

INTRINSIC AND EXTRINSIC DRIVERS OF STUDENT SATISFACTION IN ONLINE MANAGEMENT EDUCATION**Girish Kumar Bhasin¹, M. D. Ciddikie²**¹ *Research Scholar* ² *Assistant Professor**Department of Management, Sharda School of Business Studies,
Sharda University, Greater Noida, Uttar Pradesh, India***Abstract**

Student satisfaction has emerged as a critical indicator of successful online learning environments. This study explores how intrinsic and extrinsic factors influence student satisfaction in virtual management education. Using survey responses from 550 students enrolled in management institutions across Delhi NCR, the research employs SEM to validate relationships among self-efficacy, student motivation, teacher support, technology support, course design, and satisfaction outcomes. The results indicate that intrinsic variables such as self-efficacy and motivation strongly predict engagement and satisfaction, while teacher support and course design are the strongest external predictors. Technology support contributes significantly to reducing cognitive barriers in online learning. The study advances theoretical understanding of virtual learning satisfaction and highlights the importance of learner-centered pedagogical strategies in digital education systems.

Keywords: *Student Satisfaction, Online Learning, Self-Efficacy, Teacher Support, SEM*

Introduction

The rapid digital transformation of higher education has significantly altered the landscape of teaching and learning worldwide. Online education, once considered supplementary to traditional classroom instruction, has evolved into a mainstream mode of learning delivery. The COVID-19 pandemic accelerated this transition and compelled educational institutions across the globe to adopt virtual teaching platforms at unprecedented speed (Dhawan, 2020). Management education, which traditionally relies on interaction, collaboration, case-based learning, and experiential pedagogy, faced unique challenges in adapting to online learning systems. As institutions continue to integrate digital technologies into academic delivery, student satisfaction has emerged as one of the most critical indicators of educational effectiveness and institutional success. Student satisfaction refers to learners' perceptions regarding the quality, effectiveness, and value of their educational experiences (Eom & Ashill, 2016). In online learning environments, satisfaction becomes even more important because learners often experience reduced physical interaction, technological dependence, self-regulated learning requirements, and varying levels of institutional support. Satisfied students are more likely to remain engaged, demonstrate higher academic performance, exhibit positive behavioral intentions, and continue participation in online programs (Kuo et al., 2014). Consequently, identifying the determinants of student satisfaction in virtual management education has become an important area of academic inquiry.

The existing literature suggests that student satisfaction in online learning environments is influenced by both intrinsic and extrinsic factors. Intrinsic drivers refer to internal psychological characteristics and learner-centered attributes such as self-efficacy, motivation, engagement, autonomy, and readiness for online learning (Bandura, 1997). Extrinsic drivers include institutional and environmental factors such as teacher support, course design, technological infrastructure, interaction quality, administrative services, and digital accessibility (Martin & Bolliger, 2018). Together, these dimensions shape students' cognitive, emotional, and behavioral experiences in virtual classrooms. Among intrinsic factors, self-efficacy has received considerable scholarly attention. Self-efficacy refers to an individual's belief in their ability to perform specific tasks successfully (Bandura, 1997). In online education, students with higher self-efficacy are generally more confident in navigating digital learning systems, participating in discussions, completing assignments independently, and managing learning-related stress. Studies indicate that online learners with strong self-efficacy demonstrate greater persistence, adaptability, and satisfaction (Alqurashi, 2019). Similarly, motivation is another significant internal determinant affecting student engagement and learning outcomes. Motivated students tend to actively participate in virtual discussions, utilize learning resources effectively, and maintain consistent academic commitment despite technological or environmental challenges.

Extrinsic factors are equally influential in shaping student experiences in online management education. Teacher support plays a central role in reducing feelings of isolation and enhancing learner engagement. Effective instructors provide timely feedback, maintain communication, facilitate interaction, and create psychologically safe learning environments (Martin & Bolliger, 2018). Likewise, course design significantly influences students' perceptions of learning quality. Well-structured courses with interactive content, clear objectives, accessible materials, and collaborative activities improve student satisfaction and reduce cognitive overload (Sun et al., 2008).

Technology support has also emerged as a crucial determinant of online learning effectiveness. Online learning environments depend heavily on digital platforms, internet connectivity, learning management systems (LMS), and multimedia tools. Technical difficulties, poor platform usability, and inadequate digital support often create barriers to learning and negatively affect student satisfaction (Bolliger & Halupa, 2018). Therefore, institutions must ensure reliable technological infrastructure and user-friendly learning systems to enhance online learning experiences. In the context of management education, these factors become even more critical because management programs often emphasize teamwork, presentations, case studies, leadership development, and interactive problem-solving exercises. The absence of face-to-face interaction can hinder collaborative learning and reduce the experiential value of management education unless supported by effective pedagogical and technological strategies. Therefore, understanding the drivers of student satisfaction in online management education is essential for improving learning quality, curriculum delivery, and institutional competitiveness.

The present study examines intrinsic and extrinsic drivers influencing student satisfaction in online management education. Specifically, the study explores the role of self-efficacy, student motivation, teacher support, technology support, and course design in shaping satisfaction outcomes among management students. The chapter adopts a qualitative research perspective to gain deeper insights into students' perceptions and experiences regarding virtual learning environments. The increasing adoption of hybrid and online learning models suggests that virtual education will remain an integral component of higher education even beyond pandemic-related disruptions. Therefore, institutions must move beyond emergency remote teaching and develop sustainable, student-centered digital learning ecosystems. Understanding the psychological and environmental determinants of student satisfaction is essential for enhancing educational quality, student retention, and academic success in online management education.

Literature Review

The growing adoption of online education in higher learning institutions has transformed pedagogical approaches, student engagement mechanisms, and institutional strategies worldwide. Online learning has become particularly significant in management education due to the increasing demand for flexible, technology-enabled learning systems. Student satisfaction remains a critical determinant of online learning effectiveness because it directly influences retention, academic performance, engagement, and institutional reputation (Eom & Ashill, 2016). The literature on online learning satisfaction indicates that both intrinsic and extrinsic variables contribute significantly to students' educational experiences. Intrinsic factors include self-efficacy, motivation, self-regulation, and learner engagement, while extrinsic variables encompass teacher support, course design, institutional support, interaction quality, and technological infrastructure.

Student satisfaction is commonly defined as the learner's perception regarding the value and quality of educational experiences. In online learning environments, satisfaction reflects students' evaluation of instructional quality, technological systems, communication effectiveness, and learning outcomes (Kuo et al., 2014). According to Bolliger and Martindale (2004), student satisfaction in virtual learning environments is influenced by accessibility, instructor interaction, technological ease, and collaborative opportunities. The Community of Inquiry (CoI) framework proposed by Garrison, Anderson, and Archer (2000) emphasizes that social presence, teaching presence, and cognitive presence collectively shape meaningful online learning experiences. Research by Richardson et al. (2017) further demonstrated that social presence positively influences student engagement and emotional satisfaction in online courses. Studies conducted after the COVID-19 pandemic reveal that students increasingly expect online education systems to provide flexibility, interactivity, and personalized learning experiences (Dhawan, 2020). In management education, where communication, teamwork, and experiential learning are central, satisfaction is closely associated with interaction quality and instructional effectiveness. According to Gray and DiLoreto (2016), students who perceive online learning environments as interactive and supportive report significantly higher satisfaction levels. Similarly, Palmer and Holt (2009) argued that satisfaction in online education depends heavily on institutional responsiveness and learner support systems. The objective of the study is to examine the impact of intrinsic and extrinsic factors on student satisfaction in online management education.

Intrinsic Drivers of Student Satisfaction

(a) *Self-Efficacy:* Self-efficacy is one of the most widely studied intrinsic predictors of online learning satisfaction. It refers to students' confidence in their ability to perform academic tasks successfully in digital environments (Bandura, 1997). Alqurashi (2019) found that self-efficacy significantly predicts both perceived

learning outcomes and student satisfaction in online courses. Students with higher digital confidence exhibit stronger engagement, persistence, and adaptability. Joo, Lim, and Kim (2013) also reported that academic self-efficacy positively influences learner satisfaction and academic performance in e-learning systems. Similarly, Artino (2008) observed that online learners with high self-efficacy demonstrate stronger motivation and lower dropout tendencies. In management education, self-efficacy becomes especially important because learners frequently engage in presentations, collaborative tasks, and analytical problem-solving exercises. Students lacking confidence in digital tools may experience stress and disengagement.

H1: Self-efficacy has a positive impact on student satisfaction in online management education. Students with higher confidence in using online learning platforms are more likely to experience greater satisfaction.

(b) Student Motivation: Motivation is another major intrinsic determinant affecting online learning experiences. Intrinsic motivation encourages learners to participate actively due to personal interest and academic goals, whereas extrinsic motivation is driven by rewards and external expectations. Hartnett, St. George, and Dron (2011) argued that motivation is essential for sustaining learner participation in self-directed online environments. Motivated students are more likely to complete assignments, participate in discussions, and maintain academic consistency. According to Cho and Heron (2015), lack of motivation is one of the major reasons for disengagement in online learning systems. Their study found that students with strong intrinsic motivation exhibit better time management and learning satisfaction. In management education, motivation influences students' willingness to participate in virtual teamwork, case discussions, and leadership simulations.

H2: Student motivation positively influences engagement and satisfaction in virtual learning environments. Highly motivated students tend to participate actively and achieve better learning experiences.

Extrinsic Drivers of Student Satisfaction

(a) Teacher Support: Teacher support is consistently identified as one of the strongest predictors of online learning satisfaction. Instructor presence, communication quality, and responsiveness significantly influence students' emotional and academic experiences. Martin, Wang, and Sadaf (2018) observed that students highly value instructors who provide timely feedback and maintain active communication. Effective faculty support reduces learner isolation and enhances confidence. Baber (2020), in a study conducted during the COVID-19 pandemic, found that instructor interaction significantly improves student satisfaction and perceived learning outcomes in online classes. Teacher support is particularly important in management education because management courses require mentorship, collaboration, and practical guidance.

H3: Teacher support significantly enhances student satisfaction in online management education. Timely feedback, interaction, and guidance from instructors improve learners' overall experience

(b) Technology Support: Technology support plays a crucial role in online education because learning experiences depend heavily on digital infrastructure and platform usability. Bolliger and Halupa (2018) reported that technical difficulties and poor internet connectivity negatively affect learner satisfaction and engagement. Students expect seamless access to learning resources, communication tools, and assessment systems. Research by Al-Fraihat et al. (2020) identified system quality, information quality, and service quality as key predictors of e-learning satisfaction. Their findings suggest that institutions must invest in reliable LMS platforms and technical support services. In developing countries such as India, technological accessibility remains a significant challenge due to infrastructure disparities and socioeconomic inequalities.

H4: Technology support positively affects student satisfaction in online learning environments. Reliable internet access and effective learning management systems reduce learning barriers and improve learning continuity.

(c) Course Design: Course design refers to the organization of content, instructional strategies, assessments, and learning activities within online education systems. Sun et al. (2008) identified course flexibility, content quality, and interaction design as major determinants of online learning satisfaction. Similarly, Khalil et al. (2020) found that structured course materials and multimedia integration improve engagement and reduce cognitive overload. According to Swan (2001), clear navigation systems and interactive course structures positively influence student satisfaction. Well-designed management courses incorporating case studies, simulations, and collaborative projects improve practical learning experiences.

H5: Effective course design has a significant positive influence on student satisfaction in online management education. Well-structured and interactive course content enhances engagement and learning outcomes.

Research Methodology

The present study adopts a quantitative research design to examine the intrinsic and extrinsic drivers of student satisfaction in online management education. Quantitative research is appropriate because it enables systematic measurement of variables and statistical analysis of relationships among constructs such as self-efficacy, motivation, teacher support, technology support, course design, and student satisfaction. The study follows a descriptive and explanatory research approach. The descriptive aspect helps in understanding students' perceptions regarding online learning, while the explanatory approach examines the causal relationships between independent and dependent variables. The study also uses a cross-sectional survey method, where data were collected from respondents at a single point in time. The target population of the study consists of students enrolled in online and hybrid management programs in higher educational institutions across Delhi NCR. While the respondents included graduate and post graduate students of management as well executive management learners. The study uses a purposive sampling technique because respondents were selected based on their experience with online management education. A total of 550 students participated in the survey. A structured questionnaire was designed using a 5-point Likert Scale.

Data Analysis and Interpretation

Reliability and Validity

Reliability analysis was conducted using Cronbach's Alpha to measure internal consistency.

Table 1: Reliability Statistics

Variable	Cronbach's Alpha
Self-Efficacy	0.84
Student Motivation	0.87
Teacher Support	0.89
Technology Support	0.82
Course Design	0.86
Student Satisfaction	0.91

The Cronbach's Alpha values are above 0.70, indicating acceptable reliability.

Content validity was ensured through expert review from academic researchers and faculty members specializing in management education and online learning.

Correlation Analysis

Table 2: Correlation Matrix

Variables	SE	SM	TS	TechS	CD	SS
Self-Efficacy (SE)	1.00					
Student Motivation (SM)	0.62	1.00				
Teacher Support (TS)	0.54	0.59	1.00			
Technology Support (TechS)	0.48	0.51	0.65	1.00		
Course Design (CD)	0.56	0.61	0.72	0.67	1.00	
Student Satisfaction (SS)	0.69	0.73	0.78	0.66	0.81	1.00

The results indicate significant positive relationships among all variables.

Correlation analysis was conducted to examine the relationships between the independent variables and student satisfaction. The correlation analysis indicates significant positive correlations among all variables. Course design demonstrated the strongest correlation with student satisfaction ($r = 0.81$), followed by teacher support ($r = 0.78$) and student motivation ($r = 0.73$). The positive relationship between self-efficacy and satisfaction suggests that students with higher confidence

in online learning systems are more likely to experience positive educational outcomes. Similarly, the significant relationship between technology support and student satisfaction confirms that reliable digital infrastructure contributes to smoother learning experiences.

Regression Analysis

Table 3: Multiple Regression Results

Variable	Beta Value	t-value	Significance
Self-Efficacy	0.28	5.62	0.000
Student Motivation	0.31	6.11	0.000
Teacher Support	0.35	7.20	0.000
Technology Support	0.22	4.85	0.001
Course Design	0.39	8.03	0.000

The regression analysis indicates that all independent variables significantly influence student satisfaction.

Multiple regression analysis was conducted to determine the impact of intrinsic and extrinsic variables on student satisfaction. The regression results reveal that all independent variables significantly influence student satisfaction. Course design emerged as the strongest predictor of satisfaction ($\beta = 0.39$), indicating that well-structured and interactive courses substantially improve learning experiences in online management education. Teacher support was the second strongest predictor ($\beta = 0.35$), highlighting the importance of instructor engagement, timely feedback, and communication. Student motivation and self-efficacy also showed significant positive effects, demonstrating that psychologically prepared and motivated learners adapt more effectively to virtual learning environments. Technology support showed a comparatively lower but still significant impact, suggesting that technical accessibility remains an important component of student satisfaction.

Structural Equation Modeling (SEM)

SEM analysis was conducted to test the conceptual model and hypotheses.

Table 4: Model Fit Indices

Fit Index	Recommended Value	Obtained Value
CFI	>0.90	0.94
GFI	>0.90	0.92
RMSEA	<0.08	0.05
Chi-square/df	<3	2.11

The model demonstrates a good fit with the observed data.

Structural Equation Modeling (SEM) was employed to test the conceptual framework and validate the hypothesized relationships among variables. The SEM model demonstrated a good fit with the observed data, confirming the validity of the conceptual framework. The fit indices indicate that the proposed model effectively explains the relationships between intrinsic factors, extrinsic factors, and student satisfaction.

Hypothesis Testing

Table 5: Hypothesis Testing Results

Hypothesis	Statement	Result
H1	Self-efficacy positively influences student satisfaction	Supported
H2	Student motivation positively influences student satisfaction	Supported
H3	Teacher support positively influences student satisfaction	Supported
H4	Technology support positively influences student satisfaction	Supported
H5	Course design positively influences student satisfaction	Supported

All five hypotheses were supported based on the statistical analysis. The findings suggest that both intrinsic and extrinsic variables play a significant role in shaping student satisfaction in online management education.

Findings and Discussion

The analysis demonstrates that student satisfaction in online management education is a multidimensional construct influenced by psychological, instructional, and technological factors. Among intrinsic factors, student motivation and self-efficacy significantly improved engagement and satisfaction levels. Students who were confident in their digital learning abilities and academically motivated adapted more effectively to virtual learning environments. Among extrinsic factors, course design and teacher support emerged as the most influential predictors. Students valued interactive learning materials, organized course structures, and continuous instructor guidance. These findings align with previous studies emphasizing the importance of teaching presence and learner-centered pedagogy in online education. Technology support also contributed positively to student satisfaction, although some respondents reported internet connectivity issues and technical disruptions. This indicates the need for institutions to strengthen digital infrastructure and technical assistance systems. The findings collectively suggest that successful online management education requires a balanced integration of learner readiness, instructional quality, and technological support.

Self-Efficacy Positively Influences Student Satisfaction: One of the major findings of the study is that self-efficacy significantly influences student satisfaction in online management education. Students who demonstrated higher confidence in using digital learning platforms, managing online assignments, and participating in virtual discussions reported greater levels of satisfaction. The regression analysis revealed a significant positive relationship between self-efficacy and student satisfaction. This finding suggests that students who believe in their academic and technological capabilities are better able to adapt to online learning environments. Such students are more likely to overcome technical difficulties, engage in independent learning, and manage academic stress effectively. The findings are consistent with Bandura's (1997) Social Cognitive Theory, which emphasizes that confidence in personal abilities influences behavior, motivation, and learning outcomes. The results also support previous studies by Alqurashi (2019) and Zimmerman (2000), which found that self-efficacy is a strong predictor of learner engagement and online learning success. In management education, self-efficacy becomes especially important because students frequently engage in presentations, analytical discussions, teamwork, and leadership-related activities. Students lacking confidence in online communication tools may experience anxiety and reduced participation. Therefore, institutions should provide digital literacy training, orientation programs, and academic support services to strengthen students' self-efficacy and improve online learning experiences.

Student Motivation Enhances Online Learning Engagement: The study found that student motivation significantly contributes to engagement and satisfaction in virtual learning environments. Highly motivated students showed stronger participation in online classes, timely completion of assignments, and greater academic commitment. The analysis revealed that motivation had a strong positive impact on student satisfaction. Intrinsically motivated learners were more likely to perceive online learning as flexible, productive, and beneficial for their personal and professional development. This finding aligns with Self-Determination Theory proposed by Deci and Ryan (2000), which suggests that motivated learners perform better when they experience autonomy, competence, and meaningful engagement. The results are also supported by Hartnett (2016), who argued that motivation plays a central role in sustaining participation in online education systems. However, some respondents reported challenges related to concentration, procrastination, and digital fatigue during prolonged online learning sessions. This indicates that maintaining student motivation in virtual classrooms remains a challenge for educational institutions. The findings suggest that institutions should incorporate interactive teaching strategies, collaborative learning activities, real-world case studies, and gamified learning experiences to maintain student motivation and engagement.

Teacher Support is a Major Determinant of Satisfaction: Teacher support emerged as one of the strongest predictors of student satisfaction in online management education. Students highly valued instructors who provided timely feedback, maintained regular communication, encouraged participation, and demonstrated empathy toward learners' challenges. The regression analysis showed a strong positive relationship between teacher support and student satisfaction. Participants appreciated faculty members who created interactive and inclusive learning environments rather than relying solely on lecture-based teaching approaches. This finding is consistent with the Community of Inquiry framework developed by Garrison, Anderson, and Archer (2000), which emphasizes the importance of teaching presence in online learning environments. The findings also support studies by Martin and Bolliger (2018) and Baber (2020), which concluded that instructor interaction significantly improves online learning satisfaction. In management education, teacher support is especially important because students require

mentoring, guidance, and practical insights for leadership development and managerial skill enhancement. The findings indicate that faculty members should receive training in digital pedagogy, online communication strategies, and student engagement techniques. Institutions should encourage instructors to adopt interactive methods such as breakout discussions, simulations, collaborative projects, and case-based learning.

Technology Support Improves Learning Continuity: Technology support was found to significantly influence student satisfaction in online learning environments. Reliable internet access, user-friendly learning management systems (LMS), and technical support services helped students participate effectively in online classes and academic activities. The findings revealed that students who experienced smooth technological access reported higher satisfaction levels compared to those facing connectivity problems and technical disruptions. Although technology support had a comparatively lower beta value than teacher support and course design, it remained a significant determinant of online learning satisfaction. The findings support the Technology Acceptance Model (Davis, 1989), which suggests that ease of use and perceived usefulness influence technology adoption and user satisfaction. The results also align with studies by Sun et al. (2008) and Al-Fraihat et al. (2020), which identified technological quality as a critical factor in e-learning success. Many respondents highlighted issues such as unstable internet connectivity, software-related challenges, and digital accessibility problems. These challenges were more prominent among students from economically weaker backgrounds and rural areas. The findings suggest that educational institutions should invest in robust technological infrastructure, accessible LMS platforms, and continuous technical support services to ensure effective online learning experiences.

Course Design is the Strongest Predictor of Student Satisfaction: Among all variables included in the study, course design emerged as the strongest predictor of student satisfaction. Students strongly preferred courses that were well-structured, interactive, visually engaging, and practically oriented. The findings revealed that learners appreciated organized modules, multimedia content, case studies, group activities, quizzes, and collaborative projects. Students reported higher engagement when course content was clearly presented and aligned with real-world management practices. This finding supports previous research by Sun et al. (2008), Swan (2001), and Khalil et al. (2020), which emphasized the importance of instructional design in online learning effectiveness. In management education, effective course design is especially important because management students require experiential learning opportunities and practical skill development. Traditional lecture-based online teaching methods may reduce engagement and limit interaction. The findings suggest that institutions should prioritize learner-centered course design strategies incorporating:

- Interactive multimedia tools
- Business simulations
- Case-based learning
- Collaborative assignments
- Real-time discussions
- Industry-oriented projects

Such approaches can significantly improve student engagement and satisfaction in online management education. The study confirms that student satisfaction in online management education is influenced by a combination of intrinsic and extrinsic factors. Intrinsic variables such as self-efficacy and motivation shape learners' psychological readiness and engagement, while extrinsic variables including teacher support, technology support, and course design determine the quality of the online learning environment. The correlation analysis indicated strong positive relationships among all variables, suggesting that effective online learning systems require integrated academic, technological, and emotional support mechanisms. The SEM results further validated the conceptual framework and confirmed that all proposed hypotheses were statistically significant. The model demonstrated that online student satisfaction is multidimensional and cannot be explained through a single factor alone. The findings also highlight that management education requires more interactive and collaborative online learning approaches due to its practical and communication-oriented nature.

Conclusion

The transition toward digital and hybrid learning systems has transformed educational practices, making student satisfaction an essential indicator of academic quality and institutional effectiveness. The study found that self-efficacy and motivation positively influence students' confidence, engagement, and adaptability in virtual learning environments. Students who are motivated and technologically confident are better equipped to participate actively and manage online learning challenges. Among the extrinsic variables, teacher support and course design emerged as the most influential determinants of satisfaction. Students highly value interactive teaching practices, timely feedback, collaborative learning opportunities, and well-organized course structures. Technology support also contributes significantly by reducing learning barriers and ensuring smooth educational delivery. The findings emphasize that successful online management education requires more than technological adoption. Institutions must develop learner-centered digital ecosystems that integrate academic support, faculty engagement, technological accessibility, and innovative pedagogy. The study contributes to the existing literature by providing a comprehensive understanding of the psychological, instructional, and technological factors affecting online learning satisfaction in management education. It also provides practical implications for educational institutions, policymakers, and faculty members seeking to improve the quality and effectiveness of online management programs. As online and hybrid learning models continue to expand globally, institutions must focus on enhancing student engagement, digital inclusivity, instructional quality, and emotional support systems. By addressing both intrinsic and extrinsic dimensions of learning, higher education institutions can create sustainable and satisfying online learning environments for management students.

Although the study provides valuable insights into the intrinsic and extrinsic drivers of student satisfaction in online management education, certain limitations should be acknowledged. These limitations provide opportunities for future research and improvement. Based on the findings of the study, several recommendations are proposed for educational institutions, faculty members, policymakers, and future researchers to improve student satisfaction in online management education. Educational institutions should invest in reliable technological infrastructure, high-quality learning management systems (LMS), and uninterrupted internet support. Providing technical assistance and digital accessibility can significantly reduce learning barriers and improve online learning experiences. Institutions should organize regular faculty development programs focusing on digital teaching methods, virtual classroom management, student engagement strategies, and interactive online pedagogy. Well-trained instructors can create more effective and learner-centered online environments. Management institutions should design online courses that incorporate case studies, simulations, group discussions, multimedia content, and experiential learning activities. Interactive course structures can improve engagement, participation, and overall student satisfaction. Institutions should provide orientation sessions, mentoring programs, counseling services, and digital literacy workshops to strengthen students' confidence and motivation. Encouraging self-regulated learning practices can help students adapt more effectively to online education systems.

Future studies should include larger and more diverse samples from different geographical regions and educational disciplines. Researchers should also consider longitudinal research designs and include additional variables such as peer interaction, emotional well-being, and socioeconomic factors to gain a more comprehensive understanding of online learning satisfaction.

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