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Technology-Ready Employees as Online Brand Advocates: Digital Internal Branding, Brand Commitment, and Employee-Driven Brand Engagement in Hotels

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Abstract

Brand engagement in digital commerce is shaped not only by consumers but also by the employees who speak for brands on social media and online review platforms. Yet little is known about how employees take up digitally delivered brand communication and turn it into online advocacy. Drawing on technology acceptance research and Social Identity Theory, this study proposes a reception–internalization–expression sequence in which employee technology readiness relates to online brand advocacy through perceived digital internal branding (employees' perceptions of brand management practices with a digital component) and employee brand commitment. Survey data from 536 full-time employees in 24 five-star hotels in Egypt were analyzed using PLS-SEM. Technology readiness was strongly related to perceived digital internal branding but only weakly and directly related to brand commitment and online advocacy. Perceived digital internal branding and brand commitment were positively related to advocacy, and bootstrapped indirect effects, including a sequential pathway, indicated that most of the association between readiness and advocacy was statistically accounted for by these two mediators. Technology readiness therefore appears to be associated with online brand engagement mainly when it is accompanied by perceived digital brand communication and attachment to the brand. The study is original in linking an individual technological disposition to online brand advocacy via the internal communication of the brand, thereby identifying an employee-level pattern of association relevant to brand engagement in digital commerce. Hotels should pair employee technology readiness with consistent digital brand communication and efforts to build commitment. Because the design is cross-sectional and self-reported, the findings are interpreted as associations rather than causal effects.

Keywords: brand engagement; employee brand advocacy; digital internal branding; social media marketing; user-generated content; e-commerce; hospitality

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1. Introduction

The rapid diffusion of digital technologies is reshaping how hospitality organizations manage operations, communicate with employees, and create and sustain their brands. Hotels increasingly rely on digital platforms, technology-enabled service systems, social media, artificial intelligence, and other applications to improve organizational and customer-facing processes, and digital technologies have been linked to hotel performance [1]. This transformation, however, is not determined solely by the availability of technological infrastructure.

Employees remain central to the effective adoption of digital technologies because their willingness and capability to engage with technology are closely tied to how technological resources are translated into organizational and brand-related outcomes. Recent hospitality research highlights the importance of employee technological acceptance and readiness for technology adoption and smart tourism development [2,3], and evidence from service settings shows that employees' technology readiness is related to their acceptance of new technologies [4].

Employee technology readiness is an individual's propensity to embrace and use new technologies, with optimism and innovativeness as contributors and discomfort and insecurity as inhibitors [5,6]. Because it is a general disposition rather than a belief about a particular system, readiness is best viewed as a distal individual resource that is expected to be related to how employees approach digitally delivered organizational practices. Technology acceptance research has shown that readiness is associated with the beliefs that underlie acceptance [4,7], and in hospitality, technological change requires employees to adjust to new work practices and systems [3]. More recent evidence suggests that digital readiness can be developed in response to digital transformation [8] and has been linked to employer-branding processes in non-profit organizations [9]. Readiness may therefore be relevant beyond technology adoption, in how employees engage with their organization's brand through digital organizational practices.

Internal branding refers to organizational efforts to communicate brand values to employees, develop their understanding of the brand, and encourage behaviors that support the brand promise [10,11]. It contributes to employees' brand-supporting behaviors [11,12] and to job satisfaction, brand commitment, and intentions to remain [13]. In hospitality, it has been linked to employee engagement, workplace friendship, and organizational citizenship behavior [14], and meta-analytic and systematic evidence confirms its role in building commitment and dedication to the brand [15,16].

Internal branding is increasingly delivered through digital platforms, which offer new ways to communicate brand values, connect employees, and support their participation in brand-related activities. Prior studies report that digital enablement is associated with stronger internal brand management and brand-related relationships [17,18], that digital internal communication moderates the link between internal branding and employee outcomes [19], and that internal branding is linked to social media use [20]. Perceived digital internal branding may therefore be one route by which technology readiness is linked to employees' connection with their hotel's brand, yet the link between employee technology readiness and perceived digital internal branding remains insufficiently examined in hospitality.

We define perceived digital internal branding (DIB) as employees' perception of the extent to which their hotel's brand management practices (brand information, brand-related training, cross-departmental brand communication, and feedback on brand perceptions) are communicated and enacted through digital channels. The label "perceived" is used consistently throughout the paper because the measure captures employees' perceptions of brand management practice with a digital component, not digitally delivered practice as such: only two of its five items refer explicitly to digital channels (Section 3.3). Conceptually, the construct is not simply conventional internal branding relocated to a different medium. Digital channels make brand content persistent and revisitable, make colleagues' brand-related behavior visible, allow employees to edit, comment on, and re-share content, and connect employees across departments and, potentially, to audiences outside the organization [21]. Employees thus become participants as well as recipients, the effectiveness of brand communication depends on their own ability and willingness to use the medium, and internal brand messages sit in the same technological environment in which public

online advocacy takes place. Our argument is conceptual: technological readiness should matter more for digitally delivered than for conventionally delivered brand communication. Whether perceived digital internal branding differs empirically from conventional internal branding cannot be tested with the present data, because conventional internal branding was not measured.

Employee brand commitment, employees' attachment to and willingness to support the brand, is a psychological foundation for brand-consistent behavior and a well-established outcome of internal brand management [10,13,15,22]. Social Identity Theory (SIT) explains why: individuals derive part of their self-concept from group membership and act in ways that reflect identification with the group [23,24], so effective internal branding can help employees internalize the brand's identity. Identification and commitment are closely related but distinct [25–27]; because the present study measures commitment, SIT is used to motivate the ordering of the constructs rather than to test identification directly.

Committed employees can become powerful advocates for hotel brands in digital environments. Employee brand advocacy refers to employees' voluntary communication and support of their organization's brand beyond formal job requirements. Earlier research examined brand-supporting behaviors mainly in frontline interactions and discretionary workplace behaviors [11,28], but social media and online review platforms have widened the settings in which employees communicate about brands. Employees engage in online brand advocacy in response to organizational justice and emotional experiences [29]; internal relationship management and positive organizational messaging are associated with it [30,31]; and it has been conceptualized through online reviews [32].

Employee online advocacy is relevant to electronic commerce because hotel brands are increasingly encountered and evaluated through online travel agencies, booking websites, review platforms, and social media, where electronic word-of-mouth (eWOM) and user-generated content shape travelers' information search and purchase-related evaluations [33,34]. Employee-generated content can complement consumer reviews and eWOM as an additional source of brand-related information, and audiences may perceive it as relatively credible because it comes from people who know the organization from the inside. Related evidence, mostly from consumer settings, links digital competency and customer experience to online brand advocacy [35] and digital marketing, digital branding, and customer engagement to brand advocacy in tourism [36]. Brand advocacy has also been identified as a link between internal brand management and consumer engagement [37], and employee advocacy is attracting growing attention as a branding resource in the digital era [38]. Employee online advocacy can therefore be conceptualized as a potential organizational antecedent of brand engagement in digital commerce. The present study examines employee-level antecedents of advocacy and does not measure consumer engagement, booking decisions, or commercial performance.

Three gaps remain. First, internal branding research has concentrated on organizational antecedents of success, such as brand-oriented leadership, human resource practices, and internal communication [11,39], and has paid little attention to differences among employees in how readily they take up brand communication, a difference that may become consequential once the communication is delivered digitally. Technology readiness research has concentrated on adoption, adaptation, and workplace outcomes [2,40,41], not on brand-related processes. Second, although internal branding is known to build employee brand commitment and brand-supporting behaviors [10,12,15], the behaviors studied are mostly in-role or customer-facing, whereas research on online employee advocacy [29–31,35] has not connected advocacy to the way brand values are communicated to employees. Third, we are not aware of research that links an individual technological disposition to online brand advocacy through the internal communication of the brand.

Hotels are a particularly informative setting for these gaps because their employees work in technology-intensive environments while acting, in intangible and high-contact services, as the main representatives of the brand to guests.

This study addresses these gaps by testing a reception–internalization–expression sequence linking employee technology readiness, perceived digital internal branding, employee brand commitment, and online brand advocacy. The technology acceptance perspective [7,42] informs only the first link, in which readiness, as a distal disposition, is expected to be related to whether employees take up digitally delivered brand communication; SIT [23,24] informs the second and third links, in which communication of the brand's identity is expected to be associated with attachment, and attachment with public support for the brand. The study makes three contributions. First, it moves the analysis of internal branding from the sender to the receiver by relating a general technological disposition to employees' perception of perceived digital internal branding. Second, it clarifies perceived digital internal branding as a construct defined by the affordances of digital media and tests its position between technological readiness and brand commitment. Third, it shows that most of the association between technology readiness and online advocacy is statistically accounted for by indirect paths, which qualifies the assumption that a technologically ready workforce will spontaneously become a digital brand asset.

The study focuses on full-time employees in five-star hotels in Egypt, where luxury hotels depend heavily on employee–brand interactions while undergoing technological transformation. Existing research has demonstrated the relevance of internal branding to Egyptian hotels [14] and has examined technology readiness and technology-enabled brand outcomes in the Egyptian hospitality context [43,44]; the present study extends this stream from customer-facing technology outcomes to employees' brand-related digital behaviors.

The study therefore asks: How does employee technology readiness translate into online hotel brand advocacy, and what roles do perceived digital internal branding and employee brand commitment play in this process?

2. Literature Review and Hypotheses Development

2.1. Conceptual Foundations and Boundaries of the Model

Technology readiness as a general disposition. Technology readiness is conceptualized in the TRI 2.0 as an overall propensity to embrace and use new technologies that arises from four interrelated dimensions: optimism and innovativeness, which contribute to readiness, and discomfort and insecurity, which inhibit it [6]. The instrument has been validated both as a four-dimension profile and as the source of an overall readiness score. We model the overall construct, with the discomfort and insecurity items reverse-coded, for three reasons. First, the outcomes in this study (perceived digital internal branding, brand commitment, and online brand advocacy) are broad constructs that are not tied to a particular technology or technological concern; predictors and criteria that match in breadth are expected to relate most strongly and most interpretably, whereas narrow predictors are better suited to narrow criteria [45]. Second, our argument concerns a general capacity and willingness to engage with digital organizational practices, which is what the four dimensions jointly express. We do not advance dimension-specific hypotheses, such as that insecurity matters more than innovativeness for commitment, and testing such claims without a theoretical basis would invite capitalization on chance. Third, a single first-order construct with all 16 items as indicators treats the dimensions as interchangeable manifestations of one disposition. It is a simplification of the superordinate model in which the four dimensions are manifestations of an overall construct [46,47], and it is defensible only to the extent that the dimensions share a common factor. The loadings reported in Section 4.2 are distributed evenly across the four dimensions and the 16-item scale shows high internal consistency (Cronbach's

alpha = 0.945), both of which are consistent with a general factor, but these indicators do not exclude dimension-specific effects.

Perceived digital internal branding: definition and level of analysis. Digital internal branding is an organizational practice, but employee attitudes and behaviors are related to what employees perceive. Research on human resource and internal communication practices distinguishes the practices an organization intends from the practices employees perceive and attribute meaning to, and shows that employee attitudes and behaviors are more closely related to the latter [48,49]. We therefore measure and model perceived digital internal branding at the individual level as employees' perception of the digital brand communication and brand management activities in their hotel, and the hypotheses concern perceived rather than objectively delivered practice. This framing has a specific implication for H1. A positive association between technology readiness and perceived digital internal branding can arise in two ways: technology-ready employees may be exposed to more digital branding activity (for example, because they work in, or are assigned to, digitally intensive roles), or they may notice, attend to, and engage with the same activity more fully. The two accounts are not mutually exclusive, and the present design, which has one respondent per observation and no hotel-level or manager-reported measure of the practices actually offered, cannot separate them. We theorize the second, reception account, because the capabilities and attitudes that technology readiness captures (comfort with, confidence in, and willingness to use digital tools) bear directly on how employees take up whatever digital communication is available. We treat the first account as a rival explanation that future multilevel work should address.

Roles of technology acceptance research and SIT. Technology readiness is not a UTAUT construct; it is a general disposition that research on readiness and acceptance has been shown to be associated with acceptance beliefs such as performance expectancy and effort expectancy [4,7,42]. We use this work in a limited way, only to argue that readiness is a distal resource for taking up digitally delivered brand communication (H1); the intervening beliefs were not measured. SIT explains why identification with a group leads members to act in its interest and to protect its image [23,24]. Employee brand commitment, measured here with affective commitment items, is an attitudinal indicator of attachment to the brand that is closely related to, but not the same as, brand identification [25–27]. SIT is therefore used to motivate the ordering of internalization and expression (H4–H6), and the commitment–advocacy link is interpreted as consistent with an identity-based process without claiming to have tested identification itself. The model thus tests the structural sequence that the two perspectives jointly imply, not the psychological mechanisms inside each link, and the conclusions are worded accordingly. The study is therefore best read as a theory-informed, exploratory test of a sequence of associations, not as an explanatory test of mechanisms.

The reception–internalization–expression sequence. In the reception stage, technology-ready employees are expected to perceive and engage with digitally delivered brand communication more fully (H1). In the internalization stage, perceived digital internal branding is expected to be associated with attachment to the brand (H4), and readiness may also relate to attachment directly (H2) and via perceived digital internal branding (H7). In the expression stage, attached employees, and employees who receive brand communication in the same digital environment in which online advocacy takes place, are expected to voice support for the brand online (H3, H5, H6, H8, H9). Technological readiness is thus treated as a capability rather than a motivation: it reflects the ability and willingness to use digital channels, whereas the motivation to speak for the brand is expected to be linked to perceived brand communication and to attachment to the brand.

2.2. Employee Technology Readiness and Perceived Digital Internal Branding

Technology readiness refers to an individual's propensity to embrace and use new technologies [6]. In organizational settings, technologically ready employees are more likely to approach technological change with confidence and willingness, facilitating their adaptation to digitally enabled work environments. Technology readiness is particularly relevant to contemporary hospitality organizations because hotels increasingly depend on digital systems to support operations, communication, customer relationship management, and service delivery [1], and technology-supported work arrangements relate to employee engagement and organizational support in hotels [50]. Previous research has demonstrated that employees' technological acceptance and readiness are important for successful technology adoption in smart tourism contexts [2], while technology readiness has also been associated with employees' adaptation to changing workplace demands [40].

UTAUT does not model dispositional traits directly, but technology readiness has been shown to be associated with the beliefs that underlie acceptance [4,7]. Employees with greater readiness should therefore find technology-supported organizational practices easier and more worthwhile to engage with, which is consistent with evidence that intentional digital readiness is related to preparedness for digital transformation [8] and that employee competence and readiness underlie digital technology adoption [41]. Because the acceptance beliefs themselves were not measured, this section develops the distal link between readiness and perceived digital internal branding rather than the intervening acceptance process.

Digital internal branding extends traditional internal branding into technology-mediated organizational environments and differs from it in the affordances through which brand content is delivered and taken up [21]. Internal branding involves communicating brand values to employees and enabling them to understand and enact the brand promise [10,11]. In increasingly digital workplaces, such activities can be supported through digital communication platforms and technology-enabled internal interactions. Recent research indicates that digital enablement is associated with stronger internal brand management [18] and with stronger brand relationship quality [17]. Furthermore, digital internal communication has been identified as an important contextual factor in the relationship between internal branding and employee outcomes [19].

Technology-ready employees should therefore be particularly receptive to digital internal branding initiatives. Employees who are comfortable with and willing to use digital technologies can more easily access digital brand communications, interact with organizational platforms, and participate in technology-mediated internal brand activities. In contrast, employees who experience technological discomfort or insecurity may be less willing to engage with digitally delivered internal branding activities. This argument is also compatible with evidence that technological preparedness is becoming increasingly connected with broader organizational branding processes [9]. Accordingly, employees' readiness to embrace technology should be related to how fully they perceive and engage with the digital channels through which hotel brands communicate and reinforce their values. We theorize this as a reception account of perceived digital internal branding; as noted in Section 2.1, differences in actual exposure offer a rival explanation that the present design cannot exclude.

H1. *Employee technology readiness is positively related to perceived digital internal branding.*

2.3. Employee Technology Readiness and Employee Brand Commitment

Employee brand commitment reflects the extent to which employees develop a psychological attachment to and willingness to support the brand with which they are associated.

Brand commitment has traditionally been regarded as an important outcome of internal brand management because employees who understand and identify with brand values are more likely to internalize them and demonstrate brand-supportive behaviors [10,11]. Empirical evidence has linked internal branding to employee brand commitment across different organizational contexts [13,22], while a recent meta-analysis provides broader evidence that internal branding contributes to employee commitment [15]. Although employee brand commitment is primarily a psychological construct, employees' technological orientation may provide an important antecedent in increasingly digital organizations. Technology-ready employees are more likely to engage with technology-enabled organizational communication and work practices. Such engagement may widen employees' access to organizational information and ease their interaction with organizational initiatives. Greater exposure and engagement may, in turn, be accompanied by stronger understanding of and psychological connection with their organization and its brand.

SIT offers a complementary account. Employees develop part of their self-concept through their membership in social groups and may consequently internalize organizational identities and values [23,24]. When employees actively engage with technology-enabled organizational environments, they may have greater opportunities to interact with organizational information, values, and communities. Such interaction may facilitate the development of stronger psychological connections with the organizational brand. Therefore, employee technology readiness may extend beyond facilitating technology adoption to supporting the psychological conditions associated with employee brand commitment. This identity-related route is the less direct of the two routes from readiness to commitment, because readiness is a technological rather than a brand-related disposition; the study therefore also examines perceived digital internal branding as a pathway through which readiness is expected to be indirectly associated with commitment (H7).

H2. *Employee technology readiness is positively related to employee brand commitment.*

2.4. Employee Technology Readiness and Online Brand Advocacy

The increasing digitalization of organizational and social communication has created new opportunities for employees to act as brand advocates outside formal organizational boundaries. Online brand advocacy involves employees' voluntary communication and promotion of organizational brands through digital channels. Unlike traditional brand-supporting behaviors that occur primarily in direct employee-customer encounters, online advocacy allows employees to communicate brand-related messages through social media, online reviews, and other digital platforms [30,32].

Technology readiness may be particularly important in explaining employees' participation in such digital advocacy. Employees who are more technologically ready are more likely to feel comfortable using digital technologies and participating in technology-mediated communication. Technology readiness may therefore be associated with the behavioral capability and psychological willingness needed for employees to use digital platforms in ways that extend beyond their formal work activities. Evidence from workplace research suggests that technology readiness is related to employees' ability to adapt to changing work environments [40], while digital competence has been linked to online brand advocacy among consumers [35]. Technology readiness is thus conceptualized as a capability for digital advocacy rather than a motivation for it, which is why the model also considers the organizational and psychological conditions that give employees something to advocate.

Existing research provides further support for the importance of the digital environment for brand advocacy. Employee advocacy on social media has been linked to effective internal relationship management [30], and positive organizational messaging has been

linked to employee brand advocacy [31]. Research has also demonstrated that employees engage in online brand advocacy in response to organizational justice and emotional experiences [29]. These findings suggest that employees' willingness and ability to operate within digital environments may constitute an important foundation for online advocacy.

From a digital commerce perspective, online brand advocacy represents a form of employee-initiated brand communication that can contribute to the wider circulation of brand-related information across digital networks. Unlike internal digital communication, which primarily facilitates employees' access to organizational information, external advocacy places brand messages in environments where prospective customers and other stakeholders encounter, evaluate, and discuss brands. Employee recommendations and brand-related contributions may complement customer reviews and other forms of eWOM by offering additional perspectives on the organization. The potential relevance of such advocacy lies not only in disseminating favorable brand information but also in creating opportunities for interaction between brands and digitally connected audiences. Nevertheless, the commercial consequences of employee advocacy depend on how audiences interpret these messages and whether they subsequently engage with the brand. As the present study does not directly examine consumer responses, its focus is on the employee-related conditions that may support this form of digital brand communication.

H3. *Employee technology readiness is positively related to online brand advocacy.*

2.5. Perceived Digital Internal Branding and Employee Brand Commitment

Internal branding is fundamentally concerned with creating alignment between employees and the organizational brand. Burmann and Zeplin [10] argue that internal brand management can build employees' commitment to the brand by encouraging them to internalize brand values and translate those values into appropriate behaviors. Similarly, Punjaisri et al. [11] demonstrate that internal branding functions as an important mechanism for developing employees' brand-supporting behaviors. Internal branding has also been associated with employee job satisfaction, brand commitment, and intentions to remain with an organization [13].

The relationship between internal branding and employee brand commitment is also supported by SIT. Organizations communicate desired identities and values through internal branding, while employees interpret and potentially incorporate these meanings into their own organizational identities. When employees perceive a meaningful connection between themselves and their organizational brand, their psychological attachment to that brand can become stronger. Thus, internal branding may be associated with greater commitment to the brand through an identity-related process.

Empirical research provides consistent support for this proposition. Internal branding has been shown to be positively associated with employee brand commitment in telecommunications [22], and the broader literature indicates that systematic internal brand management is associated with stronger employee commitment [15]. Hospitality research likewise indicates that internal branding is associated with employee engagement and other employee-related outcomes that support organizational brand performance [14]. Recent research in tourism and hospitality has further examined internal branding as a mechanism for strengthening employees' engagement with organizational sustainability-related brand initiatives [51].

The connection between perceived digital internal branding and online brand advocacy is particularly relevant to electronic commerce because brand communication increasingly extends across interconnected organizational and external digital channels. Internal digital platforms can help employees access consistent brand information and understand the

values that the organization seeks to communicate. Employees may subsequently express these values through voluntary online recommendations, social media contributions, and other forms of brand-related communication. In this sense, perceived digital internal branding may provide an organizational foundation for employee-generated content that circulates beyond the boundaries of the hotel. Such content may complement consumer reviews and other eWOM by introducing employee perspectives into digitally mediated brand conversations. However, the quality and credibility of employee advocacy remain important considerations, and favorable employee communication should not automatically be equated with consumer engagement or commercial conversion. This distinction positions perceived digital internal branding as a potential antecedent of employee participation in digital brand communication, rather than as a direct measure of customer engagement in e-commerce.

Perceived digital internal branding may make this relationship particularly relevant in contemporary hotels. Digital channels allow organizations to communicate brand values more continuously and interactively, while employees can access and engage with brand-related content through technology-enabled internal communication. Recent evidence shows that digital enablement is associated with internal brand management [18], suggesting that digital approaches may complement established internal branding practices.

Therefore, when hotels effectively communicate and reinforce their brand values through perceived digital internal branding, employees should be more likely to develop psychological attachment and commitment to the hotel brand.

H4. *Perceived digital internal branding is positively related to employee brand commitment.*

2.6. Perceived Digital Internal Branding and Online Brand Advocacy

Internal branding is not only related to employees' psychological attitudes; it is also related to behaviors that support the brand. Internal branding has been identified as an enabler of employee brand-supporting behaviors [11], while internal corporate branding has been shown to influence employees' brand-supporting behavior [12]. These findings suggest that organizations can use internal brand management to create conditions under which employees voluntarily act in ways that benefit the brand.

The digital environment provides an increasingly important setting for such behaviors. Perceived digital internal branding can communicate brand values through organizational platforms and digital communication channels, potentially providing employees with knowledge, messages, and cues that can subsequently be expressed through their own online activities. Recent evidence indicates that internal branding is linked to social media use and competitive performance [20]. Similarly, employee advocacy on social media has been associated with internal relationship management [30], while positive messaging has been linked to employee brand advocacy [31].

This relationship can also be understood through SIT. Employees who receive consistent internal brand messages may develop a clearer understanding of what their organization represents. When organizational identity becomes personally meaningful, employees may be more inclined to communicate and defend that identity to external audiences. Online brand advocacy can therefore represent an outward behavioral expression of employees' internal connection with the brand. Social identification has also been shown to operate in online communities [52].

Evidence from hospitality and tourism further supports the importance of internal branding for employee brand-related behaviors. Internal branding in hotels has been linked to employee engagement and organizational citizenship behavior [14], while research on employee-based brand equity and internal marketing suggests that internal organizational

practices can generate broader brand-related benefits [53]. Internal branding has likewise been found to mediate the effect of talent management on brand advocacy [54], and brand advocacy has been identified as a link between internal brand management and consumer engagement [37]. Consequently, perceived digital internal branding should be associated with a stronger informational and relational foundation for communicating brand-supportive messages through online channels.

H5. *Perceived digital internal branding is positively related to online brand advocacy.*

2.7. Employee Brand Commitment and Online Brand Advocacy

Employee brand commitment represents an important psychological foundation for brand-supportive behavior. Employees who are strongly committed to a brand are more likely to perceive its success as personally meaningful and consequently demonstrate behaviors that support the brand. Internal branding research has repeatedly connected employee commitment with brand-supporting behaviors [10,11]. Brand commitment can therefore be viewed as an important psychological bridge between employees' relationship with a brand and their subsequent behavioral support.

SIT provides a strong explanation for this relationship. Individuals who identify strongly with a social group tend to behave in ways that support the group's interests and maintain a positive image of that group [24]. Applied to organizational brands, employees who feel committed to their hotel brand may be more motivated to communicate favorable brand-related information and defend or promote the organization when opportunities arise. Online brand advocacy can consequently be interpreted as an external behavioral manifestation of employees' internal brand attachment.

Empirical evidence supports this general logic. Internal brand management has been linked to brand commitment and brand-supporting behaviors [10,11], while frontline employee brand advocacy research shows that employee advocacy can be shaped by employee-related and organizational factors [28]. More recent studies point to employee-related and relational mechanisms as relevant to employee advocacy and online brand communication [30,32].

In hotel organizations, this relationship may be especially consequential because employees represent the brand both within and outside the workplace. A committed hotel employee may voluntarily share favorable experiences, defend the hotel's reputation, recommend the brand, or communicate positive brand-related messages through online platforms. Thus, employee brand commitment should increase the likelihood that employees engage in online brand advocacy.

H6. *Employee brand commitment is positively related to online brand advocacy.*

2.8. Perceived Digital Internal Branding as a Mediator Between Employee Technology Readiness and Employee Brand Commitment

Perceived digital internal branding is expected to account statistically for part of the association between technology readiness and commitment because readiness is not itself brand-related: it reflects the ability and willingness to use digital channels, whereas attachment to a brand is expected to be linked to the brand content and identity cues that employees receive [10]. Perceived digital internal branding is a plausible route by which those cues reach technology-ready employees, so readiness should be associated with commitment mainly to the extent that employees perceive and engage with digitally delivered brand communication. This reasoning follows the capability–activation logic of the model, in which a technological disposition is expected to make uptake possible

and brand communication is expected to supply the content from which attachment may develop.

Technology-ready employees are more likely to engage with digital organizational platforms and technology-mediated communication [2]. Such engagement may increase their exposure to digitally delivered brand information and internal brand-building activities. Perceived digital internal branding may subsequently be associated with a better understanding of brand values, greater brand knowledge, and stronger connections with the organizational brand [10,11]. This suggests that technology readiness may not automatically be accompanied by employee brand commitment. Rather, its association with commitment may be partly accounted for by employees' engagement with perceived digital internal branding.

Recent evidence is consistent with this reasoning. Digital enablement has been reported to be associated with internal brand management [18] and with stronger brand-related relationships [17]. Furthermore, internal branding research consistently demonstrates that brand management activities are important correlates of employee commitment [15,22]. Accordingly, perceived digital internal branding may function as an organizational link between employees' technological readiness and their psychological commitment to the hotel brand.

H7. *Perceived digital internal branding mediates the relationship between employee technology readiness and employee brand commitment.*

2.9. Employee Brand Commitment as a Mediator Between Perceived Digital Internal Branding and Online Brand Advocacy

Perceived digital internal branding may also be indirectly associated with online brand advocacy through employee brand commitment. Although internal branding is directly related to brand-supporting behaviors [11,12], its association with employees' external advocacy may be partly accounted for by employees' psychological commitment to the brand.

Internal branding communicates organizational values and creates opportunities for employees to understand and identify with the brand [10]. Such processes are associated with stronger employee brand commitment [13,15,22]. In turn, committed employees may be more willing to express their support publicly, including through digital channels. SIT suggests that individuals who identify with an organization are motivated to maintain and promote the positive image of the group with which they identify [24]. Online brand advocacy can therefore be conceptualized as a behavioral consequence of employees' internal psychological attachment to the brand.

Recent research on employee advocacy supports this reasoning by emphasizing the importance of internal relationship management and employee-related mechanisms in encouraging advocacy through social media and online environments [30,32]. Research on internal branding likewise indicates that internal brand management is associated with employees' brand-related attitudes and behaviors [12,15]. Therefore, perceived digital internal branding may be associated with online brand advocacy partly via employee brand commitment.

H8. *Employee brand commitment mediates the relationship between perceived digital internal branding and online brand advocacy.*

2.10. Sequential Mediation of Perceived Digital Internal Branding and Employee Brand Commitment

The individual pathways combine into a single process because each stage supplies what the next requires. Readiness is conceptualized as the capability to receive digital brand communication (reception); the communication as the source of brand identity cues from which attachment may develop (internalization); and attachment as a motivation to express support publicly, while readiness again reflects the means to do so online (expression). Online advocacy is therefore expected to be associated with capability, content, and motivation together, which is why no single pathway is expected to account for it. The sequence is particularly pertinent to hospitality employees. Hotel services are intangible and delivered in high-contact encounters, so employees embody the brand for guests [11,28]; hotel work is increasingly technology-intensive [3,50], so employees meet digital internal channels in their daily routines; and guests consult online sources when evaluating hotels [33,34], so employees' public statements can reach prospective guests. Where employees neither represent the brand to customers nor work with digital systems, the sequence may be weaker or take a different form.

The first stage of this process (reception) is informed by the technology acceptance literature. Technology-ready employees are more likely to accept and engage with technology-mediated organizational practices [42]. In a digitally transforming hotel environment, this readiness should be associated with employees' participation in perceived digital internal branding activities. Evidence from hospitality and other organizational contexts supports the importance of technology readiness and digital enablement for employee adaptation and internal organizational processes [2,18,40].

The second stage (internalization) is informed primarily by SIT and the internal branding literature. Perceived digital internal branding can communicate organizational brand values and provide employees with opportunities to interact with those values. When employees internalize these values and develop stronger psychological connections with the hotel brand, their employee brand commitment should be higher [10,11,15]. This psychological commitment may then be accompanied by greater willingness to support the brand beyond their formal job responsibilities.

The final stage (expression) involves the behavioral expression of commitment through online brand advocacy. Employees who feel committed to their hotel brand may be more willing to communicate positive brand-related information, recommend the brand, and engage in online activities that support its reputation. Existing research demonstrates that employee advocacy can emerge through social media and online communication and can be influenced by internal organizational relationships and employee experiences [29,30,32].

Accordingly, the proposed sequence links technological, organizational, psychological, and behavioral elements. Employee technology readiness is the initial technological disposition; perceived digital internal branding represents the organizational communication through which brand values are conveyed digitally; employee brand commitment represents the psychological attachment to the brand; and online brand advocacy represents the external behavioral expression. Several of these links have received attention separately, and we do not claim that every link is new. The contribution of the sequence lies in the first link, which relates an individual technological disposition to perceived digital internal branding, and in the continuity it proposes between internal digital reception and external digital expression. It offers a theoretical account of how technology-ready hotel employees may come to be active online advocates for their brands, with the caveat that the mechanisms inside each link were not measured.

H9. *Perceived digital internal branding and employee brand commitment sequentially mediate the relationship between employee technology readiness and online brand advocacy.*

Figure 1 below presents the theoretical framework of the study.

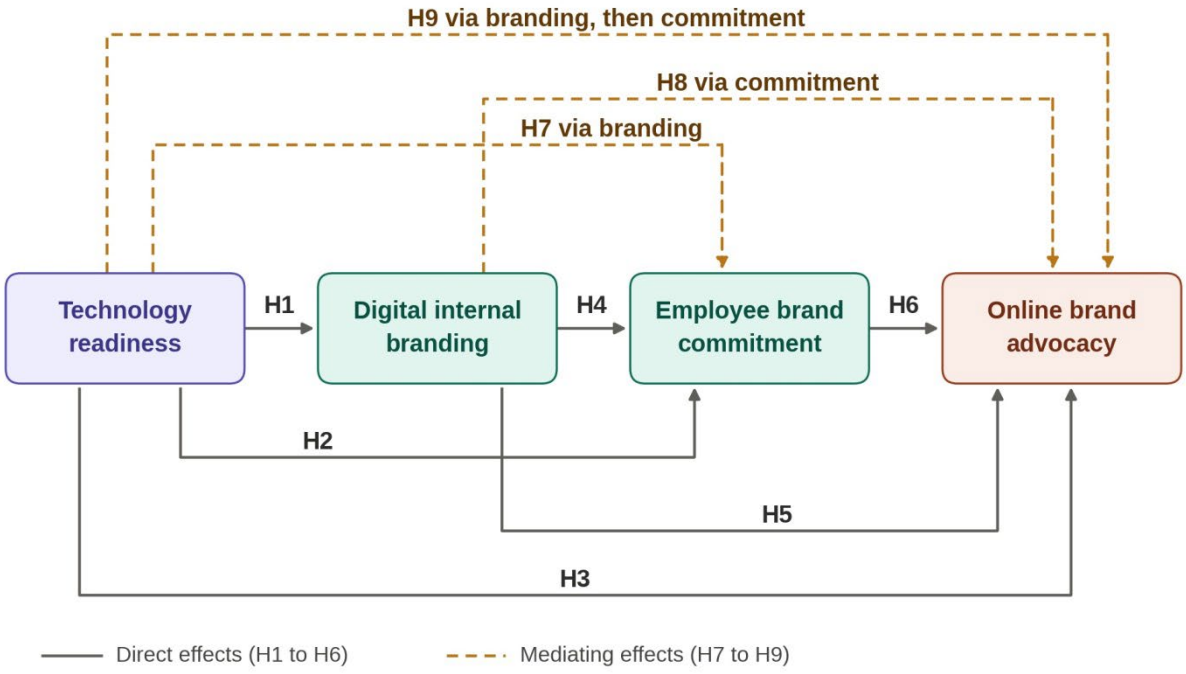


Figure 1. Conceptual model of the study.

3. Methodology

3.1. Research Context and Sampling

Primary data were collected directly from employees working in five-star hotels in Egypt using a structured questionnaire. The study was conducted in this context for three reasons. First, employees in these hotels work in technology-intensive environments, and their digital systems shape how they engage with organizational practices. Second, their interactions with guests and colleagues are central to brand representation, making perceived digital internal branding a key means of conveying brand values and standards. Third, Egyptian five-star hotels are increasingly adopting technology-enabled services [43,44], making employees' readiness and digital communication practices particularly salient.

The target population was full-time employees of five-star hotels. Their sustained exposure to hotel technologies, communication practices, and organizational culture makes them well placed to internalize brand messages and to advocate for the brand online voluntarily. Purposive sampling was used because respondents needed direct, sufficient experience with the hotel's digital systems and internal branding practices. Participants therefore had to be full-time employees with at least one year of experience in their hotel, so that they could assess the study constructs meaningfully. Respondents were asked to answer all items with reference to the hotel brand they currently work for.

3.2. Data Collection and Sample

Questionnaires were distributed on the premises of 24 five-star hotels, after verbal consent had been obtained from each hotel's HR manager. Of the 600 questionnaires distributed, 536 were returned and usable, a valid response rate of 89.3%.

The sampling frame comprised the 32 five-star hotels operating in the greater Cairo region of Egypt, from which 24 hotels were selected purposively. A hotel was eligible if it

(a) held an official five-star classification; (b) was located in the greater Cairo region, which kept the institutional and market context comparable across hotels; (c) was in continuous operation throughout the data collection period; (d) used digital channels (e.g., e-mail, intranet, messaging applications, or social media groups) to communicate with employees, so that employees could meaningfully assess perceived digital internal branding; and (e) agreed to take part, as confirmed by verbal consent from the HR manager. Within each participating hotel, respondents were full-time employees with at least one year of experience in the hotel. Twenty-five questionnaires were distributed per hotel, across front office, housekeeping, food and beverage, sales and marketing, and human resources, giving 600 questionnaires in total. The 536 usable questionnaires correspond to an average of 22.33 respondents per hotel (range: 20 to 25). Because the hotels were selected purposively from one metropolitan region rather than drawn at random, and all are five-star properties in one country, the findings should not be generalized to other hotel categories, other regions, other hospitality organizations, or other national contexts (Section 8).

Sample adequacy was evaluated through a post hoc power analysis in G*Power (version 3.1.9.7) [55] rather than the traditional 10-times rule, in line with current PLS-SEM guidance [56,57]. The most complex endogenous construct, online brand advocacy (OBA), is predicted by three constructs: technology readiness (TR), perceived digital internal branding (DIB), and employee brand commitment (EBC). The smallest effect in the structural model was $f^2 = 0.044$ (TR → OBA), which lies between Cohen's [58] benchmarks for small (0.02) and medium (0.15) effects. With three predictors, $\alpha = 0.05$, and this effect size, a sample of 536 yields statistical power above 0.95. The sample is therefore adequate for estimating both the measurement and structural models and for testing the hypotheses.

3.3. Measures

All constructs were measured with multi-item scales adapted from prior research and rated on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree).

Technology readiness (TR) was measured with the 16-item Technology Readiness Index 2.0 [6], which has also been applied in workplace research [40]. Items 9–16, which capture discomfort and insecurity, were reverse-coded so that higher scores indicate greater readiness. TR was modeled as a single first-order construct on the basis of the overall-readiness rationale set out in Section 2.1: the four dimensions were treated as manifestations of one general disposition, and no dimension-specific hypotheses were advanced. Perceived digital internal branding (DIB) was measured with five items adapted from Iyer et al. [59] and later applied by Dunes et al. [20]. Respondents rated the extent to which these practices occur in their hotel, so DIB reflects employee-perceived rather than objectively recorded practice (Sections 1 and 2.1). Two of the five items (DIB2 and DIB5) refer explicitly to digital channels, whereas the other three describe brand management practices more generally; the scale therefore captures perceived brand management with a digital component, and Section 8 discusses this limitation. The items were retained because together they cover the four brand management processes in our definition: DIB1 and DIB3 address brand-related training and understanding of brand objectives, DIB2 and DIB5 address brand information and cross-departmental communication delivered through digital channels, and DIB4 addresses feedback on brand perceptions. The academic panel that reviewed the translation judged each item's fit with the construct definition (see below), and the HTMT ratios show that the scale is empirically distinct from technology readiness, brand commitment, and online advocacy. These checks support content validity and discriminant validity with respect to the other constructs; they do not establish distinctiveness from conventional internal branding. Employee brand commitment (EBC) was measured with four items from the affective commitment component of the Organizational Commitment

Questionnaire [60,61], as later used by App and Büttgen [62]. Items were reworded to refer to "this brand" rather than "my employer". Online brand advocacy (OBA) was measured with the four-item scale of Badrinarayanan and Sierra [28], adapted to the online context and later used by Aksoy et al. [29]. Appendix A outlines the detailed measurement items.

The original scales were in English. They were translated into Arabic using the back-translation procedure [63], and the comparison of the two versions revealed no discrepancies. Following Bhattacherjee's [64] recommendation, we asked professional academics to review the translation for content validity, they confirmed the fit of each item to the conceptual definition of each construct along with their item's measurement [64]. In addition, the questionnaire was piloted with 30 employees, who reported no difficulties with wording or comprehension.

3.4. Data Analysis

The data were analyzed with partial least squares structural equation modeling (PLS-SEM) in WarpPLS 7.0 [65]. PLS-SEM suits this study because the model is complex, includes simple and sequential mediation, and the analysis is exploratory and theory-informed [56]. Analysis followed two stages. First, the measurement model was evaluated through indicator loadings, internal consistency reliability, convergent validity, and discriminant validity. Second, the structural model was evaluated through path coefficients and their significance, effect sizes (f^2), coefficients of determination (R^2), mediation effects, and model-fit and quality indices. Effect sizes were interpreted against Cohen's [58] benchmarks of 0.02, 0.15, and 0.35 for small, medium, and large effects. Path coefficients and indirect effects were tested with bootstrapping using 5000 resamples [66], and 95% bootstrap confidence intervals are reported. Mediation types were classified following Zhao et al. [67], with the variance accounted for (VAF) reported as the share of the total effect that operates through the mediator(s) [68]. The model-fit indices are reported as supplementary diagnostics, because fit indices are less established in PLS-SEM than in covariance-based SEM and the Tenenhaus GoF [69] is not recommended as a criterion for model validation [70]; the model is evaluated mainly on R^2 and effect sizes. Holdout-based procedures such as PLSpredict were not applied, so no claim about out-of-sample predictive accuracy is made [71]. All constructs were analyzed at the individual level; the nesting of employees within hotels was assessed through intraclass correlation coefficients and design effects (Section 4.2) rather than modeled directly (see Section 8).

3.5. Common Method Bias

Because all data came from a single self-reported questionnaire, procedural and statistical remedies were used to limit and assess common method bias (CMB), following Podsakoff et al. [72] recommendations for CMB, we applied the following procedures.

Procedural remedies. Respondents were told that participation was voluntary, that responses were confidential, and that data would be used only for academic purposes, which reduces evaluation apprehension and social desirability. Items were worded simply and neutrally to limit ambiguity and patterned responding. Items for different constructs were placed in separate sections, and the hypotheses were not disclosed, so respondents could not easily infer the expected relationships.

Statistical diagnostics. First, Harman's single-factor test (unrotated exploratory factor analysis of all items) produced no dominant factor, and the first factor did not explain the majority of the variance. Because this test has recognized limitations, it was treated only as a supplementary check [72]. Second, a full collinearity assessment was conducted [73]. VIF values below 3.3 indicate that CMB is unlikely to be a serious concern. The average

full collinearity VIF was 1.723 and the average block VIF was 1.692, both well below this threshold.

Together, the procedural safeguards, Harman's test, and the full collinearity assessment indicate that CMB is unlikely to have substantially affected the relationships in the model.

4. Results

4.1. Participants' Profile

Table 1 presents the demographic characteristics of the 536 hotel employees who participated in the study. The sample comprised 321 males (59.9%) and 215 females (40.1%), indicating a higher representation of male employees. Regarding age, the largest group consisted of participants aged 30–45 years, accounting for 246 respondents (45.9%), followed by those aged 18 to under 30 years with 211 participants (39.4%). Employees above 45 years represented the smallest age category, with 79 respondents (14.7%). In terms of educational attainment, most participants held a bachelor's degree (357; 66.6%), while 96 respondents (17.9%) had completed high school education and 83 (15.5%) held a master's or doctoral degree. Importantly, all participants had at least one year of work experience, ensuring that they had sufficient exposure to the hotel work environment to provide informed responses to the study measures.

Table 1. Participant's profile (N = 536 hotel employees).

		Frequency	Percent
Gender	Male	321	59.9
	Female	215	40.1
Age	18 to <30 years	211	39.4
	30 to 45 years	246	45.9
	>45 years	79	14.7
Education	High school	96	17.9
	Bachelor	357	66.6
	Master/PhD	83	15.5

Note: All participants had at least one year of work experience.

4.2. Measurement Model

Table 2 reports the psychometric properties of the constructs. The indicator loadings for technology readiness (TR) ranged from 0.607 to 0.846, those for perceived digital internal branding (DIB) from 0.726 to 0.840, those for employee brand commitment (EBC) from 0.783 to 0.852, and those for online brand advocacy (OBA) from 0.701 to 0.876. Although several indicators (TR1, TR6, TR8, TR9, TR11, TR15, TR16, and OBA1) loaded below the preferred value of 0.708, they were retained because their constructs met the thresholds for reliability and convergent validity [56]. Composite reliability (CR) values ranged from 0.886 to 0.951 and Cronbach's alpha (CA) coefficients from 0.826 to 0.945, exceeding the recommended threshold of 0.70 [56] and indicating satisfactory internal consistency. The CR of TR (0.951) was marginally above 0.95, which may reflect some item redundancy in this 16-item scale but is not unusual for long scales. Average variance extracted (AVE) values ranged from 0.553 to 0.691, exceeding the 0.50 benchmark [56,74] and demonstrating adequate convergent validity. The variance inflation factor (VIF) values ranged from 1.554 to 1.853, well below conservative thresholds for multicollinearity concerns. Because TR was modeled as one construct, we also inspected its loadings by TRI 2.0 dimension. The mean loading was 0.736 for optimism (TR1–TR4), 0.742 for innovativeness (TR5–TR8), 0.754 for discomfort (TR9–TR12), and 0.722 for insecurity (TR13–TR16), and the lowest loadings (TR1

= 0.612, TR15 = 0.608, and TR16 = 0.607) were spread across the optimism and insecurity dimensions. This even distribution is consistent with a general factor underlying the four dimensions. It is not a test of dimensionality, because the loadings were estimated within a single-construct specification, and it does not rule out dimension-specific relationships (Section 8).

Table 2. Results of psychometric properties.

Construct	Indicators	Loading	CR	CA	AVE	VIF
Technology readiness (TR)	TR1	(0.612)	0.951	0.945	0.553	1.554
	TR2	(0.743)				
	TR3	(0.846)				
	TR4	(0.744)				
	TR5	(0.826)				
	TR6	(0.701)				
	TR7	(0.740)				
	TR8	(0.699)				
	TR9	(0.651)				
	TR10	(0.839)				
	TR11	(0.703)				
	TR12	(0.822)				
	TR13	(0.834)				
	TR14	(0.838)				
	TR15	(0.608)				
	TR16	(0.607)				
Perceived digital internal branding (DIB)	DIB1	(0.726)	0.889	0.843	0.617	1.833
	DIB2	(0.803)				
	DIB3	(0.821)				
	DIB4	(0.731)				
	DIB5	(0.840)				
Employee brand commitment (EBC)	EBC1	(0.852)	0.899	0.850	0.691	1.853
	EBC2	(0.849)				
	EBC3	(0.838)				
	EBC4	(0.783)				
Online brand advocacy (OBA)	OBA1	(0.701)	0.886	0.826	0.661	1.650
	OBA2	(0.792)				
	OBA3	(0.876)				
	OBA4	(0.870)				

Tables 3 and 4 provide evidence regarding the discriminant validity of the study constructs. As shown in Table 3, the square root of the AVE for each construct, presented on the diagonal, was greater than its correlations with the other constructs. Specifically, the diagonal values ranged from 0.743 for Technology Readiness to 0.831 for Employee Brand Commitment, while the inter-construct correlations ranged from 0.405 to 0.595. This pattern

indicates that each construct shares more variance with its own indicators than with the other constructs, thereby satisfying the Fornell–Larcker criterion [74].

Table 3. Fornell-Larcker criterion.

Construct	TR	DIB	EBC	OBA
Technology readiness (TR)	0.743			
Perceived digital internal branding (DIB)	0.569	0.785		
Employee brand commitment (EBC)	0.453	0.561	0.831	
Online brand advocacy (OBA)	0.405	0.485	0.595	0.813

Note. Correlations are linear; WarpPLS path coefficients allow for nonlinear relationships, so they can differ slightly from the corresponding correlations.

Table 4. Heterotrait–Monotrait (HTMT) ratios.

Construct	TR	DIB	EBC	OBA
Technology readiness (TR)				
Perceived digital internal branding (DIB)	0.646			
Employee brand commitment (EBC)	0.512	0.663		
Online brand advocacy (OBA)	0.465	0.592	0.716	

Table 4 further assesses discriminant validity using the Heterotrait–Monotrait (HTMT) ratio. The HTMT values ranged from 0.465 to 0.716, with the highest value observed between Employee Brand Commitment and Online Brand Advocacy (HTMT = 0.716). All values remained below the commonly accepted threshold of 0.85 [75], indicating that the constructs are empirically distinct from one another. Taken together, the Fornell-Larcker and HTMT results provide consistent evidence that adequate discriminant validity was achieved among Technology Readiness, Digital Internal Branding, Employee Brand Commitment, and Online Brand Advocacy.

Because employees were nested within 24 hotels, responses from the same hotel may be correlated. To assess this dependence, intraclass correlation coefficients, ICC(1), were estimated for the three endogenous constructs from one-way ANOVA with hotel as the grouping factor [76]. The ICCs were computed on construct scores, that is, each respondent's mean across the items of the construct on the original 1 to 5 scale, and not on item parcels. The between-hotel variance was computed as $\tau^2 = (MSB - MSW)/k$, where $k = 22.33$ is the average number of respondents per hotel, and the ICC as $\tau^2/(\tau^2 + MSW)$. As shown in Table 5, ICC values were 0.006 for DIB, 0.025 for EBC, and 0.030 for OBA. Hotel membership therefore accounts for only about 1% to 3% of the variance in these constructs. All values fall below the 0.05 level generally regarded as negligible, so hotel-level clustering is minimal and single-level analysis in WarpPLS is appropriate.

Table 5. Intraclass correlation coefficients (ICC) and design effects for the endogenous constructs.

Construct	MSB	MSW	Between-Hotel Variance (τ^2)	Within-Hotel Variance (MSW)	ICC	DEFF
DIB	1.38	1.22	0.007	1.22	0.006	1.12
EBC	1.22	0.78	0.020	0.78	0.025	1.53
OBA	1.48	0.87	0.027	0.87	0.030	1.65

Note. DIB = perceived digital internal branding; EBC = employee brand commitment; OBA = online brand advocacy; MSB = between-groups mean square; MSW = within-groups mean square; $\tau^2 = (MSB - MSW)/k$; $ICC = \tau^2/(\tau^2 + MSW)$; $DEFF = 1 + (k - 1) \times ICC$; $k = 22.33$ (average respondents per hotel; 536 respondents in 24 hotels, 20 to 25 per hotel).

The design effect, DEFF = 1 + (k − 1) × ICC, was 1.12 for DIB, 1.53 for EBC, and 1.65 for OBA. All are below the value of 2 commonly taken to indicate that clustering should be modeled explicitly [77]. Standard errors for the paths into EBC and OBA may nonetheless be slightly understated, so the smaller paths, notably H3, should be interpreted with caution.

The ICC of technology readiness, the exogenous construct, was not estimated. The ICC diagnostics were limited to the endogenous constructs because the clustering concern is that residual dependence among employees from the same hotel understates the standard errors of the structural paths, and this dependence arises in the outcome constructs. This choice leaves open whether technology readiness itself varies systematically between hotels, which is relevant to the exposure account in Section 2.1. With only 24 hotels, multilevel estimation was judged less reliable than the single-level analysis; both points are acknowledged as limitations (Section 8).

4.3. Model Fit

Model fit and quality indices from WarpPLS [65] are reported in Appendix B as supplementary diagnostics. Fit indices are less established in PLS-SEM than in covariance-based SEM, and the Tenenhaus GoF in particular is not recommended as a criterion for validating a PLS model [70]; the significance of path coefficients, moreover, does not by itself establish the quality of the model. The evaluation therefore rests mainly on the explanatory power (R^2) and effect sizes reported in Sections 4.4 and 4.5. The average path coefficient (APC = 0.336, $p < 0.001$), average R-squared (ARS = 0.393, $p < 0.001$), and average adjusted R-squared (AARS = 0.391, $p < 0.001$) were statistically significant. The collinearity assessment produced acceptable results, with an average block VIF (AVIF) of 1.692 and an average full collinearity VIF (AFVIF) of 1.723, both below the recommended upper threshold of 5.0 and the more conservative value of 3.3. The Tenenhaus GoF value was 0.498, which exceeds the conventional benchmark for a large effect [78] but is reported for completeness only. The model also achieved ideal values for the Sympson's paradox ratio (SPR = 1.000), R-squared contribution ratio (RSCR = 1.000), statistical suppression ratio (SSR = 1.000), and nonlinear bivariate causality direction ratio (NLBCDR = 1.000), indicating no suppression or inconsistent explanatory effects. The NLBCDR is a statistical indication about the direction of associations in the data and is not evidence of causal ordering. Regarding the additional fit indices, SRMR (0.097) and SMAR (0.075) were within the WarpPLS limit of 0.10, although SRMR is close to that limit and above the 0.08 value usually recommended for covariance-based models [79]. The standardized chi-squared statistic was 9.217 ($p < 0.001$), and the STDCR (0.948) and STDSR (0.825) exceeded their minimum recommended values. Overall, the indices raise no major concern about collinearity or suppression, and model fit is acceptable but not conclusive, given the borderline SRMR and the limited diagnostic value of fit indices in PLS-SEM.

4.4. Structural Model and Hypotheses Testing

Table 6 and Figure 2 present the structural model results and the hypothesis tests. Path significance was assessed with 5000 bootstrap resamples. All six hypothesized direct relationships were statistically significant and positive, supporting H1–H6. Technology readiness (TR) had a substantial positive effect on perceived digital internal branding (DIB) ($\beta = 0.59$, $p < 0.01$; $f^2 = 0.350$, a large effect), supporting H1. TR also had significant but small positive effects on employee brand commitment (EBC) ($\beta = 0.14$, $p < 0.01$, $f^2 = 0.066$) and online brand advocacy (OBA) ($\beta = 0.10$, $p < 0.01$, $f^2 = 0.044$), supporting H2 and H3, respectively. DIB had a strong positive effect on EBC ($\beta = 0.54$, $p < 0.01$, $f^2 = 0.336$, approaching the large-effect benchmark), supporting H4, and a smaller but significant effect on OBA ($\beta = 0.20$, $p < 0.01$, $f^2 = 0.107$, a small-to-medium effect), supporting H5. EBC

had a significant positive relationship with OBA (β = 0.45, $p < 0.01$, $f^2 = 0.277$, a medium effect), supporting H6. Regarding explanatory power, TR explained 35% of the variance in DIB ($R^2 = 0.35$), TR and DIB jointly explained 40% of the variance in EBC ($R^2 = 0.40$), and TR, DIB, and EBC collectively explained 43% of the variance in OBA ($R^2 = 0.43$). By the benchmarks of Hair et al. [56], these values indicate weak to moderate explanatory power, so a considerable share of the variance in each construct is explained by factors outside the model. Overall, the findings indicate that technology readiness is associated with online brand advocacy both directly, to a small extent, and indirectly through perceived digital internal branding and employee brand commitment, which are the stronger correlates of advocacy. These estimates describe statistical associations in cross-sectional, self-reported data and are not evidence of causal effects.

Table 6. Direct effects.

H	Structural Paths	Path Coefficient (β)	p-Values	Effect Size (f^2)	Result
Direct Effect					
H1	TR → DIB	0.59	<0.01	0.350	Supported
H2	TR → EBC	0.14	<0.01	0.066	Supported
H3	TR → OBA	0.10	<0.01	0.044	Supported
H4	DIB → EBC	0.54	<0.01	0.336	Supported
H5	DIB → OBA	0.20	<0.01	0.107	Supported
H6	EBC → OBA	0.45	<0.01	0.277	Supported

DIB: $R^2 = 0.35$, EBC: $R^2 = 0.40$, OBA = 0.43.

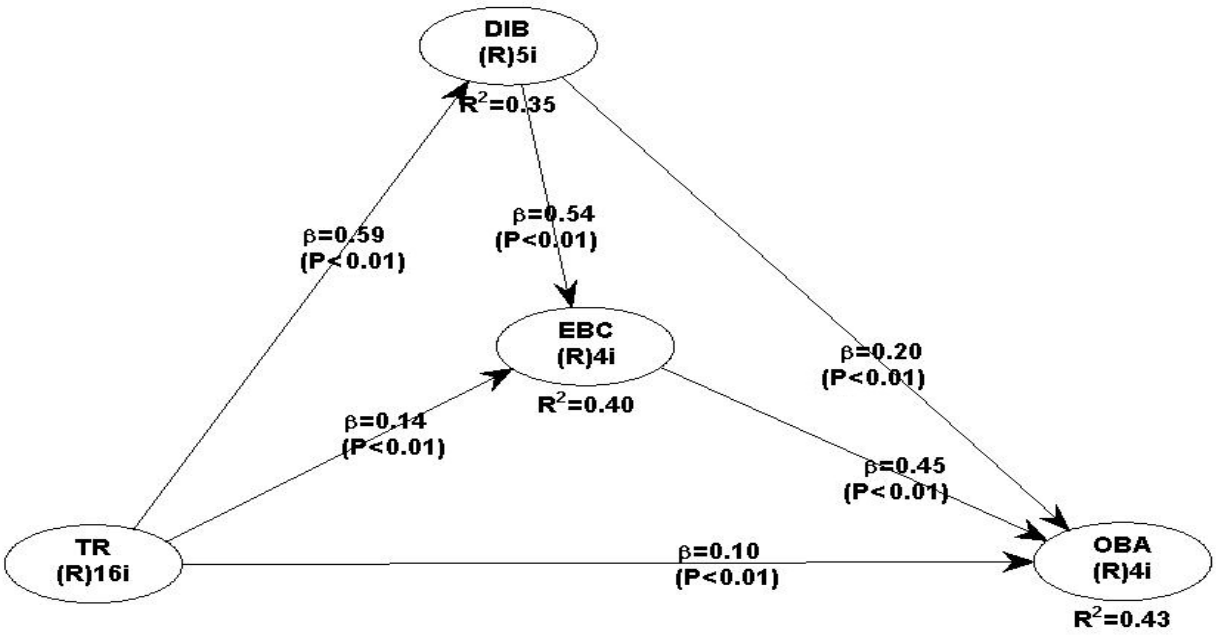


Figure 2. Structural model results.

Table 7 reports the mediation results obtained through bootstrapping [66] and the variance accounted for (VAF). The findings support all three mediation hypotheses. For H7, technology readiness (TR) had a significant indirect effect on employee brand commitment (EBC) through perceived digital internal branding (DIB) (β = 0.319, SE = 0.029, t = 11.00, $p < 0.001$), with a 95% bootstrap confidence interval of [0.262, 0.376]. Because the interval does not include zero, the indirect effect is significant. Because the direct effect of TR on EBC (H2) also remained significant and had the same sign, the VAF of 69.05% indicates partial complementary mediation [67], supporting H7.

Table 7. Mediation analysis with 95% CI and VAF.

Hypothesis	Mediation Path	Indirect Effect (β)	SE	t-Value	*p*-Value	95% CI	Total Effect (β)	VAF	Mediation Result
H7	TR → DIB → EBC	0.319	0.029	11.00	<0.001	[0.262, 0.376]	0.462	69.05%	Partial complementary mediation
H8	DIB → EBC → OBA	0.240	0.030	8.00	<0.001	[0.181, 0.299]	0.436	55.05%	Partial complementary mediation
H9	TR → DIB → EBC → OBA	0.142	0.025	5.68	<0.001	[0.093, 0.191]	0.426	33.33% †	Partial complementary mediation (sequential)

Note. CI = bootstrap confidence interval; VAF = indirect effect divided by total effect; TR = technology readiness; DIB = perceived digital internal branding; EBC = employee brand commitment; OBA = online brand advocacy. † For H9, VAF is the sequential indirect effect relative to the total effect of TR on OBA.

For H8, the indirect effect of DIB on online brand advocacy (OBA) through EBC was also significant (β = 0.240, SE = 0.030, t = 8.00, $p < 0.001$; 95% CI [0.181, 0.299]). The VAF of 55.05% indicates that EBC accounts for just over half of the total effect of DIB on OBA, while the direct effect (H5) remains significant. H8 is therefore supported, with partial complementary mediation.

Finally, H9 examined the sequential indirect path from TR to OBA through DIB and EBC. The indirect effect was positive and significant (β = 0.142, SE = 0.025, t = 5.68, $p < 0.001$), and the 95% bootstrap confidence interval [0.093, 0.191] did not contain zero. The VAF of 33.33% indicates that about one-third of the total effect of TR on OBA is accounted for by this sequential pathway, whereas the remainder reflects the direct effect (H3) and the two shorter indirect paths (through DIB alone and through EBC alone). Accordingly, H9 is supported, indicating partial complementary sequential mediation. Overall, perceived digital internal branding and employee brand commitment statistically account for part of the association between technology readiness and online brand advocacy, both individually and sequentially.

4.5. Explanatory Power

The model's explanatory power was evaluated with in-sample indicators only (R^2 and f^2). R^2 was 0.35 for DIB, 0.40 for EBC, and 0.43 for OBA (average $R^2 = 0.393$; average adjusted $R^2 = 0.391$; Section 4.3), which by the benchmarks of Hair et al. [56] indicates weak to moderate explanatory power. The effect sizes show where this power comes from. For OBA, EBC ($f^2 = 0.277$) and DIB ($f^2 = 0.107$) contribute more than TR ($f^2 = 0.044$); for EBC, DIB ($f^2 = 0.336$) contributes more than TR ($f^2 = 0.066$); and TR is the main predictor of DIB ($f^2 = 0.350$). In-sample R^2 and f^2 do not demonstrate out-of-sample predictive accuracy [71]. The results are therefore interpreted as evidence about associations in this sample; predictive accuracy was not assessed (Section 8).

4.6. Robustness and Sensitivity Evidence

Several checks already reported bear on the stability of the results. First, hotel-level dependence was small (ICC = 0.006 to 0.030) and the design effects were below 2 (Section 4.2). Second, technology readiness was modeled as one construct, so its dimensional structure cannot be tested directly. The available evidence is consistent with a general disposition: the mean loadings were similar across optimism (0.736), innovativeness (0.742), discomfort (0.754), and insecurity (0.722), the lowest loadings (0.607 to 0.612) were spread across the

optimism and insecurity items, and the scale showed high internal consistency (CA = 0.945; CR = 0.951) and adequate convergent validity (AVE = 0.553). Third, common method bias was assessed with Harman's single-factor test and a full collinearity assessment (average full collinearity VIF = 1.723, below 3.3; Section 3.5). Finally, no control variables were included in the model. Gender, age, and education (Table 1) describe the sample, but we did not test whether they are related to the study constructs or the structural paths, so it is not known whether they have an effect on the estimates (Section 8).

5. Discussion

The findings provide consistent support for the proposed relationships among employee technology readiness, perceived digital internal branding, employee brand commitment, and online brand advocacy in five-star hotels in Egypt. Two of the relationships (H4 and H6) replicate links that are well established in the internal branding literature, and the association in H5 is in line with prior evidence on brand-supporting behavior; the more distinctive results concern the role of technology readiness. Readiness was strongly associated with perceived digital internal branding but only weakly and directly with commitment ($\beta = 0.14$) and online advocacy ($\beta = 0.10$), and about three-quarters of its total association with advocacy (total effect = 0.426, of which 0.326 was indirect) was accounted for by indirect paths via perceived digital internal branding and brand commitment. In other words, technological readiness is associated with brand outcomes mainly when it is paired with perceived digital brand communication and attachment to the brand. Because the data are cross-sectional and single-source, the results are interpreted as theoretically consistent associations rather than as proof of causal ordering. Because perceived digital internal branding was measured through employees' own perceptions, the results speak to how employees perceive and engage with digital brand communication, not to how much of it hotels deliver.

The positive relationship between employee technology readiness and perceived digital internal branding confirms H1 and indicates that technology-ready employees are more likely to perceive and engage with digitally mediated internal brand activities. Because perceived digital internal branding was measured through employee perceptions, this finding supports a reception interpretation but cannot distinguish it from the possibility that technology-ready employees are also offered more digital branding activity. This finding is consistent with the technology acceptance perspective, which suggests that employees' willingness to accept and use technology facilitates their engagement with technology-enabled organizational practices [42] and with research integrating technology readiness into technology acceptance [4,7]. It also extends previous research demonstrating that technological acceptance and readiness are important for employee technology adoption in tourism and hospitality settings [2,3]. The finding is particularly consistent with recent evidence showing that intentional digital readiness facilitates employees' preparedness for digital transformation [8] and that digital enablement is associated with stronger internal brand management [18]. In practical terms, employees who are comfortable with digital technologies may be better positioned to access internal digital communication, participate in technology-mediated brand initiatives, and interact with organizational brand content. Thus, technology readiness appears to be an important employee-level correlate of how perceived digital internal branding is received.

The finding supporting H2 shows that employee technology readiness is positively, but only modestly, associated with employee brand commitment ($\beta = 0.14$, $f^2 = 0.066$). Readiness therefore appears to matter less for commitment directly than through perceived digital internal branding, which is consistent with the sizeable indirect effect reported for H7. Employees who are more willing and prepared to engage with technology may

have more opportunities to interact with organizational communication, information, and brand-related initiatives, which may be associated with stronger psychological attachment to the hotel brand. This finding complements research showing that technology readiness contributes to employees' ability to adapt to changing workplace requirements [40] and that digital readiness is increasingly important for organizational transformation [8]. It also extends internal branding research by suggesting that employee brand commitment may be related not only to conventional internal branding practices but also to employees' technological orientation. Within the logic of SIT, employees who participate more actively in digitally mediated organizational environments may have greater exposure to organizational values and identity cues, potentially strengthening their connection with the hotel brand [23,24].

The positive relationship between employee technology readiness and online brand advocacy supports H3, although its magnitude is small ($\beta = 0.10$, $f^2 = 0.044$). Technology readiness thus appears to relate to advocacy mainly through the organizational and psychological pathways rather than as a stand-alone driver. Technology-ready employees may nevertheless possess both the willingness and the confidence needed to use digital platforms for brand-related communication. This interpretation is consistent with research linking technology readiness with workplace adaptation [40] and digital competence with online brand advocacy among consumers [35]. It also complements research showing that employees can become active advocates through social media and online communication [30,32]. In the hotel context, employees who are comfortable navigating digital environments may be more willing to share positive information, recommend their hotel, or otherwise support the hotel brand online, but readiness alone appears insufficient to explain that behavior.

The finding that perceived digital internal branding positively relates to employee brand commitment supports H4 and reinforces one of the central assumptions of internal branding theory. Employees are more likely to develop commitment toward a brand when organizational brand values are communicated clearly and consistently and when employees have opportunities to understand and internalize those values. This finding is consistent with Burmann and Zeplin [10], who conceptualized internal brand management as a mechanism for building brand commitment, as well as Punjaisri et al. [11], who demonstrated the role of internal branding in developing employee brand-supporting behaviors. It also corresponds with evidence that internal branding contributes to employee commitment across organizational contexts [13,15,22]. The finding further extends recent research on digital enablement by indicating that digitally delivered internal branding is associated with employees' commitment to the hotel brand [17,18].

The positive association between perceived digital internal branding and online brand advocacy supports H5 and indicates that internal brand communication is associated with outcomes that extend beyond employees' internal attitudes. This finding is consistent with the broader internal branding literature, which identifies internal branding as an important antecedent of employee brand-supporting behavior [11,12]. It also aligns with recent evidence that internal branding can encourage social media use and contribute to competitive performance [20]. Perceived digital internal branding may equip employees with greater awareness of brand values, messages, and desired brand identity, making it easier for them to communicate consistent brand-related content through external digital channels. The result therefore supports the view that internal branding and external brand communication are not independent processes. Rather, what hotels communicate internally through digital channels may be associated with how employees represent the brand in online environments.

The positive relationship between employee brand commitment and online brand advocacy supports H6 and is consistent with a psychological basis for employee advocacy.

Employees who are committed to their hotel brand are more likely to perceive the brand as an important part of their organizational identity and, in line with SIT, to engage in behaviors that support its image. This finding is consistent with SIT because identification with a valued social group can motivate individuals to behave in ways that support the group and reinforce its positive image [24]. It also complements research establishing links between internal brand management, employee commitment, and brand-supporting behavior [10,11]. More specifically, the finding extends the employee advocacy literature by suggesting that online advocacy is not merely a consequence of digital competence or favorable workplace conditions. It can also reflect employees' psychological attachment to the brand. This is particularly relevant given the growing importance of social media and online reviews as spaces in which employees can communicate brand-related opinions [30,32].

The mediation result supporting H7 is consistent with technology readiness being linked to employee brand commitment partly via perceived digital internal branding. The significant indirect effect through perceived digital internal branding is consistent with mediation, indicating that technology readiness alone does not fully account for employees' commitment to the hotel brand. Instead, part of the association is statistically accounted for by employees' engagement with perceived digital internal branding. This finding links the technological perspective of UTAUT-related research with the internal branding literature. Technology-ready employees are more likely to engage with digitally enabled organizational practices, while these practices provide opportunities for communicating brand values and may relate to employees' relationship with the brand. The result is consistent with evidence that digital enablement supports internal brand management [18] and that internal branding is an important mechanism for building employee commitment [15,22]. Thus, the mediation finding suggests that technological readiness is associated with brand commitment mainly where employees perceive meaningful digital internal branding practices.

The mediation result supporting H8 is consistent with employee brand commitment providing a psychological pathway linking perceived digital internal branding to online brand advocacy. Although perceived digital internal branding has a direct relationship with online advocacy, part of its association with advocacy is also carried through employees' commitment to the brand. This finding is theoretically important because it indicates that perceived digital internal branding is not related to advocacy simply through the provision of brand information. Rather, the association appears partly psychological: digital brand communication may be accompanied by stronger attachment to the brand, which in turn may be accompanied by more advocacy. This finding is consistent with the internal branding literature [10,11,15] and with SIT, whereby stronger identification and attachment to a valued group can encourage supportive behaviors [24]. The result also adds a psychological explanation to recent research on employee advocacy in online environments [30,32].

Most importantly, the finding supporting H9 indicates that perceived digital internal branding and employee brand commitment sequentially mediate the relationship between employee technology readiness and online brand advocacy. This result is consistent with the proposed sequence: technology readiness is associated with perceived digital internal branding; perceived digital internal branding is associated with employee brand commitment; and this commitment is associated with online brand advocacy. The sequential mediation therefore connects three distinct elements of the employee-brand relationship: a technological disposition, an organizational branding mechanism, and a psychological-to-behavioral process. This finding offers a more comprehensive description of how technology readiness is associated with online brand advocacy than would be possible by considering the direct relationships independently. It also suggests that employee technology readiness does not automatically translate into brand advocacy. Rather, the pattern suggests that hotels may need to create digital internal branding conditions in which technological readiness is

accompanied by stronger brand commitment and, ultimately, voluntary online advocacy. In this respect, the findings are consistent with a process in which a technological disposition (informed by the technology acceptance literature) is linked, via perceived digital brand communication, to attachment to the brand (informed by SIT) and then to advocacy. The intervening beliefs and the identification that these theories emphasize were not measured, so the findings support the proposed sequence rather than the mechanisms within it.

Overall, the findings indicate that the digital transformation of hotels should not be understood solely as an operational or technological phenomenon. Its implications extend to how employees experience, internalize, and communicate the hotel brand. Technology-ready employees appear to constitute an important human resource for digital brand development, but their potential may be greater when hotels use digital technologies to communicate brand values and cultivate employee commitment. The results are consistent with viewing online brand advocacy as linked to an interconnected set of technological, organizational, psychological, and behavioral factors rather than as an isolated form of employee communication.

6. Theoretical Implications

The findings offer four theoretical contributions, and we state for each what is new and what confirms prior work. First, the study moves internal branding research from the sender to the receiver. Internal branding research has emphasized organizational antecedents of success, such as brand-oriented leadership, human resource practices, and communication [11,39], and has typically treated employees as equally able to take up brand communication. The present findings show that a general technological disposition is strongly related to how employees perceive digital internal branding, which points to employee-level technological readiness as a possible boundary condition for how digitally delivered brand communication is perceived. For technology acceptance research, the findings extend the reach of readiness from technology adoption [2,3] to brand-related organizational outcomes. The inference is limited by the measurement of perceived digital internal branding through perceptions: the result shows that readiness is associated with how digital branding is perceived, not that it determines how much branding employees are offered.

Second, the study clarifies perceived digital internal branding and tests its position in a larger process. We argue that digital internal branding is distinct from conventional internal branding delivered through digital channels because digital media change the employee's role from recipient to participant, make colleagues' brand-related behavior visible, and share a technological environment with public online advocacy [21]. The empirical support for this distinction is partial: perceived digital internal branding was empirically distinct from technology readiness, brand commitment, and online advocacy in the discriminant validity tests, but its distinctness from conventional internal branding was not tested, and only two of its five items refer explicitly to digital channels. What the study adds is evidence that perceived digital internal branding is the strongest correlate of brand commitment in the model and a significant link between technological readiness and commitment, which is consistent with emerging research on digital enablement and internal brand management [17,18]. A direct comparison of digital and conventional internal branding is the clearest next step for establishing the construct's incremental value.

Third, the study specifies the roles that UTAUT and SIT can play in interpreting brand-related behavior, rather than claiming a tested integration of the two. UTAUT, together with its readiness-based extensions, explains why a technological disposition should affect the uptake of digitally delivered practices; SIT explains why attachment to a brand should lead employees to speak for it. The sequence tested here (reception, internalization, expression)

joins them by allocating each theory to the links it is best suited to interpret. The model does not measure performance expectancy, effort expectancy, social influence, facilitating conditions, or brand identification, and it therefore does not test the mechanisms inside the links. This is a limitation of the present evidence, and it defines a research agenda: whether the UTAUT beliefs mediate the link between readiness and perceived digital internal branding, and whether brand identification, instead of or in addition to affective commitment, mediates the link from perceived digital internal branding to advocacy, can be examined by adding these measures to the present model.

Fourth, the study extends the use of SIT to online employee advocacy and qualifies the expectation that readiness alone produces advocates. The positive relationship between employee brand commitment and online brand advocacy is consistent with interpreting online advocacy as an outward expression of attachment to the hotel brand, which extends identity-based accounts from in-role and workplace behaviors to digitally mediated, voluntary communication [24]. At the same time, technology readiness was only weakly related to advocacy directly, and most of its total association was accounted for by indirect paths via perceived digital internal branding and commitment. Readiness is thus best interpreted as a capability: it may make digital advocacy easier but is only weakly associated with advocacy by itself, whereas advocacy is more strongly associated with perceived brand communication and attachment. This capability–activation account qualifies the common assumption that a technologically ready workforce will spontaneously become a digital brand asset, and it connects strands of employee advocacy research that have examined justice, internal relationships, messaging, and digital competence separately [29–31,35].

The study also contributes to electronic commerce research by identifying an employee-level pathway that may support brand engagement in digitally mediated markets. Research on digital brand engagement often emphasizes consumers' interactions with brands, their participation in online communities, and their responses to reviews, recommendations, and other user-generated content. The present findings complement this perspective by showing how the technological readiness of organizational members, together with perceived digital internal branding and employee brand commitment, is associated with employees' willingness to advocate for their hotel brands online. The significant sequential mediation is consistent with technology readiness alone offering an incomplete account of employee advocacy; the organizational communication and psychological attachment associated with the brand are also relevant. This finding extends the conceptual boundaries of digital brand engagement research by highlighting the potential role of employees as organizational contributors to online brand communication. It also provides a basis for future research examining whether employee-generated brand content influences consumer engagement, perceived authenticity, online brand trust, eWOM, and purchase-related outcomes in hotel booking and social commerce environments. These downstream relationships were not tested in the present study and should therefore be regarded as promising directions for further investigation rather than established effects.

These contributions should be read with the caveats in Section 8: the evidence is cross-sectional, individual-level, and self-reported, and several of the theoretical mechanisms are inferred rather than measured.

7. Practical Implications

Because the evidence is cross-sectional and correlational, the following implications are suggestive and do not show that the recommended actions would produce the associations observed. First, because readiness was strongly associated with how employees perceive digital internal branding (H1), hotels should treat employee technology readiness as a strategic human resource consideration rather than viewing it solely as an operational

technology issue. Recruitment, onboarding, and employee development programs can incorporate assessments of employees' technological confidence, willingness to adopt new technologies, and ability to adapt to digital work practices. Continuous digital training can then be used to strengthen employees' competence and readiness, particularly as hotel operations become increasingly technology-intensive. Such initiatives are consistent with evidence emphasizing the importance of employee readiness and competence in digital technology adoption [2,40,41].

Second, because readiness was associated with commitment and advocacy mainly through perceived digital internal branding (H7 and H9), hotel managers should ensure that digital technologies are used not only for operational communication but also for internal brand management. Hotels can use employee applications, intranet platforms, digital learning systems, internal social networks, and other technology-enabled communication channels to communicate brand values, service philosophy, organizational achievements, and desired employee behaviors. The findings suggest that technology readiness is associated with stronger brand-related outcomes when employees encounter meaningful digital internal branding practices. This implication is particularly relevant given emerging evidence concerning digital enablement and internal brand management [17,18]. Because employees differ in technological readiness, hotels should not assume that digital brand channels reach all employees equally: onboarding and brand training can pair digital channels with face-to-face or assisted options for employees with lower readiness, and managers can monitor how employees use these channels as well as whether content is distributed.

Third, because perceived digital internal branding was the strongest correlate of brand commitment (H4), managers should use perceived digital internal branding to develop genuine employee commitment rather than simply disseminating promotional messages internally. Internal brand communication should explain what the hotel brand represents, how employees contribute to the brand promise, and why their roles matter to the overall guest experience. Perceived digital internal branding can incorporate interactive learning, employee stories, recognition of brand-supporting behaviors, and opportunities for employees to contribute ideas. Such approaches can help employees move from merely receiving brand information to internalizing the brand's values. This recommendation is consistent with evidence that internal branding contributes to employee commitment and brand-supporting behaviors [10,11,15].

Fourth, because brand commitment was the strongest correlate of online advocacy (H6 and H8), hotel managers should treat employee brand commitment as an important correlate of online advocacy. Rather than simply asking employees to promote hotel content on social media, managers should first build a strong psychological relationship between employees and the hotel brand. Recognition systems, internal communication, employee participation, consistent leadership, and opportunities to experience the brand values in practice can contribute to this process. Employees who genuinely feel connected to the brand are more likely to communicate about it authentically than employees who are merely instructed to share corporate messages.

Fifth, hotels can develop structured but voluntary employee advocacy initiatives. Employees could be encouraged to share authentic workplace experiences, professional achievements, service stories, sustainability initiatives, and positive guest-related experiences through appropriate online channels. However, advocacy programs should avoid becoming overly scripted or coercive. The present findings show that online advocacy is associated with technology readiness, perceived digital internal branding, and brand commitment, and that the direct association of readiness alone is small (H3). Consequently, managers should focus on creating the conditions for voluntary advocacy rather than treating employees simply as additional promotional channels.

Sixth, because the sequential pathway linking readiness, perceived digital internal branding, commitment, and advocacy (H9) was significant, hotel managers should integrate technology training, internal branding, and employee engagement rather than managing these activities as separate functions. The sequential mediation result is consistent with the three stages being interconnected. Investments in digital training may increase employees' technology readiness, but these investments should be accompanied by perceived digital internal branding that communicates the hotel's identity and values. Internal branding should then be supported by organizational practices that strengthen employee commitment. This integrated approach may help hotels align employee technology readiness, brand communication, and commitment, although the present cross-sectional data cannot show that it would make employees credible online representatives of the hotel brand.

Finally, hotel organizations should monitor the digital employee experience alongside customer-facing digital performance. Managers often evaluate digital transformation through operational indicators such as system adoption, productivity, or customer satisfaction. The present findings suggest that employee-related brand outcomes should also be considered. Hotels could therefore monitor employees' technology readiness, engagement with digital internal communication, brand commitment, and voluntary online advocacy as interconnected indicators of the human side of digital transformation. Such an approach would help hotel managers recognize that successful digital transformation involves not only implementing new technologies but also developing employees who can use those technologies to strengthen the hotel's internal culture and external brand presence.

The findings also have implications for hotels seeking to strengthen their presence in digital commerce environments. Managers should recognize that employees can contribute to external brand communication through voluntary recommendations, social media participation, and other forms of online advocacy. However, encouraging such activities requires more than providing employees with access to digital technologies. Hotels should establish consistent internal digital communication practices, ensure that employees understand the brand's values and service promises, and provide appropriate guidance on communicating accurately and responsibly through public online channels. Where employees voluntarily share brand-related content, organizations can facilitate their participation by providing accessible brand information, encouraging authentic communication, and clarifying relevant disclosure and confidentiality expectations. Hotel marketing teams could also monitor publicly available employee-generated content alongside customer reviews, eWOM, and social media interactions to understand how different sources contribute to the hotel's online brand presence. Such monitoring should respect employee privacy and avoid turning voluntary advocacy into a compulsory promotional activity. Finally, managers should evaluate employee advocacy and customer-facing outcomes separately. Metrics such as employee participation, the reach and nature of online contributions, customer engagement, review sentiment, and booking-related outcomes can provide complementary insights, but their relationships should be empirically assessed rather than assumed. This approach connects internal brand management with digital commerce strategy while preserving the voluntary and relational character of employee advocacy.

8. Limitations and Future Research

This study has six limitations. First, the cross-sectional design does not allow conclusions about temporal order or causality, and the ordering of the constructs is theoretically derived. Alternative orderings, such as commitment shaping engagement with perceived digital internal branding, cannot be ruled out, so the mediation results are consistent with, but do not prove, the proposed relationships. Longitudinal or experimental designs are needed.

Second, the sample is purposive and non-probability, drawn from 24 five-star hotels in one country, and limited to full-time employees with at least one year of experience. The findings may not generalize to other hotel categories, employment groups, or cultures. Hotel-level variance was not modeled, although ICC and design-effect values were small (Section 4.2). Replications with more hotels and multilevel designs are needed.

Third, all variables were self-reported by the same respondents. Common method bias appears unlikely to be a serious threat (Section 3.5), but self-reports may still reflect perception and social desirability, and online advocacy was reported rather than observed. Future studies could add manager-reported or documented measures of digital brand communication and digital trace data on employees' posts.

Fourth, measurement has limits. Perceived digital internal branding captures employees' perceptions, only two of its five items refer explicitly to digital channels, and conventional internal branding was not measured. The study therefore cannot show that the construct is distinct from, or adds to, conventional internal branding, or whether technology-ready employees are offered more digital branding or simply perceive it differently. Technology readiness was modeled as one first-order construct, without testing higher-order or dimension-level specifications, so its small direct associations could mask opposing dimension-level effects [80]. Future research should use a scale whose items all refer to digital delivery, measure conventional and perceived digital internal branding together, and test dimension-level models of technology readiness.

Fifth, the theoretical mechanisms were inferred, not measured. The model has no measures of performance expectancy, effort expectancy, social influence, facilitating conditions, or brand identification, and commitment was measured with affective commitment items. The study is therefore an exploratory test of a sequence of associations, not an explanatory test of mechanisms. Future studies could add these measures as mediators and examine moderators, forms of online advocacy, and downstream effects on customer engagement, eWOM, and hotel performance.

Sixth, no control variables were included. Gender, age, and education describe the sample (Table 1), but we did not test whether they are related to the constructs or the structural paths, so it is not known whether they affect the estimates. In addition, only in-sample R^2 and f^2 were examined; PLSpredict was not applied, so no claim is made about out-of-sample prediction [71]. Future research should re-estimate the model with demographic and tenure controls and apply out-of-sample predictive assessment in larger and more varied samples.

9. Conclusions

This study examined how employee technology readiness is associated with online hotel brand advocacy through perceived digital internal branding and employee brand commitment. Based on cross-sectional, self-reported data from 536 employees in 24 five-star hotels in Egypt, readiness was strongly associated with perceived digital internal branding but only weakly and directly with commitment and advocacy, and most of its association with advocacy was accounted for by the two mediators. These findings are consistent with a reception–internalization–expression sequence in which technological readiness is a capability that is associated with online brand engagement mainly when it is accompanied by perceived digital brand communication and attachment to the brand. Because the design cannot establish temporal order or causality, and the mechanisms inside each link were not measured, the results should be read as evidence consistent with the proposed relationships rather than as proof that readiness causes commitment or advocacy. Hotels seeking employee-driven online brand advocacy should treat technology readiness, digital

brand communication, and employee commitment as interdependent rather than separate levers.

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Data Availability Statement: The data supporting the findings of this study are available from the corresponding author upon reasonable request. The data are not publicly available due to ethical and confidentiality considerations concerning the participating respondents.

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

Appendix A. Measurement Scale Items

Technology readiness (TR)	TR1	New technologies contribute to a better quality of life.
	TR2	Technology gives me more freedom of mobility.
	TR3	Technology gives people more control over their daily lives.
	TR4	Technology makes me more productive in my personal life.
	TR5	Other people come to me for advice on new technologies.
	TR6	In general, I am among the first in my circle of friends to acquire new technology when it appears.
	TR7	I can usually figure out new high-tech products and services without help from others.
	TR8	I keep up with the latest technological developments in my areas of interest.
	TR9	When I get technical support from a provider of a high-tech product or service, I sometimes feel as if I am being taken advantage of by someone who knows more than I do. (R)
	TR10	Technical support lines are not helpful because they don't explain things in terms I understand. (R)
	TR11	Sometimes, I think that technology systems are not designed for use by ordinary people. (R)
	TR12	There is no such thing as a manual for a high-tech product or service that's written in plain language. (R)
	TR13	People are too dependent on technology to do things for them. (R)
	TR14	Too much technology distracts people to a point that is harmful. (R)
	TR15	Technology lowers the quality of relationships by reducing personal interaction. (R)
	TR16	I do not feel confident doing business with a place that can only be reached online. (R)

Perceived digital internal branding (DIB)	DIB1	Employees participate in workshops that explain the objectives and characteristics of the brand.
	DIB2	Employees regularly receive information about the brand(s) and digital brand management practices.
	DIB3	Employees have a clear understanding of the objectives of the brand.
	DIB4	Employees' perceptions of the brand image are regularly assessed.
	DIB5	Different departments freely share information about the brand through digital communication channels.
Employee brand commitment (EBC)	EBC1	I feel high loyalty to this brand.
	EBC2	I stand behind the goals and values of this brand.
	EBC3	I am glad that I chose to work for this brand.
	EBC4	I would be very happy to keep working for this brand for the rest of my professional career.
Online brand advocacy (OBA)	OBA1	When asked for my advice, I suggest this brand to others online.
	OBA2	This brand is the first brand I recommend to others online.
	OBA3	I often recommend this brand to others online.
	OBA4	I always say positive things about this brand to others online.

Appendix B. Model Fit and Quality Indices: Kock [65] Criteria

Classic Indices			
	Assessment	**Criterion**	**Decision**
Average path coefficient (APC)	0.336, $p < 0.001$	$p < 0.05$	Supported
Average R-squared (ARS)	0.393, $p < 0.001$	$p < 0.05$	Supported
Average adjusted R-squared (AARS)	0.391, $p < 0.001$	$p < 0.05$	Supported
Average block VIF (AVIF)	1.692	acceptable if ≤5, ideally ≤3.3	Supported
Average full collinearity VIF (AFVIF)	1.723	acceptable if ≤5, ideally ≤3.3	Supported
Tenenhaus GoF (GoF)	0.498	small ≥ 0.1, medium ≥ 0.25, large ≥ 0.36	Supported
Sympson's paradox ratio (SPR)	1.000	acceptable if ≥0.7, ideally = 1	Supported
R-squared contribution ratio (RSCR)	1.000	acceptable if ≥0.9, ideally = 1	Supported
Statistical suppression ratio (SSR)	1.000	acceptable if ≥0.7	Supported
Nonlinear bivariate causality direction ratio (NLBCDR)	1.000	acceptable if ≥0.7	Supported
Additional indices (indicator corr. matrix fit)			
Standardized root mean squared residual (SRMR)	0.097	acceptable if <=0.1	Supported
Standardized mean absolute residual (SMAR)	0.075	acceptable if <=0.1	Supported
Standardized chi-squared with 405 degrees of freedom (SChS)	9.217, $p < 0.001$	$p < 0.05$	Supported
Standardized threshold difference count ratio (STDCR)	0.948	acceptable if >=0.7, ideally = 1	Supported
Standardized threshold difference sum ratio (STDSR)	0.825	acceptable if >=0.7, ideally = 1	Supported

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