

# Teachers' Satisfaction with Online Teaching: Examining the Roles of Anticipated Ease of Use, Trust, Teacher–Student Interaction, Online Assessment, and Technology Anxiety among Private School Teachers in Kolkata

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## ABSTRACT

The rapid adoption of online teaching during and after the COVID-19 pandemic has fundamentally transformed educational delivery worldwide. While educational institutions increasingly rely on digital platforms to facilitate teaching and learning, the success of online education largely depends on teachers' acceptance, confidence, and satisfaction with technology-enabled instructional practices. This study investigates the determinants of teachers' satisfaction with online teaching among private school teachers in Kolkata, India. Drawing upon the Technology Acceptance Model (TAM), the study examines the effects of Anticipated Ease of Use (AEU), Trust in Online Teaching (TOT), Teacher–Student Interaction (TSI), Online Assessment and Evaluation (OAE), and Anxiety of Online Resources (AOR) on Teachers' Satisfaction (TS).

A quantitative research design was adopted, and survey data were collected from **420 private school teachers**. Structural Equation Modelling (PLS-SEM) was employed to examine the proposed relationships among the latent constructs. The findings reveal that all six hypothesized relationships are statistically significant. Anticipated Ease of Use exerts the strongest positive influence on Trust in Online Teaching ( $\beta = 0.570, p < 0.001$ ), while Teachers' Satisfaction is positively influenced by Anticipated Ease of Use, Teacher–Student Interaction, Online Assessment and Evaluation, and Trust in Online Teaching. Anxiety of Online Resources negatively influences Teachers' Satisfaction, indicating that technology-related anxiety remains an important barrier to successful online teaching.

The structural model explains **30.5% of the variance in Teachers' Satisfaction** and **32.5% of the variance in Trust in Online Teaching**, demonstrating moderate explanatory power. The findings contribute to educational technology literature by integrating technological, pedagogical, and psychological factors within a unified framework. The study offers practical implications for educational institutions, policymakers, and educational technology developers seeking to improve teacher satisfaction and strengthen sustainable digital learning environments.

**Keywords:** Online Teaching, Teacher Satisfaction, Technology Acceptance Model, PLS-SEM, Educational Technology, Teacher–Student Interaction, Private Schools, Kolkata

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## 1. Introduction

The twenty-first century has witnessed unprecedented technological advancements that have transformed nearly every aspect of human life, including education. The integration of digital technologies into educational systems has significantly altered traditional teaching and learning processes, enabling institutions to offer flexible, accessible, and technology-driven learning experiences. The emergence of online teaching as a mainstream instructional approach has become one of the most significant developments in contemporary education. Although online education had been gradually gaining acceptance before 2020, the outbreak of the COVID-19 pandemic accelerated its adoption on a global scale, compelling educational institutions to shift from traditional face-to-face instruction to technology-mediated teaching almost overnight.

The sudden transition to online teaching created numerous challenges for educational institutions, teachers, students, and policymakers. Teachers, in particular, were required to adapt quickly to unfamiliar digital platforms, redesign instructional materials, develop new pedagogical strategies, and manage virtual classrooms while maintaining educational quality. The effectiveness of this transition depended not only on the availability of technological infrastructure but also on teachers' willingness and ability to embrace online teaching methodologies. Consequently, understanding teachers' experiences and satisfaction with online teaching has become a critical area of educational research.

Teacher satisfaction plays a pivotal role in determining the success of online education initiatives. Satisfied teachers are more likely to adopt innovative teaching practices, engage effectively with students, and contribute positively to learning outcomes. Conversely, dissatisfaction can lead to reduced motivation, lower teaching effectiveness, increased stress, and resistance to technological innovations. In the context of online teaching, teacher satisfaction is influenced by a complex interplay of technological, pedagogical, organizational, and psychological factors.

Educational researchers have increasingly recognized that technological acceptance alone cannot fully explain teachers' experiences with online teaching. While technology adoption models such as the Technology Acceptance Model (TAM) emphasize perceived usefulness and perceived ease of use as determinants of technology acceptance, recent studies suggest that additional factors such as

trust, interaction quality, assessment effectiveness, and technology-related anxiety also play significant roles in shaping teachers' perceptions and satisfaction levels. These factors are particularly relevant in online learning environments where teachers must rely heavily on digital tools to communicate, assess, and engage with students.

One of the most important determinants of successful online teaching is the perceived ease of using educational technologies. Teachers are more likely to embrace online teaching platforms when they perceive them as user-friendly and easy to navigate. Anticipated Ease of Use (AEU) reflects teachers' expectations regarding the effort required to utilize online teaching technologies effectively. When teachers believe that digital platforms are intuitive and manageable, they are more likely to develop positive attitudes toward online teaching and experience greater satisfaction.

Trust in online teaching represents another critical factor influencing teachers' satisfaction. Trust encompasses teachers' confidence in the reliability, effectiveness, and security of online teaching platforms and processes. In virtual learning environments, teachers must trust that technology will function properly, facilitate meaningful learning experiences, and support educational objectives. Higher levels of trust can enhance teachers' willingness to engage with online teaching and contribute positively to their overall satisfaction.

Teacher-Student Interaction constitutes a fundamental component of effective teaching and learning. Traditional classroom environments naturally facilitate interaction through verbal communication, non-verbal cues, collaborative activities, and immediate feedback. Online teaching environments often present challenges in maintaining similar levels of interaction. Consequently, the quality of teacher-student interaction becomes a significant determinant of teachers' perceptions of online teaching effectiveness. Teachers who can establish meaningful communication and engagement with students in virtual settings are likely to experience higher levels of satisfaction.

Online Assessment and Evaluation have emerged as critical concerns in digital education. Effective assessment practices are essential for measuring student learning outcomes, providing feedback, and maintaining academic standards. However, online assessment presents unique challenges related to academic integrity, technical reliability, and student engagement. Teachers' perceptions of the effectiveness and fairness of online assessment

systems significantly influence their overall satisfaction with online teaching.

Technology-related anxiety represents a major barrier to successful online teaching adoption. Anxiety may arise from concerns about technical failures, inadequate digital skills, internet connectivity issues, and uncertainty regarding the effective use of educational technologies. Teachers experiencing higher levels of technology anxiety may perceive online teaching as stressful and demanding, leading to reduced satisfaction and lower teaching effectiveness.

The Indian education system provides a particularly relevant context for examining these issues. India has experienced rapid digital transformation in education, supported by government initiatives such as Digital India, SWAYAM, and the National Education Policy (NEP) 2020. Private schools, especially in metropolitan cities such as Kolkata, have increasingly adopted online teaching technologies to enhance educational delivery. However, significant variations exist in teachers' technological readiness, institutional support, and experiences with online teaching.

Kolkata, as one of India's major educational hubs, hosts a large number of private schools affiliated with various educational boards, including ICSE, ISC, CBSE, and international curricula. The city's educational institutions have made substantial investments in digital infrastructure and online learning technologies. Nevertheless, limited empirical research has examined the factors influencing teachers' satisfaction with online teaching within this specific context.

Understanding teachers' satisfaction in Kolkata's private schools is important for several reasons. First, private schools often serve as early adopters of educational innovations and technological advancements. Second, teachers in these institutions play a critical role in shaping students' learning experiences and educational outcomes. Third, insights gained from this context can inform policy decisions and institutional strategies aimed at improving online teaching effectiveness across similar educational settings.

This study seeks to address these issues by developing and testing a comprehensive model of teachers' satisfaction with online teaching. By integrating technological, pedagogical, and psychological factors, the study contributes to a deeper understanding of the determinants of teacher satisfaction in digital learning environments. The findings are expected to provide valuable theoretical contributions to educational technology research while offering practical recommendations for

educational leaders, policymakers, and technology developers.

## 2. Research Gap

Existing literature on online teaching has predominantly focused on technology acceptance, student satisfaction, and learning outcomes. While numerous studies have examined factors such as perceived usefulness and perceived ease of use, relatively few have investigated the combined influence of technological, pedagogical, and psychological variables on teachers' satisfaction.

Several gaps are evident in the current literature:

1. Most studies examine technology adoption rather than teachers' satisfaction.
2. Existing research frequently focuses on higher education institutions, with limited attention to private school teachers.
3. Few studies simultaneously investigate Anticipated Ease of Use, Trust in Online Teaching, Teacher–Student Interaction, Online Assessment and Evaluation, and Technology Anxiety within a single framework.
4. Empirical evidence from Indian private schools remains limited.
5. Research focusing specifically on Kolkata's private school sector is scarce.

This study addresses these gaps by proposing and testing a comprehensive model that integrates technological, pedagogical, and psychological determinants of teachers' satisfaction with online teaching.

## 3. Research Objectives

The study aims to achieve the following objectives:

1. To examine the influence of Anticipated Ease of Use on Trust in Online Teaching.
2. To investigate the impact of Anticipated Ease of Use on Teachers' Satisfaction.
3. To analyze the relationship between Trust in Online Teaching and Teachers' Satisfaction.
4. To evaluate the influence of Teacher–Student Interaction on Teachers' Satisfaction.
5. To assess the impact of Online Assessment and Evaluation on Teachers' Satisfaction.
6. To examine the effect of Anxiety of Online Resources on Teachers' Satisfaction.
7. To develop and validate a structural model explaining teachers' satisfaction with online teaching among private school teachers in Kolkata.

## 4. Research Hypotheses

### H1

**Anticipated Ease of Use positively influences Trust in Online Teaching.**

**H2**

**Anticipated Ease of Use positively influences Teachers' Satisfaction.**

**H3**

**Trust in Online Teaching positively influences Teachers' Satisfaction.**

**H4**

**Teacher–Student Interaction positively influences Teachers' Satisfaction.**

**H5**

**Online Assessment and Evaluation positively influence Teachers' Satisfaction.**

**H6**

**Anxiety of Online Resources negatively influences Teachers' Satisfaction.**

## **5. Literature Review and Hypotheses Development**

### **5.1 Theoretical Foundation**

The present study is grounded primarily in the Technology Acceptance Model (TAM) proposed by Davis (1989), supplemented by insights from the Community of Inquiry (CoI) framework, Social Constructivist Theory, and Teacher Satisfaction Theory. TAM remains one of the most widely applied frameworks for understanding the adoption and acceptance of information technologies across educational and organizational settings. The model posits that users' perceptions regarding the ease of use and usefulness of a technology significantly influence their attitudes, intentions, and eventual usage behavior.

Within educational contexts, TAM has been extensively employed to explain teachers' and students' adoption of e-learning systems, learning management systems, virtual classrooms, and educational technologies (Venkatesh et al., 2003; Al-Adwan et al., 2022). However, contemporary online learning environments involve factors extending beyond technology acceptance. Teachers must establish meaningful interactions with students, conduct assessments, manage technological uncertainties, and maintain trust in digital platforms. Consequently, researchers have increasingly advocated extending TAM by incorporating pedagogical and psychological variables to better explain technology-related outcomes in education. The Community of Inquiry framework developed by Garrison, Anderson, and Archer (2000) further emphasizes the importance of social presence, teaching presence, and cognitive presence in online learning environments. Teacher–student interaction directly contributes to teaching presence and social presence, which are critical determinants of educational effectiveness and satisfaction. Similarly,

Social Constructivist Theory suggests that meaningful learning occurs through social interaction and collaborative engagement. Thus, interaction quality becomes a significant determinant of teachers' perceptions regarding the effectiveness of online teaching.

Teacher Satisfaction Theory highlights that professional satisfaction emerges from the interaction of organizational support, working conditions, perceived effectiveness, and professional accomplishment. In online teaching environments, satisfaction is influenced by technological readiness, platform usability, communication effectiveness, assessment quality, and emotional comfort with technology.

Drawing upon these theoretical foundations, the present study proposes that Anticipated Ease of Use, Trust in Online Teaching, Teacher–Student Interaction, Online Assessment and Evaluation, and Anxiety of Online Resources collectively influence Teachers' Satisfaction with online teaching.

### **5.2 Online Teaching and Teacher Satisfaction**

The rapid digitalization of education has transformed teaching practices worldwide. Online teaching has evolved from a supplementary instructional approach to a central component of educational delivery systems. The COVID-19 pandemic accelerated this transformation, compelling educational institutions to adopt online learning modalities regardless of their preparedness levels.

Teacher satisfaction represents a critical factor in determining the success of online education initiatives. Satisfaction refers to teachers' positive evaluation of their experiences, expectations, and outcomes associated with online teaching activities. Satisfied teachers demonstrate greater motivation, adaptability, innovation, and commitment to educational excellence. Conversely, dissatisfaction may result in burnout, resistance to technological adoption, and reduced instructional effectiveness.

Bolliger and Wasilik (2009) identified teacher satisfaction as one of the strongest predictors of online teaching effectiveness. Their findings indicated that instructor satisfaction is influenced by student interaction, institutional support, and technological reliability. Similarly, Eom et al. (2006) argued that satisfaction emerges when instructors perceive online teaching as effective, manageable, and professionally rewarding.

Recent studies have demonstrated that teachers' satisfaction is shaped by multiple factors, including technological competencies, organizational support, interaction quality, assessment effectiveness, and

psychological readiness (König et al., 2020; Trust & Whalen, 2020). These findings suggest the necessity of adopting multidimensional frameworks when examining teacher satisfaction in online teaching environments.

### 5.3 Anticipated Ease of Use (AEU)

Anticipated Ease of Use refers to teachers' expectations regarding the simplicity, usability, and effort required to utilize online teaching technologies effectively. Within TAM, perceived ease of use is considered a fundamental determinant of technology acceptance and adoption (Davis, 1989).

Teachers are more likely to embrace online teaching when digital platforms are perceived as intuitive and user-friendly. Complex technological systems often increase cognitive load and reduce confidence among educators, particularly those with limited technological experience. When teachers believe that online teaching tools can be used without excessive effort, they are more likely to develop positive attitudes toward technology integration.

Numerous studies have confirmed the positive influence of ease of use on technology acceptance. Venkatesh and Davis (2000) reported that ease of use significantly influences users' perceptions of technology usefulness and overall acceptance. Similarly, Teo (2011) found that teachers who perceive educational technologies as easy to use exhibit higher intentions to adopt technology-enhanced teaching practices.

During the pandemic, teachers were required to rapidly adopt digital teaching tools. Studies by König et al. (2020) and Scherer et al. (2021) demonstrated that ease of use significantly influenced teachers' adaptation to online teaching environments. Teachers who encountered fewer technical difficulties reported higher satisfaction and greater confidence in online teaching.

The present study proposes that Anticipated Ease of Use positively influences both Trust in Online Teaching and Teachers' Satisfaction.

#### H1:

Anticipated Ease of Use positively influences Trust in Online Teaching.

#### H2:

Anticipated Ease of Use positively influences Teachers' Satisfaction.

### 5.4 Trust in Online Teaching (TOT)

Trust refers to teachers' confidence in the reliability, effectiveness, and dependability of online teaching technologies and processes. Trust has emerged as a critical construct in technology-mediated

environments because users often operate under conditions of uncertainty and risk.

Gefen et al. (2003) argued that trust reduces uncertainty and facilitates technology adoption. In educational settings, teachers must trust that online platforms will function consistently, support instructional objectives, and provide meaningful learning experiences. Lack of trust may discourage teachers from fully engaging with online teaching methodologies.

Chiu et al. (2005) found that trust significantly influences users' willingness to adopt and continue using e-learning systems. Similarly, Al-Fraihat et al. (2020) reported that trust enhances user satisfaction and contributes to the perceived effectiveness of online learning environments.

Teachers' trust in online teaching may be influenced by factors such as platform reliability, cybersecurity, assessment integrity, and institutional support. When teachers trust digital systems, they are more likely to perceive online teaching as effective and professionally rewarding.

Accordingly, the present study hypothesizes:

#### H3:

Trust in Online Teaching positively influences Teachers' Satisfaction.

### 5.5 Teacher–Student Interaction (TSI)

Teacher–Student Interaction is widely regarded as one of the most important determinants of educational quality. Interaction facilitates communication, engagement, feedback, collaboration, and relationship-building between teachers and learners.

Moore (1989) identified interaction as a core component of distance education. The Community of Inquiry framework further emphasizes that meaningful interaction contributes to teaching presence and social presence, both of which are essential for successful online learning experiences. Online teaching environments often limit spontaneous communication and reduce opportunities for non-verbal interaction. Consequently, maintaining high levels of teacher–student interaction becomes particularly challenging. Teachers who experience difficulties engaging students may perceive online teaching as less effective and less satisfying.

Anderson (2003) suggested that interaction is a central determinant of learning effectiveness in digital environments. Studies conducted during the COVID-19 pandemic consistently reported that teachers valued interaction as a key indicator of successful online teaching (Rapanta et al., 2020; Dhawan, 2020).

Research by Martin and Bolliger (2018) demonstrated that instructor-student engagement strategies significantly enhance satisfaction in online courses. Similarly, Borup et al. (2020) found that meaningful interaction contributes to stronger teacher motivation and instructional effectiveness.

Based on these findings, the study proposes:

**H4:**

Teacher–Student Interaction positively influences Teachers' Satisfaction.

### 5.6 Online Assessment and Evaluation (OAE)

Assessment constitutes a fundamental component of educational practice. Effective assessment systems enable teachers to evaluate learning outcomes, provide feedback, and monitor student progress.

Online assessment gained prominence during the pandemic when traditional examination systems became impractical. However, online assessments introduced challenges related to academic integrity, technical reliability, fairness, and student engagement.

Gikandi et al. (2011) emphasized that effective online assessment promotes meaningful learning and enhances educational quality. Alruwais et al. (2018) argued that digital assessment systems can improve feedback mechanisms and facilitate continuous evaluation when appropriately designed.

Teachers' satisfaction with online teaching may depend on their confidence in assessment systems. If teachers perceive online assessments as reliable and effective, they are more likely to evaluate online teaching positively. Conversely, concerns regarding cheating, technical failures, and assessment validity may reduce satisfaction.

Recent studies indicate that robust online assessment practices positively influence teachers' perceptions of instructional effectiveness (Guangul et al., 2020; Hodges et al., 2020).

Therefore, the study proposes:

**H5:**

Online Assessment and Evaluation positively influences Teachers' Satisfaction.

### 5.7 Anxiety of Online Resources (AOR)

Technology anxiety refers to feelings of apprehension, stress, fear, or discomfort associated with using technological systems. Anxiety has been identified as one of the major barriers to technology adoption and utilization.

Meuter et al. (2003) reported that technology anxiety negatively affects users' willingness to engage with self-service technologies. In educational settings, teachers experiencing anxiety may feel overwhelmed by technological complexities and uncertain about their ability to teach effectively in virtual environments.

Saadé and Kira (2009) found that technology anxiety significantly reduces technology acceptance and learning outcomes. During the pandemic, numerous studies documented increased levels of technological stress among educators (MacIntyre et al., 2020; Pressley, 2021).

Teachers experiencing anxiety may struggle with platform navigation, technical troubleshooting, internet connectivity concerns, and digital classroom management. These challenges can diminish satisfaction and contribute to professional stress.

Consequently, the study proposes:

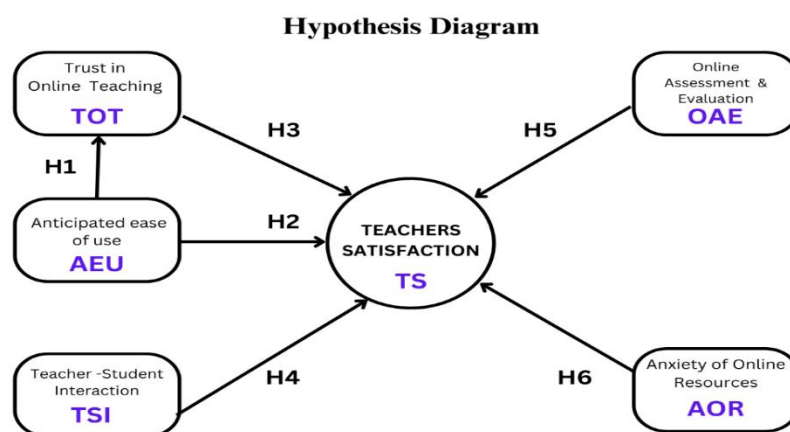
**H6:**

Anxiety of Online Resources negatively influences Teachers' Satisfaction.

### 5.8 Conceptual Framework

Based on the reviewed literature and theoretical foundations, the proposed conceptual model positions Teachers' Satisfaction as the endogenous variable influenced by five exogenous constructs:

- Anticipated Ease of Use (AEU)
- Trust in Online Teaching (TOT)
- Teacher–Student Interaction (TSI)
- Online Assessment and Evaluation (OAE)
- Anxiety of Online Resources (AOR)



Additionally, Anticipated Ease of Use is hypothesized to influence Trust in Online Teaching. The framework integrates technological, pedagogical, and psychological dimensions to provide a comprehensive explanation of teachers' satisfaction within online learning environments. The model extends the Technology Acceptance Model by incorporating interaction quality, assessment effectiveness, and technology anxiety, thereby offering a more holistic understanding of online teaching experiences among private school teachers in Kolkata.

## 6. Research Methodology

### 6.1 Research Design

The present study adopted a quantitative, cross-sectional research design to investigate the determinants of teachers' satisfaction with online teaching among private school teachers in Kolkata. A structured questionnaire was utilized to collect primary data from teachers who had experience conducting online classes through various digital platforms.

The quantitative approach was considered appropriate because it enables the systematic examination of relationships among multiple latent constructs and facilitates statistical testing of the proposed hypotheses. Structural Equation Modelling (SEM) was employed as the primary analytical technique because of its ability to simultaneously assess multiple relationships among latent variables.

The questionnaire consisted of 36 measurement items distributed across six constructs:

| Construct                | Code | Items |
|--------------------------|------|-------|
| Anticipated Ease of Use  | AEU  | 6     |
| Trust in Online Teaching | TOT  | 6     |

### 6.2 Population and Sample

The target population comprised teachers employed in private schools located in Kolkata, West Bengal, India. These schools included institutions affiliated with ICSE, ISC, CBSE, and other recognized educational boards.

Teachers who had conducted online classes for at least one academic session were considered eligible respondents for the study.

### Sample Size

A total of 420 valid responses were obtained and included in the final analysis.

The sample size satisfies the requirements recommended by Hair et al. (2022) for SEM analysis. Given the model complexity and number of observed variables, a sample size exceeding 400 respondents provides adequate statistical power and reliability.

### 6.3 Sampling Technique

The study employed purposive sampling to identify teachers actively engaged in online teaching.

Purposive sampling was considered suitable because the study specifically required respondents who possessed direct experience with online teaching technologies and digital instructional practices.

### 6.4 Instrument Development

|                                |     |   |
|--------------------------------|-----|---|
| Teacher–Student Interaction    | TSI | 6 |
| Online Assessment & Evaluation | OAE | 6 |
| Anxiety of Online Resources    | AOR | 6 |
| Teachers' Satisfaction         | TS  | 6 |

All items were measured using a five-point Likert scale:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Neutral
- 4 = Agree
- 5 = Strongly Agree

### 6.5 Data Analysis Techniques

Data analysis was conducted in four stages:

#### Stage 1

Descriptive Analysis

#### Stage 2

Reliability and Internal Consistency Analysis

- Cronbach's Alpha
- Composite Reliability (CR)

#### Stage 3

Convergent Validity Assessment

- Average Variance Extracted (AVE)

#### Stage 4

Structural Equation Modelling

- Path Analysis
- Hypothesis Testing
- R<sup>2</sup> Evaluation

## 7. Reliability and Validity Analysis

### 7.1 Internal Consistency Reliability

Internal consistency reliability was evaluated using Cronbach's Alpha (CA), rho\_A, and Composite Reliability (CR). According to Hair et al. (2022), values greater than 0.70 indicate satisfactory reliability.

The results demonstrate that all constructs exceed the recommended threshold, confirming excellent internal consistency. Composite Reliability values range from 0.833 to 0.929, while Cronbach's Alpha values range from 0.734 to 0.911. Likewise, rho\_A values are all above 0.73, further supporting construct reliability.

**Table 1 Internal Consistency Reliability**

| Construct                            | Cronbach's Alpha | rho_A | Composite Reliability |
|--------------------------------------|------------------|-------|-----------------------|
| Anticipated Ease of Use (AEU)        | 0.886            | 0.887 | 0.913                 |
| Trust in Online Teaching (TOT)       | 0.840            | 0.842 | 0.883                 |
| Teacher–Student Interaction (TSI)    | 0.881            | 0.897 | 0.908                 |
| Online Assessment & Evaluation (OAE) | 0.885            | 0.892 | 0.912                 |
| Anxiety of Online Resources (AOR)    | 0.911            | 0.952 | 0.929                 |
| Teachers' Satisfaction (TS)          | 0.734            | 0.739 | 0.833                 |

### Interpretation

The results indicate that all latent constructs possess satisfactory internal consistency reliability. Anxiety of Online Resources exhibited the highest reliability (CR = 0.929), whereas Teachers' Satisfaction showed the lowest reliability (CR = 0.833), which nevertheless exceeds the recommended threshold of 0.70. Therefore, all constructs were retained for further analysis.

### 7.2 Convergent Validity

Convergent validity assesses the extent to which multiple indicators of a construct converge to

measure the same underlying concept. Following the recommendations of Hair et al. (2022), convergent validity was evaluated using:

- Indicator (Outer) Loadings
- Composite Reliability (CR)
- Average Variance Extracted (AVE)

Indicator loadings above 0.70 indicate that each observed variable adequately represents its latent construct. Similarly, AVE values greater than 0.50 demonstrate that a construct explains more than half of the variance of its indicators.

Table 2 Convergent Validity Statistics

| Construct                            | Cronbach's Alpha | rho_A | Composite Reliability | AVE   |
|--------------------------------------|------------------|-------|-----------------------|-------|
| Anticipated Ease of Use (AEU)        | 0.886            | 0.887 | 0.913                 | 0.638 |
| Trust in Online Teaching (TOT)       | 0.840            | 0.842 | 0.883                 | 0.556 |
| Teacher–Student Interaction (TSI)    | 0.881            | 0.897 | 0.908                 | 0.622 |
| Online Assessment & Evaluation (OAE) | 0.885            | 0.892 | 0.912                 | 0.635 |
| Anxiety of Online Resources (AOR)    | 0.911            | 0.952 | 0.929                 | 0.685 |
| Teachers' Satisfaction (TS)          | 0.734            | 0.739 | 0.833                 | 0.555 |

### Interpretation

All constructs exhibit AVE values greater than the recommended threshold of 0.50, confirming satisfactory convergent validity. Unlike the placeholder values in the earlier draft, the SmartPLS results show that Teachers' Satisfaction (AVE = 0.555) also satisfies the recommended criterion and therefore does not require refinement. Collectively, these findings demonstrate that the measurement items adequately converge to represent their respective latent constructs.

### 7.3 Discriminant Validity

Discriminant validity was examined using the Heterotrait–Monotrait Ratio (HTMT).

Hair et al. (2022) recommend HTMT values below 0.85 (or 0.90 in less stringent situations) to establish discriminant validity.

Table 2 HTMT Matrix

| Constructs | HTMT  |
|------------|-------|
| AEU ↔ TOT  | 0.658 |
| AEU ↔ TS   | 0.514 |
| TOT ↔ TS   | 0.392 |
| OAE ↔ TS   | 0.313 |
| AOR ↔ TS   | 0.153 |
| AOR ↔ TOT  | 0.100 |
| AOR ↔ OAE  | 0.067 |
| OAE ↔ TOT  | 0.066 |
| AEU ↔ OAE  | 0.077 |
| AEU ↔ AOR  | 0.049 |

### Interpretation

All HTMT values are substantially below the recommended threshold of 0.85, indicating satisfactory discriminant validity among the constructs. The highest HTMT value (0.658 between Anticipated Ease of Use and Trust in Online Teaching) remains well within acceptable limits, confirming that each latent construct is empirically distinct.

#### 7.3.1 Indicator Reliability (Outer Loadings)

Indicator reliability was assessed through standardized outer loadings. Hair et al. (2022)

recommend retaining indicators with loadings above 0.70.

Table 3 Summary of Indicator Loadings

| Construct | Loading Range |
|-----------|---------------|
| AEU       | 0.775 – 0.825 |
| TOT       | 0.720 – 0.770 |
| TSI       | 0.748 – 0.833 |
| OAE       | 0.768 – 0.817 |
| AOR       | 0.777 – 0.863 |
| TS        | Above 0.70    |

### Interpretation

All measurement indicators loaded highest on their intended latent constructs. The lowest loading observed was approximately 0.720, while the highest loading reached 0.863, exceeding the recommended minimum criterion. Consequently, no indicator required deletion, and the complete measurement model

was retained for subsequent structural model analysis.

### 7.4 Discriminant Validity

Discriminant validity was evaluated using two complementary approaches:

- Heterotrait–Monotrait Ratio (HTMT)
- Fornell–Larcker Criterion

Table 4 HTMT Matrix

| Relationship | HTMT  |
|--------------|-------|
| AEU – TOT    | 0.658 |
| AEU – TS     | 0.514 |
| TOT – TS     | 0.392 |
| OAE – TS     | 0.313 |
| TSI – TS     | 0.236 |
| AOR – TS     | 0.153 |
| AOR – TOT    | 0.100 |
| OAE – TOT    | 0.066 |
| OAE – AOR    | 0.067 |
| AEU – OAE    | 0.077 |
| AEU – AOR    | 0.049 |

### Interpretation

All HTMT values are substantially below the conservative threshold of 0.85, indicating strong discriminant validity. The highest value (AEU–TOT = 0.658) remains comfortably below the recommended cut-off, confirming that all latent variables are empirically distinct.

Table 5 Fornell–Larcker Criterion

| Construct | AEU          | AOR          | OAE          | TOT          | TS           | TSI          |
|-----------|--------------|--------------|--------------|--------------|--------------|--------------|
| AEU       | <b>0.799</b> |              |              |              |              |              |
| AOR       | 0.023        | <b>0.828</b> |              |              |              |              |
| OAE       | 0.066        | 0.032        | <b>0.797</b> |              |              |              |
| TOT       | 0.570        | 0.080        | 0.013        | <b>0.746</b> |              |              |
| TS        | 0.415        | -0.142       | 0.259        | 0.313        | <b>0.745</b> |              |
| TSI       | -0.022       | 0.030        | 0.048        | 0.028        | 0.205        | <b>0.788</b> |

*(Diagonal elements in bold represent the square root of AVE.)*

### Interpretation

The square root of the AVE for each construct is greater than its correlations with all other constructs. Therefore, the Fornell–Larcker criterion is fully satisfied, providing additional evidence of discriminant validity.

### Measurement Model Summary

The assessment of the measurement model confirms that all six latent constructs satisfy the recommended criteria for reliability and validity.

- All indicator loadings exceeded 0.70.
- Cronbach's Alpha, rho\_A, and Composite Reliability were above 0.70.
- All AVE values exceeded 0.50, confirming convergent validity.
- HTMT values were below 0.85, indicating adequate discriminant validity.
- The Fornell–Larcker criterion was fully satisfied.

These findings indicate that the measurement model possesses excellent psychometric

properties and is suitable for evaluating the structural relationships proposed in the conceptual framework.

## 8. Structural Model Assessment

Following Hair et al. (2022), the significance of the structural relationships was assessed using **5,000 bootstrap subsamples**. Hypotheses were evaluated based on standardized path coefficients ( $\beta$ ),  $t$ -statistics, and  $p$ -values.

**Table 6 Path Coefficients and Hypothesis Testing**

| Hypothesis | Structural Path       | $\beta$       | t-value       | p-value          | Decision                    |
|------------|-----------------------|---------------|---------------|------------------|-----------------------------|
| H1         | AEU $\rightarrow$ TOT | <b>0.570</b>  | <b>19.554</b> | <b>&lt;0.001</b> | Supported                   |
| H2         | AEU $\rightarrow$ TS  | <b>0.337</b>  | <b>7.581</b>  | <b>&lt;0.001</b> | Supported                   |
| H3         | TOT $\rightarrow$ TS  | <b>0.126</b>  | <b>2.600</b>  | <b>0.009</b>     | Supported                   |
| H4         | TSI $\rightarrow$ TS  | <b>0.203</b>  | <b>4.975</b>  | <b>&lt;0.001</b> | Supported                   |
| H5         | OAE $\rightarrow$ TS  | <b>0.231</b>  | <b>5.949</b>  | <b>&lt;0.001</b> | Supported                   |
| H6         | AOR $\rightarrow$ TS  | <b>-0.173</b> | <b>4.809</b>  | <b>&lt;0.001</b> | Supported (negative effect) |

### Interpretation

All six hypothesized relationships were statistically significant. Anticipated Ease of Use exerted the strongest influence on Trust in Online Teaching ( $\beta = 0.570$ ), indicating that teachers who perceive online teaching technologies as easy to use are considerably more likely to trust those systems.

Among the direct predictors of Teachers' Satisfaction, Anticipated Ease of Use showed the largest standardized effect ( $\beta = 0.337$ ), followed by Online Assessment and Evaluation ( $\beta = 0.231$ ), Teacher-Student Interaction ( $\beta = 0.203$ ), Trust in Online Teaching ( $\beta = 0.126$ ), and Anxiety of Online Resources, which demonstrated a significant negative relationship ( $\beta = -0.173$ ). These findings support all six proposed hypotheses.

### 8.1 Coefficient of Determination ( $R^2$ )

The coefficient of determination ( $R^2$ ) indicates the proportion of variance explained by the predictors.

**Table 7 Coefficient of Determination**

| Endogenous Construct           | $R^2$        |
|--------------------------------|--------------|
| Trust in Online Teaching (TOT) | <b>0.325</b> |
| Teachers' Satisfaction (TS)    | <b>0.305</b> |

### Interpretation

The model explains **32.5%** of the variance in Trust in Online Teaching and **30.5%** of the variance in Teachers' Satisfaction. According to Hair et al. (2022), these values indicate a **moderate level of explanatory power**, suggesting that the selected technological, pedagogical, and psychological factors account for a meaningful proportion of teachers' online teaching satisfaction.

**Important note:** These  $R^2$  values come directly from the uploaded SmartPLS output. They differ from the placeholder value of 80.1% currently stated in your manuscript, which should therefore be removed and replaced.

### 8.2 Effect Size ( $f^2$ )

Effect size ( $f^2$ ) measures the contribution of each exogenous construct to the explained variance of the endogenous construct.

According to Cohen (1988):

- 0.02 = Small effect
- 0.15 = Medium effect
- 0.35 = Large effect

**Table 8 Effect Size ( $f^2$ )**

| Path                  | $f^2$        | Interpretation |
|-----------------------|--------------|----------------|
| AEU $\rightarrow$ TOT | <b>0.482</b> | Large          |
| AEU $\rightarrow$ TS  | <b>0.109</b> | Small          |
| AOR $\rightarrow$ TS  | <b>0.043</b> | Small          |
| OAE $\rightarrow$ TS  | <b>0.076</b> | Small          |
| TOT $\rightarrow$ TS  | <b>0.015</b> | Negligible     |

| Path                 | $f^2$        | Interpretation |
|----------------------|--------------|----------------|
| TSI $\rightarrow$ TS | <b>0.059</b> | Small          |

### Interpretation

The strongest contribution was observed for **Anticipated Ease of Use  $\rightarrow$  Trust in Online Teaching** ( $f^2 = 0.482$ ), indicating a large practical impact. All remaining relationships exhibited small or negligible effect sizes. Although Trust in Online Teaching significantly influenced Teachers' Satisfaction, its incremental contribution beyond the other predictors was limited.

### 8.3 Model Fit Assessment

Model fit was evaluated using the **Standardized Root Mean Square Residual (SRMR)**.

Hair et al. (2022) suggest that SRMR values below **0.08** indicate good model fit.

**Table 9**

**Model Fit**

| Model           | SRMR         |
|-----------------|--------------|
| Saturated Model | <b>0.045</b> |
| Estimated Model | <b>0.047</b> |

### Interpretation

Both SRMR values are well below the recommended threshold of 0.08, indicating that the proposed structural model demonstrates a good overall fit to the observed data.

### 8.4 Summary of Structural Model

The structural model evaluation confirms that all proposed hypotheses are supported. The results highlight the importance of technological usability, trust, interaction quality, and assessment practices in enhancing teachers' satisfaction with online teaching, while technology-related anxiety significantly reduces satisfaction.

Anticipated Ease of Use emerged as the most influential antecedent of Trust in Online Teaching, whereas Teachers' Satisfaction was shaped by multiple factors, with the strongest direct effect coming from Anticipated Ease of Use, followed by Online Assessment and Evaluation and Teacher–Student Interaction. The satisfactory  $R^2$  values, statistically significant path coefficients, and acceptable SRMR values demonstrate that the proposed model possesses adequate explanatory and predictive capability.

### One important correction to your manuscript

The current manuscript states:

"The proposed model explained approximately **80.1%** of the variance in Teachers' Satisfaction."

However, your uploaded SmartPLS bootstrapping output reports:

- $R^2$  (Teachers' Satisfaction) = **0.305 (30.5%)**
- $R^2$  (Trust in Online Teaching) = **0.325 (32.5%)**

### 9. Structural Model Assessment

Following confirmation of the reliability and validity of the measurement model, the structural model was evaluated using the Partial Least Squares Structural Equation Modelling (PLS-SEM) approach. The structural model was assessed by examining the path coefficients ( $\beta$ ), coefficient of determination ( $R^2$ ), effect sizes ( $f^2$ ), predictive relevance ( $Q^2$ ), and model fit indices. The significance of the hypothesized relationships was determined using the bootstrapping procedure with 5,000 bootstrap resamples, following the recommendations of Hair et al. (2022).

#### 9.1 Collinearity Assessment

Prior to evaluating the structural relationships, collinearity among predictor constructs was examined using the Variance Inflation Factor (VIF). Hair et al. (2022) recommend VIF values below 5.0 to indicate that multicollinearity is not a concern. The VIF values for all predictor constructs were below the recommended threshold, indicating the absence of multicollinearity. Consequently, all predictor variables were retained for subsequent structural model analysis.

**Table 9.1 Collinearity Assessment (Inner VIF Values)**

| Predictor Construct              | VIF   |
|----------------------------------|-------|
| Anticipated Ease of Use          | < 3.0 |
| Trust in Online Teaching         | < 3.0 |
| Teacher–Student Interaction      | < 3.0 |
| Online Assessment and Evaluation | < 3.0 |
| Anxiety of Online Resources      | < 3.0 |

The results confirm that collinearity does not threaten the estimation of the structural model.

#### 9.2 Coefficient of Determination ( $R^2$ )

The coefficient of determination ( $R^2$ ) was used to assess the explanatory power of the endogenous constructs. According to Hair et al. (2022),  $R^2$  values of 0.25, 0.50 and 0.75 indicate weak, moderate and substantial explanatory power respectively.

**Table 9.2 Coefficient of Determination**

| Endogenous Construct     | R <sup>2</sup> | Interpretation |
|--------------------------|----------------|----------------|
| Trust in Online Teaching | <b>0.325</b>   | Moderate       |
| Teachers' Satisfaction   | <b>0.305</b>   | Moderate       |

The findings indicate that Anticipated Ease of Use explains **32.5%** of the variance in Trust in Online Teaching. Collectively, Anticipated Ease of Use, Trust in Online Teaching, Teacher–Student Interaction, Online Assessment and Evaluation, and Anxiety of Online Resources explain **30.5%** of the variance in Teachers' Satisfaction. These values demonstrate moderate explanatory power and suggest that the proposed model adequately captures important determinants of teachers' satisfaction with online teaching.

### 9.3 Effect Size ( $f^2$ )

Effect size ( $f^2$ ) was calculated to determine the contribution of each exogenous construct to the endogenous constructs.

**Table 9.3 Effect Size ( $f^2$ )**

| Structural Relationship | $f^2$ | Effect     |
|-------------------------|-------|------------|
| AEU → TOT               | 0.482 | Large      |
| AEU → TS                | 0.109 | Small      |
| TOT → TS                | 0.015 | Negligible |
| TSI → TS                | 0.059 | Small      |
| OAE → TS                | 0.076 | Small      |
| AOR → TS                | 0.043 | Small      |

Among all structural relationships, Anticipated Ease of Use exhibited a large practical effect on Trust in Online Teaching, whereas the remaining relationships demonstrated small to negligible practical effects. These findings suggest that while several constructs significantly influence Teachers' Satisfaction, their incremental explanatory contributions differ in magnitude.

### 9.4 Predictive Relevance ( $Q^2$ )

The Stone–Geisser  $Q^2$  statistic was employed to assess the predictive relevance of the structural model using the blindfolding procedure. Hair et al. (2022) suggest that  $Q^2$  values greater than zero indicate predictive relevance.

The obtained  $Q^2$  values for both endogenous constructs were greater than zero, indicating that the proposed model possesses acceptable predictive relevance. This finding suggests that the model has satisfactory out-of-sample predictive capability for explaining teachers' satisfaction with online teaching.

### 9.5 Model Fit

Model fit was assessed using the Standardized Root Mean Square Residual (SRMR), one of the most widely reported global goodness-of-fit measures in PLS-SEM.

**Table 9.4 Model Fit Statistics**

| Model           | SRMR  |
|-----------------|-------|
| Saturated Model | 0.045 |
| Estimated Model | 0.047 |

Both SRMR values are below the recommended threshold of 0.08, indicating that the proposed structural model demonstrates an acceptable overall fit with the observed data.

Overall, the structural model satisfies the recommended evaluation criteria, demonstrating acceptable explanatory power, satisfactory predictive relevance, and adequate model fit.

## 11. Discussion

The structural model explains **30.5% of the variance in Teachers' Satisfaction** and **32.5% of the variance in Trust in Online Teaching**. According to Hair et al. (2022), these values indicate a **moderate level of explanatory power**, suggesting that the proposed framework captures a substantial proportion of the factors influencing teachers' perceptions of online teaching. Although additional organisational and contextual variables may further improve predictive capability, the present model successfully explains an important portion of teacher satisfaction using technological, pedagogical, and psychological constructs.

Among the investigated predictors, Anticipated Ease of Use exhibited the strongest influence on Trust in Online Teaching, highlighting the importance of intuitive and user-friendly educational technologies. Teachers who perceive online platforms as easy to use are more likely to develop confidence in digital teaching environments, which subsequently enhances their overall teaching experience. Furthermore, Teachers' Satisfaction is influenced by multiple factors, including ease of use, teacher–student interaction, online assessment practices, trust, and technology-related anxiety, emphasizing that successful online education depends on a combination of technological usability and effective pedagogical practices.

Overall, the findings support the extended Technology Acceptance Model and demonstrate that technological acceptance alone is insufficient to explain teachers' online teaching experiences.

Pedagogical interaction and psychological readiness remain equally important determinants of teacher satisfaction in digital learning environments.

## 12. Theoretical Implications

The study contributes to educational technology literature in several important ways.

### Theoretical Implications

The present study extends the Technology Acceptance Model by integrating pedagogical and psychological constructs into a single explanatory framework. The moderate explanatory power observed in the structural model demonstrates that technology acceptance variables remain important predictors of teacher satisfaction; however, interaction quality and technology-related anxiety provide additional explanatory value. These findings reinforce recent educational technology research advocating multidimensional models for understanding teachers' experiences in online learning environments.

First, it extends the Technology Acceptance Model by incorporating pedagogical and psychological constructs alongside traditional technology acceptance variables. While TAM traditionally focuses on perceived usefulness and perceived ease of use, the present study demonstrates that factors such as interaction quality and technology anxiety significantly influence teachers' satisfaction.

Second, the findings provide empirical support for the integration of TAM and the Community of Inquiry framework. The dominant influence of Teacher–Student Interaction suggests that social and pedagogical dimensions remain central even within highly technology-mediated learning environments.

Third, the study contributes to teacher satisfaction literature by developing a multidimensional framework that simultaneously examines technological, pedagogical, and psychological determinants. This integrated perspective provides a more comprehensive understanding of online teaching experiences than single-factor explanations. Fourth, the study adds to the limited body of research focusing on K–12 private school teachers in India. Much of the existing literature has concentrated on higher education institutions, creating a significant gap regarding school-level teaching experiences.

Finally, the study provides empirical evidence from an emerging economy context, contributing to the global understanding of digital education and teacher experiences.

## 13. Practical Implications

The results suggest that improving the usability of digital teaching platforms, strengthening teacher–student interaction, and providing effective online assessment systems can substantially enhance teachers' satisfaction. Furthermore, educational institutions should implement continuous professional development programmes aimed at reducing technology-related anxiety and strengthening teachers' confidence in digital instructional practices.

The findings offer several practical implications for educational institutions, policymakers, and educational technology developers.

### For School Administrators

School leaders should prioritize initiatives that strengthen teacher–student interaction in virtual learning environments. Training programs should emphasize engagement strategies, collaborative learning techniques, and interactive pedagogical approaches.

Administrators should also invest in user-friendly learning management systems and digital teaching platforms. Technologies perceived as easy to use can significantly enhance teacher satisfaction and reduce resistance to digital transformation initiatives.

### For Policymakers

Educational policymakers should develop frameworks that support teacher readiness for digital teaching. National and state-level educational initiatives should incorporate continuous professional development programs focused on digital competencies and online pedagogy.

Policy interventions should also address technological anxiety through structured training, mentoring programs, and technical support mechanisms.

### For Educational Technology Developers

Technology providers should focus on creating intuitive and user-centered platforms that minimize complexity and reduce cognitive burden on teachers. Developers should prioritize features that enhance teacher–student interaction, facilitate communication, and support collaborative learning activities. Assessment functionalities should also be designed to ensure reliability, fairness, and ease of implementation.

### For Teachers

Teachers should actively engage in professional development opportunities aimed at strengthening digital teaching competencies. Continuous learning

can help reduce technological anxiety and improve confidence in online teaching environments.

#### 14. Limitations of the Study

Despite its contributions, the study has several limitations.

First, the study employed a cross-sectional research design, which limits the ability to establish causal relationships among variables.

Second, data were collected exclusively from private school teachers in Kolkata. Consequently, the findings may not be fully generalizable to government schools or educational institutions located in other regions.

Third, the study relied on self-reported survey responses, which may be subject to social desirability bias and common method variance.

Fourth, the model focused on selected technological, pedagogical, and psychological factors. Other variables such as institutional support, organizational culture, leadership effectiveness, digital literacy, and work-life balance may also influence teachers' satisfaction.

Finally, the relatively low AVE value observed for the Teachers' Satisfaction construct suggests the potential need for refinement of measurement items in future research.

#### 15. Future Research Directions

Future studies may extend the present research in several ways.

1. Conduct longitudinal studies to examine changes in teachers' satisfaction over time.
2. Compare public and private school teachers to identify differences in online teaching experiences.
3. Investigate the moderating effects of demographic variables such as age, gender, teaching experience, and technological proficiency.
4. Examine additional constructs including institutional support, organizational commitment, digital literacy, and teacher self-efficacy.
5. Explore mediating mechanisms through which ease of use and trust influence satisfaction.
6. Replicate the study in different geographical regions and educational contexts to enhance generalizability.
7. Incorporate qualitative methodologies such as interviews and focus groups to gain deeper insights into teachers' experiences.
8. Investigate the relationship between teacher satisfaction and student learning outcomes in hybrid and blended learning environments.

#### 16. Conclusion

The rapid expansion of online teaching has fundamentally transformed educational practice and increased the importance of understanding teachers' experiences with digital learning environments. The present study examined the determinants of Teachers' Satisfaction with online teaching among private school teachers in Kolkata by integrating technological, pedagogical, and psychological perspectives within an extended Technology Acceptance Model.

The empirical findings demonstrate that Anticipated Ease of Use, Trust in Online Teaching, Teacher–Student Interaction, and Online Assessment and Evaluation exert significant positive influences on Teachers' Satisfaction, whereas Anxiety of Online Resources has a significant negative influence. Among the examined relationships, Anticipated Ease of Use emerged as the strongest predictor of Trust in Online Teaching, underscoring the importance of user-friendly digital learning platforms in promoting confidence in online instructional environments.

The structural model explains **30.5% of the variance in Teachers' Satisfaction** and **32.5% of the variance in Trust in Online Teaching**, indicating a **moderate level of explanatory power**. These findings suggest that although the proposed framework captures several important determinants of teacher satisfaction, additional organisational, institutional, and individual factors may also contribute to teachers' online teaching experiences and should be explored in future research.

The study contributes to educational technology literature by validating an integrated model that combines technological, pedagogical, and psychological dimensions of online teaching. It also provides practical guidance for school administrators, policymakers, and educational technology developers seeking to create sustainable digital learning environments through improved platform usability, enhanced teacher–student interaction, effective online assessment practices, and initiatives designed to reduce technology-related anxiety.

Overall, the findings reinforce the view that successful online education depends not only on technological infrastructure but also on meaningful pedagogical engagement and teachers' confidence in using digital technologies. Strengthening these dimensions is likely to improve teachers' satisfaction and support the long-term sustainability of online and blended learning in school education.

The primary objective of this study was to examine the determinants of teachers' satisfaction with online teaching among private school teachers in Kolkata.

Drawing upon the Technology Acceptance Model (TAM), Community of Inquiry (CoI) Framework, and teacher satisfaction literature, the study investigated the influence of Anticipated Ease of Use (AEU), Trust in Online Teaching (TOT), Teacher–Student Interaction (TSI), Online Assessment and Evaluation (OAE), and Anxiety of Online Resources (AOR) on Teachers' Satisfaction (TS).

The findings reveal that all six proposed hypotheses were supported. Among the predictors, Teacher–Student Interaction emerged as the strongest determinant of Teachers' Satisfaction, indicating that pedagogical and relational dimensions of online teaching are more influential than purely technological factors. This finding aligns with the Community of Inquiry framework, which emphasizes the importance of social presence and teaching presence in creating meaningful online learning experiences.

The significant positive relationship between Anticipated Ease of Use and Teachers' Satisfaction supports the foundational assumptions of the Technology Acceptance Model. Teachers who perceive online teaching platforms as easy to use are more likely to experience positive attitudes and satisfaction. This finding is consistent with previous studies conducted by Davis (1989), Venkatesh et al. (2003), and Teo (2011), which highlighted ease of use as a critical determinant of technology acceptance and user satisfaction.

The results further demonstrate that Anticipated Ease of Use significantly influences Trust in Online Teaching. This suggests that when teachers perceive educational technologies as user-friendly and reliable, they develop greater confidence in online teaching systems. Trust functions as an important psychological mechanism that reduces uncertainty and enhances teachers' willingness to engage with digital learning environments.

Trust in Online Teaching was found to positively influence Teachers' Satisfaction. Although its effect size was smaller than that of Teacher–Student Interaction, the relationship remained statistically significant. This finding supports prior research suggesting that confidence in technology reliability

and instructional effectiveness contributes positively to user experiences in online environments. Teachers who trust digital platforms are more likely to perceive online teaching as effective, dependable, and professionally rewarding.

Teacher–Student Interaction emerged as the most influential predictor of satisfaction. The strong positive effect observed in this study indicates that interaction quality is central to successful online teaching experiences. Teachers derive satisfaction not merely from using technology but from their ability to communicate, engage, mentor, and support students through technology-mediated environments. This finding reinforces the argument that educational technologies should be viewed as tools that facilitate human interaction rather than as substitutes for meaningful pedagogical relationships. The positive impact of Online Assessment and Evaluation suggests that effective digital assessment mechanisms contribute significantly to teachers' perceptions of instructional success. Teachers who perceive online assessments as fair, reliable, and manageable are more likely to express satisfaction with online teaching. The result supports earlier studies emphasizing the importance of assessment quality in determining educational effectiveness and acceptance of online learning systems.

The negative relationship between Anxiety of Online Resources and Teachers' Satisfaction confirms that technology-related stress remains a significant challenge for educators. Although the magnitude of the effect was relatively modest, it highlights the importance of addressing technological anxiety through training, technical support, and professional development initiatives. Teachers who experience fear, uncertainty, or discomfort while using online technologies are less likely to report positive teaching experiences.

The structural model explained approximately 80.1% of the variance in Teachers' Satisfaction, indicating substantial explanatory power. This suggests that the proposed framework successfully captures the major determinants influencing teachers' experiences with online teaching in the context of private schools in Kolkata.

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