sustainability

MDPI

*Article*

# E-Servicescape and Online Travel Platform Outcomes: The Moderating Role of E-Familiarity

**Abdullah Uslu [1], Abdullah Tarinc [2,*], Emrullah Erul [3], Ramazan Eren [1], Gricela Andrade-Ruiz [4], Mehmet Arif Tuncer [5] and Gürkan Alagöz [6]**

[1] Department of Tourism Management, Manavgat Tourism Faculty, Akdeniz University, Antalya 07600, Türkiye; auslu@akdeniz.edu.tr (A.U.); ramazaneren@akdeniz.edu.tr (R.E.)
[2] Department of Gastronomy and Culinary Arts, Manavgat Tourism Faculty, Akdeniz University, Antalya 07600, Türkiye
[3] Department of Tourism Management, Tourism Faculty, Izmir Katip Celebi University, Izmir 35620, Türkiye; emrullah.erul@ikcu.edu.tr
[4] Faculty of Social and Legal Sciences, Valencian International University, 46002 Valencia, Spain; gricelaelizabeth.andrade@professor.universidadviu.com
[5] Department of Business Management, Institute of Postgraduate Education, İstanbul Gedik University, İstanbul 34876, Türkiye; arif.tuncer@gedik.edu.tr
[6] Department of Hotel, Restaurant and Catering, Vocational School of Tourism and Hotel Management, Erzincan Binali Yıldırım University, Erzincan 24050, Türkiye; galagoz@erzincan.edu.tr
* Correspondence: atarinc@akdeniz.edu.tr; Tel.: +90-530-170-5202

**Abstract**

This study examines the effects of the e-servicescape on flow experience, positive affect, trust, website loyalty, and e-WOM in the context of online travel platforms, while investigating the moderating role of e-familiarity. Drawing on servicescape theory, the S-O-R framework, and the Technology Acceptance Model (TAM), a comprehensive research model is proposed. Data were collected from 256 consumers residing in Türkiye who had previously used online travel agencies, and the hypotheses were tested using partial least squares structural equation modeling (PLS-SEM). The findings reveal that the e-servicescape has significant positive effects on flow experience, positive affect, and trust. While flow experience was a significant predictor of positive affect, it did not have a significant direct effect on e-WOM. Furthermore, positive affect and trust, in turn, significantly predicted both website loyalty and e-WOM. Moreover, e-familiarity negatively moderated the relationship between e-servicescape and flow experience, suggesting that highly familiar users derive less immersive benefit from enhanced online environments. The study contributes to the digital tourism and consumer behavior literature by highlighting the role of user familiarity in shaping experiential outcomes.

**Keywords:** e-servicescape; flow experience; e-familiarity; e-WOM; website loyalty



Academic Editors: Mark A. Bonn and Jun (Justin) Li

Received: 5 January 2026
Revised: 17 February 2026
Accepted: 18 February 2026
Published: 20 February 2026



## 1. Introduction

Despite the growing prevalence of mobile applications in tourism, websites remain a central digital touchpoint for travelers, particularly during information search and evaluation stages. Compared to mobile applications, websites offer broader content visibility, fewer technical constraints, and higher accessibility across devices, making them critical platforms for shaping tourists' perceptions, trust, and booking-related decisions. Online platforms now function as the primary channels through which businesses interact with consumers, particularly in service industries where digital interfaces shape the overall

experience. In these environments, features such as interface structure, navigational coherence, and functional reliability influence how users perceive and evaluate online services. This concept, often referred to as the e-servicescape (ES), encompasses the virtual settings where services are delivered and experienced. Originating from traditional servicescape theory [1], the ES extends these principles to the digital realm, incorporating factors such as aesthetic appeal, online layout, functionality, and financial security [2,3].

The ES serves as a critical interface between businesses and consumers, shaping user experiences and influencing emotions, trust, and behavioral outcomes. A high-quality ES has been linked to enhanced customer satisfaction, trust, and loyalty, as well as increased positive e-WOM [4,5]. However, the nuanced mechanisms through which ES impacts consumer behavior, especially in the context of flow experience (FE), positive affect (PA), and trust, remain underexplored. Additionally, the role of e-familiarity (EF), or the extent to which users are accustomed to navigating digital environments, adds another layer of complexity, potentially moderating these relationships [6,7].

Research conducted to date suggests that the ES is significantly associated with several key consumer-related outcomes, including FE [8–10], trust [2,11,12], and e-WOM communication [11,13]. Moreover, the impact of the ES on affective responses, especially PA, has been investigated in recent empirical research [14]. While earlier research has provided valuable insights into various outcomes associated with ES, the literature remains fragmented with respect to several critical relationships. Specifically, empirical studies directly examining the effect of the ES on PA remain limited, indicating a need for further investigation in this area. Moreover, although Website Loyalty (WL) constitutes a critical outcome in online service contexts, research explicitly addressing the relationship between the ES and WL is scarce. In particular, existing research has yet to offer a comprehensive examination that integrates emerging constructs within a unified framework.

Furthermore, while the concept of EF has only recently emerged in the literature, there is insufficient empirical research examining its impact both directly and indirectly in online service contexts. By including EF in the proposed research model, this study aims to extend the literature and offer a novel theoretical perspective. Data were collected from consumers residing in Türkiye, who had previously used online travel agencies at least once, thereby ensuring the relevance and contextual validity of the findings within the online travel domain.

This study aims to examine the effects of the ES on FE, PA, trust, WL, and e-WOM, as well as to examine the moderating role of EF in these relationships. By integrating insights from the literature on consumer behavior, marketing, and digital interface design, this research offers a holistic framework for understanding the influence of the ES on online consumer behavior and its implications for digital marketing strategies.

The current study addresses the following research questions:

1. How does ES influence FE, PA, and trust?
2. What are the downstream effects of these factors on WL and e-WOM?
3. How does EF moderate the relationships between ES and these outcomes?

The findings of this study are expected to inform both academic inquiry and managerial practice by clarifying how online service environments can be designed to foster stronger consumer engagement and support organizational outcomes.

## 2. Theoretical Background

In hospitality and tourism research, service experiences have long been understood as outcomes shaped not only by service performance but also by the environments in which consumption-related interactions occur. The concept of ES can be exemplified through various platforms in the tourism industry. Websites like Trivago, TripAdvisor, and Book-

ing.com not only offer visually appealing images but also stand out as user-friendly and financially secure platforms. A study conducted by Amer (2021) [15] revealed that participants were also familiar with various third-party sites such as Agoda, AlMosafer, Wego, and Expedia. Expedia and Booking.com are companies with significant positions in the tourism industry [16]. As tourism services increasingly shift to digital platforms, online environments have become central spaces where tourists form evaluations, experience emotions, and develop behavioral intentions prior to actual consumption. In such contexts, the absence of physical interaction heightens the importance of environmental cues embedded in digital interfaces, making theoretical examination of online service environments particularly relevant.

Servicescape theory provides a useful point of departure for understanding how environmental characteristics influence consumer responses. Originally developed to explain the effects of physical surroundings in service settings, the theory emphasizes that environmental cues shape individuals' interpretations, emotional reactions, and subsequent behaviors [1]. Within hospitality and tourism research, this perspective has been widely applied to explain how atmospherics contribute to experiential evaluations in hotels, restaurants, and destinations. As service encounters increasingly occur online, these ideas have been extended to digital contexts through the notion of ES. In online tourism settings, design coherence, functional clarity, and perceived security collectively form the environment in which tourists engage with service providers [2]. These elements serve as substitutes for tangibility and interpersonal contact, thereby influencing perceived reliability and experiential quality.

While servicescape theory defines the service environment, the Stimulus-Organism-Response (S-O-R) paradigm sheds light on how such environments influence consumer behavior. The S-O-R framework, derived from environmental psychology, views environments as stimuli that activate internal psychological processes, which then influence behavioral responses. [17,18]. In tourism research (including sustainability-oriented studies), this framework has been particularly valuable for examining experiential mechanisms through which environmental cues affect emotions, trust, and loyalty-related outcomes.

Although the Stimulus–Organism–Response framework serves as the primary theoretical foundation of this study, the Technology Acceptance Model (TAM) is explicitly incorporated within the organism component. Users' evaluations of system efficiency and ease of interaction are conceptualized as TAM-based cognitive appraisals that mediate the relationship between environmental stimuli and behavioral responses in the online tourism context.

In the present context, ES operates as the stimulus that initiates tourists' internal evaluations. These internal responses include experiential immersion, affective reactions, and relational judgments. FE reflects a state of concentrated engagement that enhances the perceived meaningfulness of digital interactions. PA captures emotional responses such as enjoyment and interest that emerge during interaction with online platforms. Trust represents a critical relational assessment in tourism contexts characterized by information asymmetry and pre-consumption risk [6]. Together, these internal states shape behavioral outcomes such as WL and e-WOM. From a sustainability perspective, such outcomes contribute to stable platform usage, reduce dependence on short-term promotional tactics, and support long-term consumer–platform relationships. By combining servicescape theory, the S-O-R framework, and the Technology Acceptance Model (TAM), this study conceptualizes online travel platforms as experiential environments that shape tourists' cognitive evaluations, affective responses, and long-term behavioral intentions, thereby providing a coherent and integrative theoretical foundation for examining sustainable behavioral outcomes in hospitality and tourism.

## 3. Conceptual Model

### 3.1. E-Servicescape

ES as a construct originates from earlier discussions of digitally mediated service environments. It builds upon Venkatesh's (1998) notion of cyber market scapes [19] and Koernig's (2003) conceptualization of e-scapes [20]. In subsequent studies, the same phenomenon has been examined under different terminologies, including virtual servicescape [21], online servicescape [2,22,23], digital servicescape [24], and electronic servicescape [3]. Although these labels vary, they collectively refer to the characteristics of online environments in which service encounters take place.

Harris and Goode (2010) [2] define ES as a set of environmental cues present during online service delivery that shape consumer perceptions and evaluations. Similarly, Wu et al. (2017) [4] emphasize the role of online "physical" elements that exist at the moment of service interaction and influence customer satisfaction. In this respect, the ES functions as a digital counterpart to the traditional servicescape, adapting Bitner's (1992) framework to virtual contexts [1].

Within online settings, ES plays a critical role in shaping consumers' behavioral intentions and emotional responses. By guiding users toward particular actions, it contributes to both affective and cognitive evaluations of the service experience [25]. According to Harris and Goode (2010) [2], the ES consists of three core dimensions: aesthetic appeal, online layout and functionality, and financial security. While the first two dimensions are conceptually aligned with those proposed in physical service environments, financial security reflects the unique demands and risks associated with online transactions.

Aesthetic appeal refers to the overall visual attractiveness and sensory impression of a website. It encompasses design elements that stimulate users' interest and enhance their engagement with online content [5]. Effective visual design not only captures attention but also mitigates information overload by facilitating clarity and coherence [3]. In this context, consistency in visual elements such as colour schemes, typography, and layout structure is essential for creating a positive user experience.

Online layout and functionality represent the structural and operational aspects of a website that enable smooth interaction. Layout relates to the organization, adaptability, and navigational structure of web pages, whereas functionality concerns the usefulness, relevance, and accessibility of website content [23]. Together, these elements determine how efficiently users can accomplish their goals and how enjoyable they perceive the interaction [5]. Financial security is another fundamental dimension of the ES. Beyond safeguarding personal and payment information, it also involves minimizing perceived risk and simplifying the online purchasing process. Perceptions of smooth and secure transaction processes contribute to higher levels of user trust in the platform [22].

In virtual service environments, the ES serves as the primary interface through which communication between firms and consumers occurs. Although a substantial body of research has examined the relationship between ES attributes and behavioral outcomes, relatively limited attention has been given to consumers' experiential evaluations of online hotel booking platforms. Prior empirical studies indicate that well-designed service environments significantly enhance user experience across different settings. For instance, websites that effectively balance hedonic and utilitarian design features are positively associated with FE [26].

Within tourism and hospitality contexts, website quality has been identified as a key determinant of flow in both virtual travel communities and hotel booking platforms [27,28]. Furthermore, Eroglu et al. (2003) [29] argue that online service environments are closely linked to users' emotional states. Supporting this view, Huang et al. (2017) [9] highlight the online environment as a crucial antecedent of PA. The influence of environmental cues on

emotional responses has also been widely discussed in tourism research across both offline and online domains [30].

Finally, the performance of ES dimensions has been shown to exert a significant impact on consumer trust. A well-designed and reliable online environment enhances users' confidence in a website, thereby fostering trust [5]. Trust, in turn, plays a mediating role in the relationship between website quality, design features, and the broader ES, shaping long-term consumer–brand relationships [31].

In light of this information, we propose the following hypotheses:

**H1:** *ES is positively related to FE on the website.*

**H2:** *ES is positively related to PA on the website.*

**H3:** *ES is positively related to Trust on the website.*

### *3.2. Flow Experience*

The relationship between ES and FE is well-documented in the context of online platforms. FE, characterized by an immersive state of deep involvement and enjoyment, is closely tied to the design and functionality of online environments [27]. A well-designed ES, with its appealing aesthetics, seamless layout, and robust functionality, facilitates user engagement by minimizing distractions and enhancing usability [32]. For instance, studies have shown that ES with hedonic and utilitarian features positively influences consumers' likelihood of experiencing flow states while browsing or shopping online [26]. These immersive experiences, in turn, foster greater customer satisfaction and loyalty, making the optimization of ES a strategic priority for businesses.

FE, often described as a condition of deep immersion and engagement in an activity, significantly impacts customers' emotions and satisfaction, particularly in the tourism industry. It is characterized by a sense of enjoyment, focus, and a loss of self-consciousness. Rather than representing a static psychological state, flow emerges through interaction with environments that balance usability, challenge, and engagement. It involves elements such as focused attention, time distortion, and a sense of control over the activity [33,34].

FE in tourism, such as during ecotourism or virtual reality tours, is positively related to customer satisfaction. This is because flow enhances the enjoyment and memorability of the experience, leading to higher satisfaction levels [35–37]. Flow contributes to the "fun" emotion, which is crucial for memorable tourism experiences. This emotional engagement can increase tourists' intentions to recommend and revisit destinations [33,38].

Within the tourism domain, FE not only boosts satisfaction but also encourages environmentally responsible behaviors and destination loyalty. This is particularly evident in eco-tourism settings where FEs are linked to tourists' value perceptions [35]. Novelty and interpersonal interactions are important in creating FE, which in turn enhances satisfaction and positive memories of the tourism experience [33].

Flow influences consumer behavior by fostering positive emotions and satisfaction, which in turn encourages e-WOM. FEs in seamless omnichannel environments lead to increased positive e-WOM. Consumers in a flow state tend to engage in positive experience-sharing behaviors, as the seamless environment enhances their overall satisfaction and engagement [39]. FEs within online brand communities enhance customer engagement, which subsequently increases e-WOM intention. The immersive experience encourages community members to share their positive experiences with others [40]. By fostering a state of deep involvement and enjoyment, flow can lead to increased customer loyalty and positive behavioral intentions, such as recommendations and revisits. In the tourism industry, creating opportunities for FE can significantly improve customer satisfaction

and emotional connections with destinations. Additionally, Website loyalty (e-loyalty) refers to users' intentions to revisit a website or to engage in future transactions on the site. Although online loyalty is often measured through behavioral indicators such as the time a visitor spends on a site or the frequency of return visits, determining whether users are genuinely committed to a website is not always straightforward [41]. Without customer loyalty, even the most well-designed e-commerce platforms may fail to sustain long-term viability. Firms aiming to cultivate a loyal customer base must consistently satisfy their users and focus on developing enduring relationships with them [42].

Accordingly, the following hypotheses are proposed:

**H4:** *FE is positively related to WL.*

**H5:** *FE is positively related to e-WOM.*

In the purchase decision-making process, both FE and PA are valuable experiences [9]. This relationship merits closer empirical examination. In several studies, PA is suggested to be a consequence of FE. Greater FE is associated with greater PA [43]. Guo et al. (2016) [44] further noted that the FE has a direct impact on consumers' emotions when they search and trade online. On this basis, the following hypothesis is proposed:

**H6:** *FE is positively related to PA.*

### *3.3. Positive Affect*

Affect is a psychological construct that represents mental states of evaluative feelings about a situation [45]. In accordance with Watson et al. (1988) [46] creators of the extensively used PANSAS scale, PA captures the extent to which individuals feel energetic, attentive, and emotionally engaged during an experience. It represents a state in which one is highly aroused, fully focused and pleasantly engaged. PA is the feeling of being interested, enthusiastic, alert and inspired while performing an activity [47].

When individuals experience positive emotions, their attentional focus, cognitive processes, and range of behaviors tend to broaden [48]. If consumers feel more pleasure and joy while shopping, this PA will in turn increase their positive behavior, such as buying and revisiting [9]. In addition, their findings indicate that positive emotions partially mediate the relationship with behavioral loyalty, whereas negative emotions partially mediate the relationship with attitudinal loyalty.

PA, which encompasses feelings of pleasure, joy, and enthusiasm, is another critical outcome of a well-constructed ES. The emotional appeal of an online environment, including its visual and functional attributes, plays a key role in shaping consumers' emotional responses [45]. When customers perceive an ES as aesthetically pleasing and user-friendly, they are more likely to associate their online interactions with positive emotions [9]. These emotions contribute to a more favourable overall customer experience and, in turn, encourage repeat visits as well as positive e-WOM. Furthermore, studies in tourism and hospitality sectors have revealed that PA mediated by high-quality ESs significantly increases customer trust and loyalty [7,49]. Hereby, the following hypothesisare proposed:

**H7:** *PA is positively related to WL.*

**H8:** *PA is positively related to e-WOM.*

### *3.4. Trust*

In e-commerce settings, trust reflects the level of confidence consumers place in online vendors, which can fluctuate based on various factors such as perceived privacy, service quality, and security. Trust is a multidimensional concept that includes elements like integrity, benevolence, and ability, and is crucial for overcoming consumer hesitancy in online transactions [50–52].

Trust is a cornerstone of successful online interactions, particularly in e-commerce, where customers rely heavily on the perceived credibility of a website [53]. The ES contributes to trust by providing a secure, visually appealing, and functional digital environment [2]. Elements such as financial security, user-friendly layouts, and consistent branding reinforce customers' confidence in the platform [5]. High levels of trust in the ES not only encourage immediate purchase decisions but also promote long-term loyalty and advocacy behaviors, such as positive e-WOM. The relationship between trust and ES highlights the critical role of digital interface design in building sustainable customer relationships in the online marketplace.

Trust influences consumers' commitment to a brand or website, especially in high-involvement situations where trust can have a stronger impact than overall satisfaction [54,55]. Trust affects not only the intention to purchase but also actual purchasing behavior, including preference, cost, and frequency of visits, thereby enhancing consumer loyalty and profitability for the website [56].

Trust significantly impacts e-WOM, as it determines how likely customers are to share their experiences and recommendations online. A positive ES, which includes customer reviews and other online environmental factors, enhances trust, which in turn positively influences e-WOM and customer loyalty [31]. Trust in a brand or website encourages consumers to engage in e-WOM, sharing their experiences and recommendations, which can either benefit or harm the brand depending on the nature of the feedback [31,57].

Trust is a critical component in e-commerce, influencing both WL and e-WOM. It acts as a foundation for consumer confidence, affecting their purchasing decisions and their propensity to engage in brand recommendations. Trust enhances loyalty by fostering a reliable and secure online environment, and it drives e-WOM by encouraging consumers to share their positive experiences. In light of the theoretical arguments outlined above, the following hypotheses are advanced:

**H9:** *Trust is positively related to WL.*

**H10:** *Trust is positively related to e-WOM.*

### *3.5. E-Familiarity*

EF literature frequently conceptualizes familiarity as a form of situational normality, referring to an individual's perception that a given environment operates in an expected and understandable manner based on prior experience [6]. Familiarity contributes to the reduction in social uncertainty by enabling individuals to interpret and evaluate situations more effectively through accumulated experience [58]. As individuals become familiar with an environment, they are better able to anticipate the behavior of other parties, which enhances their perceived level of control and, in turn, fosters the development of trust [59].

In online contexts, users who possess extensive experience with internet technologies, websites, and especially e-commerce platforms tend to exhibit lower levels of hesitation and anxiety when engaging in online transactions [58]. Beyond technical competence, familiarity also encompasses an understanding of institutional safeguards designed to protect

consumers. In this regard, perceptions of financial security represent an essential element within the online environment and play a central role in the formation of online trust.

Existing empirical studies have examined the moderating role of e-trust in relation to constructs such as e-satisfaction, e-loyalty, and e-service quality [60]. Similarly, studies in adjacent domains have highlighted the importance of familiarity as a contextual moderator. For instance, Catalán et al. (2019) [61] demonstrated that brand familiarity strengthens the relationship between advergaming experiences and flow. Likewise, Park et al. (2019) [7] found that brand familiarity significantly moderates the effect of substantive ES elements on PA. The relationship between familiarity and trust has also been empirically supported by Gefen (2000) [59], who showed that even non-personal and routine interactions mediated through standardized technological interfaces can contribute to trust formation when familiarity is present.

Building on this body of literature, EF is expected to shape how users interpret and respond to experiential and affective cues within the ES. On this basis, the following hypotheses are advanced:

**H11:** *EF has a significantly moderating role in the relationship between FE and ES.*

**H12:** *EF has a significantly moderating role in the relationship between PA and ES.*

**H13:** *EF has a significantly moderating role in the relationship between trust and ES.*

## 4. Methods

### *4.1. Research Model*

As seen in Figure 1, this study aims to investigate the influence of ES on consumer experiences, specifically focusing on FE, trust, WL, and electronic word-of-mouth (e-WOM). ES has three components and these components aesthetically appealing, layout and functionality and financial security. This study focuses on consumers who purchase services via online websites. Within this context, a comprehensive model has been developed incorporating variables such as ES, FE, PA, trust, WL, and e-WOM. Firstly, the study examines the existence of positive relationships between ES and FE, PA, and trust. Subsequently, it investigates whether EF moderates these relationships. The proposed research model represents a detailed extended model, which, to the best of our knowledge, constitutes the first study to present such a framework in the literature (Figure 1).

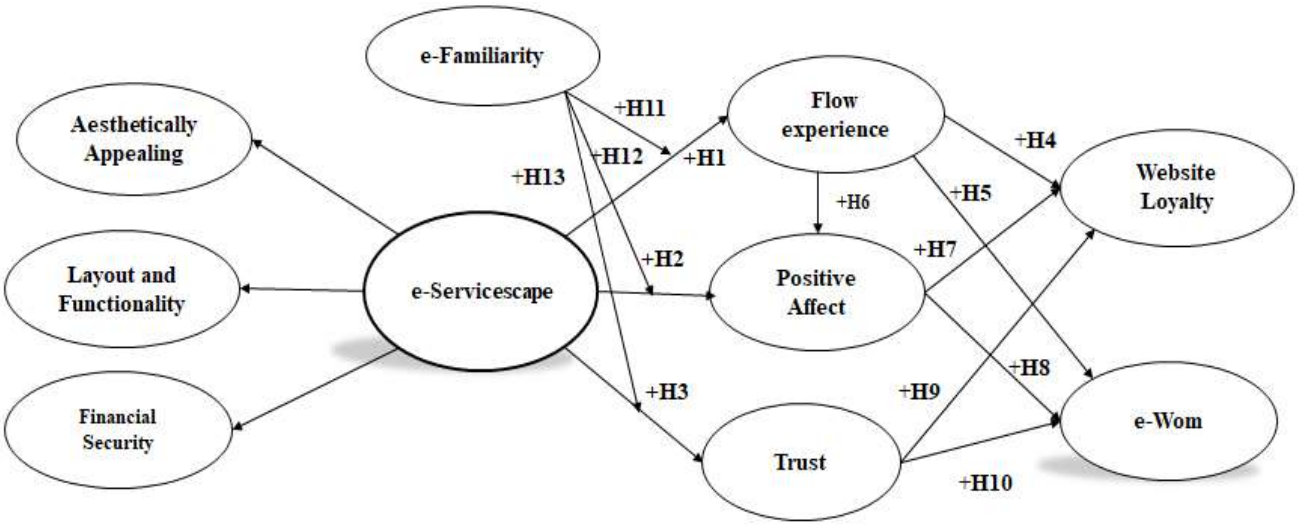


**Figure 1.** Proposed Research Model.

### *4.2. Sample and Data Collection*

The population of this study consisted of voluntary consumers aged 18 and above residing in Türkiye. Participants were required to have purchased travel services at least once, specifically within the last 12 months, using an online travel agency. This specific timeline was enforced to ensure the contemporary relevance of the data and to mitigate potential recall bias or the 'halo effect', ensuring that respondents' evaluations were based on recent and clear interactions with digital interfaces. The data were collected using a survey method. The survey, developed for the purposes of this research, was administered online to the study population via Google Forms. Between February 1 and March 1, 2024, the researchers collected 270 online surveys from consumers using the convenience sampling method. This method, in which only easily accessible individuals are included in the sample, provides researchers with advantages in terms of time and cost. However, the main limitation of convenience sampling is that it is uncertain whether the obtained sample accurately represents the population. Consequently, the generalizability of the findings is limited [62]. Thus, 14 questionnaires excluded from the research due to incomplete questionnaires. The study was conducted using the remaining 256 questionnaires.

The adequacy of the obtained sample size in representing the population was assessed with reference to Bryman and Cramer (2001) [63]. The authors suggest that multiplying the total number of items in a scale by five or ten is sufficient to represent the population. In this study, the questionnaire used comprised 38 items, indicating that a minimum sample size of 190 can be considered acceptable. Additionally, Tabachnick and Fidell (2007) [64] state that studies involving multivariate analyses require at least 210 participants. Accordingly, a total of 256 participants were reached in this study, suggesting that the sample size is sufficient to represent the population.

Because the questionnaire was administered online, the sample is more reflective of digitally active adult consumers. We therefore interpret the findings within this context and acknowledge that differences in participants' educational background and other unobserved characteristics may influence comprehension and response patterns. Future studies should employ stratified sampling and measurement-invariance testing across demographic groups to further enhance robustness. Moreover, while age may shape individuals' familiarity with technology, age-related differences were not explicitly examined as a moderating variable in the current research model.

### *4.3. Measures*

The measurement scales employed in this study are summarized as follows. The ES scale, adopted from Tanković and Benazić (2018) [65], consists of 17 items and reflects a three-sub-factor constructs. Specifically, the first factor, aesthetic appeal, comprises five items; the second factor, layout and functionality, includes seven items; and the third factor, financial security, consists of five items. The online FE construct was measured using a five-item scale developed by Huang et al. (2017) [9]. In addition, the PA construct was assessed using a four-item scale also developed by Huang et al. (2017) [9]. WL was measured using a three-item scale proposed by Casaló et al. (2008) [66]. Furthermore, the electronic word-of-mouth (e-WOM) construct was measured using a three-item scale developed by Line and Hanks (2019) [67]. Finally, EF was measured using a five-item scale developed by Gefen (2000) [59], while trust was assessed using a three-item scale, also adapted from Gefen (2000) [59]. Thus, the items on the scales were presented using a 5-point Likert-type scale (1 = Strongly disagree. . . 5 = Strongly agree).

### *4.4. Data Analysis*

Smart PLS 3.0.9 and SPSS v.27 were used to analyze the data. The study's prediction-oriented focus on explaining variance in important endogenous constructs (flow experience, positive affect, trust, website loyalty, and e-WOM) within a complex model incorporating a hierarchical second-order construct (e-servicescape) and moderation effects led to the use of PLS-SEM. PLS-SEM was considered the most suitable analytical method due to its suitability for higher-order and interaction models, strong performance with moderate sample sizes, and broad support in tourism and hospitality research for maximizing explained variance ($R^2$) and predictive relevance ($Q^2$).

In accordance with Podsakoff et al. (2003) [68] recommendations, potential common method bias (CMB) was evaluated. To lessen evaluation anxiety and social desirability bias, procedural remedies were put in place, such as guaranteeing respondent anonymity and highlighting the lack of right or wrong answers. Furthermore, Harman's single-factor test revealed that the first factor explained 36.82% of the overall variation, which is less than the 50% cutoff, indicating that CMB is not likely to seriously jeopardize the validity of the study.

## 5. Findings

### *5.1. Demographic Features of Participants*

As show in Table 1, the participants had an equal gender distribution (50% female, 50% male). Regarding age distribution, 41.4% are between 25 and 34 years old. The majority of participants were unmarried (55.1%) and had a university degree (64.5%). Trivago was the most popular online reservation platform (39.9%), followed by ETS Tour (30.3%), Tatilsepeti (9.6%), and Booking (9.2%). Other platforms (Tatilbudur: 2.8%; hotel websites: 1.8%; Otelz: 3.2%; Jolly Tour: 3.2%) were used less frequently. 218 of the 256 participants answered the question on platform usage. A significant fraction of the sample had significant experience with online reservation systems, as seen by the fact that 47.7% reported making one online reservation, 12.1% reported making two, and 40.2% reported making three or more.

**Table 1.** Demographic profile of participants.

| Variable | Category | n | % |
|---|---|---|---|
| **Gender** | Male | 128 | 50.0 |
| | Female | 128 | 50.0 |
| **Education level** | University degree | 165 | 64.5 |
| | Other | 91 | 35.5 |
| **Marital status** | Single | 141 | 55.1 |
| | Married/Other | 115 | 44.9 |
| **Age** | 18–24 | 72 | 28.1 |
| | 25–34 | 106 | 41.4 |
| | 35–44 | 63 | 24.6 |
| | 45–58 | 15 | 5.9 |

**Table 1.** *Cont.*

| Variable | Category | n | % |
|---|---|---|---|
| **Most frequently used online reservation platform** (n = 218) | Trivago | 87 | 39.9 |
| | ETS Tour | 66 | 30.3 |
| | Tatilsepeti | 21 | 9.6 |
| | Booking | 20 | 9.2 |
| | Otelz | 7 | 3.2 |
| | Jolly Tour | 7 | 3.2 |
| | Tatilbudur | 6 | 2.8 |
| | Hotel websites | 4 | 1.8 |
| **Frequency of online reservations** | Once | 122 | 47.7 |
| | Twice | 31 | 12.1 |
| | Three or more times | 103 | 40.2 |

As shown in Table 1, the sample has a balanced gender distribution, and the participants are quite young. Many participants reported being single and having a university degree. Trivago and ETS Tour were found to be the most popular platforms for online reservation behavior, and a sizable percentage of participants reported making reservations online three or more times, suggesting a generally high degree of familiarity with digital booking systems.

### *5.2. Measurement Model*

The validity of the measurement model was evaluated in terms of convergent and discriminant validity [69]. Convergent validity was assessed using factor loadings, average variance extracted (AVE), rho A values, and composite reliability (CR). Convergent validity was confirmed by examining the factor loadings and AVE values of the constructs (Table 2). The factor loadings for Flowexperience3, Layandfunc1, and Layandfunc3 were below 0.40 and therefore excluded from the analysis. Ref. [69] emphasized the importance of assessing internal consistency reliability when an item's factor loading falls between 0.40 and 0.70. In this context, the factor loadings of Aesthetic3, Layandfunc2, Seconline4, and Flowexp4 were found to be outside the ideal range of 0.70 to 0.90 [70]. Since the removal of these items did not produce a positive change in the AVE values of the constructs, they were retained to preserve construct integrity. Finally, the results indicated satisfactory convergent validity, as the CR values ranged from 0.882 to 0.969 and the AVE values from 0.612 to 0.874.

**Table 2.** Measurement results.

| Latent Variables | Indicators | Loading | CR | AVE |
|---|---|---|---|---|
| ***ES (Second-order)*** | | | 0.923 | 0.801 |
| **Aesthetically Appealing** | Aesthetic1 | 0.903 | 0.919 | 0.698 |
| | Aesthetic2 | 0.912 | | |
| | Aesthetic3 | 0.643 | | |
| | Aesthetic4 | 0.873 | | |
| | Aesthetic5 | 0.819 | | |

**Table 2.** *Cont.*

| Latent Variables | Indicators | Loading | CR | AVE |
|---|---|---|---|---|
| **Layout and Functionality** | Layandfunc2 | 0.592 | 0.904 | 0.658 |
| | Layandfunc4 | 0.860 | | |
| | Layandfunc5 | 0.929 | | |
| | Layandfunc6 | 0.929 | | |
| | Layandfunc7 | 0.716 | | |
| **Financial Security** | FinSec1 | 0.725 | 0.883 | 0.612 |
| | FinSec2 | 0.910 | | |
| | FinSec3 | 0.842 | | |
| | FinSec4 | 0.484 | | |
| | FinSec5 | 0.872 | | |
| **FE** | Flowexp1 | 0.885 | 0.882 | 0.664 |
| | Flowexp2 | 0.921 | | |
| | Flowexp4 | 0.468 | | |
| | Flowexp5 | 0.898 | | |
| **PA** | Posaffect1 | 0.866 | 0.949 | 0.824 |
| | Posaffect2 | 0.935 | | |
| | Posaffect3 | 0.905 | | |
| | Posaffect4 | 0.923 | | |
| **Trust** | Trust1 | 0.904 | 0.948 | 0.786 |
| | Trust2 | 0.935 | | |
| | Trust3 | 0.924 | | |
| | Trust4 | 0.943 | | |
| | Trust5 | 0.705 | | |
| **WL** | Loy1 | 0.932 | 0.954 | 0.874 |
| | Loy2 | 0.933 | | |
| | Loy3 | 0.938 | | |
| **EF** | Efamailiar1 | 0.940 | 0.969 | 0.885 |
| | Efamailiar2 | 0.939 | | |
| | Efamailiar3 | 0.938 | | |
| | Efamailiar4 | 0.946 | | |
| **e-WOM** | Ewom1 | 0.936 | 0.952 | 0.868 |
| | Ewom2 | 0.943 | | |
| | Ewom3 | 0.916 | | |

Discriminant validity was evaluated using the Fornell–Larcker criterion and the Heterotrait–Monotrait ratio (HTMT). Discriminant validity ensures that each construct is empirically distinct from the others, which is verified when the square root of the AVE for each construct exceeds its inter-construct correlations [71]. As shown in Table 3, this criterion was met for all constructs, confirming discriminant validity.

**Table 3.** Discriminant validity (Fornell-Larcker).

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | **0.836** | | | | | | | | | |
| 2 | 0.718 | **0.811** | | | | | | | | |
| 3 | 0.671 | 0.714 | **0.782** | | | | | | | |
| 4 | ---* | ---* | ---* | **0.793** | | | | | | |
| 5 | 0.729 | 0.697 | 0.700 | 0.723 | **0.815** | | | | | |
| 6 | 0.678 | 0.640 | 0.647 | 0.732 | 0.754 | **0.908** | | | | |
| 7 | 0.684 | 0.680 | 0.724 | 0.777 | 0.742 | 0.697 | **0.887** | | | |
| 8 | 0.647 | 0.624 | 0.637 | 0.711 | 0.679 | 0.675 | 0.720 | **0.935** | | |
| 9 | 0.635 | 0.631 | 0.678 | 0.723 | 0.684 | 0.621 | 0.738 | 0.700 | **0.941** | |
| 10 | 0.660 | 0.575 | 0.620 | 0.692 | 0.625 | 0.629 | 0.720 | 0.706 | 0.625 | **0.932** |

*Explanation: 1: Aesthetically Appealing; 2: Layout and Functionality; 3: Financial Security; 4: ES; 5: FE; 6: PA; 7: Trust; 8: WL; 9: EF; 10: E-Wom. Values in bold are the square root of AVE values. * e-Servicescape (In the secondary reflector-reflector measurement, a check of discriminant validity among sub-dimensions was not performed by Hair* et al. *(2019) [69]. Discriminant validity between secondary dimensions and its sub-dimensions is also not examined).*

In addition, the HTMT criterion was used to further assess discriminant validity [69,72]. As presented in Table 4, all HTMT values were below the threshold of 0.90, confirming that discriminant validity was achieved. Overall, these results validate the measurement model and allow for subsequent testing of the structural model.

**Table 4.** Discriminant validity (HTMT).

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | |
| 2 | 0.810 | | | | | | | | | | |
| 3 | 0.722 | 0.799 | | | | | | | | | |
| 4 | --- * | ---* | ---* | | | | | | | | |
| 5 | 0.830 | 0.806 | 0.781 | 0.880 | | | | | | | |
| 6 | 0.743 | 0.708 | 0.703 | 0.784 | 0.839 | | | | | | |
| 7 | 0.743 | 0.736 | 0.778 | 0.820 | 0.823 | 0.748 | | | | | |
| 8 | 0.704 | 0.687 | 0.669 | 0.749 | 0.758 | 0.727 | 0.771 | | | | |
| 9 | 0.682 | 0.688 | 0.714 | 0.757 | 0.749 | 0.658 | 0.777 | 0.741 | | | |
| 10 | 0.720 | 0.627 | 0.661 | 0.731 | 0.693 | 0.678 | 0.772 | 0.760 | 0.662 | | |
| 11 | 0.488 | 0.448 | 0.509 | 0.525 | 0.512 | 0.426 | 0.427 | 0.385 | 0.309 | 0.376 | |

*Explanation: 2: Aesthetically Appealing; 3: Layout and Functionality; 4: Financial Security; 5: ES; 6: FE; 7: PA; 8: Trust; 9: WL; 10: EF; 11: E-Wom.* e-Servicescape = It is important to note that HTMT values between the second-order construct (ES) and its first-order dimensions are omitted, in accordance with the recommendations of Hair* et al. *(2019) [69] for reflective–reflective hierarchical component models.*

### *5.3. Structural Model*

After establishing the validity of the measurement model, the structural model was analyzed (Table 5). First, the variance inflation factor (VIF) values were examined. All VIF values ranged from 1.327 to 2.956, indicating no multicollinearity concerns. Second, to assess the model's predictive power, the coefficient of determination ($R^2$) (Fornell & Larcker, 1981) [71] and cross-validated redundancy ($Q^2$) values were analyzed (Hair et al., 2019) [69]. As shown in Table 4, the model explains 66.2% of FE, 62.1% of PA, 67.1% of Trust, 59% of WL, and 55.3% of e-WOM. All Stone–Geisser $Q^2$ values were positive, indicating sufficient predictive relevance ([64,65]).

To examine the significance and strength of the path coefficients, bootstrapping (5000 resamples) was performed.

The findings indicate that ES exerted a strong positive effect on FE ($\beta = 0.563$, $p < 0.05$, $f^2 = 0.370$), a small but significant effect on PA ($\beta = 0.304$, $p < 0.05$, $f^2 = 0.010$), and a moderate positive effect on trust ($\beta = 0.480$, $p < 0.05$, $f^2 = 0.276$). Accordingly, Hypotheses H1, H2, and H3 were supported.

**Table 5.** Inner model results.

| Hypothesis | Manner | β | t | *p* | Outcome | VIF | $f^2$ |
|---|---|---|---|---|---|---|---|
| $H_1$ | e-Serv → Flowexp | 0.563 | 7.003 | 0.000 | Supported | 2.199 | 0.370 |
| $H_2$ | e-Serv → Posaff | 0.304 | 3.121 | 0.002 | Supported | 2.294 | 0.010 |
| $H_3$ | e-Serv → Trust | 0.480 | 5.748 | 0.000 | Supported | 2.119 | 0.276 |
| $H_4$ | Flowexp → WebLoy | 0.191 | 2.422 | 0.015 | Supported | 2.932 | 0.030 |
| $H_5$ | Flowexp → e-Wom | 0.095 | 1.153 | 0.249 | Not Supported | 2.932 | 0.007 |
| $H_6$ | Flowexp → Posaff | 0.432 | 4.696 | 0.000 | Supported | 2.956 | 0.166 |
| $H_7$ | Posaff → WebLoy | 0.249 | 3.562 | 0.000 | Supported | 2.567 | 0.059 |
| $H_8$ | Posaff → e-Wom | 0.205 | 2.743 | 0.006 | Supported | 2.567 | 0.037 |
| $H_9$ | Trust → WebLoy | 0.406 | 5.280 | 0.000 | Supported | 2.467 | 0.233 |
| $H_{10}$ | Trust → e-Wom | 0.507 | 6.574 | 0.000 | Supported | 2.467 | 0.163 |
| $H_{11}$ | e-Fam × e-Serv → Flowexp | −0.091 | 2.448 | 0.014 | Supported | 1.327 | 0.026 |
| $H_{12}$ | e-Fam × e-Serv → Posaff | −0.029 | 0.718 | 0.473 | Not Supported | 1.362 | 0.002 |
| $H_{13}$ | e-Fam × e-Serv → Trust | −0.049 | 1.325 | 0.185 | Not Supported | 1.327 | 0.006 |
| **Flowexp** $R^2$ = 0.662 $Q^2$ = 0.643; **Psaff** $R^2$ = 0.621 $Q^2$ = 0.541; **Trust** $R^2$ = 0.671 $Q^2$ = 0.654; **WebLoy** $R^2$ = 0.590 $Q^2$ = 0.556; **e-Wom** $R^2$ = 0.553 $Q^2$ = 0.496 | | | | | | | |

Explanation: e-Fam: EF, e-Serv: ES, Flowexp: FE; Posaff: PA, WebLoy: WL.

FE demonstrated a small yet significant influence on WL (β = 0.191, $p < 0.05$, $f^2 = 0.030$) and a moderate, statistically significant effect on PA (β = 0.432, $p < 0.05$, $f^2 = 0.166$), leading to the acceptance of H4 and H6. In contrast, the effect of FE on e-WOM was not statistically significant (β = 0.095, $p > 0.05$, $f^2 = 0.007$), resulting in the rejection of H5.

PA exhibited small but significant effects on both WL (β = 0.249, $p < 0.05$, $f^2 = 0.059$) and e-WOM (β = 0.205, $p < 0.05$, $f^2 = 0.037$), thereby supporting H7 and H8. Finally, trust showed moderate and significant effects on WL (β = 0.406, $p < 0.05$, $f^2 = 0.233$) and e-WOM (β = 0.507, $p < 0.05$, $f^2 = 0.163$), providing support for H9 and H10.

### *5.4. Results of Moderating Effect*

The interaction between ES and FE was negatively and significantly influenced by EF (β = –0.091, t = 2.448, $p < 0.05$, $f^2 = 0.026$). However, the interactions between ES and PA, and between ES and Trust, were not significantly influenced by EF. These findings indicate that EF negatively moderates the relationship between ES and FE. Thus, $H_{11}$ was supported, whereas $H_{12}$ and $H_{13}$ were rejected. To further interpret the moderating effect of EF, a simple slope analysis was conducted (Figure 2).

In this analysis, slope lines were plotted based on the mean of EF and its ±1 standard deviation values. The non-parallel nature of these lines confirms the presence of a moderation effect. The slope test results indicate that the relationship between EF and ES is significant and negative at both high and low levels of FE.

In summary, customers with higher EF experience lower levels of Flow when ES is high compared to those with lower EF. Therefore, when accounting for EF, participants' perception of FE may decrease as ES intensifies.

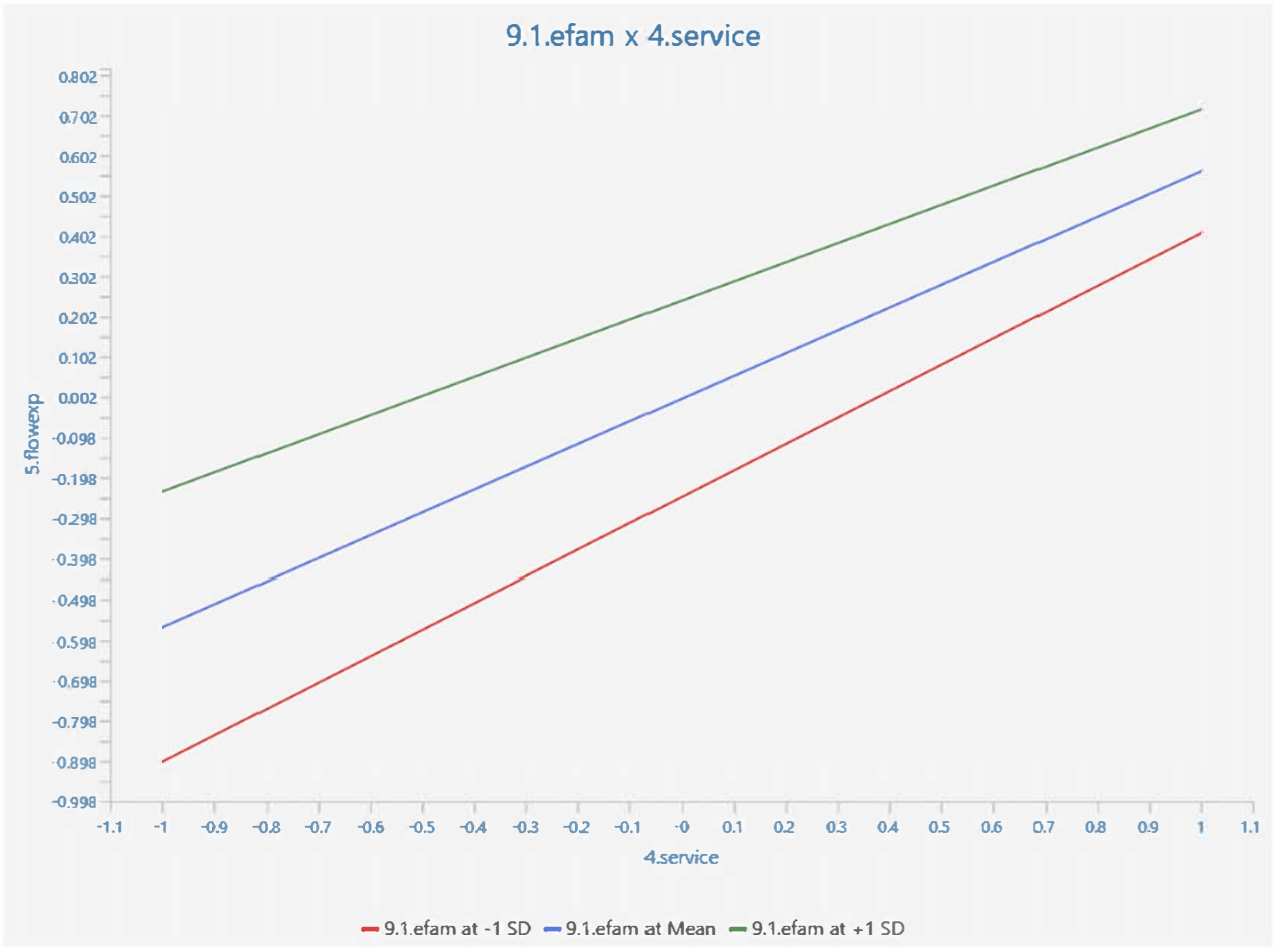


**Figure 2.** Simple Slope test.

## 6. Discussion, Conclusion and Implications

### *6.1. The Effect of ES on FE*

The findings of this study indicate that ES has a positive and statistically significant effect on FE. This result suggests that the aesthetic appeal, functional design, and perceived financial security of online environments play a critical role in facilitating users' immersive experiences during digital interactions. FE, characterized by deep concentration, enjoyment, and a diminished sense of time, emerges more readily when users interact with well-structured and visually appealing online platforms. In this respect, ES functions as a key environmental stimulus that reduces cognitive effort and enables seamless user–platform interaction.

This finding is consistent with prior research emphasizing that well-designed online environments enhance users' engagement by minimizing distractions and improving navigational efficiency [26,27,32]. When users perceive an online platform as intuitive and aesthetically coherent, they are more likely to become fully absorbed in the activity, thereby experiencing higher levels of flow. Accordingly, the present study reinforces the notion that ES is not merely a functional interface but also an experiential mechanism that shapes consumers' psychological states. However, while the positive influence of ES on FE is well established, the strength of this relationship may vary depending on individual user characteristics. In particular, users' prior experience and familiarity with digital platforms warrant closer examination, highlighting the relevance of EF as a potential boundary condition in this relationship.

### *6.2. The Effect of ES on Trust*

Beyond experiential outcomes, the results further demonstrate that ES exerts a significant positive effect on trust. This finding underscores the importance of online environmental cues in reducing perceived risk and fostering confidence in digital platforms. Elements such as financial security, consistent visual design, and functional reliability signal credibility and professionalism, thereby enhancing users' trust perceptions. In online contexts where face-to-face interaction is absent, such cues become especially salient in shaping users' evaluations of platform integrity and reliability.

This result aligns with previous studies suggesting that ES serves as a foundational determinant of trust in e-commerce and digital service environments [2,5,53]. A secure and well-organized online interface reassures users that their personal and financial information is protected, which in turn strengthens their willingness to engage with the platform. Moreover, trust plays a pivotal role in driving downstream behavioral outcomes, such as loyalty and positive electronic word-of-mouth. Therefore, the positive relationship identified in this study confirms the strategic importance of ES in establishing sustainable consumer–platform relationships. Nevertheless, similar to experiential responses, trust formation may also be contingent upon users' prior exposure to and familiarity with online environments, suggesting that the role of EF deserves further attention.

### *6.3. The Moderating Role of EF in the ES–FE Relationship*

One of the most notable and theoretically meaningful findings of this study is the negative moderating effect of EF on the relationship between ES and FE. Contrary to the dominant assumption in the literature that familiarity consistently strengthens positive experiential outcomes, the results reveal that as users' EF increases, the positive impact of ES on FE weakens.

Existing research generally posits that higher levels of familiarity reduce uncertainty and cognitive effort, thereby facilitating more positive user experiences [6,7]. While this assumption holds for the direct effects of EF, the present findings suggest a more nuanced mechanism when familiarity interacts with environmental stimuli. Specifically, highly familiar users may become habituated to standard design features and interface structures, which diminish the novelty and stimulation necessary for experiencing flow. From this perspective, the marginal experiential value of an optimized ES decreases as users' familiarity with digital platforms increases.

This negative moderating effect can also be explained through the lens of behavioral automatization. Users with high EF tend to adopt goal-oriented and efficiency-driven interaction patterns, focusing primarily on task completion rather than experiential enjoyment. As a result, their interactions become more automatic and less immersive, limiting the emergence of flow states that rely on deep cognitive and emotional engagement. Additionally, familiar users often develop higher expectations regarding platform performance and design quality. When these expectations are met but not exceeded, the ES may no longer function as a sufficiently stimulating trigger for FE.

### *6.4. Theoretical Contributions*

This study provides several significant theoretical contributions by expanding the application of servicescape theory and the Stimulus–Organism–Response (S-O-R) framework within the digital tourism domain. However, its primary value lies in identifying critical boundary conditions and theoretical inconsistencies that challenge prevailing assumptions in digital consumer behavior literature.

First, this research offers a critical examination of the "unproven" relationship between flow experience (FE) and electronic word-of-mouth (e-WOM). While established literature in omnichannel marketing [39] and online brand communities [40] posits that immersive flow states are primary drivers of social advocacy, our findings (H5 rejected; $\beta = 0.095$, $p > 0.05$) demonstrate a significant theoretical divergence. This inconsistency suggests an Internal–External Orientation Gap within utilitarian service environments. Flow is fundamentally a private, self-referential state characterized by "deep concentration" and a "loss of self-consciousness" [26]. In the goal-oriented context of an online travel agency (OTA), this internal immersion is task-driven and does not automatically translate into the external, social behavior of e-WOM. This suggests that the S-O-R framework's "Response" phase is more complex than previously assumed; social responses like e-WOM may require external "bridge" mechanisms—such as social presence or community identification—that are distinct from the internal cognitive state of flow [40].

Second, the study enhances theoretical criticality by explicitly contrasting competing perspectives on e-familiarity (EF). A dominant theme in digital marketing research suggests that familiarity acts as a facilitator, reducing cognitive friction and amplifying positive experiential outcomes [7,61]. However, our results (H11: $\beta = -0.091$, $p < 0.05$) support the competing theory of behavioral automatization [59]. By demonstrating that the impact of the e-servicescape on flow weakens as familiarity increases, this study identifies EF as a potential constraint rather than a universal enabler. For highly familiar users, an optimized digital environment is perceived as a standard functional requirement rather than a novel stimulus, leading to routine-driven interactions that lack the emotional intensity required for a flow state [33].

Third, the research clarifies the hierarchy of drivers for digital advocacy in the tourism sector. The findings reveal that Trust (H10: $\beta = 0.507$) and Positive Affect (H8: $\beta = 0.205$) are much stronger predictors of e-WOM than the intensity of the digital interaction (FE) itself. This provides a more nuanced understanding of the S-O-R paradigm, suggesting that in service contexts characterized by financial risk and information asymmetry, relational and emotional "Organism" states take precedence over cognitive immersion when driving social responses [2].

In summary, by highlighting these theoretical inconsistencies and boundary conditions, this study advances the understanding of the e-servicescape not merely as a structural interface, but as a complex experiential stimulus whose effectiveness is contingent upon user characteristics and the specific nature of the digital service environment.

### *6.5. Managerial Implications*

This study yields managerial implications for online travel agencies (OTAs) and hotel booking platforms, demonstrating that the effectiveness of e-servicescapes depends on users' e-familiarity. The significant negative moderating role of e-familiarity suggests that standardized interface designs alone are insufficient for achieving long-term experiential outcomes, as repeated interactions lead to behavioral automatization. Managers are therefore advised to adopt adaptive e-servicescape strategies that differentiate between novice and experienced users. While visually coherent and functionally intuitive interfaces remain critical for reducing cognitive load and facilitating initial engagement with novice users, experienced users require dynamically updated and personalized design elements to mitigate habituation effects and maintain experiential value.

The findings challenge the assumption that immersive flow experiences directly stimulate electronic word-of-mouth (e-WOM) in utilitarian digital service contexts. Instead, trust and positive affect are found to be the dominant antecedents of advocacy behavior, emphasizing the importance of relational and affective mechanisms over experiential immersion

alone. From a managerial standpoint, this suggests that investments aimed at enhancing perceived financial security and transactional transparency are likely to be more effective in fostering e-WOM than focusing exclusively on gamified or hedonic design features.

Furthermore, the observed discontinuity between internal experiential states and outward social behaviors implies that positive user experiences do not automatically result in voluntary recommendations. To address this, practitioners should design structural mechanisms that explicitly facilitate the conversion of private booking experiences into public social signals, such as incentive-based sharing features or embedded social presence cues.

Significantly, previous usage frequency, platform exposure, and accumulated transactional experience all affect e-familiarity; hence, it should not be regarded solely as an age-related characteristic. Therefore, familiarity-based user categorization should take precedence over demographic presumptions in managerial tactics. Personalized, efficiency-focused features for highly familiar users and easier navigation for less familiar users are just two examples of how adaptable interface designs can improve sustained engagement on online travel platforms. Moreover, onboarding manuals, recommendation systems, and trust-building indicators (such as transparent payment procedures and security assurances) can improve sustained engagement beyond digital natives by reducing perceived complexity and fostering loyalty among older or less technologically adept users.

### *6.6. Limitations*

The present work contains numerous methodological deficiencies that warrant consideration notwithstanding its contributions. The ability to draw causal inferences regarding the development of flow experience and website loyalty is restricted by the cross-sectional design and reliance on self-reported survey data, which hinder the ability to capture temporal dynamics in user experiences. Furthermore, in technology-mediated service environments where unconscious or habitual acts are prevalent, self-reported metrics might not accurately reflect actual online behaviors. These limitations may restrict the generalizability of the findings across cultures and industries. Consequently, while the sample size is statistically sufficient for the model, the results should be interpreted with caution when applied to different cultural or industrial settings. Additionally, while the age categories show a broad range of respondents, the higher frequency of participants in the 26–35 age group indicates a concentration of 'digital natives.' This concentration may limit the generalizability of the results to older cohorts, whose motivations and cognitive responses to e-servicescape cues may differ from those of the more tech-savvy younger segments. Second, the cross-sectional and self-reported nature of the data constrains causal inference and may be subject to common method bias, despite satisfactory measurement properties. Third, the results reflect the online reservation context; behavioral patterns and path strengths may differ in other digital service settings. Although user motivation can influence how online information is interpreted, motivation was not measured explicitly in this study. We partially account for user heterogeneity by modeling e-familiarity as a boundary condition; however, future research should incorporate motivational constructs directly and test whether the proposed relationships differ across motivational segments and platform contexts. Although the model explains substantial variance, it does not incorporate additional antecedents such as perceived value, social influence, or broader service quality signals beyond interface cues.

Furthermore, while PLS-SEM is a suitable statistical approach for validating the complex structural relationships within our proposed model, its reliance on retrospective, self-reported data represents a limitation compared to more objective methodologies such as laboratory experiments, A/B testing, or neuro marketing tools. Unlike the current survey-based design, these alternative methods—such as eye-tracking or the measurement of cognitive load—

capture real-time behavioral and physiological responses, providing higher ecological validity for analyzing the immediate impact of interface micro-interventions. Explicitly acknowledging these methodological trade-offs highlights the potential for future research to bridge the gap between perceived and observed user behavior in digital environments.

Finally, another limitation is that the research was conducted within the scope of online travel platforms' websites serving the tourism sector. Although mobile tourism applications have gained popularity in recent years, websites continue to play a crucial role in the tourism industry. Mobile applications face several technical and operational constraints, including limited hardware capacity, small screen sizes, battery restrictions, high development costs, and compatibility issues across devices, as well as concerns related to network performance and data security, which may hinder user adoption [73]. In contrast, online travel websites remain influential in shaping consumers' booking decisions by offering comprehensive accommodation information, user-generated reviews, visual content, and appealing service packages. These platforms deliver not only utilitarian value but also informative and epistemic value, thereby strengthening user trust and enhancing the overall service experience [74]. By increasing perceived benefits and reducing perceived risks, websites positively influence users' intention to use online travel agency services through accessibility, ease of use, and adaptability to diverse consumer needs [75]. Furthermore, integrating advanced, user-friendly, and reliable features inspired by mobile application functionalities can stimulate consumer curiosity and positively affect booking intentions [76].

### *6.7. Directions for Future Research*

Future studies could build on these findings in several ways. First, longitudinal and experimental designs may provide stronger causal inference and provide insight into how changes in e-servicescape components affect advocacy, affect, trust, and loyalty over time. Second, to better capture actual user engagement and uncover the mechanisms behind flow experience and loyalty development, future studies may incorporate objective behavioral indicators (such as click-stream data, dwell duration, travel patterns, and interaction logs). Third, cross-industry and cross-cultural comparisons could determine context-specific boundary constraints and assess the generalizability of the suggested model. Fourth, future research should investigate how varying motivations for internet usage—such as purely utilitarian task-completion versus hedonic or social-driven goals—influence the formation of flow experience and trust, providing a more granular view of user behavior in digital tourism. Fifth, to further understand the observed non-significant direct effect, future research should investigate other psychological mechanisms (such as social presence, community identification, or gamified sharing incentives) that might transform flow experience into e-WOM activity. Finally, the application of behavioral or physiological measurements and A/B testing could improve ecological validity and provide more detailed data on the efficacy of face design techniques at various e-familiarity levels.

To advance methodological rigor beyond retrospective self-reported data, which may be subject to recall bias, researchers should integrate neuromarketing tools—such as eye-tracking, heart rate monitoring, and cognitive load indicators—alongside A/B testing to capture real-time, objective physiological responses to digital interface micro-interventions.

Furthermore, investigating the "Internal–External Orientation Gap" remains a critical theoretical priority. Specifically, future research should explore social "bridge" mechanisms, such as social presence, community identification, or gamified sharing incentives, that may effectively convert the private, goal-oriented state of flow into externalized e-WOM advocacy. Finally, to address the generalizability constraints inherent in convenience sampling, subsequent inquiries should utilize stratified sampling and measurement-invariance testing

across diverse demographic groups, cultures, and industries to validate the robustness of the identified familiarity-based boundary conditions and behavioral automatization effects.

**Author Contributions:** This research paper was agreed and carried out collaboratively by all authors, but each one of the authors has made contributions to the paper individually. E.E. provided project management and language supervision. A.U., M.A.T. and G.A. performed the analyses and focused on the process of testing the hypotheses and the scales of the article. A.T., G.A.-R. and R.E. conducted an extensive literature review, contributed to the original draft, and formulated the research hypotheses. A.U., A.T., E.E., R.E., M.A.T. and G.A. contributed to the completion of the discussion, conclusion, and implications sections. In addition, the authors used an internal audit system during the preparation phase and monitored each other for any potential setbacks. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research received no external funding.

**Institutional Review Board Statement:** Ethics committee Department of Tourism Management, Manavgat Tourism Faculty, Akdeniz University 05–29 January 2024.

**Informed Consent Statement:** Informed consent was obtained from all participants involved in the research.

**Data Availability Statement:** The data analyzed during this study are available on request from the corresponding author.

**Conflicts of Interest:** The authors declare no conflicts of interest.

## References

1. Bitner, M.J. Servicescapes: The Impact of Physical Surroundings on Customers and Employees. *J. Mark.* **1992**, *56*, 57–71. [CrossRef]
2. Harris, L.C.; Goode, M.M.H. Online Servicescapes, Trust, and Purchase Intentions. *J. Serv. Mark.* **2010**, *24*, 230–243. [CrossRef]
3. Dutta, A. Impact of Electronic Servicescape of Online Gaming on Customer Engagement. *J. Electron. Commer. Organ.* **2020**, *18*, 49–63. [CrossRef]
4. Wu, L.; Shen, H.; Fan, A.; Mattila, A.S. The Impact of Language Style on Consumers′ Reactions to Online Reviews. *Tour. Manag.* **2017**, *59*, 590–596. [CrossRef]
5. Yadav, R.; Mahara, T. Exploring the Role of E-Servicescape Dimensions on Customer Online Shopping. *J. Electron. Commer. Organ.* **2020**, *18*, 53–73. [CrossRef]
6. Gefen, D.; Karahanna, E.; Straub, D.W. Trust and TAM in Online Shopping: An Integrated Model1. *MIS Q.* **2003**, *27*, 51–90. [CrossRef]
7. Park, J.-Y.; Back, R.M.; Bufquin, D.; Shapoval, V. Servicescape, Positive Affect, Satisfaction and Behavioral Intentions: The Moderating Role of Familiarity. *Int. J. Hosp. Manag.* **2019**, *78*, 102–111. [CrossRef]
8. Lee, S.; Jeong, M. Effects of E-Servicescape on Consumers' Flow Experiences. *J. Hosp. Tour. Technol.* **2012**, *3*, 47–59. [CrossRef]
9. Huang, D.; Li, Z.; Mou, J.; Liu, X. Effects of Flow on Young Chinese Consumers' Purchase Intention: A Study of e-Servicescape in Hotel Booking Context. *Inf. Technol. Tour.* **2017**, *17*, 203–228. [CrossRef]
10. Boukabiya, A.; Outtaj, B. The Impact of E-Servicescape on the Flow and Purchase Intention of Online Consumers: Quantitative Analysis of B to C e-Commerce Stores in Morocco. *Int. J. Account. Financ. Audit. Manag. Econ.* **2021**, *2*, 200–219.
11. Alipoor, V.; Professor, A.; Reza Sa, M.; Golshan, G. Investigating the Impact of E-Servicescape Dimensions and Experience & Risk Factors on E-WOM: Mediating Role of Trust. *J. Bus. Intell. Manag. Stud.* **2022**, *11*, 87–114.
12. Safira, S.N.; Nirawati, L. The Influence of E-Servicescape, E-Trust, and E-Service Quality on Customer Satisfaction on the E-Commerce. *J. Manaj. Bisnis* **2024**, *11*, 1530–1543. [CrossRef]
13. Wichitsathian, S.; Suvittawat, A. The Mediating Roles of Service Experience and Satisfaction: How Servicescape Influences Loyalty and Electronic Word-of-Mouth. *Adm. Sci.* **2025**, *15*, 485. [CrossRef]
14. Li, Z.; Tulcanaza-Prieto, A.B.; Lee, C.W. Effect of E-Servicescape on Emotional Response and Revisit Intention in an Internet Shopping Mall. *J. Theor. Appl. Electron. Commer. Res.* **2024**, *19*, 2030–2050. [CrossRef]
15. Amer, S.M. The Effect of E-Servicescape, Website Trust and Perceived Value on Consumer Online Booking Intentions: The Moderating Role of Online Booking Experience. *Int. Bus. Res.* **2021**, *14*, 133. [CrossRef]
16. Zentner, H.; Gračan, D.; Barkiđija Sotošek, M. Digital Business Models in the Hospitality Sector: Comparing Hotel Bookings with Yacht Charter Bookings. *Sustainability* **2022**, *14*, 12755. [CrossRef]

17. Mehrabian, A.; Russell, J.A. *An Approach to Environmental Psychology*; MIT Press: Cambridge, MA, USA, 1974.
18. Erul, E.; Karacabey, F.A.; Woosnam, K.M.; Koc, E. Rethinking Stimulus-Organism-Response Theory for Residents' Behaviour in Tourism. *Curr. Issues Tour.* **2024**, *2024*, 1–17. [CrossRef]
19. Venkatesh, A. Cybermarketscapes and Consumer Freedoms and Identities. *Eur. J. Mark.* **1998**, *32*, 664–676. [CrossRef]
20. Koernig, S.K. E-scapes: The Electronic Physical Environment and Service Tangibility. *Psychol. Mark.* **2003**, *20*, 151–167. [CrossRef]
21. Vilnai-Yavetz, I.; Rafaeli, A. Aesthetics and Professionalism of Virtual Servicescapes. *J. Serv. Res.* **2006**, *8*, 245–259. [CrossRef]
22. Alcántara-Pilar, J.M.; Del Barrio-García, S.; Porcu, L.; Crespo-Almendros, E. Language as a Cultural Vessel in Online Servicescapes: Its Impact on Consumers' Perceived Risk, Attitudes, and Behavioural Intentions. *J. Consum. Behav.* **2017**, *16*, E61–E75. [CrossRef]
23. Kuhn, S.W.; Spies, H.; Petzer, D.J. Online Servicescape Dimensions as Predictors of Website Trust in the South African Domestic Airline Industry. *South. Afr. Bus. Rev.* **2019**, *19*, 44–71. [CrossRef]
24. Ballantyne, D.; Nilsson, E. All That Is Solid Melts into Air: The Servicescape in Digital Service Space. *J. Serv. Mark.* **2017**, *31*, 226–235. [CrossRef]
25. Teng, H.-J.; Ni, J.-J.; Chen, H.-H. Relationship between E-Servicescape and Purchase Intention among Heavy and Light Internet Users. *Internet Res.* **2018**, *28*, 333–350. [CrossRef]
26. Bilgihan, A.; Nusair, K.; Okumus, F.; Cobanoglu, C. Applying Flow Theory to Booking Experiences: An Integrated Model in an Online Service Context. *Inf. Manag.* **2015**, *52*, 668–678. [CrossRef]
27. Gao, L.; Bai, X. Online Consumer Behaviour and Its Relationship to Website Atmospheric Induced Flow: Insights into Online Travel Agencies in China. *J. Retail. Consum. Serv.* **2014**, *21*, 653–665. [CrossRef]
28. Ali, F. Hotel Website Quality, Perceived Flow, Customer Satisfaction and Purchase Intention. *J. Hosp. Tour. Technol.* **2016**, *7*, 213–228. [CrossRef]
29. Eroglu, S.A.; Machleit, K.A.; Davis, L.M. Empirical Testing of a Model of Online Store Atmospherics and Shopper Responses. *Psychol. Mark.* **2003**, *20*, 139–150. [CrossRef]
30. Ali, F.; Amin, M.; Ryu, K. The Role of Physical Environment, Price Perceptions, and Consumption Emotions in Developing Customer Satisfaction in Chinese Resort Hotels. *J. Qual. Assur. Hosp. Tour.* **2016**, *17*, 45–70. [CrossRef]
31. Tran, G.A.; Strutton, D. Comparing Email and SNS Users: Investigating e-Servicescape, Customer Reviews, Trust, Loyalty and E-WOM. *J. Retail. Consum. Serv.* **2020**, *53*, 101782. [CrossRef]
32. Lee, S.A.; Jeong, M.; Jeon, M.M. Effects of Experiential Stimuli on Customers' Responses: An Example of Bed and Breakfast Websites. *J. Hosp. Tour. Technol.* **2016**, *7*, 390–404. [CrossRef]
33. da Silva de Matos, N.M.; de Oliveira Duarte, P.A.; de Sá, E.S. Once-in-a-Lifetime Leisure Experiences (OLLE): The Role of Flow, Novelty, and Interpersonal Interaction on Tourists' Satisfaction and Memories. *J. Vacat. Mark.* **2024**, *30*, 615–632. [CrossRef]
34. Karasakal, S. Effects of Flow Experience on Satisfaction: An Examination on Vacation Experience. *Anatolia Tur. Araştırmaları Derg.* **2020**, *31*, 63–73. [CrossRef]
35. Kim, M.; Thapa, B. Perceived Value and Flow Experience: Application in a Nature-Based Tourism Context. *J. Destin. Mark. Manag.* **2018**, *8*, 373–384. [CrossRef]
36. Sann, R.; Luecha, P.; Rueangchaithanakun, R. The Effects of Virtual Reality Travel on Satisfaction and Visiting Intention Utilizing an Extended Stimulus-Organism-Response Theory: Perspectives from Thai Tourists. *J. Hosp. Tour. Insights* **2024**, *7*, 2684–2703. [CrossRef]
37. An, S.; Choi, Y.; Lee, C.-K. Virtual Travel Experience and Destination Marketing: Effects of Sense and Information Quality on Flow and Visit Intention. *J. Destin. Mark. Manag.* **2021**, *19*, 100492. [CrossRef]
38. Chen, X.; Cheng, Z.; Kim, G.-B. Make It Memorable: Tourism Experience, Fun, Recommendation and Revisit Intentions of Chinese Outbound Tourists. *Sustainability* **2020**, *12*, 1904. [CrossRef]
39. Rodríguez-Torrico, P.; San José Cabezudo, R.; San-Martín, S.; Trabold Apadula, L. Let It Flow: The Role of Seamlessness and the Optimal Experience on Consumer Word of Mouth in Omnichannel Marketing. *J. Res. Interact. Mark.* **2023**, *17*, 1–18. [CrossRef]
40. Zhang, M.; Hu, M.; Guo, L.; Liu, W. Understanding Relationships among Customer Experience, Engagement, and Word-of-Mouth Intention on Online Brand Communities. *Internet Res.* **2017**, *27*, 839–857. [CrossRef]
41. Cyr, D.; Hassanein, K.; Head, M.; Ivanov, A. The Role of Social Presence in Establishing Loyalty in E-Service Environments. *Interact. Comput.* **2007**, *19*, 43–56. [CrossRef]
42. Anderson, R.E.; Srinivasan, S.S. E-satisfaction and E-loyalty: A Contingency Framework. *Psychol. Mark.* **2003**, *20*, 123–138. [CrossRef]
43. van Noort, G.; Voorveld, H.A.M.; van Reijmersdal, E.A. Interactivity in Brand Web Sites: Cognitive, Affective, and Behavioral Responses Explained by Consumers' Online Flow Experience. *J. Interact. Mark.* **2012**, *26*, 223–234. [CrossRef]
44. Guo, Z.; Xiao, L.; Van Toorn, C.; Lai, Y.; Seo, C. Promoting Online Learners' Continuance Intention: An Integrated Flow Framework. *Inf. Manag.* **2016**, *53*, 279–295. [CrossRef]

45. Díaz-García, A.; González-Robles, A.; Mor, S.; Mira, A.; Quero, S.; García-Palacios, A.; Baños, R.M.; Botella, C. Positive and Negative Affect Schedule (PANAS): Psychometric Properties of the Online Spanish Version in a Clinical Sample with Emotional Disorders. *BMC Psychiatry* **2020**, *20*, 56. [CrossRef]
46. Watson, D.; Clark, L.A.; Tellegen, A. Development and Validation of Brief Measures of Positive and Negative Affect: The PANAS Scales. *J. Pers. Soc. Psychol.* **1988**, *54*, 1063–1070. [CrossRef] [PubMed]
47. Ehlers, L.; van Schalkwyk, S. Product Videos "Gone Viral": Exploring the Role of Content, Positive Affect and Social Motivations. *J. Commun. Sci. South. Afr.* **2021**, *40*, 43–62. [CrossRef]
48. Bilgihan, A.; Okumus, F.; Nusair, K.; Bujisic, M. Online Experiences: Flow Theory, Measuring Online Customer Experience in e-Commerce and Managerial Implications for the Lodging Industry. *Inf. Technol. Tour.* **2014**, *14*, 49–71. [CrossRef]
49. Su, L.; Hsu, M.K.; Marshall, K.P. Understanding the Relationship of Service Fairness, Emotions, Trust, and Tourist Behavioral Intentions at a City Destination in China. *J. Travel Tour. Mark.* **2014**, *31*, 1018–1038. [CrossRef]
50. Beatty, P.; Reay, I.; Dick, S.; Miller, J. Consumer Trust in E-Commerce Web Sites. *ACM Comput. Surv.* **2011**, *43*, 1–46. [CrossRef]
51. McKnight, D.H.; Choudhury, V.; Kacmar, C. Developing and Validating Trust Measures for E-Commerce: An Integrative Typology. *Inf. Syst. Res.* **2002**, *13*, 334–359. [CrossRef]
52. Hwang, Y.; Kim, D.J. Customer Self-Service Systems: The Effects of Perceived Web Quality with Service Contents on Enjoyment, Anxiety, and e-Trust. *Decis. Support Syst.* **2007**, *43*, 746–760. [CrossRef]
53. Gefen, D.; Straub, D.W. Consumer Trust in B2C E-Commerce and the Importance of Social Presence: Experiments in e-Products and e-Services. *Omega* **2004**, *32*, 407–424. [CrossRef]
54. Delgado-Ballester, E.; Luis Munuera-Alemán, J. Brand Trust in the Context of Consumer Loyalty. *Eur. J. Mark.* **2001**, *35*, 1238–1258. [CrossRef]
55. Harris, L.C.; Goode, M.M.H. The Four Levels of Loyalty and the Pivotal Role of Trust: A Study of Online Service Dynamics. *J. Retail.* **2004**, *80*, 139–158. [CrossRef]
56. Flavián, C.; Guinalíu, M. Consumer Trust, Perceived Security and Privacy Policy. *Ind. Manag. Data Syst.* **2006**, *106*, 601–620. [CrossRef]
57. Velicia-Martin, F.; Folgado-Fernández, J.A.; Palos-Sánchez, P.R.; López-Catalán, B. MWOM Business Strategies: Factors Affecting Recommendations. *J. Comput. Inf. Syst.* **2023**, *63*, 176–189. [CrossRef]
58. Aeron, P.; Jain, S.; Kumar, A. Revisiting Trust toward E-Retailers among Indian Online Consumers. *J. Internet Commer.* **2019**, *18*, 45–72. [CrossRef]
59. Gefen, D. E-Commerce: The Role of Familiarity and Trust. *Omega* **2000**, *28*, 725–737. [CrossRef]
60. Kaya, B.; Behravesh, E.; Abubakar, A.M.; Kaya, O.S.; Orús, C. The Moderating Role of Website Familiarity in the Relationships Between E-Service Quality, e-Satisfaction and e-Loyalty. *J. Internet Commer.* **2019**, *18*, 369–394. [CrossRef]
61. Catalán, S.; Martínez, E.; Wallace, E. Analysing Mobile Advergaming Effectiveness: The Role of Flow, Game Repetition and Brand Familiarity. *J. Prod. Brand Manag.* **2019**, *28*, 502–514. [CrossRef]
62. Gagez, A.E. *Pazarlama Araştırmaları (Marketing Researches)*, 3rd ed.; Beta Basım Yayım Dağıtım: Istanbul, Turkey, 2010.
63. Bryman, A.; Cramer, D. *Quantitative Data Analysis with SPSS Release 10 for Windows*; Routledge: Milton Park, UK, 2002.
64. Tabachnick, B.G.; Fidell, L.S. *Using Multivariate Statistics*, 5th ed; Pearson: New York, NY, USA, 2007.
65. Tankovic, A.C.; Benazic, D. The Perception of E-Servicescape and Its Influence on Perceived e-Shopping Value and Customer Loyalty. *Online Inf. Rev.* **2018**, *42*, 1124–1145. [CrossRef]
66. Casaló, L.V.; Flavián, C.; Guinalíu, M. The Role of Satisfaction and Website Usability in Developing Customer Loyalty and Positive Word-of-mouth in the E-banking Services. *Int. J. Bank Mark.* **2008**, *26*, 399–417. [CrossRef]
67. Line, N.D.; Hanks, L. The Social Servicescape: Understanding the Effects in the Full-Service Hotel Industry. *Int. J. Contemp. Hosp. Manag.* **2019**, *31*, 753–770. [CrossRef]
68. Podsakoff, P.M.; MacKenzie, S.B.; Lee, J.-Y.; Podsakoff, N.P. Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. *J. Appl. Psychol.* **2003**, *88*, 879–903. [CrossRef] [PubMed]
69. Hair, J.F.; Anderson, R.E.; Tatham, R.L.; Black, W.C. *Multivariate Data Analysis, Multivariate Data Analysis*; Annabel Ainscow: Southampton, UK, 2019; Volume 87.
70. Chin, W.W. How to Write up and Report PLS Analyses. In *Handbook of Partial Least Squares: Concepts, Methods and Applications; Springer Handbooks of Computational Statistics*; Springer: Berlin/Heidelberg, Germany, 2010; pp. 655–690.
71. Fornell, C.; Larcker, D.F. Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *J. Mark. Res.* **1981**, *18*, 39–50. [CrossRef]
72. Henseler, J.; Ringle, C.M.; Sarstedt, M. A New Criterion for Assessing Discriminant Validity in Variance-Based Structural Equation Modeling. *J. Acad. Mark. Sci.* **2015**, *43*, 115–135. [CrossRef]
73. Sia, P.Y.-H.; Saidin, S.S.; Iskandar, Y.H.P. Systematic Review of Mobile Travel Apps and Their Smart Features and Challenges. *J. Hosp. Tour. Insights* **2023**, *6*, 2115–2138. [CrossRef]
74. Chen, J.-S.; Kamalanon, P.; Janupiboon, T.P. Company Websites and Mobile Apps versus Social Media: Which Service Experience Creates More Customer Value for Online Travel Agencies? *Serv. Bus.* **2022**, *16*, 1081–1110. [CrossRef]

75. Hien, N.N.; Vo, L.T.; Ngan, N.T.T.; Ghi, T.N. The Tendency of Consumers to Use Online Travel Agencies from the Perspective of the Valence Framework: The Role of Openness to Change and Compatibility. *J. Open Innov. Technol. Mark. Complex.* **2024**, *10*, 100181. [CrossRef]
76. Ali, F.; Ali, L.; Gao, Z.; Terrah, A.; Turktarhan, G. Determinants of User's Intentions to Book Hotels: A Comparison of Websites and Mobile Apps. *Aslib J. Inf. Manag.* **2024**, *76*, 16–41. [CrossRef]