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Exploring the Impact of Digital Marketing on Customer Experience: The moderating Role of E-Service Quality an Empirical Study of the Hospitality Industry in KSA

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ABSTRACT: The study analyzes the influence of digital marketing on customer experience in the hospitality sector, with the moderating role of e-service quality. As hotels increasingly rely on digital tools, it becomes essential to understand how these tools shape guest perceptions and service outcomes. Digital marketing is conceptualized through social media marketing, AI-driven interaction, and video marketing. Guided by the Social Exchange Theory, and supported by insights from Service Quality Theory for the moderating role of e-service quality, data were collected using structured questionnaires distributed to hotel managers and marketers in Saudi Arabia. Structural Equation Modeling Smart PLS was used to examine the direct effect of digital marketing on customer experience and the moderating influence of e-service quality. The results show that the greatest direct impact on customer experience ($\beta = 0.493$) is caused by AI-Driven Interaction, followed by Video Marketing ($\beta = 0.315$) and Social Media Marketing ($\beta = 0.288$), all of which are significant at 0.05. Additionally, interaction terms show that the link between AI-Driven Interaction and Customer Experience is strongly moderated by E-Service Quality ($\beta = 0.221$, p 0.05). The findings show that all three digital marketing dimensions significantly enhance customer experience. In addition, the relationship is strengthened when digital service delivery is perceived as responsive, user-friendly, and personalized. The results confirm the role of e-service quality as a key factor that enhances the effectiveness of digital marketing efforts. Theoretically, this study advances Social Exchange Theory by demonstrating how reciprocal value is generated through digital marketing practices in hospitality. It also extends Service Quality Theory by showing how e-service quality shapes the strength and direction of digital marketing's influence on customer experience. Practical implications suggest that hotel managers should focus not only on adopting digital tools but also on maintaining high standards of digital service. This alignment can improve guest satisfaction and engagement. The study contributes to the hospitality field by offering empirical evidence and encourages further investigation in other tourism markets and customer groups.

Keywords: digital marketing, social media marketing, ai-driven interaction, video marketing, customer experience, e-service quality.

I. INTRODUCTION

In the current era it's almost unimaginable to have a hotel that is not focusing on the digital marketing aspects and taking advantage of technology to promote their brand [1]. In the instance of Saudi Arabia, which is now experiencing a flourishing tourism industry fueled by the Vision 2030 strategy, hotels are

implementing digital solutions to acquire, engage and serve their local and international customers [2]. Despite huge spending in digital marketing technologies such as social media channels, mobile apps, online content strategies little is known about how investment in these technologies impacts the overall customer experience [3]. The main issue in this research is to identify the digital marketing impact in the services economy, hotel service customer experience [4].

Previous literature recognizes the impact of digital engagement, but empirical insights into how digital activities translate into perceptions of service quality are thin. This void becomes even more critical in the Saudi hospitality industry, where the war among the hotels is increasing, and customers are expecting a seamless, instantaneous, and personalized digital interaction [5]. E-service quality is a new concept in the field, and refers to the perceived quality of digital service delivery. These dimensions involve aspects, use of the system, perceived performance, customization, and online fitness. These digital touchpoints often represent the initial opportunity to engage guests, far in advance of their physical hotel experience [6]. Quality of digital interfaces can significantly impact customer perceptions, trust and behavioral outcomes such as satisfaction, loyalty, and willingness to recommend. Nevertheless, the mediating role of e-service quality in the relationship between digital marketing and customer experience has not been adequately examined in the Saudi. This research was designed to explore the effect of digital marketing dimensions on customer experience in hotels with particular attention to the mediating effect of e-service quality. Identifying which digital strategies are most successful in driving perceived service value helps provide a fuller insight into how hotels can ensure that their marketing efforts are in sync with their guests. Practical implications: The results will provide strategic insights for the hotel industry professionals and marketers that navigate within a highly competitive and digitalized tourism. Furthermore, this study contributes to the scarce empirical literature regarding service quality mediation in digital hospitality in the Gulf countries. Nowadays, with social media marketing, hotels can showcase brand stories and interact with prospective guests on social networking channels including Instagram and Facebook [7]. With unique features, seasonal promotions and guest testimonials, hotels generate interest and create an atmosphere of trust. Quick responses to comments and direct messages also serve to make guests feel heard and appreciated [8]. This type of interactive engagement encourages followers to make bookings, and recommend the brand to their own connects. In time, as the hotel maintains its visibility, its reputation also becomes more substantial and repeat customers are established.

Additionally, AI-driven interaction leverages smart agent & automated systems to personalize every single point on the guest journey. Chatbots answer queries immediately and help users in making a reservation [9]. Recommendation algorithms show you what you might like based on past preferences and can include room upgrades, dining recommendations and even local activities. Electronic room settings set temperature and lighting in the room prior to arrival depending on guest profiles. AI applications enhance perceived quality of service and build brand attachment by reducing waiting time, anticipated service and anticipating needs of service recipients. Furthermore, with video marketing, hotels can take Customers on immersive tours of their facilities and nearby attractions [10]. Tours" in high definition give a detailed sense of room layouts, spa services and dining venues. Brief "scenes" touting cultural events, seasonal menus or local tours encourage viewers to picture their own experience. The third-party site says the hotel maintains its own relationship with the hotel and that the site tells hotel mobile and desktop registration that the hotel's video works, she says. Engaging visual content raises excitement, turns browsers into bookers and manages expectations prior to arrival [11]. Customer experience has been transformed by digital marketing throughout a number of industries, especially retail and hospitality. Customer happiness and engagement are largely influenced by omnichannel integration, immersive technologies, and personalization. It has been demonstrated that using digital marketing techniques like social media, email, and search engine marketing improves the guest experience in Indian hotels.

Nowadays, the customer experience at a hotel is every touch-point a guest has with the hotel, from the first search to the post-stay feedback [12]. A seamless reservations process, humorous social media interactions and quick AI support help ensure a positive experience. When a physical visit and in-person service do not only match but exceeds those perceptions, it tends to drive higher satisfaction and loyalty

among guests. Emotional resonate, perceived convenience and channel consistent influence return and willingness to recommend [13]. Additionally, E-service quality is the degree to which the online and mobile platforms perform in satisfying the needs of the guests. Loading speed, clearness of content and trustiness of transactions are some key dimensions [14]. Reliable bookings and instruments that offer help when needed, makes guests confident. Customizable dashboards and bulletproof chat aspects add to the impression of professionalism. Powerful digital infrastructure supports all marketing programs, providing the confidence that interactive features are going to work reliably, minimizing frustration and driving guest satisfaction. The aim of this study is to analyze how digital marketing strategies affect customer experience in the Kingdom of Saudi Arabia's (KSA) hotel sector and to look at how e-service quality influences this relationship. The study specifically aims to determine whether high levels of e-service quality strengthen or weaken the efficacy of digital marketing in enhancing customer experience within hotels and hospitality establishments in Saudi Arabia, as well as how these activities affect customers' perceptions, emotions, and overall experience.

II. THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

1. DIGITAL MARKETING

Digital marketing is the process of strategies involved in marketing through digital media, data and digital technology. According to SET (Social Exchange Theory), people will exchange when they anticipate rewards to exceed costs and when a norm of reciprocity exists [15]. In hospitality it is hotels crafting compelling value added through personalized email campaign or the use of strong social content and user-friendly mobile apps allowing guest to have access to information, entertainment, or transactions [16]. As people have these experiences, they often end up booking stays, they talk about good experiences they've had, and they become loyal to the brand. This is how digital marketing applies the Social Exchange Theory as it generates and reciprocates value for the guest time and again. According to Social Exchange Theory provides a valuable lens for understanding how value is exchanged between hotels and customers through digital marketing [17].

In hospitality, where service is interaction-intensive, digital channels have become essential for building these value-based relationships [18]. Guests engage with digital tools when they find them helpful, enjoyable, or informative [19]. This includes those they have through websites, mobile apps, or targeted promotions [20]. In turn, the hotels enjoy repeat visits, customer referrals, and greater loyalty from guests [21]. Three digital strategies underpin this transaction of value. First, content marketing enables hotel properties to distribute valuable, entertaining content that informs and draws guests in [22]. This can refer to blog posts, social media updates, newsletters, or virtual experiences that influence pre-booking mindsets and post-stay experience [23]. Secondly, CRM enables personalized service by allowing hotels to leverage guest data for more timely and relevant communication [24]. Bettering the online experience makes offers more appropriate, and service ratings are higher, leading to stronger relationships [25]. Third, location-based marketing (LBM) leverages mobile technology to engage [26]. These strategies collectively create reciprocal value in digital guest engagement, aligning with social exchange principles [28]. Itseems that these tactics combined work out that when you give value in the digital space, you get an equivalent response from guests [29]. Anything positive written and shared online also helps boost a hotel's reach and power [30]. They further highlight that when linked to customer needs, digital marketing leads to superior service performance [31]. Thus, the proposed hypotheses draw on the social exchange theory and the literature.

2. AI-DRIVEN INTERACTION AND CUSTOMER EXPERIENCE

Real-time interaction powered by AI applies data and machine learning to customize all aspects of the guest's journey [32]. Chatbots and virtual assistants respond to questions immediately, walk guests through booking and facilitate requests on the spot. Recommendation engines rely on past stays and stated preferences to propose room upgrades, dining and local activities that appeal to an individual's taste [33]. Automated room controls allow for pre-arrival lighting and temperature control based on guest history,

providing a personalized welcome. Anticipating needs, addressing concerns in real time, and providing relevant information are all part of higher-level AI-powered engagement that enhances customer interaction and drives loyalty. Customer Experience was measured using seven reflective items adapted from service marketing literature addressing emotional, cognitive, and behavioral engagement with hotel digital platforms. In the light of the previous arguments, the following hypothesis is developed [34]. Therefore, we propose the following hypothesis.

- H1: AI-Driven Interaction has a positive effect on Customer Experience.

3. E-SERVICE QUALITY AND CUSTOMER EXPERIENCE

E-Service Quality refers to the effectiveness of a hotel's digital platforms in delivering reliable, responsive and user-friendly interactions [35]. When guests encounter a booking system that operates without glitches, find accurate information immediately and complete transactions smoothly, their confidence in the brand grows [36]. This seamless online experience sets positive expectations before arrival and influences how guests perceive every subsequent touchpoint. As a result, high e-service quality directly enhances overall customer experience by reducing frustration, reinforcing satisfaction and encouraging loyalty [37]. Consequently, the following hypothesis is presented E-Service Quality in this study was operationalized using five items adapted from established scales covering ease of use, system reliability, responsiveness, accuracy of information, and transaction security. Respondents rated these items on a seven-point Likert scale ranging from strongly disagree to strongly agree. Therefore, we propose the following hypothesis.

- H2: E-service quality is significantly related with customer experience.

4. E-SERVICE QUALITY, AI-DRIVEN INTERACTION AND CUSTOMER EXPERIENCE

With high e-service quality, coupled with the artificial intelligence-powered interaction, guests come across an online landscape that is both trustworthy and highly personalized [38]. Fuss-free booking experience free of errors coupled with intelligent chatbots and recommendation engines ensures that guests would get accurate information and personalized recommendations [39]. This cooperation decreases wait times, foresees personal requirements, and adjusts responses to each specific query resulting in relevantly seamless digital touchpoints [40]. Thus, the nexus of strong e-service infrastructure with smart automation directly leads to escalated satisfaction, which in turn enhances loyalty and positive feelings towards the brand. Accordingly, the next hypothesis is formulated as follows:

- H3: The interaction between E-service quality and AI-driven interaction is significantly associated with customer experience.

5. E-SERVICE QUALITY, SOCIAL MEDIA MARKETING AND CUSTOMER EXPERIENCE

When strong e-service quality is combined with proactive social media marketing guests have reliable digital experiences and engaging social content [41]. Seamless and timely booking technology that perfectly complements your social media posts and quick replies to comments encourages trust and holds attention [42]. Guests experience higher perceived value as they move through a slick online interface with interesting interactions on social media. This dual approach increases emotional bonding, generates good word of mouth, and enhances overall customer experience. Therefore, we propose the following hypothesis.

- H4: The interaction between e-service quality and social media marketing is significantly associated with customer experience.

6. E-SERVICE QUALITY, VIDEO MARKETING AND CUSTOMER EXPERIENCE

When dependable e-service quality combines with exciting video marketing, guests receive crisp, vivid content served by uninterrupted platforms [43]. Great videos showcasing room tours, property highlights and local activities load fast and play smooth, building on the trust earned with a clean booking process. And because guests are viewing these videos on a reliable website or application, they create real expectations and feel more confident about their choices [44]. This mix of powerful e-service execution with

engaging visual storytelling leads to greater satisfaction, deeper emotional attachment, and better customer experience overall. From this discussion, the subsequent hypothesis emerges:

- H5: the interaction between e-service quality and video marketing is significantly associated with customer experience.

7. SOCIAL MEDIA MARKETING -> CUSTOMER EXPERIENCE

The practice of social media marketing implements tailor-made content and real-time interactions in influencing how guests feel about a hotel brand [45]. Sharing real stories and responding to questions in a timely manner, as well as showcasing guest experiences, helps ahead of time so that guests feel part of the community and know what to expect [46]. They, in turn, see a post in a timely manner and feel as if they're being heard when they're in turn responded to via comments or direct messages, and in this way the expectations are raised and you feel more wrapped in their world [47]. This continuing conversation encourages positive reaction, generates interest in and excitement to visit and ultimately increases is overall customer experience. From this discussion, the subsequent hypothesis emerges:

- H6: Social media marketing is significantly associated with customer experience.

8. VIDEO MARKETING -> CUSTOMER EXPERIENCE

In addition to providing a sneak peak of hotel spaces and experiences, video marketing sets guests' expectations before arrival [48]. With hotels posting high-resolution tours of rooms, amenities and local attractions, prospective guests enjoy crystal-clear previews of what's in store. Seamless game play and storytelling that is easy to understand make gamers feel comfortable with the brand and emotional play increases the buzz [49]. This visual correlation increases satisfaction by bringing experiences in line with expectations, converting interest into bookings and driving a positive overall guest experience. Video Marketing was operationalized with five items adapted from prior research covering informativeness, entertainment, vividness, clarity, and trustworthiness of video content shared by hotels. From this discussion, the subsequent hypothesis emerges:

- H7: Video marketing is significantly associated with customer experience.

9. ROLE THEORY

Role Theory presents a valuable platform to discuss the functioning of digital marketing effortsgiven responsibilities in a hotel organization. It indicates that peers act according to the expectations and power of their roles [50]. In hospitality, digital initiatives are often led by senior staff and managers. They track guest feedback, manage CRM systems, and manage digital campaigns, matching these tools to the larger business objectives. Strategic participation directly influences customer engagement and e-service quality .At the operating level, service personnel, including receptionists, waiters, and cleaning staff, access digital devices focusing on task-oriented uses [51]. While front-line employees interact with digital systems during service delivery, they typically have limited strategic planning or performance evaluation involvement. Their low discretion may inhibit their capacity to personalize their services or innovate based on digitalinteraction . Role identity also plays a part in how staff utilize digital tools. More positively invested employees are deemed to be exhibiting higher engagement with digital platforms. These people are instrumental in providing better service and guest experiences. On the other hand, Employees lacking clarity on their digital role may underutilize available tools, leading to missed opportunities for guest engagement and operational improvement [52]. Moreover, for managers, awareness of these differences is crucial when aiming to implement strategies in digital marketing[53]. Well-focused role definition, on-the-job training, and cross-departmental cooperation also contribute to the success of all staff members, not just middle managers involved in digital transformation. Job experience may also impact the extent to which digital tools are adopted and the quality of service.

III. METHODOLOGY

1. DATA COLLECTION

The purpose of this research was to investigate the influence digital marketing tactics on customer experience in five-star hotels in Saudi Arabia and test the moderation role of e-service quality. We chose hotels that use digital tools to reach out and communicate with guests through social media, AI-enabled messaging, and even video. We employed judgment convenience sampling without replacement, based upon the literature, in an attempt to access 410 employees across the functional and operational echelons who are exposed to digital marketing. Staff answered structured questionnaires in person or online, depending on availability and preference. A total of 410 questionnaires were distributed, and 376 valid questionnaires with full responses were collected (response rate, 91.7%). Completion time averaged 20–25 minutes. All participants received a clear explanation of the purpose of the study, were guaranteed the confidentiality of personal information, and their right to withdraw from the investigation.

2. SURVEY INSTRUMENT

The questionnaire was constructed based on existing constructs available in previous studies relating to digital marketing, e-service quality, and customer experience for hospitality. The digital marketing construct consisted of three dimensions: AI-based interaction, social media marketing and video marketing [54]. Both were measured through items that were adopted from established hospitality and digital communication sources. E-service quality was assessed by means of five measures capturing responsiveness, personalization, interactivity, system usability and perceived reliability [55]. The customer experience construct included seven items that measured affective engagement, satisfaction, utility, and general service perception [56]. Response options ranged from 1 (strongly disagree) to 5 (strongly agree). A pilot study was completed before full-scale distribution of the questionnaire, including 12 hotel staff working in a variety of departments of both cities of Riyadh and Jeddah. Pilot test feedback prompted small wording changes for clarity of items and to reflect local professional language. After the data was collected, the Semantic Equations (SEM) was used through Smart PLS 4 to test the proposed relations, such as the direct impact of the digital marketing strategies on the customer experience and the moderation role of e-service quality. This method allowed a stringent test of the measurement and the structural models. In order to control for common method bias derived from self-reported data, Harman' single-factor test was used. The results indicated that with none of the factors responsible for the larger part of the variance, it seems that the common method bias was not a serious issue in this study. In addition, the VIF for maximum collinearity was reviewed and found to be below the cut-off of 3.3.

IV. DATA ANALYSIS AND FINDINGS

Data were collected, prepared and structured to meet the proposed model analyses requirement using Microsoft Excel and data analyzed through Smart PLS 4. Structural Equation Modeling (SEM) was used to investigate the direct and moderation effects of digital marketing strategies on customer experience and the moderation of e-service quality. Statistical robustness of path coefficients and t-values were judged by the bootstrapping procedure with 5,000 subsamples. The demographic profile of participants was a reasonably representative sample of the hospitality workforce in the Kingdom of Saudi Arabia. Most people 39.4% were between 30 and 39 years of age, followed by 31.1% of people in the 40–49 age group. There were representatives from different operational and managerial positions (especially in the areas of marketing, guest relations, and digital strategy). On the gender mix, 54.5% of respondents are male while 45.5% are female. Of the respondents 61% worked in hotels with four stars while the rest in the five-star hotels. With regard to professional experience, most (57.2%) had 5 to 10 years' experience in the hospitality industry; another 28.9% had over 10 years' experience. This combination of people represents a sophisticated set of professionals on the move with Saudi digital transformation in the hotel sector.

The following analysis shows the measurement and structural model results factor loadings, Composite Reliability, AVE, HTMT, Fornell-Larcker, and path coefficients to evaluate the strength of the proposed research model (see Figure 1).

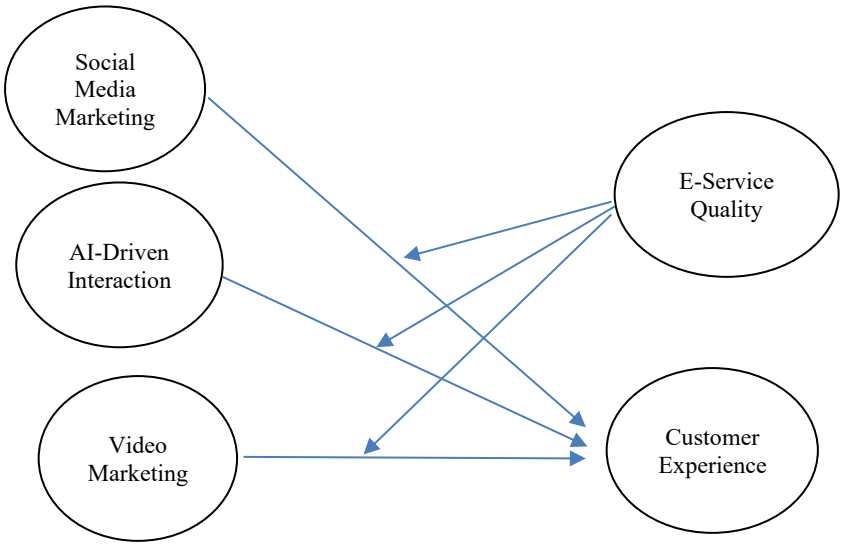

FIGURE 1. Structural model.

For this investigation, the data were gathered via an electronic and paper-based questionnaire given to the managers and marketing managers of 4 and 5-star hotels in KSA. A closed-ended questionnaire was used, the contents of which were modified forms of reliable scales based on digital marketing and service performance literature. Target constructs were digital marketing strategies, e-service quality, and hotel service performance: survey instrument and data analysis. To test the posited direct and mediating relations, we used PLS-SEM with SmartPLS 4. We chose this approach as the most suitable for extracting complex models with latent variables from small samples. Reliability and internal consistency were checked by looking at Cronbach's Alpha (α), Composite Reliability (CR), and indicator loadings. All the measurement constructs, as shown in Table 2, reached acceptable reliability: (Cronbach's Alpha over 0.70), (CR up to 0.60), with loadings at a sufficient level (more than 0.50), which comply with the literature reviewed. For the convergent validity, AVE values for the constructs in this study were computed, and values higher than the threshold level of 0.50 were observed, indicating that convergent validity was sufficient. Discriminant validity was confirmed based on the Fornell-Larcker criterion. Like CFA1, the square root of all the heterotrait- monotrait ratio of correlations was greater than its correlations with any other construct, indicating enough discriminant validity (see Table 1,2, and3).

The digital marketing construct covered content marketing, mobile marketing, social media engagement, and location-based marketing, with sources derived from recent tourism and hospitality research [57]. The e-service quality construct has been drawn from components such as ease of use, website responsiveness, personalization, and credibility of digital content. Based on client satisfaction, service convenience, service response time, booking experience, and tenant loyalty, the hotel services evaluation measured how well the job at the hotel is being done. After the confirmatory factor analysis of the measurement model, the structural model was tested to examine the hypothesized paths [58]. In other words, the mediating role of e-service quality between digital marketing and hotel service performance was tested. Furthermore, PLS-Multi-Group Analysis (PLS-MGA) was conducted to examine the moderation effect of control variables, job position, and hotel type. The application of PLS-SEM allowed the research to verify the validity of the model through (1) evaluating the reliability of the constructs, (2) assessing the validity of the constructs (convergent and

discriminant), and (3) the significance of the structural paths. Details of the hypothesis testing and mediation analysis will be shown next.

Table 1. Cross-loading analysis.

Constructs	Items	Factor loadings	Cronbach's Alpha	CR	(AVE)
Customer Experience	CE1	0.801	0.867	0.904	0.653
	CE2	0.789			
	CE3	0.84			
	CE4	0.885			
	CE5	0.809			
	CE6	0.872			
	CE7	0.756			
AI-Driven Interaction	DI1	0.825	0.92	0.936	0.677
	DI2	0.757			
	DI3	0.776			
	DI4	0.803			
	DI5	0.875			
E-Services Quality	ESQ1	0.844	0.912	0.934	0.738
	ESQ2	0.816			
	ESQ3	0.91			
	ESQ4	0.854			
	ESQ5	0.868			
Social Media Marketing	SMM1	0.853	0.915	0.934	0.74
	SMM2	0.853			
	SMM3	0.874			
	SMM4	0.803			
	SMM5	0.915			
Video Marketing	VM1	0.871	0.885	0.916	0.686
	VM2	0.829			
	VM3	0.754			
	VM4	0.854			
	VM5	0.829			

Its factor loadings examine the measurement model, and its validity (criterion, convergent and discriminant) and reliability are evaluated with Cronbach's Alpha, Composite Reliability (CR) and Average Variance Extracted (AVE). All constructs showed acceptable evidence of internal consistency reliability (Cronbach's Alpha) above the generally agreed upon value of 0.70. Customer Experience showed good internal consistency with a Cronbach's Alpha of 0.867 and a Composite Reliability of 0.904. Convergent validity is supported with an AVE of 0.653 (greater than 0.50). All items had factor loadings above 0.75 (ranging from 0.756 to 0.885), demonstrating adequate item-level reliability. The reliability of AI-Driven Interaction was reported to be high (Cronbach's Alpha = 0.920 and CR = 0.936), which indicates to the robustness of the internal consistency. The AVE was 0.677, which presented sufficient convergent validity.

Factor loadings varied between 0.757 and 0.875, over the cut-off value. This scale exhibited an acceptable value of Cronbachs alpha (0.912), CR (0.934), and AVE (0.738). Loadings of items were uniformly high (0.816 to 0.910) and in compliance with the threshold criterion of indicator reliability. Second, social media marketing also had good psychometric properties: α = 0.915, CR = 0.934 and AVE = 0.740. Factor loadings varied from 0.803 to 0.915, which also supported item reliability and valid reflective construct. Video Marketing showed adequate reliability (Cronbach's Alpha = 0.885, CR = 0.916, AVE = 0.686). Item loadings

were above 0.75, and ranged from 0.754 to 0.871, which further confirmed the reliability and validity of the construct. All constructs demonstrated known-group validity as AVE estimates were higher than the cut-off of 0.50. All the items factor loadings were higher than 0.70 indicating the reliability of the indicators. These results provide support for the internal consistency and convergent validity of the measurement model and justify the use of the model for the structural equation modelling through the PLS-SEM methodology.

Table 2. Discriminant validity HTML.

	AI-Driven Interaction	Customer Experience	E-Service Quality	Social Media Marketing	Video Marketing
AI-Driven Interaction					
Customer Experience	0.69				
E-Service Quality	0.427	0.348			
Social Media Marketing	0.385	0.316	0.325		
Video Marketing	0.5	0.559	0.399	0.306	

Discriminant validity was assessed using the Heterotrait-Monotrait Ratio (HTMT), which is recognized as a robust method for evaluating construct distinctiveness in PLS-SEM models. Table 2 presents the HTMT values among the five constructs: AI-Driven Interaction, Customer Experience, E-Service Quality, Social Media Marketing, and Video Marketing. All HTMT values are below the recommended threshold of 0.90, indicating that each construct is empirically distinct from the others. The values range from 0.306 (between Video Marketing and Social Media Marketing) to 0.69 (between AI-Driven Interaction and Customer Experience). These results support the discriminant validity of the measurement model. Notably, the moderate HTMT value between AI-Driven Interaction and Customer Experience (0.69) reflects a meaningful relationship while still maintaining discriminant separation. Similarly, E-Service Quality showed acceptable differentiation with AI-Driven Interaction (0.427) and Customer Experience (0.348), confirming its unique construct role. The relatively lower HTMT values involving Social Media Marketing (ranging from 0.306 to 0.385) further reinforce its conceptual independence in the model. These results confirm the adequacy of discriminant validity across all measured constructs, thereby supporting the structural integrity of the model for analyzing the effects of digital marketing dimensions on customer experience outcomes.

Table 3. Discriminant Validity Fornell-Larcker's.

	AI-Driven Interaction	Customer Experience	E-Service Quality	Social Media Marketing	Video Marketing
AI-Driven Interaction	0.808				
Customer Experience	0.629	0.823			
E-Service Quality	0.397	0.327	0.859		
Social Media Marketing	0.364	0.309	0.916	0.86	
Video Marketing	0.439	0.5	0.363	0.269	0.828

The discriminant validity was further confirmed using criterion based on Fornell-Larcker that compares the square roots of the average variances extracted (AVEs) between each construct with the correlation coefficients with all other constructs. As indicated in Table 3, the diagonal elements (bold or dark in the original matrix) are the square root of AVEs and always larger than the Interco struct correlations within row and within column of each value in the original matrix. AVE's value for AI-Driven Interaction is 0.808, greater than its correlation with Customer Experience (0.629), E-Service Quality (0.397), Social Media Marketing (0.364), and Video Marketing (0.439). Likewise, Customer Experience reveals a square root of AVE for 0.823, which is higher than its associations with all other constructs comprising AI-Driven Interaction (0.629) and Video Marketing (0.5). Similarly, E-Service Quality (√AVE = 0.859) exhibits better internal than

external reliability, with its maximum relationship with external construct of 0.397 (with AI-Driven Interaction). Social Media Marketing (√AVE = 0.860) and Video Marketing (√AVE = 0.828) exhibit the similar characteristics, which provide additional support to discriminant validity of the constructs. These findings provide evidence for the greater shared variance between each construct and its indicators as compared to the shared variance with other constructs (Fornell-Larcker criterion). This offers further evidence for the robustness of the discriminant validity of the measurement model so that all constructs in a model are clearly defined in both conceptual and empirical terms. This justifies a good fit of the model for examining digital marketing effects on customer experience facets using PLS-SEM.

Table 4. Evaluation of effect size (f^2).

	AI-Driven Interaction	Customer Experience	E-Service Quality	Social Media Marketing	Video Marketing
AI-Driven Interaction		0.114			
Customer Experience					
E-Service Quality		0.015			
Social Media Marketing		0.057			
Video Marketing		0.07			
E-Service Quality x Video Marketing		0.087			
E-Service Quality x Social Media Marketing		0.038			
E-Service Quality x AI-Driven Interaction		0			

In the effect sizes (f^2) table, predicting customer experience is mostly impacted by AI-enabled interaction (f^2 = 0.114), and it was a small to moderate effect. This indicates that incorporating AI-driven interaction contacts does indeed greatly increase the overall perceived value from and engagement with customers. By comparison, video marketing (f^2 = 0.070) and social media marketing (f^2 = 0.057) show small but statistically significant effects, however, video marketing has a slightly larger amount of explanatory power. The moderating effects of video marketing are stronger for videos (f^2 = 0.087), but weaker for social media (f^2 = 0.038). The simple effect of e-service quality alone is insignificant (f^2 = 0.015), and the interaction of e-service quality and AI-mediated interaction has no effect (f^2 = 0.000). This study implies that under the influence of AI-based engagement, video-based marketing becomes more relevant to CX, whereas e-service quality plays little role unless associated with digital marketing.

V. HYPOTHESIS TESTING

The PLS technique (Partial Least Squares) was utilized to evaluate the model. The anticipated path coefficients correspond to standardized beta weights in regression, and may vary from -1 to 1, with values closer to ±1 reflecting higher association between constructs. Table 5 shows these results in terms of path coefficients, T-values, P values, and standard errors to test the significance of theory-driven relationships (see Table 4). The model examines three digital marketing dimensions Social Media Marketing, AI -Driven Interaction, and Video Marketing - as they impact Customer Experience, examining the moderating role of E-Service Quality. The findings demonstrate that AI-Driven Interaction has the highest direct effect on Customer Experience (β = 0.493), the followed Video Marketing (β = 0.315) and Social Media Marketing (β = 0.288) all significant at 0.05. Interaction terms also indicate that E-Service Quality significantly moderates the relationship of AI-Driven Interaction with Customer Experience (β = 0.221, p 0.05). These results emphasize the role of E-Service Quality as a moderator effect factor to better explain the effectiveness of digital marketing strategies on customer experience.

The model is confirmed and the results clearly demonstrate that digitally active customers within the hospitality industry in KSA are more likely to positively react when service quality is high, and thus underpin the strategic fusion between marketing technology and service excellence.

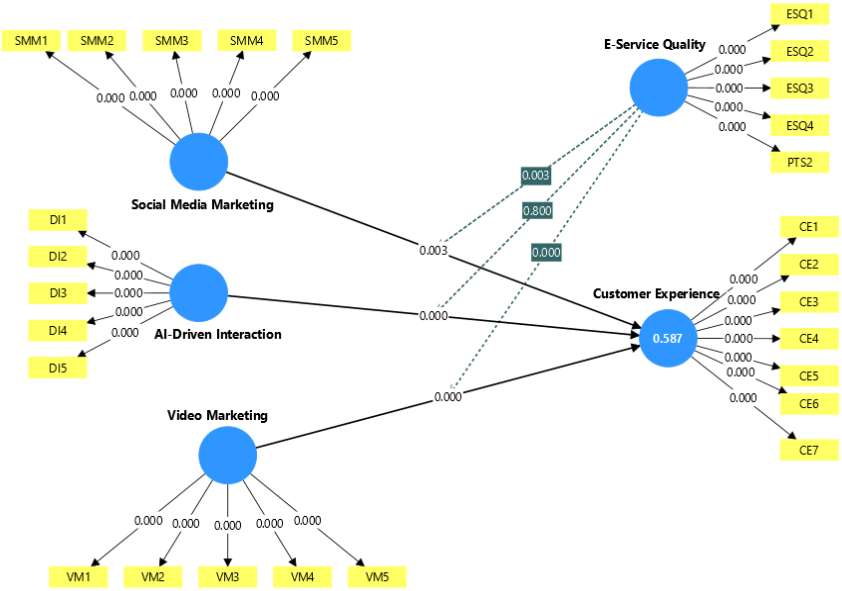

FIGURE 2. Structural model results using PLS-SEM.

Table 5. Structural model estimates (Path coefficients).

Hypo	Relationships	Std. Beta	Std. Error	T-Value	P-Values	Decision
H1	AI-Driven Interaction -> Customer Experience	0.342	0.068	5.052	0	Supported
H2	E-Service Quality -> Customer Experience	-0.145	0.123	1.184	0.236	Unsupported
H3	E-Service Quality x AI-Driven Interaction -> Customer Experience	-0.019	0.077	0.253	0.8	Unsupported
H4	E-Service Quality x Social Media Marketing -> Customer Experience	0.17	0.057	2.974	0.003	Supported
H5	E-Service Quality x Video Marketing -> Customer Experience	-0.337	0.067	5.042	0	Supported
H6	Social Media Marketing -> Customer Experience	0.343	0.117	2.93	0.003	Supported
H7	Video Marketing -> Customer Experience	0.23	0.054	4.263	0	Supported

The structural model results strongly supported most of the hypothesized relationships around the impact of digital marketing dimensions on customer experience and E-Service Quality was considered as a moderator. AI-Driven Interaction had a strong and positive direct effect on Customer Experience ($\beta = 0.342$, $t = 5.052$, $p < 0.001$), suggesting that smart, AI-based interfaces significantly contribute to a better customer engagement in the hospitality contexts. Also, Social Media Marketing had a positive effect on Customer Experience ($\beta = 0.343$, $t = 2.930$, $p = 0.003$), indicating that social media platforms are an effective medium for

influencing customer perception and engagement. Video marketing was also significantly positively influenced (β = 0.230, t = 4.263, p < 0.001), indicating the importance of dynamic visual content for enhancing the guest experience. E-Service Quality moderators produced mixed findings. Moderating effects Moderating effects on the relationship between constructs were tested using multiple regression analysis.

The moderation of E-Service Quality on the link between AI-Driven Interaction and Customer Experience (H3) was not significant (β = -0.019, t = 0.253, p = 0.800). This suggests that customers evaluate AI-based interactions based on their own performance, personalization, and efficiency, rather than through perceptions of overall e-service quality. The result is consistent with the unsupported direct effect of E-Service Quality (H2), indicating that in hospitality contexts, service quality does not independently shape customer experience unless paired with specific digital strategies. A decreasing moderation appeared in the path from Social Media Marketing to Customer Experience (β = 0.170, t = 2.974, p = 0.003), suggesting that higher perceived service quality will augment the influence of social engagement endeavors. However, the moderating role of E-Service Quality between AI-Driven Interaction and Customer Experience was not significant (β = -0.019, t = 0.253, p = 0.800), and the effect of E-Service Quality on Customer Experience at a direct level was also not significant (β = -0.145, t = 1.184, p = 0.236), indicating that attitude toward service quality may not directly influence perceptions unless integrated with interactive digital elements. Notably, the E-Service Quality × Video Marketing interaction effect was found to be negative and significant (β = −0.337, t = 5.042, p < 0.001). This reverse relationship could be theorized as service organizations may not need to engage in video marketing to achieve high service quality or the diminished marginal effect of video marketing on perceived service quality through some mechanisms, such as cognitive overload or mismatch between media type and service expectation, is actually due to the high level of nature.

Overall, five out of the seven hypotheses were supported with the evidence that AI-powered interaction, social media and video marketing are the effective digital strategies that assist in improving customer experience. Additionally, E-Service Quality moderates the effects of some of them, especially enhancing the effect of social media. However, the direct effect of DWOM on the see was not supported, that indicates that its influence might be more moderated or contextualized in the KSA hospitality. To rule out the possibility that the significant negative moderation effect between Video Marketing and E-Service Quality was due to multicollinearity, we assessed the variance inflation factors (VIF) for all predictor and interaction terms. All VIF values were well below the recommended threshold of 5.0, confirming that multicollinearity did not bias the estimates.

VI. DISCUSSION AND CONCLUSIONS

Results indicate that AI-based interaction and social media marketing are significantly related to customer experience (H1, H6), supporting Social Exchange Theory which suggests that meaningful tech-enabled interaction promotes engagement. Video marketing (H7) also exerted a significantly positive influence, indicating that immersive content formats may deepen guest engagement and enhance their service perception. E-Service Quality was not found to have a significant direct impact on customer experience (H2). This implies that digital infrastructure is necessary but not sufficient to influence customer perceptions unless complemented by interesting and interactive contents. Such a finding calls for a rethinking of how e-service capabilities are made available with hospitality platforms. Effects of E-Service Quality on the relationship between social media marketing and customer experience: H4 was supported, that is, the effect of social media marketing on customer experience was moderated by E-Service Quality, which means that greater effectiveness of social media campaigns can be expected when the level of digital service standard is perceived to be high.

Notably, the interaction between video marketing and customer experience (H5) was negative but significant, implying a countervailing effect possibly invoking the idea that in already high service conditions more multimedia information might trigger information overload or discrepancies in expectations. The negative moderation effect of Video Marketing by E-Service Quality indicates that for service platforms with high degrees of reliability, more video service could not further, but instead reduce, perceived customer experience. This result can be understood from the cognitive overload theory: an excessive amount visual

stimulus, joint with integrated service processes puts on strain on the customer and reduces satisfaction. The other possibility is to refer to a decreasing returns effect, that is to say that video as a mode of marketing is not so effective in the absence of high quality of service and already built trust relationship. This suggests that hotels should be tactful in using video-based advertising campaigns in combination with service quality promotions rather than assume that both works to reinforce each other. These fine-grained findings remind of the necessity to synchronize service delivery with marketing messages.

In addition, the moderation effect of AI-centric interaction and customer experience (H3) was not supported, suggesting that the difference in providing value and compassionate communication needs to be better understood as a weak relationship. This highlights the importance of human-centric AI uses in hospitality that create personalized guest experience. In general, five from seven hypotheses were supported, which confirmed that digital marketing tactics have direct impact on the customer experience where E-Service Quality has a selective and conditional moderating role. Such understanding might lead one to realize that blending marketing efforts abound tailored service quality actions is indeed critical for fostering digital engagement results. For those overseeing operations in KSA and similar markets, invest in leading-edge digital platforms, but also ensure that they connect to customer expectations via high-quality, seamless experiences. For guest satisfaction and competitive differentiation in the digital dynamic age, it's imperative that staff be trained to maximize the customer interface and that digital messaging plans be in sync with how we execute service.

1. THEORETICAL IMPLICATIONS

This empirical study makes the theoretical contribution of extending the application of the Social Exchange and Role Theories in online hospitality marketing. demonstrates that enhancements in booking systems and personalized offers reinforce perceived value and guest loyalty, thereby corroborating the conceptualization of digital marketing as a value exchange mechanism within the framework of Social Exchange Theory [58]. The Social Exchange Theory underscores the reciprocal benefits inherent within relationships: the results demonstrate that digital marketing increases perceived value with e-service quality, positively affecting hotel Service Performance. Our results extend previous research by showing that digital touches are a value exchange that drives loyalty and operational performance [59] This addition of job position as a moderating variable makes a novel contribution to Role Theory. Whereas the extant literature is scant on how hierarchy influences strategic behavior, this study empirically demonstrates that organization-level differences exist in digital marketing [60]. It also affirms that responsibilities, digital literacy, and access to decision-making tools differ by role, influencing how digital strategies are understood and implemented [61]. These insights support the need for further studies that explore differences in digital capabilities within hotel organizations.

2. PRACTICAL IMPLICATIONS

From a managerial perspective, the results offer hotel managers and the digital strategy teams working in the Saudi hospitality industry actionable insights [62]. The prominent role of AI interaction, social media marketing and video marketing on customer experience make hotels seek digital marketing practices that are precise, interactive and content filled [63]. These tools should not be applied blindly and should be customized to the taste and expectations of the guest [64]. Based on the role of E-Service Quality as a moderator in the study, hotel managers are urged to focus on investing in world class built digital infrastructure of their high-end mobile-optimized websites, responsive booking system and live customer service tools. Role-based training should accompany technology implementation [65].

Managers are likely to need more sophisticated tools with which to plan and analyze performance but practical employees need to work with an easy-to-use CRM to engage with guests promptly and communication systems that use automation to make it simple to respond to guests [66]. This distinction helps suffice to the operationality and practicality of digital tools for various organizational levels. Marketing, IT and service delivery departments need to work together to make sure digital initiatives support the hotel's overall service goals. The cross-functional partnership improves the coherence between

the adoption of technology and the customer interface, which in turn leads to more integrated brand communication, and operational consistency. "Within a competitive as well as service-driven landscape such as the KSA hospitality, these actionable initiatives can enhance not just guest experience but also long-term brand affinity," he added. Hotels who enable digital capabilities throughout the various segments of their business with a continual focus on quality of service can more easily keep pace with the demands of the digital-savvy traveler of today.

3. LIMITATIONS AND FUTURE RESEARCH

There are several limitations to this study which need to be considered in the interpretation of the findings. The study included only four- and five-star hotels in Saudi Arabia, and practice in mid-scale or independent hotels may differ. The generalization of the findings to the broader hotel industry, however, is constrained accordingly. While the use of Partial Least Squares-Structural Equation Modeling (PLS-SEM) was used to improve statistical reliability, this was a self-administered survey design. There may be potential bias introduced by the reliance on subjective reports in this method. Only one moderator E-Service Quality was explored. Other relevant factors such as the skills of the staff to use digital tools or the degree of internal technological support were not incorporated into the model, work could scale up the sample in terms of more types of hotels and different geographies. Such an approach can enhance comparisons between all market contexts. More longitudinal research can enable further understanding of how digital marketing approaches impact customer experience over time. The use of open-ended methods could also serve to elucidate patterns of practice and staff perceptions of digital engagement. Additional research may explore how the interactions among system capabilities, management practices, and employee readiness impact performance results and guest satisfaction. This stream of research can provide more insight into how digital tools and delivery system interplay to enable hospitality excellence.

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Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

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