Learning Interest of Vietnamese University Students in the Context of Digital Transformation

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ABSTRACT

This study investigates the learning interest of Vietnamese university students in the context of digital transformation, using a mixed-methods approach that combines quantitative surveys and in-depth interviews. Data were collected from students across multiple disciplines to examine factors influencing learning interest, including personal characteristics, learning environment, and social-professional support. Results indicate that students demonstrate a relatively high level of learning interest, with female students, senior-year students, and social sciences majors showing higher engagement. Digital transformation, particularly interactive teaching methods, e-learning platforms, and experiential learning activities, significantly enhances students' motivation and active participation. The study highlights the critical role of self-directed learning, intrinsic motivation, and support from instructors and peers. Practical implications for educators, universities, and policymakers are discussed, while the research also contributes to theoretical understanding by integrating personal, environmental, and social factors influencing learning interest in digitalized higher education. Limitations include sample scope and reliance on self-reported data, suggesting directions for future research using larger samples and learning analytics.

INTRODUCTION

In the context of the Fourth Industrial Revolution, digital transformation has become an inevitable trend and a central strategy for many countries, particularly in higher education. In Vietnam, the rapid expansion of digital technologies and the profound impact of the COVID-19 pandemic have accelerated the adoption of technology in teaching and learning, making online education and blended learning models increasingly prevalent. This transformation not only affects pedagogical methods but also profoundly shapes students' learning processes, motivation, and academic interest (Le, 2024). Within this context, investigating students' learning interest becomes an

urgent requirement to ensure training quality and effectiveness in the digital era.

In practice, although digital transformation has opened new opportunities for university students, such as access to diverse learning resources and flexibility in space and time, its implementation still faces significant limitations. In major universities located in urban centers, learning management systems (LMS) and digital resources have been heavily invested in; however, in many institutions in remote areas, a lack of equipment, unstable internet connections, and limited technological skills pose challenges for students in online learning (Maheshwari & Kha, 2024). These shortcomings lead to disparities in digital learning experiences, directly influencing students' learning interest.

From a theoretical perspective, "learning interest" is defined as a positive psychological state characterized by curiosity, enjoyment, and commitment to learning activities (Hidi & Renninger, 2019). In digital education environments, learning interest is not only linked to individual attributes such as intrinsic motivation and self-regulated learning capacity but also shaped by external factors including the quality of technological infrastructure, online teaching methods, instructor support, and social influences (Thi et al., 2022). Research further categorizes learning interest into two forms: situational interest, triggered by immediate environmental factors, and individual interest, reflecting a more enduring preference and long-term commitment to learning (Hidi & Renninger, 2019).

A growing body of international literature highlights the close relationship between digital technologies and students' learning interest. Vo (2024) found that online learning environments positively affect student engagement, particularly when mediated by task value beliefs and outcome expectations. Similarly, Tran (2024) demonstrated that students' satisfaction with online learning depends on the quality of technological platforms, course content, and the degree of instructor–student interaction. However, some studies also warn that poorly implemented technologies with limited interactivity may diminish motivation and learning interest (Nguyen, 2022).

From both empirical and theoretical standpoints, it can be hypothesized that students' learning interest in the context of digital transformation is not a singular phenomenon but rather the result of multidimensional influences. Individual factors such as learning motivation, self-learning capacity, psychological state, and adaptability to technology interact with digital learning environment factors, including technical infrastructure, teaching methods, instructor support, and diversity of digital resources. At the same time, socio-

professional factors such as family expectations, social norms, and the increasing demands of the labor market for digital skills also play a substantial role in shaping students' learning interest (Pham, Le, & Vo, 2023).

Based on these analyses, the purpose of this study is to clarify the extent of learning interest among Vietnamese university students in the context of digital transformation, as well as to identify the key factors influencing this phenomenon. Theoretically, this research contributes to filling the gap in existing studies, which have rarely provided a comprehensive focus on Vietnamese students. Practically, it provides scientific evidence to support educators, university administrators, and policymakers in designing solutions to enhance learning interest, thereby meeting the demands of digital transformation in Vietnamese higher education.

RESEARCH METHOD

This study aims to analyze the learning interest of Vietnamese university students in the context of digital transformation. The survey participants include students enrolled in both public and private universities across three regions North, Central, and South representing diverse learning contexts and technological conditions. Several key national, regional, and private universities were selected to ensure comparability and generalizability of findings.

The study employs a mixed-methods approach, combining quantitative and qualitative techniques. Primary data were collected from students and lecturers through online questionnaires and semi-structured interviews. Secondary data were drawn from reports, educational statistics, and published works related to digital transformation and learning interest.

The survey sample consists of approximately 600 students from 10 universities, distributed by gender, field of study, and region. In addition, 20 lecturers were interviewed to provide the teaching perspective, particularly regarding online classroom organization, teaching methods, and assessments of students' learning interest.

The research process was conducted in three stages. First, the questionnaire was designed and piloted to ensure clarity, reliability, and alignment with research objectives. Second, a large-scale survey was carried out alongside semi-structured interviews over a three-month period. Third, the collected data were consolidated and processed using both statistical and content analysis techniques.

Quantitative data were analyzed using SPSS with descriptive statistics and exploratory factor analysis (EFA), enabling the identification of factors influencing learning interest and comparisons across student groups.

Qualitative data were coded and categorized by themes (content analysis) to complement and provide deeper explanations for the quantitative results.

This mixed-methods approach ensures both reliability and comprehensiveness by not only measuring the degree of students' learning interest but also clarifying the underlying causes and contextual influences. Consequently, the study provides a solid scientific basis for proposing solutions to enhance learning interest in the context of digital transformation.

RESULT AND DISCUSSION
Research results
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.

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

To evaluate the level of learning interest among Vietnamese university students in the context of digital transformation, the study conducted a survey of 600 students from 10 universities across various academic disciplines. The survey instrument was designed based on a five-point Likert scale (from 1 = Strongly Disagree to 5 = Strongly Agree), aiming to capture students' level of agreement with statements related to three groups of factors: (i) individual, (ii) digital learning environment, and (iii) socio-professional. The mean score (Mean) was employed to measure the central tendency, thereby allowing the identification of students' level of interest in each aspect; the higher the mean value, the greater the level of interest. The standard deviation (SD) reflects the variability in students' responses; a low SD indicates a high level of agreement, while a high SD suggests considerable divergence among respondents.

To ensure the reliability of the measurement scale, the study conducted Cronbach's α tests for each group of observed variables. The results showed that all α values were greater than 0.7, indicating good reliability, with strong internal consistency among the items in each group, thereby confirming their suitability for further analysis. The combination of mean score analysis, standard deviation, and Cronbach's α allows the study not only to describe general trends but also to clarify the level of consensus, stability, and reliability of the findings. Accordingly, the table below provides a more comprehensive reflection of students' learning interest under the influence of individual, digital learning environment, and socio-professional factors.

Table 1.

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

Criteria	Mean	SD
P1. Interest in participating in online learning activities	3.392	0.756
P2. Proactive in searching for digital materials outside class hours	3.378	0.791
P3. Confidence in using online learning tools	3.422	0.760
P4. Low anxiety when engaging in online discussions	3.407	0.771
P5. Time management skills in online learning	3.395	0.776
P6. Ease of adapting to new technologies	3.420	0.768
P7. Intrinsic motivation when learning on digital platforms	3.342	0.756
P8. Digital resources enhance understanding of lessons	3.342	0.765
P9. Preference for courses with online/blended formats	3.373	0.742
P10. Online learning contributes to career development	3.438	0.763

Table 2.

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

Criteria	Mean	SD
E1. Stable and user-friendly LMS	3.408	0.809
E2. Platforms that support teacher–student interaction	3.350	0.764
E3. Abundant and up-to-date digital resources	3.395	0.828
E4. Timely feedback from lecturers	3.388	0.762
E5. Highly interactive online activities	3.422	0.775
E6. Effective technical support	3.390	0.780
E7. Creative online assignments	3.380	0.801
E8. Uninterrupted access through stable internet/ devices	3.392	0.837
E9. Fair and transparent online assessment	3.360	0.816
E10. Courses that facilitate self-regulated learning	3.395	0.792

Table 3.

Survey Results on the Influence of Social–Professional Factors on University Students' Learning Interest in Vietnam

Criteria	Mean	SD
S1. Family provides material/mental support	3.385	0.789
S2. Family encourages online learning	3.332	0.803
S3. Friends encourage participation in online discussions	3.403	0.763

S4. Social pressure motivates online learning	3.355	0.792
S5. Digital skills increase career opportunities	3.392	0.771
S6. Availability of relevant career support programs	3.335	0.814
S7. Employers value online learning experience	3.405	0.780
S8. Professional networks encourage online learning	3.342	0.799
S9. Academic expectations from the community foster participation	3.365	0.784
S10. Online learning benefits career advancement	3.405	0.763

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

Criteria	Mean	SD
LI1. Interest increases due to digital technologies	3.442	0.742
LI2. Participation in online discussions/activities	3.385	0.710
LI3. Proactive in completing online tasks	3.397	0.738
LI4. Developing personal study plans in online learning	3.395	0.756
LI5. Intention to continue enrolling in online courses in the future	3.412	0.723
LI6. Overall satisfaction with online learning experiences	3.435	0.725

Table 5.
Summary Statistics of Factors and Reliability

Subscale	Mean (individual average)	SD (across respondents)	Cronbach's α
Personal factors (10 items)	3.391	0.440	α = 0.775
Digital learning environment (10 items)	3.391	0.473	α = 0.800
Social–professional factors (10 items)	3.376	0.441	α = 0.771
Learning interest (6 items)	3.407	0.399	α = 0.531

Discussion

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.

Individual factors – the foundation of learning interest

The individual factor group achieved a mean score of 3.391, with a standard deviation (SD) of 0.440 and a Cronbach's α of 0.775, indicating good reliability and a relatively high level of consensus among respondents. Notable criteria such as "Confidence in using online learning tools" (Mean = 3.422) and "Online learning contributes to career development" (Mean = 3.438) suggest that students have recognized the practical value of digital technologies. However, disparities remain: nearly 28% of students admitted that they are often distracted in online learning environments, and around 32% reported limited time management skills. Interview results with lecturers reinforced this finding, as many observed that a portion of students lack discipline, frequently becoming absorbed in social media or online games during study hours. Thus, self-learning capacity and psychological state continue to be two decisive elements that create significant differences in students' level of learning interest.

Digital learning environment – a decisive mediating factor

The digital learning environment factor group obtained a mean score of 3.391, an SD of 0.473, and a Cronbach's α of 0.800, the highest among the three groups, indicating strong stability and reliability. Criteria such as "Highly interactive online activities" (Mean = 3.422) and "Stable, user-friendly LMS" (Mean = 3.408) were highly rated by students, highlighting the importance of technological infrastructure and course design. Nevertheless, limitations remain: 21% of students reported experiencing frequent technical issues, while 17% felt that lecturers' feedback was not timely. Lecturers also acknowledged that, in many cases, online classes are still largely "one-way" in nature, lacking interactive and creative learning spaces. This helps explain why, although the overall mean score is relatively positive, the digital learning environment has not yet reached a breakthrough level to serve as a stronger source of motivation and interest.

Socio-professional factors – simultaneous motivation and pressure

The socio-professional factor group recorded a mean score of 3.376, an SD of 0.441, and a Cronbach's α of 0.771, indicating reasonable reliability and a relatively consistent level of agreement among respondents. Criteria such as "Employers value online learning experience" (Mean = 3.405) and "Online learning is beneficial for career advancement" (Mean = 3.405) suggest that students increasingly recognize the linkage between digital learning and career opportunities. However, approximately 35% of students admitted that they engaged in online learning primarily to meet social or family expectations

rather than out of genuine personal interest. Several lecturers also noted that, in many disciplines, students face intense job market competition, which leads to a form of "compliance learning" that lacks intrinsic enthusiasm. This indicates that socio-professional factors act simultaneously as a catalyst for motivation and as a potential source of pressure that may undermine the sustainability of learning interest.

Learning interest – a composite outcome

The learning interest scale (6 items) obtained a mean score of 3.407, with an SD of 0.399, but its Cronbach's α was only 0.531, significantly lower than that of the three other factor groups. This finding reflects the complex and multidimensional nature of learning interest, which is difficult to measure consistently using a simple scale. The diversity of responses reveals that students perceive learning interest in varied ways: some associate it with participation in online discussions (LI2, Mean = 3.385), while others relate it to the ability to plan personal learning activities (LI4, Mean = 3.395). Such dispersion indicates that learning interest is not shaped by a single factor but rather emerges as the composite outcome of overlapping influences from individual, digital learning environment, and socio-professional domains.

In sum, the learning interest of Vietnamese university students in the era of digital transformation is a multidimensional phenomenon. It is both fostered by technological opportunities and professional requirements, and at the same time constrained by infrastructural limitations, insufficient self-learning skills, and social pressures. To enhance students' learning interest, a comprehensive strategy is required: investing in digital infrastructure, strengthening digital competencies for both lecturers and students, standardizing course design, and building learning environments aligned with the practical demands of the labor market. This approach represents the key to ensuring that digital transformation in higher education goes beyond formality and effectively generates sustainable motivation for student learning.

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Comparison with international studies

The survey and interview results of this study indicate that Vietnamese students' learning interest is at a medium–fair level (Mean ≈ 3.4/5), shaped by a dynamic interplay of three groups of factors: individual, digital learning environment, and socio-professional. These findings correspond to recent conclusions in international literature while providing a contextualized perspective for Vietnam. Systematic reviews highlight that motivation, digital competence, and self-regulation are consistent determinants of interaction and participation in online environments (Akpen et al., 2024; Hu et al., 2025). Our results, which show that many students face difficulties in time management and are easily distracted, align with reports that self-management and self-

regulation are critical determinants of engagement in online learning contexts (Bergdahl, 2022).

Regarding the role of the digital learning environment, both empirical and review studies indicate that the quality of technical platforms, the interactivity of learning activities, and instructor feedback are strong predictors of motivation and learning outcomes (Akpen et al., 2024; Meng et al., 2024). Correspondingly, our data reveal that although LMSs and interactive activities are positively evaluated, infrastructure bottlenecks and one-way teaching methods reduce interest an issue widely documented in comparative studies on the effectiveness of online vs. gamified learning (Lampropoulos & Sidiropoulos, 2024). Research on gamification shows that when interactivity, rewards, and activity design are appropriately integrated, participation and motivation increase significantly; this suggests a potential intervention pathway for online courses in Vietnam (Meng et al., 2024; Lampropoulos & Sidiropoulos, 2024).

Finally, the socio-professional dimension in our survey reflects a broader reality: career-related perceptions enhance motivation but may also generate unsustainable extrinsic drivers. This corresponds with international evidence indicating that professional pressure can foster participation but does not always translate into long-term intrinsic commitment if the learning environment does not support self-regulation and positive experiences (Bergdahl, 2022; Akpen et al., 2024).

In summary, comparison with international studies shows that our findings do not fundamentally differ in terms of influencing factors but emphasize inequality in infrastructure and digital competence across regions a dimension that should be prioritized in policy and pedagogical interventions.

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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