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Assessing the impact of digital enablement on internal brand management in higher education institutions

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Abstract

In today's competitive higher education landscape, developing a strong and consistent brand image that embraces digital enablement is crucial for improving employee brand relationships. Technological advancements, particularly digital, can significantly enhance an organization's brand positioning. However, research on the role of digital enablement in employee brand relationship formation, especially in higher education institutions (HEIs), is limited. This study, grounded in Social Exchange Theory, investigates the impact of internal brand management—comprising communication, training, and leadership—on Employee Brand Relationship Quality (EBRQ) and examines the moderating role of digital enablement within HEIs. Utilizing a sample of 372 employees from HEIs in Pakistan and employing Smart PLS-SEM 4 for data analysis, the study reveals that only training and leadership significantly influence employee-university brand relationship quality, with digital enablement playing a significant moderating role. This highlights the importance of digital enablement in enhancing collaboration, human development, and aligning employee perceptions and behaviors with the organization's brand. The findings support institutional efforts aligned with the United Nations Sustainable Development Goals, particularly SDG 4 (Quality Education) and SDG 8 (Decent Work and Economic Growth), by promoting digitally enabled and employee-centered brand development in higher education. This research offer a nuanced understanding of the complex relationships between brand management and technological innovation from the internal customer perspective.

Keywords Employee brand relationship quality, Digital enablement, Higher education institutions, Internal brand management, SDG 4: Quality Education, SDG 8: Decent Work and Economic Growth

1 Introduction

Internal brand management impacts employee engagement, motivation, and output, making it crucial to any company's success [9, 12, 29]. In the highly competitive business environment, companies must have a strong brand identity that resonates with customers and employees [19]. Sector-specific internal brand management is essential

for building a strong organisational culture that matches the brand's values and identity [44]. Internal brand management works best when employees are committed to provide a consistent customer experience that matches the brand promise [49]. A well-managed internal brand can also attract and retain top talent because employees prefer companies that match their values [74].

Internal brand management shapes employee behavior and company culture. Effective internal brand management boosts employee motivation, productivity, and job satisfaction [17, 66]. Internal brand management can also boost employees collaboration and communication, making them more competitive [2, 75]. Employee engagement and internal branding are two sides of the same coin, according to Suomi et al. [77]. Internal brand management also helps companies align their internal and external brand cultures to create a strong brand image [85]. Businesses should consider internal brand management to boost employee engagement and brand image. A student's university brand is linked to values by Hashim et al. [41], with brand relationship quality moderating brand resonance. This model provides light on the dynamics between universities and their students, as well as between institutions and their employees' brands.

According to Westerman et al. [89], digitization and technology are now the driving forces behind organization strategy and performance. Artificial intelligence (AI), big data analytics (BDA), and cloud computing (CC) are digital technologies that give businesses an advantage by increasing productivity, innovation, and customer personalization. A dynamic and comprehensive process that generates compelling brand experiences across touchpoints, digital technology has transformed branding [47]. Brand perception can be enhanced through the use of social media since it enables real-time customer interactions, personalized marketing, and feedback collection Zeithaml et al. [101]. It is possible to assess the efficacy of branding initiatives by looking at metrics like website traffic, CTR, and conversion rates [48]. In conclusion, digitization and technology are foundations of brand and business strategy, allowing organizations to satisfy consumer demands and build distinctive brand experiences [14, 87].

Competition in the international education market is fierce, and this is having an impact on universities [36]. Because of their similar courses and degrees, HEIs are likewise having trouble standing out [69]. In order to stay surviving in this competitive environment, HEIs are employing a wide range of strategies to shape their brands in distinctive ways [90]. To differentiate themselves and fortify their brand identities, they are leveraging digital enablement. Organizational performance is enhanced by digital enablement and the creation of technological value, according to Martínez et al [53]. Universities are facing challenges due to the digital revolution and growing competition [13]. Post-pandemic, HEIs across South Asia have increasingly embraced digital transformation to enhance internal processes and employee engagement. A UNESCO report [84] highlights how collaborative online networks and faculty development programs are being used to strengthen institutional readiness, despite infrastructure and literacy gaps. Similarly, research in Malaysian institutions shows that sustainability-oriented digital transformation and organizational resilience are key drivers of innovation and long-term competitiveness [92].

However, little is known about how digital enablement affects higher education internal brand management and employee brand relations [5, 6]. Prior studies (e.g., Meese [3, 33, 54, 55], have examined the role of digital technologies in branding across journalism,

healthcare, automobiles, and retail, but they lack clarity on what drives successful brand positioning in HEIs. In parallel, a recent systematic review in Discover Education [73] identifies nine categories of barriers to digital transformation in HEIs—including digital culture, leadership, and resources—highlighting the complex institutional dynamics that shape digital initiatives.Empirically, Lee [51] finds that in South Korean HEIs, digital readiness significantly enhances faculty engagement and openness to global teaching practices, illustrating how digital infrastructure and exposure impact internal branding dynamics.

This study addresses this gap by examining digital enablement in higher education internal brand management and employee brand interactions. This study examines how internal brand management techniques affect employee brand relationship quality in higher education. This study illuminates the complex relationship between brand management and innovation. From an internal customer perspective, the study examines how technological enablement shapes workers' institutional brand opinions. Technology-enabled innovation can boost organisational performance and competitiveness, according to Bharadwaj et al. [15].

2 Literature review

2.1 Underpinning theories

Research in internal brand management can be guided by a number of theoretical frameworks that provide light on the intricate interplay between organisational culture and employee actions. Social identity theory st ates that people derive their sense of self from their social groupings [78]. According to this theory, if employees take part in internal branding activities, they may feel more connected to the company and its mission, which could increase their motivation and dedication [11]. People are motivated to fulfill their psychological demands for relatedness, competence, and autonomy, according to the self-determination theory [4, 70]. Achieving these objectives is possible with the support of internal brand management, which provides workers with direction, room to advance professionally, and a sense of belonging to the company's larger purpose. According to Teece [80], digital transformation is suggested by the dynamic capability view (DCV) of Teece et al. [81] as a means to enhance employee performance in contexts that are always changing. For what it's worth, the resource-based view of the organization sheds light on the strategic value of internal branding [10]. A company can gain an advantage through internal branding if it fosters a culture that is consistent with the brand's identity and values, according to this theory. In addition, the Social Exchange theory states that people develop social ties after a cost-benefit analysis to maximize benefits and minimize costs [34]. Organizational literature uses social exchange theory to understand employee motivation, commitment, and happiness [16]. The study is grounded in Social Exchange Theory (SET), which posits that social behavior is the result of an exchange process aimed at maximizing benefits and minimizing costs in relationships [28]. This theoretical lens informed the hypothesis development by framing internal branding elements such as communication, leadership, and training as organizational investments or "resources" offered to employees. When employees perceive these resources as valuable and supportive, they are more likely to reciprocate through stronger brand identification, commitment, and advocacy manifested here as Employee Brand Relationship Quality (EBRQ). This idea helps companies comprehend

their interactions with employees in the context of internal branding, where both sides contribute resources and benefits to establish and maintain the brand. For acclaim, professional progress, and a sense of fulfillment and camaraderie, employees may work to build the company's reputation. Businesses may invest in internal brand culture to boost employee performance. Practically, employees' brand interactions may be influenced by their beliefs of how fairly the firm rewards their efforts, their faith in the company's leadership, and their perceptions of reciprocity in the exchange relationship.

2.2 Internal brand management in higher education: what next?

Internal brand management plays a foundational role in shaping an organization's brand identity and fostering emotional commitment among its stakeholders [26]. While foundational scholars such as Aaker [1] and Keller ([48, 50]) emphasized brand equity and consumer perceptions, more recent studies stress the critical internal mechanisms—especially in service-driven sectors like higher education [45]. Brand Relationship Quality (BRQ), which encompasses emotional attachment, trust, and loyalty [58], is increasingly being linked to employee engagement and internal alignment [90].

Despite the maturity of brand management literature, empirical research on internal branding within higher education remains sparse [20]. Most existing studies prioritize external branding strategies aimed at student attraction and reputation management. However, internal branding—via staff training, leadership, and internal communication—is central to developing a cohesive institutional brand identity. As highlighted by Ind and Coates [42], internal alignment boosts not only employee satisfaction but also external perceptions of institutional credibility. While transformational leadership is generally associated with positive outcomes such as trust, motivation, and brand-aligned behaviors [82, 86], recent studies suggest that in highly bureaucratic or hierarchical HEI contexts, leadership behaviors may be perceived as controlling rather than empowering, which can undermine brand relationship quality [46]. This contextual nuance is particularly important in collectivist and resource-constrained educational settings.

The integration of digital transformation into internal brand management offers new opportunities [18]. Digitally mature organizations are better equipped to respond to shifting demands and enhance employee-brand engagement [18, 89]. In the higher education context, digital tools facilitate collaboration, knowledge-sharing, and internal alignment, particularly in hybrid or remote environments [43].

Emerging technologies in education—such as augmented reality, virtual labs, and mobile-based learning—not only reshape student learning but also affect staff engagement and institutional branding. For instance, Prasetya et al. [62] emphasize how AR learning experiences, guided by motivational design models, contribute to deeper engagement. Similarly, Samala et al. [71] provide a comprehensive view of emerging technologies shaping global education, while Fadli et al. [31] demonstrate how mobile virtual labs enhance constructivist thinking and support institutional digital strategies. These developments underline the necessity of digitally enabling faculty and staff to reinforce brand-related behaviors.

Three internal factors, communication, training, and leadership emerge as critical enablers of strong employee-brand connections. Effective internal communication fosters transparency and alignment, influencing employee perception of organizational reputation and enhancing trust [42, 57]. In HEIs, good brand communication is linked

to improved engagement, retention, and brand loyalty [60, 64]. However, the strength of this relationship may vary across cultural contexts. For instance, in collectivist societies, communication is often embedded in informal networks and shared norms rather than formal organizational channels, which can weaken its direct link to EBRQ [91]. Thus, culture may act as a boundary condition in assessing communication effectiveness [37]. Structured training programs cultivate employees' understanding of brand values and equip them to act as brand ambassadors [23, 76]. In higher education, such programs enhance employee capabilities, brand attachment, and institutional loyalty [17, 52]. Transformational and empowering leadership styles foster trust, motivation, and brand-aligned behavior [68, 86]. Strong leadership in HEIs has been linked to improved performance, engagement, and brand resonance [56, 82]. However, in certain higher education systems, leadership may take on bureaucratic or hierarchical characteristics, which can reduce employee empowerment and weaken brand relationship quality [46].

These three pillars of internal brand management serve as antecedents of Employee Brand Relationship Quality (EBRQ) a construct that captures the depth and quality of employees' psychological connection to the brand.

Hypotheses:

- H1: Communication positively influences Employee Brand Relationship Quality.
- H2: Training positively influences Employee Brand Relationship Quality.
- H3: Leadership positively influences Employee Brand Relationship Quality.

2.3 Digital enablement and employee brand relationship quality

Effective leadership, staff development, and communication are essential to a strong employee-brand relationship. Digital technologies improve higher education EBRQ. Digital enablement improves information availability, speeds up work, and keeps businesses and people tech-savvy [25]. Digitalization affects internal brand management and employee brand engagement, increasing brand reach and communication efficiency [21, 24]. Huu [35] finds a favorable association between digital autonomy, innovative work behavior, and employee impact, showing that digitalization boosts productivity and the employee-brand relationship. A seamless and engaging employee experience with digital technologies improves EBRQ [38]. Research on internal corporate communication technologies shows that holistically combining digital enablement with effective management practices improves EBRQ in higher education. Nevertheless, the impact of digital enablement on EBRQ may depend on factors such as digital literacy, infrastructure quality, and delivery mode (e.g., synchronous vs. asynchronous). Recent studies in HEIs confirm that when digital tools are poorly integrated, they can fragment social cohesion and weaken psychological engagement (Singun, 2025; Lee, 2024). These contingencies suggest that digital enablement is not a universally positive moderator, but rather a context-dependent force.

Therefore, this study proposes that:

- H4: Digital Enablement moderates the relationship between communication and Employee Brand Relationship Quality.
- H5: Digital Enablement moderates the relationship between training and Employee Brand Relationship Quality.

- H6: Digital Enablement moderates the relationship between leadership and Employee Brand Relationship Quality.

Therefore, this study anticipates, as Fig. 1, that the different dimensions of Internal Brand Management, such as Communication, training, and leadership, positively influence the formation of Employee brand relationship quality. Furthermore, the relationship between Internal Brand Management and Employee brand relationship quality is moderated by digital enablement.

3 Methodology

3.1 Design and respondents

To test the hypotheses within the conceptual framework, a questionnaire was adapted and employed a stratified cluster to enhance the representativeness and robustness of the findings, the study employed a stratified proportionate sampling technique across Pakistan's higher education landscape. Stratification was based on geographical location, dividing the sampling frame into seven administrative strata: Punjab, Sindh, Khyber Pakhtunkhwa, Balochistan, Islamabad Capital Territory, Gilgit-Baltistan, and Azad Jammu and Kashmir. The number of Higher Education Institutions (HEIs) in each region served as a practical proxy for the underlying employee population, given the institutional diversity and the logistical difficulty in accessing individual-level employee data across the country. From each geographical stratum, samples were drawn proportionate to the number of HEIs, ensuring balanced regional representation. This design allowed the study to account for institutional, cultural, and operational variations across Pakistan's diverse regions, capturing the heterogeneity of employee experiences related to internal branding, leadership, and digital enablement. The total sample consisted of 372 respondents from 262 HEIs nationwide. This approach strengthens the generalizability of the results while maintaining methodological rigour, as it ensured that key contextual variations were represented in the final dataset. The seven-point Likert scale (1 strongly disagrees; 7 strongly agrees) used to measure the various variables shown in Fig. 1 were adapted from earlier research. Communication was measured using three questions from Judson et al. [45], O'Callaghan [59], and Santos-Vijande [72]. Training was assessed using a three-item measure from Aurand et al. [7, 63], and Chang [23]. Leadership is measured using Carless, Wearing, and Mann's [22] method. Hashim et al.'s (2012) ten-item Employee Brand Relationship Quality scale was used. Digital enablement was measured using an 8-item scale adapted from Venkatesh et al. [88], reflecting the UTAUT model. Items assessed employees' perceptions of the usefulness, ease of use, support,

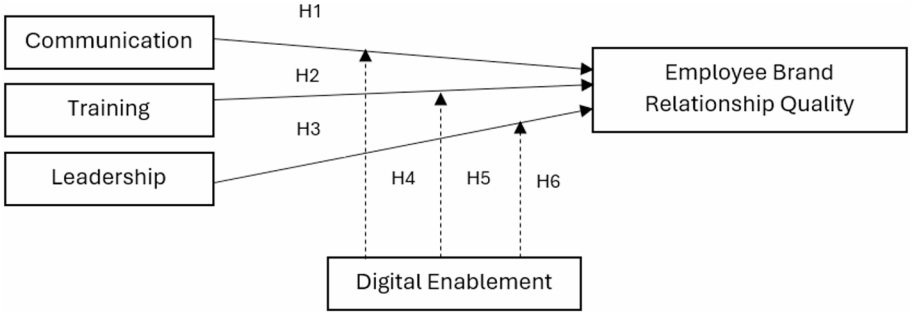

Fig. 1 Conceptual Framework

and encouragement to use digital tools (e.g., LMS, internal portals, digital communication systems) in their daily work. This operationalization captures how digital systems facilitate internal communication, training, and leadership engagement within HEIs. Data was collected by distributing self-administered questionnaires to the employees of these HEIs and capturing relevant information related to the variables of interest in the study. This sampling method was chosen to ensure representation from different HEIs and to enhance the generalizability of the findings to the broader population of employees within the higher education sector in Pakistan.

The information presented in Table 1 is a summary of the age, gender, and industry distribution of respondents. It provides frequency distribution and percentages for each category The table reveals that the majority of respondents were male (70.16%), age 36–45 years old and employed in the public sector. The table provides a quick and easy way to assess the representativeness of the sample and contextualize the study participants.

3.2 Analysis of the measurement model

The initial step in the partial least squares (PLS) analysis process is to estimate the measurement model. Confirmatory factor analysis (CFA) was used to evaluate the measuring scales' item reliability, convergent validity, and discriminant validity. As shown in Table 2, all item loadings were more than the suggested value of 0.50, indicating excellent internal consistency (Hair, Hult, Ringle, & Sarstedt, [39]).

Utilising the Chin [27] criterion, which states that composite reliability (CR) values should be more than 0.7, convergent validity was assessed. According to Fornell and Larcker [32], average variance extracted (AVE) values should exceed the minimum criteria of 0.50 to establish convergent validity. In our analysis, both CR and AVE values met the respective thresholds, providing evidence of satisfactory convergent validity. For the assessment of discriminant validity (see Table 3), following the Fornell and Larcker [32] criterion, the square root of the AVE was compared to the inter-correlations between constructs in the research model. All AVE values were found to be greater than the corresponding inter-construct correlations [27], indicating adequate discriminant validity. The measurement model demonstrated satisfactory reliability, convergent validity, and discriminant validity based on the conducted analyses.

The conducted analyses demonstrated satisfactory reliability, convergent validity, and discriminant validity for the measurement model. The coefficient of determination (R2) for the Employee Brand Relationship Quality (EBRQ) construct was 0.696, indicating that the model explained more than 69.6% of the variance in the constructs.

Table 1 Respondent profile

Variable	Category	Frequency	Percentage %
Age	Below 35	88	23.66
	36–45	147	39.50
	46–55	106	28.50
	Above 55	31	8.33
Gender	Male	261	70.16
	Female	111	29.84
Sector	Public	214	57.53
	Private	158	42.47

Table 2 Results of the measurement model

Constructs	Items	loadings	CR	AVE
Digital Enablement (DIG)	Dig1	0.883	0.954	0.747
	Dig2	0.926		
	Dig3	0.812		
	Dig4	0.832		
	Dig5	0.932		
	Dig6	0.788		
	Dig7	0.867		
Employee Brand Relationship Quality (EBRQ)	EBRQ1	0.953	0.853	0.551
	EBRQ2	0.601		
	EBRQ3	0.577		
	EBRQ5	0.916		
	EBRQ6	0.56		
Communication (COM)	Com1	0.86	0.843	0.651
	Com2	0.944		
	Com3	0.555		
Training (TRA)	Tra1	0.954	0.955	0.876
	Tra2	0.893		
	Tra3	0.958		
Leadership (LEAD)	Lead1	0.853	0.968	0.812
	Lead2	0.889		
	Lead3	0.909		
	Lead4	0.922		
	Lead5	0.937		
	Lead6	0.895		
	Lead7	0.898		

Note: CR: Composite Reliability, AVE: average Variance Extracted

Table 3 Discriminant validity of constructs (Fornell-Larcker criterion)

	COM	DIG	EBRQ	LEAD	TRA
COM	0.807				
DIG	0.316	0.864			
EBRQ	0.278	0.76	0.742		
LEAD	0.401	0.559	0.362	0.901	
TRA	0.541	0.423	0.337	0.658	0.936

Note: The diagonal values in bold indicate the average variances extracted (AVE). The scores in the lower diagonal indicate inter-construct correlations (IC). (Table 4).

4 Results

Table 5 presents the results of the hypothesis testing, which includes path coefficients, standard errors, t-values, p-values, decision outcomes, and variance inflation factors. Of the three direct hypotheses examined, two were found to be statistically significant. Specifically, both training and leadership had a positive and significant impact on employee brand relationship quality (EBRQ), as evidenced by their standardized beta coefficients ($\beta = 0.203$, $p < 0.001$ and $\beta = -0.330$, $p < 0.001$, respectively). These results support H2 and H3.

Furthermore, the results suggest that two of the three moderating hypotheses were supported. Digital enablement was found to moderate the relationship between training and EBRQ ($\beta = -0.155$, $p = 0.015$) and leadership and EBRQ ($\beta = 0.479$, $p < 0.001$). However, there was no significant evidence to support the moderating influence of

Table 4 HTMT (Heterotrait–Monotrait Ratio) values

Constructs	COM	DIG	EBRQ	LEAD	TRA
COM	–				
DIG	0.521	–			
EBRQ	0.428	0.711	–		
LEAD	0.594	0.664	0.587	–	
TRA	0.683	0.509	0.452	0.701	–

Note: All HTMT values are below the conservative threshold of 0.90 (Henseler et al., 2015), indicating satisfactory discriminant validity across constructs

Table 5 Path coefficients and hypothesis testing

H	Relationship	Standard Beta	Standard Error	t-value	*p*-value	Decision	VIF
H1	Communication→ EBRQ	-0.023	0.032	0.731	0.465	Not supported	1.483
H2	Training→ EBRQ	0.203	0.048	4.211	0.000	Supported	2.496
H3	Leadership→ EBRQ	-0.33	0.04	8.139	0.000	Not Supported	2.719
H4	Digital Enablement moderate Communication - EBRQ	-0.026	0.047	0.554	0.582	Not Supported	2.072
H5	Digital Enablement moderate Training - EBRQ	-0.155	0.064	2.431	0.015	Supported	6.956
H6	Digital Enablement moderate Leadership - EBRQ	0.479	0.058	8.263	0.000	Supported	3.498

digital enablement on the relationship between communication and EBRQ (β = -0.026, $p = 0.582$). Although H4 was not supported, H5 and H6 were validated. Additionally, all construct VIF values were within acceptable limits, indicating that there were no concerns regarding multicollinearity, which assures reliable findings.

Overall, the statistical study validated hypotheses H2, H3, H5, and H6, which implies that training, leadership, and digital enablement have an impact on employee brand relationship quality. However, H1 and H4, which examined the relationship between communication and EBRQ and digital enablement's moderating influence, respectively, were not supported.

Additionally, Variance Inflation Factors (VIF) were examined to assess multicollinearity. All constructs reported VIF values below the conservative threshold of 5, except for the interaction term Digital Enablement × Training, which yielded a VIF of 6.956. While this value is higher, it remains within the acceptable range under moderation analysis standards. Moderation terms commonly show elevated VIFs due to shared variance with main effects [40]. Therefore, multicollinearity was not considered a significant concern in this study.

Table 5 presents the path coefficients, standard errors, t-values, and p-values for hypothesis testing. The findings reveal that training has a significant positive effect on employee brand relationship quality (EBRQ) (β = 0.203, t = 4.211, $p < 0.001$), supporting H2. In contrast, communication and leadership did not demonstrate significant direct effects on EBRQ, rejecting H1 and H3. However, the moderation results highlight the role of digital enablement in strengthening relationships. Specifically, digital enablement significantly moderated the relationship between training and EBRQ (β = -0.155, t = 2.431, $p < 0.05$) and between leadership and EBRQ (β = 0.479, t = 8.263, $p < 0.001$), supporting H5 and H6. The moderation effect was strongest for leadership, indicating that

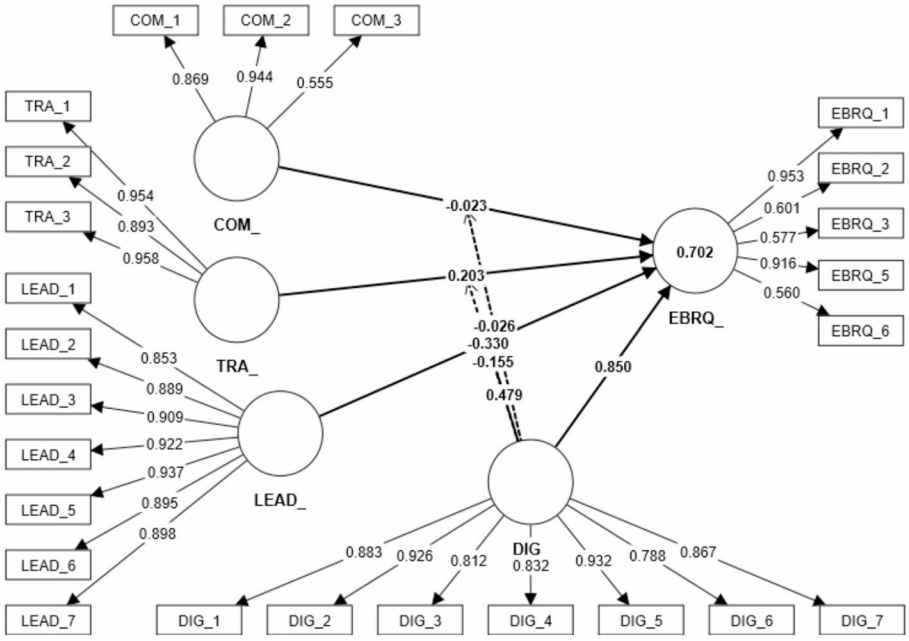

Fig. 2 Structural Model

digital enablement enhances the influence of leadership practices on employee–brand relationship quality. Communication moderation was not significant (H4).

To further evaluate the model, effect size (f^2) and predictive relevance (Q^2) were assessed following Hair et al. [39]. Training (f^2 = 0.062) exhibited a small-to-moderate effect, while leadership (f^2 = 0.137) demonstrated a moderate effect on EBRQ. Importantly, the interaction term Digital Enablement × Leadership showed a substantial effect (f^2 = 0.224), underscoring meaningful moderation. Communication, however, showed a negligible effect (f^2 = 0.005), consistent with its non-significant result.

The Stone–Geisser predictive relevance (Q^2) value for EBRQ was 0.391, which is well above zero, indicating substantial predictive power of the model. This confirms that the inclusion of digital enablement improves the model's ability to explain employee brand relationship outcomes.

Finally, variance inflation factor (VIF) values were examined to assess multicollinearity. All predictors demonstrated VIF values below the conservative threshold of 10 [39]. Although the interaction term DE × Training showed a relatively higher VIF (6.956), this remains within acceptable limits, particularly since interaction terms commonly inflate VIF due to shared variance with their constituent constructs (Aiken & West, 1991). Therefore, multicollinearity does not threaten the robustness of the model.

Figure 2 presents the structural model results of the PLS-SEM analysis, depicting the relationships among communication (COM), training (TRA), and leadership (LEAD) in predicting employee brand relationship quality (EBRQ), with digital enablement (DIG) as a moderating construct. The measurement model shows strong indicator loadings, while the structural paths reveal that training and leadership exert positive effects on EBRQ, whereas communication is non-significant. The model explains 70.2% of the variance in EBRQ, highlighting substantial explanatory power.

5 Discussion

This study examined how internal brand management affects employee brand relationships. This research also found that digital enablement moderates the relationship between internal brand management activities and employee brand relationship quality. Six hypotheses were offered; three were approved (H2, H5, and H6) and three were rejected. H1, H3 and H4.

According to H1, communication affects EBRQ significantly. Communication does not significantly affect employee brand relationship quality in Pakistani universities, rejecting this hypothesis. These findings provide a complex view of how communication affects employee brand relationship quality in Asia, where cultural norms, corporate practices, and employee expectations differ. In many Asian societies, collectivism dominates. This collectivistic approach emphasizes the idea that individuals are deeply intertwined with their community identity, downplaying the importance of self-identification (Kawamura, 2012). In collectivistic contexts where group affiliation is valued, employees often identify strongly with their organization's brand, fostering feelings of affiliation, shared objectives, and interpersonal dynamics, consistent with Tajfel and Turner's (1979) social identity theory. However, it should be noted that cultural values such as collectivism were not directly measured in this study. The cultural explanation offered here is therefore a theoretical inference rather than an empirical conclusion, and future research should include standardized cultural instruments (e.g., Hofstede's dimensions or Asian Values Scale) to test this mechanism more rigorously.

However, H3 was not supported. Contrary to theoretical expectations, the relationship between leadership and EBRQ was found to be negative and significant ($\beta = -0.330$). Since the study used a validated transformational leadership scale, this contradiction suggests that employees in highly bureaucratic and power-distant HEIs may interpret even transformational behaviors as hierarchical or controlling. While the scale itself is robust, its application in this cultural–institutional context appears to generate different employee perceptions. This interpretation is consistent with prior work on the South Asian higher education sector, which emphasizes bureaucratic rigidity and hierarchical leadership norms (Tariq, Hassan & Hussain [79], ; Qureshi [67]) . Adding to this literature, the present study suggests that even well-intentioned leadership practices may be filtered through institutionalized power-distance expectations. This finding highlights the importance of contextual validation and suggests that future studies might supplement quantitative scales with qualitative insights (e.g., interviews or focus groups) to unpack how leadership is perceived in practice.

Second, the result for H5, though statistically significant, showed a negative moderating effect of digital enablement on the relationship between training and EBRQ ($\beta = -0.155$, $p < 0.05$).

This counterintuitive effect may reflect differences in digital literacy, infrastructure quality, and training delivery mode (e.g., asynchronous vs. synchronous formats). In settings where digital maturity is uneven, employees may experience digital training as isolating or inadequate, thereby weakening its relational benefits. This aligns with the broader proposition that digital enablement is not a universally positive moderator; its effects are conditional upon context, integration quality, and employee readiness. Poorly integrated or mandatory digital systems may create frustration or disengagement, thus reducing the relational value of training. Acknowledging these institutional factors,

future models should explicitly incorporate measures of digital readiness to better explain such outcomes.

5.1 Conclusion, implications, and further research

In conclusion, this study investigated the effects of internal brand communication, training, leadership, and digital enablement on Employee Brand Relationship Quality (EBRQ) within Pakistani higher education institutions. The findings highlight the positive role of training, underscoring that employee development initiatives are central to building stronger alignment with institutional brands. Conversely, the rejection of H1 and H3 reveals important contextual challenges. The non-significant role of communication suggests that existing practices may be overly top-down, inconsistent, or insufficiently clear to influence employees' brand relationships. Similarly, the negative effect of leadership on EBRQ points to the prevalence of hierarchical and bureaucratic leadership styles, which may alienate employees rather than engage them. These interpretations, however, remain tentative since cultural orientation and leadership style variations were not directly measured—future studies should explicitly incorporate these dimensions to validate the explanatory mechanisms.

A further contribution of this study lies in its analysis of digital enablement as a moderator. Results reveal that digital tools can amplify the positive influence of leadership but may simultaneously weaken the effects of training. This suggests that technology functions less as a universal enabler and more as a boundary condition whose impact depends on the quality of integration and employee readiness. Poorly embedded or mandatory digital initiatives may even create disengagement, underscoring the need for more thoughtful implementation.

Theoretically, the study advances internal brand management research by reframing digital enablement as a contingent factor rather than an inherently positive driver. Practically, administrators in higher education are encouraged to design communication systems that are two-way and transparent, deliver training programs enriched with relational support, and adopt participatory leadership styles reinforced by well-integrated digital tools. By aligning these practices with the United Nations Sustainable Development Goals (SDG 4: Quality Education and SDG 8: Decent Work and Economic Growth), higher education institutions can enhance institutional resilience, promote inclusive growth, and contribute to sustainable human development. Future research should examine these dynamics across cultural contexts, adopt mixed-method approaches for deeper insights, and integrate standardized cultural measures to enhance explanatory power.

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1007/s44217-025-00940-6.

Supplementary Material 1

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Author contributions

Authors' contributionsUrooj Ahmed conceptualized the study, developed the theoretical framework, and led the manuscript writing process.Prof. Rukhsar Ahmed provided academic guidance throughout the study and was primarily responsible for data collection.Sharizal Hashim contributed to methodology design and statistical analysis.Mahani

Abdu Shakur supported the interpretation of findings and conducted critical revisions.Areej Ahmed contributed to the literature review, manuscript formatting, and final proofreading.All authors have read and approved the final manuscript.

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Data availability
The datasets generated and/or analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethical approval
This study utilized an anonymous, self-administered questionnaire to gather data on internal brand management and digital enablement within higher education institutions. The questionnaire was carefully structured to ensure respondent anonymity and did not include any collection of sensitive personal information such as medical data, psychological profiles, or financial records. Additionally, no medical, psychological, or high-risk interventions were part of the study. The research protocol was submitted for ethical consideration to the Research Ethics Committee at the Faculty of Economics and Business, Universiti Malaysia Sarawak (UNIMAS). Following a review in 2024, the committee concluded that the study involved minimal risk and, given the adult status of all participants and the non-invasive nature of the methodology, formal ethical approval was not required. This determination was recorded under reference number: UNIMAS/NC-22.02/04–07 Jld 2 (01). All research activities were conducted in full alignment with UNIMAS's institutional ethical standards and regulations, including principles of informed consent, voluntary participation, and the protection of respondent confidentiality and data integrity.

Consent to participate
All participants provided informed written consent prior to participation. They were assured that participation was voluntary, and they could withdraw at any time without any consequences. The questionnaire was completely anonymous; no identifying information such as names, email addresses, or institutional IDs was collected. To maintain data protection and privacy, all responses were stored on secure, password-protected devices, and were accessible only to the principal investigator. Data were used solely for academic purposes and will not be shared publicly without appropriate safeguards. These steps ensured compliance with ethical research practices and data privacy standards.

Consent for publication
Participants were informed that the findings of this research would be published in an academic journal, and consent to publish anonymized responses was obtained from all participants.

Competing interests
The authors declare no competing interests.

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