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Digital employee experience and affective commitment: The moderating role of collectivism and digital distance in Vietnam's digital transformation context

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Abstract: This study examines how Digital Employee Experience (DEX) influences Affective Commitment (AC) among employees in Vietnam's digital transformation era. Grounded in social exchange theory, the research proposes an integrated model in which Cultural Communication Shifts (CCS) mediate the DEX–AC relationship, while Collectivism (COL) and Digital Distance (DD) serve as contextual moderators. Data were collected from 420 employees across six sectors: fintech, e-commerce, manufacturing, education, healthcare, and public administration, and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). Results indicate that DEX positively affects AC, both directly and indirectly through CCS. A higher level of COL enhances overall AC but weakens the effect of DEX, suggesting that collectivist norms may limit the impact of individualized digital empowerment. DD shows a negative effect on AC but no significant moderating role. The study contributes theoretically by extending SET to the digital workplace and conceptualizing CCS as a socio-cultural mechanism linking technology with employee emotions. Practically, it emphasizes the need for human-centered digital design, transparent communication, and inclusive digital upskilling to strengthen employee commitment and cultural cohesion in Vietnam's digital transformation.

Keywords: *Affective commitment, Collectivism, Cultural communication shifts, Digital distance, Digital employee experience, Social exchange theory.*

1. Introduction

In the context of rapid global and national digital transformation, *Employee Experience (EX)* has emerged as a strategic factor determining performance, engagement, and organizational commitment. In particular, the concept of *Digital Employee Experience (DEX)*, the overall experience of employees when interacting with digital environments, tools, and platforms within organizations, has gained increasing attention. According to Gheidar and ShamiZanjani [1], DEX reflects how employees use and evaluate digital tools, processes, and technical support at work [1]. Recent studies also emphasize that measuring and improving DEX not only enhances productivity but also strengthens affective commitment and employee loyalty [2].

In Vietnam, a country characterized by high levels of collectivism and power distance, integrating DEX with organizational culture presents both opportunities and challenges [1]. Collectivist culture fosters collaboration, information sharing, and group cohesion, facilitating the diffusion of technology across organizations. However, if DEX is designed to emphasize excessive individualization or empowerment, it may conflict with collective values, thereby reducing consensus and affective commitment [3]. Consequently, implementing DEX in Vietnam requires strong cultural alignment to ensure that technology reinforces the collective spirit of "growing together."

Building on these insights, this study aims to develop and empirically test a model in which DEX acts as a key antecedent influencing employees' Affective Commitment (AC), while examining the

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moderating roles of Collectivism (COL) and Digital Distance (DD). Moreover, it investigates the mediating role of Cultural Communication Shifts (CCS), the transformation of internal communication and cultural interaction, as the mechanism through which DEX influences AC. The findings are expected to extend Social Exchange Theory into a digitally and culturally embedded context while providing practical recommendations for Vietnamese organizations to design employee journeys that align with both digital environments and local cultural values.

2. Literature Review

2.1. Digital Employee Experience (DEX)

DEX refers to employees' overall perceptions and evaluations regarding their access to, interaction with, and use of digital tools, platforms, and processes at work. Recent literature conceptualizes DEX as an emerging, interdisciplinary research domain comprising dimensions such as infrastructure quality, digital tool effectiveness, IT support, usability and accessibility, digital workflow, internal digital communication, and digital learning [4]. However, existing measurement systems remain fragmented and lack standardization across studies, highlighting the need for an integrated framework, particularly for emerging contexts such as Vietnam.

Regarding the technological adoption mechanism, DEX is theoretically grounded in the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2), which extends the original UTAUT by incorporating hedonic motivation, price value, and habit, while emphasizing the moderating effects of individual differences such as age, gender, and experience [5]. This theoretical base explains why the same digital solution may yield highly divergent experiences among different employee groups, depending on personal and contextual factors.

2.2. Affective Commitment (AC) and Its Antecedents in the Digital Environment

AC is defined as an employee's emotional attachment, identification with, and voluntary desire to remain a member of an organization [6]. Employees with high AC perceive alignment between their personal values and the organization's goals and identity, thereby developing loyalty and a willingness to contribute beyond formal job requirements. Quantitative reviews and meta-analyses have consistently demonstrated that AC is strongly associated with job satisfaction, individual performance, organizational citizenship behavior, and retention intentions [7]. Moreover, AC is positively influenced by perceived organizational support, fairness, leadership style, and work conditions.

In the era of digital transformation, AC is increasingly shaped by employees' digital experiences. A positive DEX, characterized by efficient tools, an intuitive user experience (UX), smooth digital workflows, timely technical support, and flexible internal communication channels, fosters a sense of organizational care, investment, and empowerment. Such experiences strengthen employees' trust in the organization, enhance self-efficacy, and ultimately reinforce affective commitment. Conversely, a negative DEX involving information overload, inadequate guidance, technical interruptions, or pressure to adopt new technologies can lead to technostress, which has been empirically shown to reduce satisfaction, performance, and commitment [8]. Therefore, in the digital era, designing and optimizing DEX is not merely a technological task but a strategic imperative for sustaining affective commitment, retaining talent, and enhancing organizational effectiveness.

2.3. Theoretical Foundation

The Social Exchange Theory (SET), introduced by Blau [9], posits that relationships within organizations are sustained through reciprocal exchanges of perceived benefits and fairness. When employees perceive that their organization supports, trusts, and treats them fairly, they reciprocate with affective commitment, loyalty, and organizational citizenship behaviors [9]. In the digital era, the DEX can be considered a modern exchange package encompassing user-friendly tools, AI-based support platforms, transparent data systems, and efficient online processes. A positive DEX enhances perceived organizational support, thereby strengthening employees' attachment, sense of responsibility, and

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willingness to contribute voluntarily toward collective goals.

In parallel, cultural frameworks provide a foundation for understanding how cultural differences shape perceptions and workplace behavior [10]. Among Hofstede's six cultural dimensions, individualism–collectivism and power distance are particularly influential in determining how employees communicate, collaborate, and adopt new technologies. In societies characterized by high collectivism and hierarchical structures, such as Vietnam, employees tend to value group harmony, respect authority, and prioritize communal well-being over individual expression.

Recent research reinforces this perspective. Gorodnichenko and Roland [11] found that Vietnamese regions with early state formation ("nhập quốc") continue to exhibit strong collectivist norms, demonstrating the enduring resilience of community-based values [3]. This indicates that cultural variables play a crucial moderating role in how employees perceive and respond to DEX, where alignment between technology design and collective values determines the degree of organizational commitment. Similarly, Gheidar and ShamiZanjani [1] emphasized that the design of DEX frameworks must incorporate cultural dimensions to ensure socio-technological compatibility, especially in developing economies such as Vietnam [1].

2.4. Digital Internal Communication and Cultural Communication Shifts (CCS)

The digital ecosystem of communication tools (such as intranet platforms, Microsoft Teams, Slack, LMS, and workflow bots) is reshaping the ways information flows, decisions are made, and transparency is maintained within organizations. A systematic review by Verčič highlights the rapid growth of research on Digital Internal Communication, showing that digital channels can enhance satisfaction, efficiency, and employee engagement when balanced appropriately with face-to-face interactions, reduced overload, and increased communication symmetry [12].

Studies on digital teams further suggest adopting an affordance-based perspective, viewing technology as a set of enabling properties (visibility, persistence, editability) that reshape communication norms and power structures within groups. This perspective implies that CCS may serve as a potential mediating mechanism linking DEX and AC, explaining how digital transformation influences internal culture and employee connection [13].

2.5. Collectivism (COL) as a Moderating Variable

In the context of digital work, the internal digital communication ecosystem has become a central pillar in coordinating information, facilitating decision-making, and sustaining organizational cohesion. Platforms such as intranet systems, Microsoft Teams, Slack, learning management systems, and workflow bots have reconfigured the entire flow of information within organizations, transforming how employees access knowledge, interact with supervisors, and co-construct organizational culture.

A recent systematic review by Verčič and Verčič [12] highlights the surge of research on Digital Internal Communication and confirms that the use of digital channels can enhance employee satisfaction, performance, and engagement when properly balanced between online and face-to-face interactions, while reducing information overload and increasing communication symmetry [12]. Conversely, poorly managed digital communication may lead to "digital noise," decreased trust, and fragmentation within organizations.

In addition, studies on virtual teams and digital work environments have adopted an affordance-based perspective, conceptualizing technology as a set of enabling properties (visibility, persistence, editability) that influence communication norms, empowerment dynamics, and power structures within teams. According to Lane et al. [13], these transformations give rise to CCS, which serve as a key mediating mechanism between DEX and AC. This framework helps explain how technology not only changes work processes but also reshapes the cultural foundations of organizations [13].

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2.6. Digital Distance (DD), Technostress, and the Moderation of Experience

DD at the organizational level refers to disparities in competence, access, and expectations regarding technology use among different employee groups. DD reflects unequal levels of digital skills, adaptability to new tools, and confidence in working within digital environments. As DD widens, organizations are more likely to experience technostress, a technology-induced strain that undermines employee productivity, satisfaction, and organizational commitment.

According to Ragu-Nathan et al. [14], the primary technostress creators include techno-overload, techno-invasion, techno-complexity, techno-uncertainty, and techno-insecurity. Conversely, technostress inhibitors such as digital training, technical support, process standardization, and a culture of continuous learning can help employees sustain more positive digital experiences Ragu-Nathan et al. [14]. Tarafdar et al. [8] demonstrated that when DD is high, the positive impact of Digital Employee Experience (DEX) on Affective Commitment (AC) and the effectiveness of internal digital communication both decline [8].

The most recent review by Kumar [15] reaffirms that technostress remains a major barrier to successful digital transformation, especially in organizations undergoing rapid technological scaling. Practical recommendations include designing intuitive user experiences (UX), providing role-specific training programs, and limiting notifications and interruptions to balance productivity and employee well-being [15].

2.7. Policy Framework and the Vietnamese Context

Over the past decade, Vietnam has identified digital transformation as one of the three strategic pillars of national development, alongside green growth and innovation. The National Digital Transformation Program to 2025, with orientation toward 2030 [16], sets forth the vision of building a digital government, digital economy, and digital society, while enhancing digital skills across all workforce levels. This policy framework has been operationalized through sectoral strategies such as the National Strategy on Artificial Intelligence (AI), the Digital Human Resource Development Program, and the National Data Strategy, thereby establishing an institutional foundation that promotes investment in EX and DEX [16].

According to Moganadas and Goh [4], this favorable policy environment enables Vietnamese enterprises to accelerate internal digital transformation, particularly in human resource management and organizational communication. However, it also presents substantial challenges related to infrastructure, data governance, technical capacity, and digital skill inequality among workforce groups [4]. The UNDP [17] AI Landscape Assessment – Vietnam report further recommends that to fully harness the potential of digital technologies and AI in human resource management, Vietnam should increase investment in applied digital skills, foster an organizational culture of innovation, and establish robust ethical and legal frameworks governing employee data [17].

Overall, the current policy framework provides a clear institutional momentum for the integration of digital technologies into human resource management and the enhancement of DEX. Nevertheless, achieving sustainable and effective implementation requires close collaboration among enterprises, governmental agencies, and educational institutions to align policy intent with organizational practice.

2.8. Research Model

Based on the synthesis of theoretical frameworks and empirical evidence presented above, this study proposes an integrated conceptual model to explain how DEX influences AC in the context of Vietnam's digital transformation. The model emphasizes that DEX not only has a direct effect on AC but also exerts an indirect effect through CCS, while being moderated by two contextual factors: COL and DD.

According to Social Exchange Theory (SET), proposed by Blau [9], employment relationships are built and maintained on the principle of reciprocity, whereby employees strengthen their commitment when they perceive fairness, organizational support, and investment. Within the digital environment, DEX represents a modern form of perceived organizational support, manifested through digital tools,

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online platforms, and positive digital experiences provided by the organization [7].

H_1: DEX has a positive impact on employees' affective commitment (DEX → AC [+]).

Building upon research on Digital Internal Communication by Verčič et al. [18], DEX is expected to enhance communication symmetry, transparency, and timeliness, thereby generating CCS, which reflects the transformation of how employees communicate and perceive organizational culture. Such transformation fosters positive emotions, trust, and engagement, mediating the relationship between DEX and AC.

H_2: CCS mediates the relationship between DEX and AC (DEX → CCS → AC).

In terms of cultural context, COL serves as a significant moderating variable. In low-collectivism environments, employees tend to value autonomy and personalization, responding more positively to individualized digital experiences. Conversely, in highly collectivist settings, strong group consensus and hierarchical norms may weaken the positive influence of DEX on AC [19].

H_3: The effect of DEX on AC is stronger when COL is low and weaker when COL is high.

Finally, DD reflects disparities in digital skills and technological adaptability within organizations. According to Tarafdar et al. [8], high DD increases technostress, reducing satisfaction and commitment. Conversely, when DD is low, meaning employees receive adequate training and support, the positive impact of DEX on AC becomes stronger.

H_4: The effect of DEX on AC decreases when DD is high and increases when DD is low.

Overall, this conceptual model clarifies both the mediating mechanism (CCS) and moderating effects (COL, DD), while capturing the cultural and technological characteristics of Vietnam. It serves as the foundation for empirical testing using Partial Least Squares Structural Equation Modeling (PLS-SEM) in subsequent research stages.

Based on these hypotheses, the research model proposed in this study is illustrated in Figure 1.

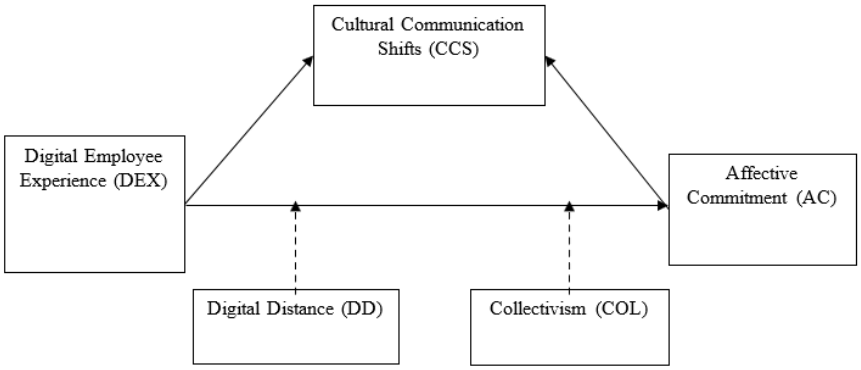

Figure 1.
Research Model.

2.9. Research Gaps and Expected Contributions

Although the concept of DEX has increasingly attracted attention in the fields of management and technology, several significant academic gaps remain to be addressed.

First, most existing studies on DEX remain at a descriptive or qualitative level, lacking standardized and consistent measurement frameworks across industries, particularly in developing contexts such as Vietnam. Moreover, few studies have explored the mediating role of CCS in the relationship between DEX and AC at the individual level. This study contributes by developing and validating an integrated measurement framework, DEX–CCS–AC, grounded in interdisciplinary theories from Information Systems, Human Resource Management, and Communication, and empirically tested using Partial Least Squares Structural Equation Modeling (PLS-SEM) [4].

Second, the moderating role of COL has been predominantly examined at the national level.

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However, recent empirical evidence in Vietnam indicates intra-national variation in collectivist values across regions with different historical development paths [3]. Therefore, measuring COL at the individual level represents an important contribution, clarifying the cultural mechanisms that influence the effects of DEX, particularly in testing Hypothesis H3.

Third, internal Digital Distance has been discussed only sporadically in technostress research. This study extends prior work by linking DD to the effectiveness of DEX, empirically testing its moderating role (H4), and proposing strategies to mitigate DD through role-based digital training, user-friendly experience design, and transparent communication policies [8].

Finally, in the context of Vietnam's ongoing National Digital Transformation Program [16] and the National Artificial Intelligence Strategy to 2030 [17], empirical micro-level evidence on the DEX–AC relationship remains scarce. Therefore, this study not only addresses theoretical gaps but also provides multi-sectoral and cross-regional empirical insights to inform digital human resource management strategies and policy development for Vietnamese enterprises [16, 17].

3. Research Methodology

This study adopts a quantitative research design to examine the impact of DEX on employees' AC within the context of digital transformation in Vietnam. The analysis incorporates cultural communication shifts as a mediating variable and COL together with DD as moderating variables.

Data were collected from 420 valid survey responses from employees across six sectors, including fintech, e-commerce, manufacturing, education, healthcare, and public administration, using a five-point Likert scale. The dataset was analyzed using SPSS (for reliability and exploratory factor analysis through Cronbach's Alpha and EFA) and SmartPLS 4.0 (for assessing composite reliability, average variance extracted, heterotrait-monotrait ratio, structural equation modeling, and bootstrapping with 5,000 samples). These analyses were conducted to test the direct, indirect, and moderating relationships among variables, thereby identifying the mediating role of CCS and the moderating effects of COL and DD in the relationship between DEX and AC.

4. Research Findings

4.1. Descriptive Statistics of the Research Sample

The survey dataset consists of 420 valid responses collected from six key sectors representing different levels of digitalization in Vietnam: finance–fintech (18.6%), e-commerce (17.1%), manufacturing and industry (16.7%), education (15.2%), healthcare (15.0%), and public administration and government (17.4%). The sample is relatively well distributed across the three major economic regions: Ho Chi Minh City (39.3%), Hanoi (36.7%), and Da Nang, together with the central provinces (24.0%).

In terms of demographics, 53.8% of respondents are female, with an average age of 34.6 years; the 25–35 age group accounts for 47.1%, representing the core digital workforce. Approximately 58.9% of respondents have more than five years of work experience, ensuring sufficient practical understanding of digital work environments. Around 72.4% reported working in organizations that have implemented at least one integrated digital platform (such as ERP, CRM, or LMS).

The mean values of the main constructs indicate: DEX = 3.74, CCS = 3.62, AC = 3.88, COL = 3.95, and DD = 3.21 (measured on a five-point Likert scale). These results suggest a moderately positive perception of digital employee experience and affective commitment, while also highlighting notable variations in digital adaptability across industries. Standard deviations range from 0.65 to 0.82, indicating moderate data dispersion suitable for factor analysis and structural modeling (EFA/SEM).

Overall, the sample of 420 observations demonstrates reliability, representativeness, and diversity in both industry and geography, meeting the requirements for advanced quantitative analyses in the DEX–CCS–AC model with cultural and digital moderating factors.

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4.2. Evaluation of the Measurement Model

4.2.1. Assessment of Measurement Scales (EFA, Cronbach's Alpha, CR, AVE)

All outer loadings of the observed variables ranged from 0.724 to 0.889, exceeding the acceptable threshold of 0.70 [20], indicating that the observed items effectively reflect their underlying latent constructs. All measurement scales achieved Cronbach's Alpha values between 0.815 and 0.888, surpassing the minimum threshold of 0.70, confirming strong internal reliability.

Composite reliability (CR) values ranged from 0.878 to 0.918, indicating a high level of internal consistency among indicators within each construct. The Average Variance Extracted (AVE) values were between 0.643 and 0.692, all exceeding the 0.50 benchmark, confirming convergent validity.

Therefore, the constructs DEX, CCS, DD, COL, and AC demonstrate robust reliability, convergent validity, and internal consistency, meeting the requirements for structural equation modeling using PLS-SEM. These findings confirm that the adapted scales are culturally and technologically appropriate for the Vietnamese context while maintaining the rigorous standards of international research on Digital Employee Experience and Organizational Commitment.

Table 1.
Results of Reliability and Convergent Validity Assessment of Measurement Scales.

Scales		Outer Loadings	Cronbach's Alpha	Composite Reliability (rho_C)	Average Variance Extracted (AVE)
Digital Employee Experience – DEX	DEX1	0.851	0.888	0.918	0.69
	DEX2	0.842			
	DEX3	0.851			
	DEX4	0.753			
	DEX5	0.852			
Cultural Communication Shifts – CCS)	CCS1	0.832	0.815	0.878	0.643
	CCS2	0.811			
	CCS3	0.796			
	CCS4	0.768			
Digital Distance – DD	DD1	0.791	0.815	0.878	0.643
	DD2	0.733			
	DD3	0.845			
	DD4	0.834			
Collectivism – COL	COL1	0.835	0.85	0.897	0.686
	COL1	0.745			
	COL1	0.863			
	COL1	0.864			
Affective Commitment – AC	AC1	0.889	0.85	0.899	0.692

4.2.2. Discriminant Validity Assessment

Table 2.
Discriminant Validity Test.

	AC	CCS	COL	DD	DEX	COL x DEX	DD x DEX
AC							
CCS	0.418						
COL	0.32	0.243					
DD	0.235	0.164	0.06				
DEX	0.425	0.382	0.072	0.165			
COL x DEX	0.134	0.026	0.066	0.07	0.039		
DD x DEX	0.059	0.038	0.052	0.112	0.024	0.17	

The results of the discriminant validity test among the research constructs were assessed using the Heterotrait-Monotrait ratio (HTMT). According to Henseler et al. [21], HTMT values below 0.85 (or

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0.90 in certain contexts) indicate that constructs are empirically distinct and do not overlap in their measurement content.

The results show that all construct pairs have HTMT values ranging from 0.024 to 0.425, which are well below the 0.85 threshold. Specifically, DEX–AC (0.425) and DEX–CCS (0.382) represent the highest correlations, yet remain within acceptable limits, reflecting a theoretically sound relationship between DEX and AC while confirming that they are conceptually distinct constructs.

Very low values observed for interaction terms, such as COL × DEX and DD × DEX (ranging from 0.024 to 0.170), demonstrate that the moderating variables were constructed independently, avoiding issues of multicollinearity or measurement redundancy with their original variables.

Overall, the HTMT results confirm that discriminant validity is satisfactorily achieved across the entire measurement model. This provides the basis for proceeding to the structural model assessment in order to evaluate the causal relationships among DEX, CCS, and AC, as well as the moderating effects of COL and DD.

4.2.3. Multicollinearity Testing for Independent Variables

Table 3.
Multicollinearity Assessment in the Inner Model.

	VIF
CCS -> AC	1.181
COL -> AC	1.051
COL x DEX -> AC	1.036
DD -> AC	1.042
DD x DEX -> AC	1.041
DEX -> AC	1.136
DEX -> CCS	1.000

The multicollinearity among independent variables in the structural model was examined using the Variance Inflation Factor (VIF). According to Hair et al. [20], VIF values below 5.0 (preferably below 3.3) indicate the absence of severe multicollinearity, ensuring the stability and reliability of regression estimates in the PLS-SEM model.

The results indicate that all paths in the model have VIF values ranging from 1.000 to 1.181, which are well below the threshold of 3.3. Specifically, DEX → AC (VIF = 1.136) and CCS → AC (VIF = 1.181) recorded the highest values, yet both remain within the acceptable range, demonstrating relative independence among the explanatory variables predicting AC. The moderating interaction terms, such as COL × DEX (VIF = 1.036) and DD × DEX (VIF = 1.041), also exhibited very low VIF values, confirming that the creation of interaction terms did not introduce noise or redundancy with their original constructs.

Overall, the model satisfies the non-multicollinearity condition among independent and interaction variables, ensuring accuracy, stability, and strong explanatory power in the structural equation analysis. This allows for reliable estimation of path coefficients and hypothesis testing (H1–H4).

4.2.4. Coefficient of Determination and Predictive Relevance Testing

Table 4.
Coefficient of Determination (R-square) for Dependent Variables.

	R-square	R-square adjusted
AC	0.276	0.266
CCS	0.109	0.107

The R^2 and Adjusted R^2 values were calculated for the two dependent variables in the model: AC and CCS. The R^2 coefficient represents the proportion of variance in the dependent variable explained

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by the independent variables, serving as an indicator of model fit and predictive power in the structural equation model.

The R^2 for AC is 0.276 (Adjusted R^2 = 0.266), indicating that 27.6% of the variation in employees' affective commitment is explained by DEX, CCS, COL, DD, and the interaction terms. According to Hair et al. [20], an R^2 value around 0.25 is considered moderate to substantial, suggesting that the model demonstrates a reasonable and reliable explanatory capacity within organizational behavior research.

For the mediating variable CCS, the R^2 value of 0.109 (Adjusted R^2 = 0.107) indicates that DEX explains approximately 10.9% of the variance in communication and cultural shifts. This result aligns with expectations, as CCS is primarily influenced by digital experience rather than the entirety of organizational culture, confirming its independent mediating role between DEX and AC.

Overall, the R^2 values indicate a good level of predictive capability, consistent with social science data characteristics, and reinforce the hypothesis of the positive influence of DEX on AC through CCS, moderated by cultural and digital contextual factors.

4.2.5. Local Effect Sizes of Independent Variables

Table 5.
Local Effect Sizes (f^2) of Independent Variables.

	f-square
CCS -> AC	0.046
COL -> AC	0.063
COL x DEX -> AC	0.016
DD -> AC	0.023
DD x DEX -> AC	0.001
DEX -> AC	0.090
DEX -> CCS	0.123

The f^2 value reflects the individual effect size of each independent variable on the dependent variable within the structural model. According to Hair et al. [20], f^2 values are classified as follows: 0.02 = small, 0.15 = medium, and 0.35 = large. This index helps assess how much each path contributes to the overall explanatory power of the model (R^2).

The results indicate that DEX → CCS (f^2 = 0.123) demonstrates a relatively strong effect, suggesting that DEX serves as a primary driver shaping CCS within organizations. Following that, DEX → AC (f^2 = 0.090) shows a moderate direct influence, reinforcing Hypothesis H1 regarding the positive impact of DEX on AC.

The paths CCS → AC (f^2 = 0.046) and COL → AC (f^2 = 0.063) reveal small but meaningful effects, indicating that internal communication and collectivist culture contribute to emotional attachment, although they are not the dominant predictors. Meanwhile, DD → AC (f^2 = 0.023) shows a slightly negative influence, consistent with the hypothesis that digital distance hinders employees' affective commitment.

Notably, the two moderating interaction terms, COL × DEX → AC (f^2 = 0.016) and DD × DEX → AC (f^2 = 0.001), have very small effect sizes, suggesting weak or statistically insignificant moderation, though they display a tendency to reduce the strength of DEX's impact when collectivism or digital distance levels are high.

Overall, the f^2 results confirm that DEX is the central construct of the model, exerting the strongest influence on both AC and CCS, while cultural and digital factors play secondary, moderating roles.

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4.2.6. Testing the Relationships in the Structural Model

Table 6.
Results of Structural Model Relationship Testing.

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
CCS -> AC	0.199	0.199	0.045	4.382	0.000
COL -> AC	0.219	0.222	0.040	5.417	0.000
COL x DEX -> AC	-0.115	-0.114	0.045	2.537	0.011
DD -> AC	-0.133	-0.137	0.041	3.219	0.001
DD x DEX -> AC	-0.031	-0.030	0.045	0.694	0.488
DEX -> AC	0.339	0.340	0.044	7.714	0.000
DEX -> CCS	0.331	0.334	0.042	7.900	0.000

The results indicate that all main hypotheses are supported at the significance level of $p < 0.05$, except for one weak moderating effect. Specifically:

DEX → AC ($\beta = 0.339$, $t = 7.714$, $p = 0.000$): Digital Employee Experience (DEX) exerts a strong and positive impact on Affective Commitment (AC), confirming Hypothesis H1.

DEX → CCS ($\beta = 0.331$, $t = 7.900$, $p = 0.000$): DEX significantly influences Cultural Communication Shifts (CCS), supporting the mediating hypothesis H2.

CCS → AC ($\beta = 0.199$, $t = 4.382$, $p = 0.000$): Digital internal communication positively affects affective commitment, confirming CCS as a partial mediator between DEX and AC.

COL → AC ($\beta = 0.219$, $t = 5.417$, $p = 0.000$): COL has a direct positive effect on AC. However, the moderating effect (COL × DEX → AC: $\beta = -0.115$, $t = 2.537$, $p = 0.011$) shows that when collectivism is high, the influence of DEX on AC weakens, supporting Hypothesis H3.

DD → AC ($\beta = -0.133$, $t = 3.219$, $p = 0.001$): DD has a significant negative effect on affective commitment, consistent with Hypothesis H4. However, the moderating effect DD × DEX → AC ($\beta = -0.031$, $t = 0.694$, $p = 0.488$) is statistically insignificant, implying that the moderating role of DD is weak in this dataset.

Overall, these findings validate the DEX–CCS–AC model and clarify that DEX affects affective commitment both directly and indirectly through CCS. COL and DD factors serve as contextual moderators, with collectivism demonstrating a stronger moderating effect than digital distance.

5. Conclusion

The findings confirm the theoretical model "Digital Employee Experience (DEX) – Cultural Communication Shifts (CCS) – Affective Commitment (AC)," expanding the understanding of how digital transformation influences employee engagement and emotional attachment within Vietnamese organizations.

First, DEX is established as a central construct with both strong direct ($\beta = 0.339$, $p < 0.001$) and indirect effects through CCS ($\beta\_indirect \approx 0.066$). This suggests that a positive digital experience, characterized by user-friendly platforms, transparent information flow, and timely technical support, not only enhances performance but also reinforces trust and emotional commitment to the organization.

Second, CCS functions as a partial mediator, indicating that digital internal communication acts as a bridge between technology and human emotion. When digital tools are designed to promote transparency and symmetrical communication, organizational culture is strengthened, allowing employees to perceive fairness and organizational support.

Third, contextual factors play an important role. COL positively affects AC ($\beta = 0.219$) but simultaneously weakens the DEX–AC relationship when at high levels, reflecting a trade-off between individual digital empowerment and group cohesion. In contrast, DD negatively impacts AC ($\beta = -0.133$), though its moderating role is not statistically significant.

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In summary, enhancing digital employee experience achieves optimal results only within an environment characterized by open communication, an adaptive culture, and equitable digital capabilities. Practically, Vietnamese organizations should design human-centered digital experiences, reduce digital skill disparities, and integrate local cultural values into technological platforms to foster sustainable organizational commitment in the era of digital transformation.

6. Theoretical and Managerial Implications

6.1. Theoretical Implications

The findings of this study offer several significant contributions to the theoretical understanding of DEX and AC in the context of digital transformation.

First, the study conceptualizes DEX as a form of digital organizational resource, replacing traditional physical and social supports, thereby reinforcing the principle of reciprocity between employees and organizations as articulated by Social Exchange Theory in the digital era.

Second, the research empirically confirms the mediating role of CCS, introducing a new psychological and social mechanism that explains how digital internal communication reshapes organizational cultural norms and influences employee engagement. This integration provides a novel intersection among the fields of Information Systems (IS), Human Resource Management (HRM), and Organizational Communication, expanding the multidisciplinary understanding of digital workplace dynamics.

Third, the study highlights the multi-dimensional influences of COL and DD contexts within the DEX–AC framework, emphasizing that such contextual factors should be measured at the individual rather than the national level to capture intra-cultural variations, particularly relevant for transitional economies like Vietnam.

6.2. Managerial Implications

From a managerial perspective, the results offer several practical directions for executives and HR professionals seeking to enhance employee engagement in the digital era:

1. Design human-centered digital experiences: Organizations should invest in digital platforms that prioritize user experience rather than mere functionality, ensuring intuitive interfaces, real-time feedback, and personalized interaction. This approach fosters a sense of *digital empowerment*, improving employees' emotional attachment to the organization.

2. Build a transparent and symmetrical digital communication ecosystem: Tools such as Microsoft Teams, Workplace, or Slack should be deployed to reduce information asymmetry, enhance employee participation, and foster an open communication culture, rather than serving only administrative purposes. Transparent communication is key to transforming digital culture into emotional commitment.

3. Align HR strategies with collectivist cultural characteristics: In organizations with high collectivism, DEX should promote personalization within collectivism, encouraging innovation and autonomy while maintaining group harmony and shared values. This helps prevent conflicts between technological innovation and organizational culture.

4. Minimize internal digital distance: Implementing tiered digital skill training programs and peer mentoring initiatives can mitigate technostress, improve technology acceptance, and ensure equitable digital readiness across all employee groups.

In summary, enhancing Digital Employee Experience should be viewed not merely as a technological initiative but as an integrated cultural and human resource strategy, where technology serves as an enabler and experience as the driving force. By embracing this holistic approach, Vietnamese organizations can strengthen emotional commitment, foster a human-centered digital culture, and align with the nation's vision for sustainable digital transformation toward 2030.

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7. Limitations and Future Research Directions

Although this study provides valuable theoretical and practical contributions, several limitations should be acknowledged and addressed in future research.

First, the data were collected using a cross-sectional design, which captures relationships at a single point in time but does not verify causality or dynamic changes over time. Future longitudinal studies spanning 12–18 months could offer deeper insights into how DEX and AC evolve throughout an organization's digital transformation process.

Second, the research sample primarily focused on three major economic regions (Ho Chi Minh City, Hanoi, and Da Nang) and six major industries. While this ensures a reasonable level of diversity, it does not fully represent small enterprises or rural organizations, where digitalization levels remain low. Future research should expand the sample size and conduct regional or sectoral comparisons to examine cultural and digital capability differences within the same national context.

Third, contextual variables such as COL and DD were measured at the individual level, without incorporating organizational or team-level characteristics. Future studies are encouraged to apply multilevel modeling approaches to explore the interaction between group culture, organizational digital capability, and individual digital experiences.

Finally, other psychological factors such as psychological safety, technological trust, or intrinsic motivation may also mediate or moderate the DEX–AC relationship. Future research should consider developing an extended conceptual model integrating cognitive and emotional constructs to gain a more comprehensive understanding of digital employee experiences within the rapidly transforming Vietnamese cultural and organizational landscape.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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Appendix 1.
Construct measurement.

Construct	No	Item	Source
Digital Employee Experience – DEX	DEX1	The digital tools I use at work make my tasks easier and more efficient.	Gheidar and ShamiZanjani [1], Strohmeier [22], and Lee and Kim [23]
	DEX2	I feel supported by AI or digital systems that personalize my work experience.	
	DEX3	I can easily access and share information through digital platforms in my organization.	
	DEX4	My organization provides adequate training and resources for digital work.	
	DEX5	Digital technologies make me feel more connected and empowered at work.	
Cultural Communication Shifts – CCS	CCS1	Digital tools have changed how employees communicate and collaborate across departments.	Treem and Leonardi [24], Leonardi et al. [25], and Khan et al. [26]
	CCS2	Communication in my organization has become more open and less hierarchical due to digital platforms.	
	CCS3	Our organization's traditional communication norms have been reshaped by digital interactions.	
	CCS4	I feel that digital communication helps express opinions more freely and equally.	
Affective Commitment – AC	AC1	I feel emotionally attached to my organization.	Allen and Meyer [6], Meyer et al. [7], and Meyer and Allen [27]
	AC2	I feel proud to tell others I work for this organization.	
	AC3	I feel like "part of the family" in this organization.	
	AC4	I would be very happy to spend the rest of my career in this organization.	
Collectivism – COL	COL1	Group harmony is more important than individual achievement at work.	Hofstede [10], Singelis et al. [28], and Robert and Wasti [29]
	COL2	I prefer to work in a team rather than independently.	
	COL3	I feel responsible for the success of my group or department.	
	COL4	I often prioritize collective goals over my own goals.	
Digital Distance – DD	DD1	I sometimes feel less confident using digital tools compared to my colleagues.	Tarafdar, et al. [8], Ragu-Nathan et al. [14] and Kumar [15]
	DD2	My ability to adapt to new digital systems is lower than that of most people in my team.	
	DD3	I often need extra time or help to use new technologies at work.	
	DD4	There is a clear gap in digital competence among employees in my organization.	

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