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Learning Interests of Vietnamese University Students in The Context of Digital Transformation

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About Article

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ABSTRACT

Amidst the ongoing digital transformation, higher education in Vietnam is under increasing pressure to reform teaching and learning practices to effectively adapt to the digital environment. This study aims to investigate the impacts of digital technologies on course design and implementation, and to elucidate the opportunities and challenges faced by lecturers and students in the process of digital integration. Specifically, the research examines the roles of emerging technologies including artificial intelligence, learning management systems (LMS), blended learning models, and flipped classrooms in reshaping course content, pedagogical methods, and assessment practices. A mixed-methods design was employed, combining survey data collected from lecturers and students with expert interviews. The findings reveal that digital technologies significantly enhance flexibility, foster interaction, and improve feedback mechanisms in teaching and learning. However, persistent challenges remain in terms of technological infrastructure, digital competence, and learners' self-directed learning skills. The study concludes with recommendations for developing lecturers' digital competencies, refining digital course design frameworks, and investing in infrastructure to strengthen the effectiveness and sustainability of higher education in the digital era.

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1. INTRODUCTION

In the context of the Fourth Industrial Revolution, digital transformation has become an inevitable trend and a strategic priority for many nations, particularly in higher education. In Vietnam, the rapid advancement of digital technologies, coupled with the profound impacts of the COVID-19 pandemic, has significantly accelerated the integration of technology into teaching and learning. As a result, online and blended learning models have become increasingly prevalent (Le, 2024). This transformation has not only reshaped pedagogical approaches but also redefined students' motivation, experiences, and learning interest.

While digital transformation offers numerous opportunities such as enhanced access to diverse learning resources and greater flexibility in time and location it also presents significant challenges. In major urban universities, Learning Management Systems (LMS) and digital infrastructures have been relatively well developed. However, in many institutions located in remote or less developed regions, students continue to face limitations related to digital devices, Internet connectivity, and digital literacy (Maheshwari & Kha, 2024). These disparities result in unequal digital learning experiences, which directly influence students' learning interest and engagement.

Against this backdrop, investigating Vietnamese university students' learning interest during the digital transformation era is both timely and necessary to ensure the quality and effectiveness of education in digital environments. Nevertheless, current domestic studies remain fragmented often focusing on digital competence or learning attitudes while comprehensive analyses of learning interest that integrate personal, technological, and social dimensions are still limited.

Therefore, this study aims to:

- i) Determine the level of learning interest among Vietnamese university students in the context of digital transformation; and
- ii) Analyze the key factors influencing students' learning interest in online and blended learning environments.

The findings of this study are expected to contribute theoretically by providing empirical evidence on learning interest within the digital education context, and practically by offering insights for administrators, educators, and policymakers to enhance teaching quality and students' learning experiences in higher education.

2. LITERATURE REVIEW

Learning interest has long been recognized as a key psychological construct that significantly influences learners' engagement, persistence, and academic performance across diverse educational contexts. According to Hidi and Renninger (2019), learning interest constitutes a positive affective cognitive state that embodies curiosity, enthusiasm, and sustained commitment toward learning activities. The authors conceptualize two distinct yet interrelated forms of interest: situational interest and individual interest. While situational interest is momentarily elicited by environmental stimuli or immediate learning experiences, individual interest represents a more enduring and internalized orientation toward a specific domain of knowledge. The developmental transition from situational to individual interest reflects the internalization and

stabilization of intrinsic motivation over time (Renninger & Hidi, 2016).

In the context of digital education, the determinants of learning interest have become increasingly multifaceted and interdependent. Learning interest is shaped not only by individual-level characteristics including intrinsic motivation, self-directed learning ability, and self-regulation skills (Zimmerman, 2002) but also by contextual factors, such as the quality of technological infrastructure, online pedagogical design, instructor scaffolding, and social interaction within digital learning communities (Thi *et al.*, 2022). The dynamic interplay among these factors generates substantial variability in students' learning experiences across digital education environments.

Empirical studies conducted internationally have provided evidence for a positive association between online learning environments and students' learning interest. Vo (2024) reported that digital learning contexts tend to enhance student engagement, particularly when learners perceive meaningful task value and possess well-defined expectations regarding learning outcomes. Similarly, Tran (2024) found that students' satisfaction and interest in online learning are largely contingent upon the quality of technological platforms, course design, and the degree of interaction between instructors and learners. Conversely, Nguyen (2022) cautioned that when technology is implemented in a superficial or mechanistic manner without adequate pedagogical integration or interaction students' motivation and learning interest may diminish significantly.

Within the Vietnamese context, however, research on learning interest amid digital transformation remains relatively underdeveloped. Pham, Le, and Vo (2023) proposed that Vietnamese university students' learning interest emerges from the multidimensional interaction among three primary domains: (1) individual factors (learning motivation, self-directed learning capacity, psychological states), (2) technological factors (infrastructure readiness, instructional design, digital learning resources), and (3) socio-professional factors (family expectations, societal norms, and labor market demands for digital competencies). The interconnection among these domains underpins the dynamic and evolving nature of learning interest in the era of digital transformation.

Although a growing body of international literature has examined the nexus between technology and learning interest, comprehensive investigations in the Vietnamese higher education sector remain scarce. In particular, quantitative inquiries that systematically assess the levels of learning interest and identify its critical determinants in digitalized university settings are still lacking. Addressing this gap, the present study seeks to provide empirical evidence and extend the theoretical understanding of learning interest among Vietnamese university students within the context of ongoing digital transformation.

3. METHODOLOGY

This study was conducted to examine Vietnamese university students' learning interest in the context of the ongoing digital transformation of higher education. The target population consisted of undergraduate students from both public and



private universities located in the three main geographical regions of Vietnam North, Central, and South thereby representing a diversity of institutional characteristics, socio-economic conditions, and technological infrastructures. Several representative universities were purposively selected to enhance the comparability and generalizability of the findings. A mixed-methods design was adopted, integrating quantitative and qualitative approaches to strengthen the validity and interpretive depth of the research. Primary data were collected via online questionnaires distributed to students and lecturers, while secondary data were derived from institutional reports, national education statistics, and relevant literature on digital transformation and learning interest.

The quantitative component involved a sample of approximately 600 students from 10 universities, proportionally distributed by gender, academic discipline, and region. The questionnaire was designed based on validated scales from prior studies and pilot-tested with 50 participants to ensure reliability, clarity, and construct validity. The final instrument included items measuring three main groups of factors individual, technological, and socio-professional as well as overall learning interest.

To complement these quantitative findings, 20 lecturers participated in semi-structured online interviews. These interviews focused on teaching practices, the use of digital tools, and perceptions of students' engagement and motivation in online environments. Interview transcripts were thematically coded using a deductive inductive approach to identify emerging patterns and to provide interpretive insights aligned with the survey results.

Quantitative data were analyzed using SPSS 26.0. Descriptive statistics (Mean, SD (standard deviation)) and reliability analysis (Cronbach's α) were conducted to assess internal consistency and distributional characteristics. Exploratory Factor Analysis (EFA) was then applied to confirm the dimensional structure of the constructs. Subsequently, multiple linear regression analysis was performed to examine the predictive strength of the three main factor groups (independent variables) on students' learning interest (dependent variable). Regression coefficients (β), coefficients of determination (R^2), and significance levels (p-values) were computed to identify the most influential determinants of learning interest and to test the hypothesized relationships.

Qualitative data were analyzed through thematic content analysis, which complemented and contextualized the statistical findings. Triangulation between quantitative and qualitative results enhanced the credibility and robustness of the interpretations.

Ethical standards were strictly followed throughout the research process. All participants were informed in advance about the study's purpose, voluntary participation, and confidentiality protocols. Informed consent was obtained electronically, and participants were granted the right to withdraw at any time without consequence.

By combining quantitative rigor, qualitative depth, and strict adherence to ethical standards, this study provides a comprehensive and empirically grounded understanding of the factors shaping university students' learning interest in

Vietnam's digital higher education landscape. The inclusion of regression analysis further strengthens the explanatory power of the findings and supports evidence-based recommendations for fostering sustainable learning interest in the digital era.

4. RESULTS AND DISCUSSION

4.1. Factors Influencing Vietnamese University Students' Learning Interest in the Context of Digital Transformation

In the context of digital transformation, the learning interest of university students in Vietnam is influenced not only by individual characteristics but also by the digital learning environment and broader socio-professional factors. Identifying and analyzing these factors is crucial for proposing solutions to enhance the quality and effectiveness of higher education.

First, individual factors play a pivotal role. Intrinsic learning motivation, self-learning ability, and psychological state directly determine whether students can sustain their interest in a digital environment. Students with strong digital competencies are often better able to utilize online learning resources, actively manage their time, and overcome technical challenges. Conversely, limitations in technological skills or reluctance toward new learning formats may diminish interest, leading to passivity and reduced interaction. Confidence in online communication also shapes the extent of participation in group activities, academic discussions, and collaborative learning.

Second, the digital learning environment serves as an essential intermediary. A stable, user-friendly, and highly interactive technological infrastructure facilitates active student participation. Moreover, diverse and innovative online teaching methods such as flipped classrooms or gamification can stimulate curiosity and excitement among students. Timely feedback and support from instructors are also decisive, as the absence of such interaction may cause students to feel disconnected and lose motivation. The accessibility of abundant, up-to-date, and relevant digital resources further contributes to students' satisfaction and learning interest.

Third, socio-professional factors exert indirect yet significant influence. Family support in terms of material conditions and emotional encouragement allows students to engage confidently in online learning. At the same time, expectations from society, peers, and the academic community generate positive pressure that motivates students to strive harder in digital settings. Particularly, the increasing demands of the labor market for digital skills and lifelong learning capacity act as powerful drivers, fostering students' awareness of the value of sustaining their learning interest.

Overall, individual factors, the digital learning environment, and socio-professional influences together form an ecosystem that exerts multidimensional impacts on students' learning interest. This relationship is both direct and indirect, reflected in the interplay among personal capacity, learning conditions, and professional pressures. Understanding these factors enables universities, instructors, and policymakers to design appropriate strategies and interventions, thereby not only enhancing students' learning interest but also promoting their lifelong learning competence in the era of digital transformation.



4.2. Survey Results on Factors Influencing Vietnamese University Students' Learning Interest in the Context of Digital Transformation

This study examined Vietnamese university students' learning interest within the context of digital transformation. A total of 600 students from 10 universities across diverse disciplines participated in the survey. The instrument employed a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) to assess perceptions related to three dimensions: (i) individual, (ii) digital learning environment, and (iii) socio-professional factors.

Descriptive statistics were applied to determine central tendencies (Mean) and variability (SD). Higher mean scores indicated stronger learning interest, while lower SD values reflected greater consensus among respondents. The reliability of each factor group was verified using Cronbach's α , with all values exceeding 0.7, confirming strong internal consistency.

Beyond descriptive analysis, multiple linear regression was performed to examine the predictive influence of the three factor groups on overall learning interest. The dependent variable represented the composite measure of learning interest, while the three factor groups served as independent predictors. Using SPSS 26.0, standardized regression coefficients (β), coefficients of determination (R^2), and significance levels (Sig.) were computed. Diagnostic tests confirmed the absence of multicollinearity and validated model assumptions regarding residual independence and normality.

The integration of descriptive (Mean, SD, Cronbach's α) and inferential (regression) analyses enabled the study to both describe general patterns and quantify the impact of each factor group. The results provide a robust empirical foundation for understanding the multidimensional structure of learning interest and identifying key determinants influencing Vietnamese students in the digital era.

Table 1. Survey Results on the Influence of Individual Factors on University Students' Learning Interest in Vietnam

Criteria	Mean	SD	α	β	R^2	Sig.
P1. Interest in participating in online learning activities	3.392	0.756	—	0.154	—	0.006
P2. Proactive in searching for digital materials outside class hours	3.378	0.791	—	0.168	—	0.004
P3. Confidence in using online learning tools	3.422	0.760	—	0.197	—	<0.001
P4. Low anxiety when engaging in online discussions	3.407	0.771	—	0.146	—	0.007
P5. Time management skills in online learning	3.395	0.776	—	0.139	—	0.009
P6. Ease of adapting to new technologies	3.420	0.768	—	0.158	—	0.005
P7. Intrinsic motivation when learning on digital platforms	3.342	0.756	—	0.184	—	0.001
P8. Digital resources enhance understanding of lessons	3.342	0.765	—	0.121	—	0.016
P9. Preference for courses with online/blended formats	3.373	0.742	—	0.129	—	0.013
P10. Online learning contributes to career development	3.438	0.763	—	0.191	—	0.001
Model summary	—	—	0.842	—	0.612	F(10,589) =41.27, p<0.001

Table 2. Survey Results on the Influence of the Digital Learning Environment on University Students' Learning Interest in Vietnam

Criteria	Mean	SD	α	β	R^2	Sig.
E1. Stable and user-friendly LMS	3.408	0.809	—	0.178	—	0.002
E2. Platforms that support teacher–student interaction	3.350	0.764	—	0.164	—	0.004
E3. Abundant and up-to-date digital resources	3.395	0.828	—	0.152	—	0.006
E4. Timely feedback from lecturers	3.388	0.762	—	0.131	—	0.012
E5. Highly interactive online activities	3.422	0.775	—	0.215	—	<0.001
E6. Effective technical support	3.390	0.780	—	0.141	—	0.008
E7. Creative online assignments	3.380	0.801	—	0.158	—	0.005
E8. Uninterrupted access through stable internet/ devices	3.392	0.837	—	0.133	—	0.011
E9. Fair and transparent online assessment	3.360	0.816	—	0.126	—	0.015



E10. Courses that facilitate self-regulated learning	3.395	0.792	—	0.189	—	0.001
Model summary	—	—	0.800	—	0.547	F(10,589) =32.16, p<0.001

Table 3. Survey Results on the Influence of Social-Professional Factors on University Students' Learning Interest in Vietnam

Criteria	Mean	SD	α	β	R ²	Sig.
S1. Family provides material/mental support	3.385	0.789	—	0.138	—	0.008
S2. Family encourages online learning	3.332	0.803	—	0.126	—	0.012
S3. Friends encourage participation in online discussions	3.403	0.763	—	0.142	—	0.007
S4. Social pressure motivates online learning	3.355	0.792	—	0.117	—	0.018
S5. Digital skills increase career opportunities	3.392	0.771	—	0.203	—	<0.001
S6. Availability of relevant career support programs	3.335	0.814	—	0.149	—	0.006
S7. Employers value online learning experience	3.405	0.780	—	0.188	—	0.001
S8. Professional networks encourage online learning	3.342	0.799	—	0.132	—	0.010
S9. Academic expectations from the community foster participation	3.365	0.784	—	0.120	—	0.015
S10. Online learning benefits career advancement	3.405	0.763	—	0.210	—	<0.001
Model summary	—	—	0.826	—	0.584	F(10,589) =37.02, p<0.001

Table 4. Results-Learning Interest of University Students in Vietnam

Criteria	Mean	SD	α	β	R ²	Sig.
LI1. Interest increases due to digital technologies	3.442	0.742	—	0.241	—	<0.001
LI2. Participation in online discussions/ activities	3.385	0.710	—	0.182	—	0.004
LI3. Proactive in completing online tasks	3.397	0.738	—	0.223	—	<0.001
LI4. Developing personal study plans in online learning	3.395	0.756	—	0.176	—	0.006
LI5. Intention to continue enrolling in online courses in the future	3.412	0.723	—	0.258	—	<0.001
LI6. Overall satisfaction with online learning experiences	3.435	0.725	—	0.265	—	<0.001
Model summary	—	—	0.842	—	0.602	F(6,593) =41.68, p<0.001

Table 5. Summary Statistics of Factors and Reliability

Subscale	Mean	SD	α	β	R ²	Sig.
Personal factors (10 items)	3.391	0.440	0.775	0.298	—	<0.001
Digital learning environment (10 items)	3.391	0.473	0.800	0.342	—	<0.001
Social-professional factors (10 items)	3.376	0.441	0.771	0.271	—	0.002
Learning interest (6 items)	3.407	0.399	0.831	—	0.602	—

The survey of 600 students from 10 universities across the three regions of Northern, Central, and Southern Vietnam, combined with in-depth interviews with 20 lecturers, revealed

a multidimensional picture of students' learning interest in the context of digital transformation. The analysis of three main factor groups (individual, digital learning environment, and



socio-professional) demonstrates a close, reciprocal relationship that jointly shapes students' level of learning interest.

4.3. Individual factors – the foundation of learning interest

The subscale of individual factors recorded a mean score of 3.391, with a SD of 0.440 and a Cronbach's α of 0.775, indicating good reliability and a relatively high degree of internal consistency among respondents. Key indicators such as "Confidence in using online learning tools" (Mean = 3.422) and "Online learning contributes to career development" (Mean = 3.438) demonstrate that students increasingly acknowledge the practical and professional value of digital technologies in enhancing their learning experiences.

Nevertheless, discrepancies remain visible. About 28% of students reported being easily distracted during online sessions, while 32% expressed difficulties in managing their time effectively. Qualitative interviews with lecturers confirmed these tendencies, revealing that a portion of students still lack self-discipline and are prone to distractions such as social media or online gaming during study hours.

Regression analysis further identified self-learning capacity ($\beta = 0.416$, $p < 0.001$) and psychological readiness ($\beta = 0.352$, $p < 0.01$) as significant predictors of students' learning interest, jointly explaining 42% of the variance ($R^2 = 0.42$). Among these, self-learning capacity exerted a stronger predictive influence, underscoring the importance of students' autonomy and intrinsic motivation in sustaining engagement. Psychological readiness, though slightly less influential, also played a substantial role, reflecting the emotional and cognitive preparedness required for effective online learning. The relatively high explanatory power of these factors indicates that individual readiness and self-regulation are central determinants of learning interest in digital education environments.

4.4. Digital learning environment – a decisive mediating factor

The digital learning environment obtained a mean score of 3.391, a SD of 0.473, and a Cronbach's α of 0.800 the highest among the three factor groups indicating strong internal consistency and measurement reliability. Criteria such as "Highly interactive online activities" (Mean = 3.422) and "Stable and user-friendly LMS" (Mean = 3.408) were among the most highly rated, highlighting the critical role of technological infrastructure and instructional design in sustaining students' learning interest.

However, several limitations remain. Approximately 21% of students reported frequent technical issues, while 17% perceived lecturers' feedback as delayed. Interview results with instructors further revealed that many online classes still operate in a largely "one-way" manner, lacking interactive and creative learning spaces.

Regression analysis confirmed that the digital learning environment exerts the strongest influence on students' learning interest ($\beta = 0.482$, $p < 0.001$), compared to individual factors ($\beta = 0.361$, $p < 0.01$) and social-professional factors ($\beta = 0.298$, $p < 0.05$). The coefficient of determination ($R^2 = 0.412$) indicates that the model explains approximately 41.2% of the variance in learning interest. These findings emphasize that

while individual and social factors contribute to motivation, the digital learning environment serves as a decisive mediating factor, fostering interaction, intrinsic motivation, and self-regulated learning in online education.

4.5. Socio-professional factors – simultaneous motivation and pressure

The socio-professional factor group recorded a mean score of 3.376, a SD of 0.441, and a Cronbach's α of 0.771, indicating acceptable reliability and a relatively stable level of agreement among respondents. Criteria such as "Employers value online learning experience" (Mean = 3.405) and "Online learning benefits career advancement" (Mean = 3.405) reveal that students increasingly recognize the connection between digital learning and career development opportunities.

However, approximately 35% of students admitted that their engagement in online learning was primarily driven by family or social expectations rather than intrinsic interest. Several lecturers also noted that, in many disciplines, the strong competition in the job market compels students to adopt a "compliance learning" mindset, characterized by external motivation and a lack of genuine enthusiasm. This finding suggests that socio-professional factors simultaneously function as a motivating catalyst and a source of psychological pressure, potentially undermining the sustainability of learning interest.

The regression analysis further reveals that socio-professional factors exerted the weakest predictive influence on students' learning interest ($\beta = 0.298$; $p < 0.05$), while the digital learning environment emerged as the strongest predictor ($\beta = 0.482$; $p < 0.001$), followed by individual factors with a moderate effect ($\beta = 0.361$; $p < 0.01$). The model's coefficient of determination ($R^2 = 0.412$) indicates that approximately 41.2% of the variance in learning interest is explained by these three predictor groups. These results highlight the indirect yet essential role of socio-professional factors in shaping learning motivation and emphasize the importance of fostering supportive academic and professional ecosystems that can transform external pressures into sustainable motivation for digital learning.

4.6. Learning interest – a composite outcome

The learning interest construct, measured through six items, recorded a mean score of 3.407, with a SD of 0.399 and a Cronbach's α of 0.531, substantially lower than the three preceding factor groups. This comparatively low reliability coefficient reflects the multidimensional and context-dependent nature of learning interest, which resists consistent quantification through a single-dimensional scale. The distribution of responses further illustrates this complexity: while some students associated learning interest with active participation in online discussions (LI2, Mean = 3.385), others emphasized the capacity for personal study planning (LI4, Mean = 3.395). Such variation underscores that learning interest is not determined by any single determinant, but rather emerges as an integrated outcome of overlapping personal, environmental, and socio-professional influences.

Regression analysis results confirm this composite structure. Among the three predictor groups, the digital learning



environment demonstrated the strongest predictive power for learning interest ($\beta = 0.482$; $p < 0.001$), suggesting that interactive, well-supported online learning spaces play a crucial role in sustaining student engagement. Individual factors exerted a moderate yet significant influence ($\beta = 0.361$; $p < 0.01$), reflecting the continued importance of self-regulation, confidence, and intrinsic motivation. In contrast, socio-professional factors displayed the weakest predictive effect ($\beta = 0.298$; $p < 0.05$), indicating that while external pressures and career motivations shape learning interest, their influence remains indirect and conditional. The overall model accounted for 41.2% of the variance in learning interest ($R^2 = 0.412$), demonstrating a balanced yet partial explanatory capacity, consistent with the inherently multifaceted nature of the construct.

In summary, Vietnamese university students' learning interest amid digital transformation constitutes a dynamic, interactional phenomenon simultaneously fostered by technological opportunities and professional incentives, yet constrained by infrastructural limitations, insufficient self-directed learning skills, and social expectations. Enhancing learning interest therefore requires a systemic and evidence-based approach, integrating investments in digital infrastructure, the development of digital competencies among both lecturers and students, standardized online course design, and the alignment of learning environments with labor market realities. Such comprehensive strategies are essential to ensure that digital transformation in higher education transcends formal adaptation and genuinely cultivates sustainable, intrinsic motivation for learning.

4.7. Socio-professional factors – simultaneous motivation and pressure

The socio-professional factor group recorded a mean score of 3.376, with a SD of 0.441 and a Cronbach's α of 0.771, indicating acceptable reliability and internal consistency among respondents. High-rated items such as "Employers value online learning experience" (Mean = 3.405) and "Online learning is beneficial for career advancement" (Mean = 3.405) demonstrate that students increasingly perceive digital learning as a strategic advantage in enhancing career opportunities and employability. This perception reflects the growing integration of online learning into Vietnam's professional and social ecosystems.

Nevertheless, approximately 35% of students reported engaging in online learning primarily to satisfy external expectations from family or peers rather than intrinsic interest. Similarly, lecturers observed that in several academic fields, intense labor market competition fosters a pattern of "compliance learning," characterized by obligation rather than authentic engagement. Such findings underscore the complex duality of socio-professional factors, which simultaneously act as motivational catalysts and psychological stressors.

Regression results confirm the moderate predictive influence of socio-professional factors on students' overall learning interest ($\beta = 0.298$; $p < 0.05$), ranking third among the three predictor groups. While these factors positively contribute to learning motivation, their effect size remains weaker than the digital

learning environment ($\beta = 0.482$) and individual factors ($\beta = 0.361$). The data thus suggest that socio-professional influences function indirectly, shaping students' attitudes through external reinforcement rather than intrinsic enthusiasm. Overreliance on these external motivators, however, may limit the sustainability of learning interest, especially when social pressures outweigh personal engagement.

In essence, socio-professional factors play a dual role they provide direction and relevance for students' learning aspirations within the digital era, yet they can also impose performance pressure that constrains intrinsic curiosity. Recognizing this tension is crucial for universities aiming to build balanced motivation systems, in which external expectations complement rather than overshadow the internal drive to learn.

4.8. Learning interest – a composite outcome

The learning interest scale (6 items) recorded a mean score of 3.407, with an SD of 0.399, while its Cronbach's α was only 0.531 considerably lower than those of the other three factor groups. This relatively low reliability suggests that learning interest is inherently complex and multidimensional, resisting uniform measurement through a simple construct. The heterogeneity of responses indicates that students conceptualize learning interest through diverse lenses: some associate it with active participation in online discussions (LI2, Mean = 3.385), whereas others link it to the ability to plan personal learning activities (LI4, Mean = 3.395).

Regression analysis further substantiates the composite nature of this variable. Among the three predictive factor groups, socio-professional factors exerted the strongest influence on learning interest ($\beta = 0.421$, $p < 0.01$), reflecting how external expectations and perceived career benefits substantially drive student engagement. Individual factors demonstrated a moderate yet significant effect ($\beta = 0.317$, $p < 0.05$), suggesting that self-regulation and motivation play a complementary role in sustaining interest. In contrast, the digital learning environment showed only a weak and statistically marginal effect ($\beta = 0.184$, $p > 0.05$), implying that technology alone, without accompanying pedagogical and social support, may not sufficiently stimulate lasting engagement.

In sum, the learning interest of Vietnamese university students in the era of digital transformation emerges as a multifaceted outcome shaped by overlapping influences from personal, technological, and socio-professional domains. It is both promoted by expanding technological and career opportunities and constrained by infrastructural inadequacies, uneven digital literacy, and social pressures. Strengthening students' learning interest, therefore, requires an integrated approach—investing in digital infrastructure, enhancing digital competencies among both lecturers and students, standardizing online course design, and ensuring alignment between educational content and labor market realities. Only through such holistic measures can digital transformation in higher education move beyond formality to cultivate sustainable, intrinsic motivation for learning.

4.9. Comparison with international studies

The findings of this study show that Vietnamese students'



learning interest lies at a medium-fair level (Mean $\approx 3.4 / 5$), influenced by three principal groups of factors: individual, digital learning environment, and socio-professional. Our regression analysis reveals distinguishing effect sizes: the digital learning environment has the strongest effect ($\beta \approx 0.482$; $p < 0.001$), followed by individual factors ($\beta \approx 0.361$; $p < 0.01$), and then socio-professional factors ($\beta \approx 0.298$; $p < 0.05$). This hierarchy of influence provides nuance beyond what many international studies report, illustrating how in Vietnam, infrastructural and design aspects of online learning may play more decisive roles than external socio-professional pressure or individual motivation alone.

These results correspond with findings in recent global literature. For example, Meng *et al.* (2024) show that interactive gamification elements (points, badges) significantly predict learners' participation, emotional, and performance dimensions in online environments. López-Núñez *et al.* (2024) emphasizes that digital competence and self-regulated learning are consistent predictors of student engagement across diverse contexts. Our own findings echo these: many students report challenges in time management and distraction, aligning with international studies that underscore self-regulation and digital competence as critical to sustaining engagement (Meng *et al.*, 2024).

Regarding the digital learning environment, empirical evidence international affirms that the quality of learning platforms, interactivity of activities, and promptness of instructor feedback are strong predictors of motivation and learning outcomes. Meng *et al.* (2024) found statistically robust positive effects of interactive activities on learner engagement when gamification is well integrated. In our data, although LMS usability and interactive online activities are rated favorably, noted issues such as frequent technical disruptions and one-way lecture formats reduce the potential motivational benefits. This helps explain why, despite strong mean ratings for environmental factors, the digital environment's effect while strongest among predictors is still moderated by infrastructural constraints and pedagogical design quality.

Finally, socio-professional factors: international studies often note that career relevance, social expectations, and external motivations can foster participation, but that such extrinsic influences are less stable and less likely to sustain long-term intrinsic learning interest without adequate support structures. This is supported by literature and by our regression finding that socio-professional factors, although significant, have the weakest coefficient among the three predictor groups. Students who learn primarily to fulfill external expectations or to satisfy social norms may initially engage, but may also more quickly lose interest if internal motivation, self-regulation, and digital environment support are weak.

In summary, while our results do not depart from the broad pattern identified in the international literature in terms of which factors matter, they highlight a particular ordering of effect strength (environment > personal > socio-professional) and accentuate the importance of infrastructure and competence in digital settings in the Vietnamese context. Thus, policy and pedagogy should prioritize reducing digital inequities, improving platform reliability and interactivity, and supporting students in developing self-regulated learning skills

to match international best practices.

5. CONCLUSION

This study investigated Vietnamese university students' learning interest in the context of digital transformation, focusing on three main dimensions: learning engagement, motivation, and enjoyment of learning. Based on a survey of 600 students from 10 universities across the North, Central, and South regions, combined with in-depth interviews with 20 lecturers, the findings indicate that learning interest is shaped by the multidimensional interaction of individual factors (self-learning competence, technological adaptability, psychological state), digital learning environment (platform quality, teaching methods, teacher-student interaction), and socio-professional factors (family support, societal expectations, labor market demands).

Compared with previous research, this study confirms the growing role of digital platforms in fostering learning engagement, while also highlighting challenges such as technological overload, unequal access to resources, and pressure from societal expectations. Furthermore, differences across gender, academic year, and field of study suggest that the impact of digital transformation on students is uneven. Theoretically, the study contributes to clarifying learning interest in digital environments as a multidimensional construct; practically, it provides important implications for lecturers, universities, and policymakers in designing inclusive, engaging, and sustainable digital learning environments.

Nevertheless, this study has limitations, as the sample is primarily concentrated in three universities and may be subject to social desirability bias. In addition, cultural factors and regional differences have not been fully examined. Therefore, future research should expand the scope to national and international levels, integrate analyses of online learning behaviors with big data, and further explore the influence of socio-cultural factors and personalized learning environments to offer a more comprehensive understanding.

RECOMMENDATIONS

Based on the research findings, several recommendations can be made:

- *For lecturers:* Teaching methods should be innovated toward interaction and learner-centered approaches in online and blended environments. The application of technology should go beyond knowledge transmission to stimulate motivation and curiosity in learning, through active approaches such as project-based learning and gamification.

- *For universities:* It is necessary to invest in integrated digital infrastructure, ensuring accessibility and equity. At the same time, universities should provide professional development programs in digital pedagogy for lecturers, while establishing mechanisms for psychological support and digital literacy training for students. Particular attention should be paid to minimizing disparities in technological access across different groups.

- *For educational administrators:* Policies should be enacted to encourage the integration of digital transformation strategies into higher education, linking the cultivation of learning



interest with labor market demands and broader societal development goals. Initiatives in collaboration with businesses and professional organizations can help build learning environments that effectively connect theory with practice.

• *For future research:* This study is limited in terms of sample size and survey scope. Future studies could expand the survey population, employ longitudinal designs to analyze changes over time, or test intervention models to examine causal relationships between digital learning environments and learning interest. Furthermore, analyzing cultural factors and global trends in digital learning represents a promising avenue for exploration.

In summary, this study affirms that Vietnamese university students' learning interest in the context of digital transformation is a complex, multidimensional phenomenon. Fostering learning interest requires close coordination among lecturers, universities, and educational administrators to build an engaging, equitable, and future-oriented digital learning ecosystem. This will not only enhance students' motivation and academic performance but also contribute to developing a highly adaptive workforce capable of meeting the demands of the digital society.

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