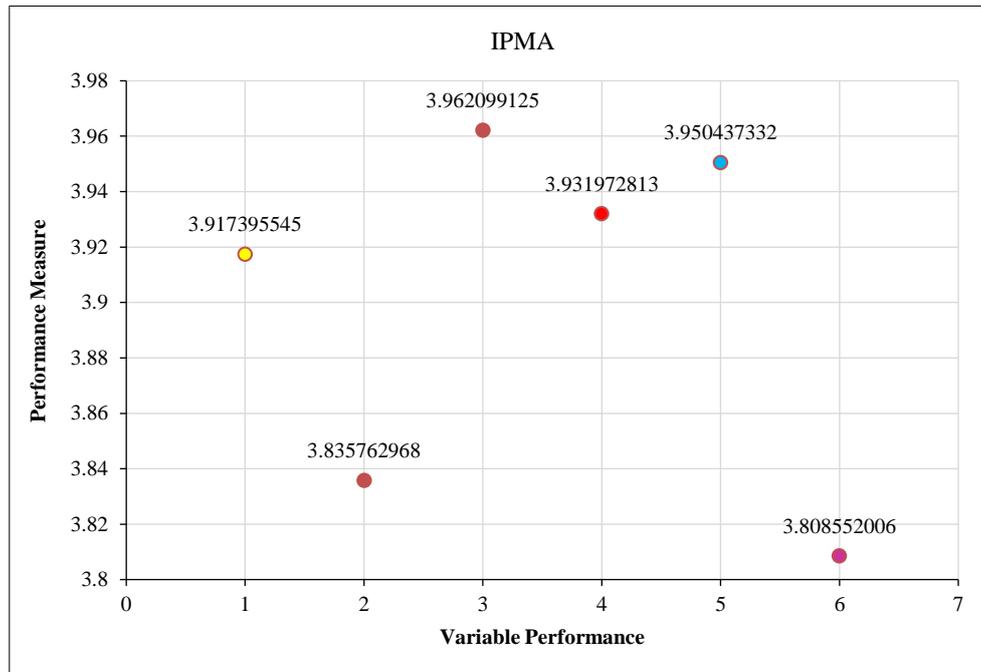
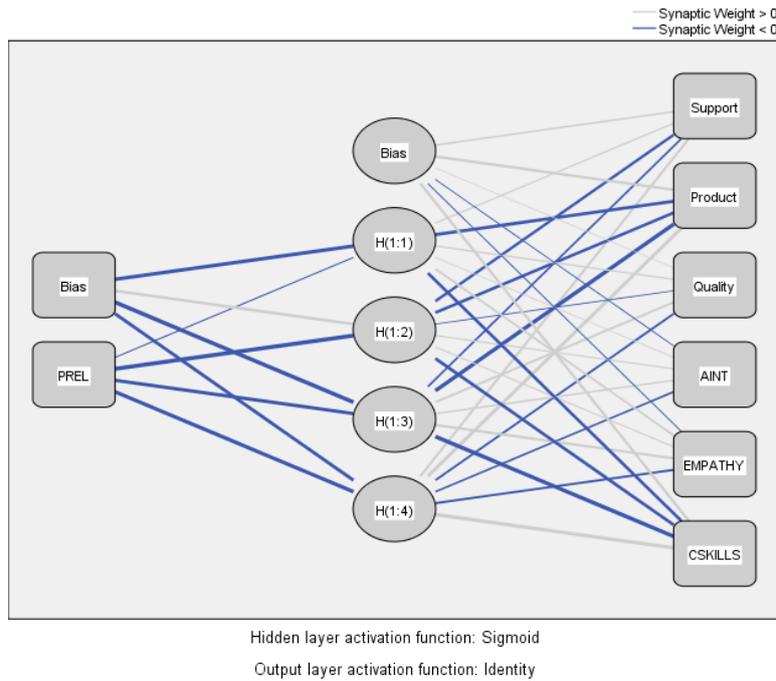


Figure 3. Importance of Performance Map Analysis (IPMA)

#### 4-6- Machine Learning Analysis: Artificial Neural Network (ANN)

According to Tayarani et al. [65], Artificial Neural Network (ANN) is an important machine learning method that determines the functioning of the human brain in a given context. Aryadoust & Baghaei [66] also consider ANN a vital technique to analyze the accuracy of results. Upon conducting the Artificial Neural Network analysis, we uncovered compelling results. The Sum of Square Values, a measure of the model's performance and predictive accuracy, was determined to be 568.19 during the training phase. This value signifies the total squared difference between the predicted and actual values of the target variable, providing crucial insights into the model's performance. Furthermore, the Overall Relative Error value, which quantifies the overall discrepancy between predicted and actual values, was recorded at 0.813. This metric offers valuable information regarding the model's accuracy and precision in capturing the underlying patterns within the data. Notably, the training phase yielded an accuracy level of 18.7%. While this figure may seem modest at first glance, it reflects the model's ability to correctly predict outcomes within the training dataset, laying the foundation for further refinement and optimization.

Transitioning to the testing phase, the Sum of Square Values remained relatively stable at 256.80, indicating a consistent level of predictive performance. However, the Average Overall Relative Error value, which increased slightly to 0.861, suggests a marginal decrease in accuracy compared to the training phase. Despite this, the overall accuracy of 13.9% underscores the model's capability to generalize its learnings and make informed predictions on unseen data. Figure 4 visually represents these results, offering a comprehensive overview of the Artificial Neural Network analysis. Using ANN, this study highlights the complex interactions within the dataset, providing a pathway for deeper understanding and informed decision-making in our research domain.



**Figure 4. Artificial Neural Network (ANN) Analysis**

**5- Discussion**

Human interaction is part of an organization. Primarily, organizations selling services or products widely rely on communication as a core pathway to fulfill their goals. The communication process has greatly evolved during the past few decades. From simple, face-to-face communication, human-computer communication has become an important part of everyday matters. According to Okundia [67], Public Relations practitioners consider communication as understanding the customers and satisfying their needs. Especially today, when the online presence of customer services contains smart technology, giving special consideration to communication is even more crucial. For Munandar & Irwansyah [28], during the current era of Artificial Intelligence-enabled automated systems, one of the reasons behind successful customer-organization relations is the utmost consideration towards two-way communication. As noted by Shah & Tandon [68], Artificial Intelligence in the current era of communication essentially contains abilities to determine customers' needs, emotions, and expectations, which further help to improve communications and, eventually, relations with potential customers.

Similarly, this research also witnessed the role of AI-enabled Emotional Intelligence in Public Relations in Emirati banking sector organizations. Notably, consumers spend more time and energy searching for organizations that provide a full overview of their products and services [69]. Mainly, banking sector clients rely on better organizations that serve the relevant purposes. The same case is with the Emirati banking sector, where clients are more likely to communicate directly with the service providers through the official websites [70]. Tables 7 and 8 summarize the descriptive of the gathered responses. According to Emirates News Agency [71], applying an AI-enabled system proved highly beneficial for the Emirati banking sector, leading to greater accessibility and positive customer experiences. Similar findings are also revealed in this research, where the results show a greater consistency with the studies conducted in other regions [23].

**Table 7. Descriptive Data of the Gathered Responses**

	Mean	SD	Var.	Range	Min	Max
OCS1	3.91	0.322	0.103	2	2	4
OCS2	3.89	0.323	0.105	2	2	4
OCS3	3.86	0.361	0.130	2	2	4
INFO1	3.85	0.395	0.156	2	2	4
INFO2	3.78	0.740	0.547	4	0	4
INFO3	3.93	0.260	0.068	1	3	4
SQL1	3.90	0.340	0.115	2	2	4
SQL2	3.89	0.355	0.126	2	2	4
SQL3	3.94	0.265	0.070	2	2	4
AI1	3.95	0.243	0.059	2	2	4
AI2	3.92	0.300	0.090	2	2	4
AI3	3.87	0.379	0.144	2	2	4

**Table 8. Descriptive Data of the Gathered Responses**

Items	Mean	SD	Var.	Range	Min	Max
<b>PR1</b>	2.4490	1.31662	1.734	4.00	0.00	4.00
<b>PR2</b>	3.8659	0.34127	0.116	1.00	3.00	4.00
<b>PR3</b>	3.8397	0.38305	0.147	2.00	2.00	4.00
<b>EMY1</b>	3.92	0.276	0.076	2	2	4
<b>EMY2</b>	3.73	0.750	0.562	4	0	4
<b>EMY3</b>	3.93	0.277	0.077	2	2	4
<b>CSK1</b>	3.92	0.280	0.079	2	2	4
<b>CSK2</b>	3.69	0.760	0.578	4	0	4
<b>CSK3</b>	4.00	1.442	2.079	20	2	22
<b>PR1</b>	2.4490	1.31662	1.734	4.00	0.00	4.00
<b>PR2</b>	3.8659	0.34127	0.116	1.00	3.00	4.00
<b>PR3</b>	3.8397	.38305	0.147	2.00	2.00	4.00

First, the researchers proposed a significant impact of customer support services on providing product information, sustaining a pathway to determine service quality as also anticipated [8, 18, 72–77]. “H1a: Online customer support has a significant impact on product information” and “H1b: Online customer support has a significant impact on service quality”. Results revealed a significant impact of customer support services on the relevant variables, showing greater consistency with the study conducted by Kaur et al. [78]. Here, the respondents widely acknowledged that customer support services are essential. They provide important details about the products and their characteristics that further help determine the service quality [19]. As a result, customers not only evaluate the products and services but also decide to further continue with the same bank or not. In their study, Jun et al. [79] also examined the dimensions of online service quality and their impact on customer satisfaction within online retailing. The research aimed to identify crucial factors affecting customers' perceptions of service quality and overall satisfaction with online retailers in Wisconsin, USA. The study's results revealed six essential dimensions of online retail service quality as customers perceive: reliable and prompt responses, access, ease of use, attentiveness, security, and credibility. Among these dimensions, three were found to significantly impact both customers' overall perception of service quality and their satisfaction: reliable and prompt responses, attentiveness, and ease of use. Customers especially valued timely and reliable responses from online retailers and attentiveness to their needs and concerns. Additionally, the ease of use of online platforms was identified as a critical factor influencing customer satisfaction. However, while significant in influencing overall service quality, the access dimension did not directly impact customer satisfaction.

Additionally, the research proposed a significant impact of product information and service quality on Artificial Intelligence “H2a: Product information has a significant impact on Artificial Intelligence (AI)” and “H2b: Service quality has a significant impact on Artificial Intelligence (AI)”. Although the proposed effects of product information remained insignificant, the result of service quality remained significant. These findings indicated consistency with the research conducted by Nobre [30], as they also witnessed Artificial Intelligence as providing an overview of service quality in general. Consistent with the current research propositions, the study by Al-Araj et al. [80] investigated the impact of Artificial Intelligence (AI) on service quality within Jordanian banks and its correlation with customer satisfaction. It conducted a comprehensive review of existing literature to explore various AI applications in the banking sector, aiming to improve customer experiences and operational efficiency. These applications included credit score checking, system failure prediction, fraud detection, and customer loyalty evaluation, reducing employee workload and enhancing overall service quality. A questionnaire was administered to 270 consumers within Jordan's banking sector to gather empirical data. The results highlighted the growing demand for AI integration in Jordanian banks, highlighting the need for a balanced approach between virtual AI agents and human interaction designed to meet customer preferences.

Moreover, as one of the core considerations of the current research, the researchers proposed a significant impact of Artificial Intelligence on Public Relations in the Emirati banking sector “H3: Artificial Intelligence has a significant impact on sustaining PR with the customers”. Data collected from the respondents indicated that AI plays an important role in sustaining Public Relations by providing improved services to customers, as witnessed by Houlton [27]. According to Munandar & Irwansyah [28], today, AI is a strategic part of an organization's Public Relations system. When these organizations incorporate AI into their systems, their PR activities accelerate and result in positive, constructive outcomes. In line with the current research, a study by Roheed et al. [81] explained the concept of Artificial Intelligence (AI), its associated technologies, and its current and prospective applications within the banking sector. The results highlighted the critical role that AI and machine learning are poised to play as foundational elements of banking operations in the future. The results further highlighted the efforts of banks to use AI to optimize existing processes and introduce innovative features aimed at improving the customer experience, particularly in the banking sector.

Finally, the last two assumptions of current research propose the mediating impact of EI-based components, including empathy and communication skills, on Artificial Intelligence and Public Relations. The hypothesized statements were “H4a: Empathy significantly mediates the relationship between Artificial Intelligence and Public Relations” and “H4b: Communication skills significantly mediate the relationship between Artificial Intelligence and Public Relations”. First, the mediating impact of Empathy on Artificial Intelligence and Public Relations remained insignificant. On the other hand, the proposed mediation of communication skills remained significant, as the respondents indicated Artificial Intelligence has communication skills improving the and Public Relations as also indicated by Abdelrahman Alawaad [29]. Thus, the role of AI-enabled Emotional Intelligence is prominent. Despite online preferences varying from person to person, searching for real-time, quick, and efficient information is common. Customers mostly prefer services that primarily offer ease of use and useful outcomes, indicating the customer-centric and PR-based approaches adopted by the relevant organization [16]. As noted by Jeljeli et al. [47], empathy serves as an important aspect for cultivating long-lasting relationships with clients, adeptly steering challenging situations, and protecting personal well-being within professional communication. Acquiring this stability depends on recognizing that the effectiveness of public relations practices is correlated with emotional well-being. Further studies [82–88] also witnessed empathy as a crucial factor of Artificial Intelligence affecting the overall communication process in the corporate sector. For instance, Chi & Hoang Vu [89] focused on examining AI applications and their impact on communication quality and customer trust, specifically analyzing features, i.e., anthropomorphism, empathy response, and interaction. The results indicated that while anthropomorphism and interaction alone do not significantly contribute to generating customer trust in AI, they play a crucial role when combined to create quality communication with customers. However, the ability to respond with empathy emerges as a significant factor in promoting customer trust across different service scenarios. Therefore, AI applications have the potential to improve the relationship between service firms and customers, particularly during challenging circumstances, i.e., a pandemic crisis as well.

## 6- Conclusion

The significance of establishing two-way communication within an organization must be balanced, particularly in industries like banking, where understanding customer needs and demands is critical. This mutual exchange of information allows organizations to gauge customer expectations and empowers them to design their products and services accordingly. Organizations can develop stronger relationships and support customer loyalty by actively listening to customer feedback and engaging in dialogue. In the Emirati banking sector context, this research examined the transformative role of AI-enabled Emotional Intelligence (EI) in improving communication practices. Specifically, it explores how AI-driven customer support services contribute to disseminating product information and delivering service quality. By using AI technologies, banks can facilitate their customer service processes, providing timely and accurate assistance to clients while maintaining high-quality standards.

Similarly, the research highlighted the broader implications of AI in improving public relations (PR) and customer support services across industries. In today's digital age, where online interactions have become increasingly prevalent, adopting AI-powered automated systems has appeared as a critical strategy for organizations seeking to enhance efficiency and responsiveness. By harnessing the capabilities of AI, organizations can optimize their communication channels, ensuring prompt and personalized interactions with customers. Finally, the study revealed how the various components of emotional intelligence, such as empathy and social awareness, mediate the shaping of the effectiveness of organizational websites. By promoting a deeper understanding of customer needs and preferences, websites can act as valuable touchpoints for facilitating meaningful interactions and supporting PR efforts. Therefore, integrating AI-enabled Emotional Intelligence improves communication effectiveness, customer satisfaction, and organizational reputation within the Emirati banking sector.

### 6-1-Recommendations and Limitations

This study has some primary limitations too. First, this research only involves participants from the private banking sector, narrowing its scope. Second, this research mainly involves participants from the UAE, which questions its generalizability. Finally, the third limitation involves using only two components of Emotional Intelligence. However, in line with the current research results, this research recommends more studies in the future. Especially, AI-enabled Emotional Intelligence in other sectors should be examined to dig out in-depth results.

## 7- Declarations

### 7-1-Author Contributions

Conceptualization, J.R. and S.S.; methodology, S.S., R.J., F.F.; software, R.R., M.M., and F.F.; validation, M.M., R.J., F.F., and S.S.; formal analysis, D.H., N.S., M.M., F.F., S.S., and R.J.; investigation, D.H., N.S., M.M., F.F., S.S., and R.J.; resources, S.S.; data curation, D.H., N.S., M.M., F.F., S.S., and R.J.; writing—original draft preparation, R.R., M.M., F.F., and N.S.; writing—review and editing, S.S., R.R., F.F., and M.M.; visualization, S.S., F.F., R.R., D.S., D.H., and M.M.; supervision, S.S. and R.J.; project administration, R.J. and S.S. All authors have read and agreed to the published version of the manuscript.

### **7-2-Data Availability Statement**

The data presented in this study are available in the article.

### **7-3-Funding**

The authors received no financial support for the research, authorship, and/or publication of this article.

### **7-4-Institutional Review Board Statement**

This study is approved by research ethics committee of Al-Ain University, UAE.

### **7-5-Informed Consent Statement**

All the respondents provided their informed consent.

### **7-6-Conflicts of Interest**

The authors declare that there is no conflict of interest regarding the publication of this manuscript. In addition, the ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancies have been completely observed by the authors.

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