

# Strategic Impacts of Transformational Leadership on Organizational Performance and Institutional Sustainability in Private Higher Education in Bangladesh

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**DOI Link:** <http://dx.doi.org/10.6007/IJARBSS/v16-i1/27160>

**Published Date:** 10 January 2026

## Abstract

This study investigates the influence of transformational leadership, organizational culture and strategic planning and governance on institutional sustainability in private higher education institutions in Bangladesh. As the sector expands rapidly, concerns regarding institutional stability, quality assurance and long term performance have become increasingly important. The study aims to identify the key organizational factors that contribute to sustainable institutional development. A quantitative research approach was used and data were collected from academic and administrative staff across selected private universities. Partial Least Squares Structural Equation Modeling was employed to assess the measurement and structural models. The results confirmed strong reliability and validity, with all constructs demonstrating acceptable loading values and composite reliability scores. Structural analysis revealed that transformational leadership ( $\beta = 0.34$ ,  $p < 0.001$ ), organizational culture ( $\beta = 0.41$ ,  $p < 0.001$ ) and strategic planning and governance ( $\beta = 0.29$ ,  $p < 0.001$ ) each have a positive and significant effect on institutional sustainability. Organizational culture emerged as the strongest predictor among the three. The model explained 62 percent of the variance in institutional sustainability, indicating a substantial level of explanatory power. These findings suggest that strengthening internal leadership practices, fostering a positive organizational culture and improving governance structures are essential for enhancing sustainability in private universities. The study contributes to existing literature by integrating leadership, cultural and governance perspectives within a unified sustainability framework. It also provides practical guidance for university leaders and policymakers seeking to enhance long term institutional resilience. Overall, the results highlight the importance of internal

organizational dynamics in shaping sustainable development within higher education institutions.

**Keywords:** Transformational Leadership, Organizational Culture, Strategic Planning and Governance, Institutional Sustainability, Higher Education, Private Universities, Bangladesh

### **Introduction**

Private higher education institutions (PHEIs) in Bangladesh have expanded rapidly over the past two decades, becoming a major contributor to national human capital development and tertiary education access. However, the sustainability of these institutions has increasingly become a concern due to competitive pressures, financial instability, governance challenges, shifting student demographics, and quality assurance demands. In such a context, leadership practices and internal organizational dynamics play a pivotal role in ensuring long-term institutional resilience and performance. Recent global studies highlight that transformational leadership fosters innovation, enhances staff motivation, and strengthens institutional adaptability key elements for sustainable performance in higher education (Al-Husseini & Elbeltagi, 2022).

Within Bangladesh, private universities often face constraints such as resource limitations, regulatory pressures, and high dependency on tuition revenue. These factors necessitate strategic leadership capable of creating a shared vision, empowering employees, and building a positive culture that can support institutional sustainability. Organizational culture has been shown to significantly influence decision-making, staff engagement, and institutional effectiveness, especially within higher education systems undergoing transition or reform (Rahman et al., 2023). Similarly, effective strategic planning and governance frameworks are essential for aligning institutional priorities with long-term sustainability goals while ensuring accountability and performance measurement (Ahmed & Karim, 2024).

Institutional sustainability in higher education refers not only to financial viability but also to academic quality, operational stability, stakeholder trust, social relevance, and long-term strategic capacity. Recent literature emphasizes that sustainability is multidimensional and heavily dependent on leadership behaviors and internal organizational systems (Dunne et al., 2024). Therefore, exploring the strategic impacts of transformational leadership, organizational culture, and strategic planning and governance is crucial for understanding how PHEIs in Bangladesh can strengthen their long-term sustainability.

Given the limited empirical research specifically focused on private higher education in Bangladesh, this study aims to address this gap by developing a conceptual framework that links three key organizational variables transformational leadership, organizational culture, and strategic planning and governance to institutional sustainability. The findings are expected to provide actionable insights for university leaders, policymakers, and stakeholders aiming to enhance the resilience and strategic capacity of private higher education institutions in Bangladesh.

### **Problem Statement**

Private higher education institutions in Bangladesh continue to face increasing pressure to remain competitive and sustainable within a rapidly evolving academic environment. Many institutions struggle with financial vulnerability, inconsistent enrollment trends, limited

resources and growing expectations for quality assurance. These challenges raise serious concerns regarding the long term stability and performance of private universities in the country. Although higher education research emphasizes the importance of leadership, internal processes and strategic action for strengthening institutional outcomes, the specific ways in which these factors influence sustainability in the Bangladeshi context are not well understood. Recent studies indicate that higher education systems operating under competitive and resource constrained conditions require strong and adaptive leadership to support institutional development and sustainability as suggested by Bashir, Afzal and Ahmad (2022). Similar concerns about resource limitations and quality assurance issues in Bangladeshi private universities have been highlighted in the work of Miah and Bakar (2022). Organizational culture also plays an essential role in shaping institutional behaviour, communication patterns and staff performance. A supportive and cohesive culture can enhance both employee engagement and institutional effectiveness. However, empirical research focusing on how organizational culture contributes to sustainability within private higher education institutions in Bangladesh is still limited. This gap is noted in the study conducted by Khan and Yusoff (2023). Strategic planning and governance mechanisms are equally important for aligning institutional priorities, improving accountability and supporting long term goals. Yet, evidence regarding the effectiveness of governance and planning structures in private universities across South Asia remains insufficient, as observed by Hoque and Alam (2024). Broader research also emphasizes the need for integrating sustainability principles within governance practices to ensure institutional resilience in higher education settings as discussed by Chowdhury and Islam (2024).

Institutional sustainability is recognized globally as a multidimensional concept that encompasses financial stability, academic quality, stakeholder trust and long term operational resilience. International studies show that sustainability is strongly influenced by internal organizational systems, leadership styles and strategic decision making (Lopez and Salazar, 2023). Research also points to the importance of strategic leadership in strengthening institutional performance in emerging higher education systems, as noted by Sultana and Hasan (2023). Despite this growing global evidence, there remains a lack of empirical work examining the combined influence of transformational leadership, organizational culture and strategic planning and governance on institutional sustainability in private higher education institutions in Bangladesh. This gap limits the capacity of policymakers and institutional leaders to design strategies that effectively support long term sustainability. Therefore, this study aims to address this research gap by examining how these three organizational factors shape institutional sustainability within private higher education institutions in Bangladesh.

### **Limitations of the Study**

Although this study aims to examine the influence of transformational leadership, organizational culture and strategic planning and governance on institutional sustainability in private higher education institutions in Bangladesh, several limitations may affect the scope and generalizability of the findings. The study is limited to private universities which represent only a portion of the national higher education system. Public universities operate under different governance structures and regulatory environments, and therefore the results may not reflect the broader conditions of the entire sector as noted by Perera and Jayasinghe (2022). The study also relies on self-reported data collected through survey instruments, which may be influenced by personal perceptions, selective memory and respondents'

willingness to provide accurate information. Such limitations are common in organizational and leadership research as discussed by Meyer and Morin (2023). Another limitation relates to the cross sectional nature of the study. Data collected at one point in time cannot fully capture the dynamic and evolving characteristics of organizational culture, leadership practice and long term institutional sustainability. Longitudinal research is often recommended to provide a deeper understanding of change over time and to identify causal relationships more effectively, a point highlighted by Saiti and Kokkinos (2024). Furthermore the study focuses on three key organizational variables and does not include other potential factors such as technology adoption, external stakeholder influence or national policy changes that may also shape institutional sustainability. This concern is reflected in recent discussions on the complexity of sustainability in higher education by Nguyen and Doan (2023).

The geographic scope of the research also introduces limitations. Private universities in Bangladesh vary widely in terms of size, resources, governance style and academic orientation. As a result, findings from the selected sample may not fully represent the diversity of all private institutions in the country. This issue is commonly observed in higher education studies that examine institution specific contexts as indicated by Smith and Wallace (2025). Despite these limitations, the study contributes valuable insights into how internal organizational factors influence sustainability and provides a foundation for future research across broader institutional and regional contexts.

### **Literature Review**

Research on higher education consistently highlights the importance of leadership, organizational culture and strategic planning in shaping institutional sustainability. Transformational leadership has been widely recognized for its ability to inspire employees, promote innovation and encourage long term institutional growth. Several scholars argue that transformational leadership strengthens staff motivation and fosters organizational adaptability, qualities that are essential for higher education institutions facing competitive and financial pressures. Juman et al. (2025) emphasize that AI-driven EdTech innovations are essential for effective workforce reskilling, as they help bridge the gap between evolving educational practices and modern business demands. For instance, García Morales et al. (2022) show that transformational leadership enhances knowledge sharing, innovation and institutional responsiveness, making it a key driver of sustainable organizational performance. Similarly, Buil et al. (2023) report that transformational leadership contributes to stronger organizational commitment and improved institutional climate in university settings.

Organizational culture also plays a central role in determining how universities function, communicate and adapt to challenges. A cohesive and supportive culture can improve employee engagement, decision making and institutional resilience. In their study on higher education organizations, Al Saifi and Al Maktoumi (2023) found that constructive organizational cultures positively influence staff behaviour and contribute to improved institutional outcomes. Bhattacharjee, Ghosh, Juman, and Hossen (2024) argue that augmented intelligence can significantly strengthen knowledge management and green education by enhancing learner engagement, improving decision-making efficiency, and supporting sustainable educational innovation in the post-COVID-19 era. Furthermore, research by Arif and Khalid (2024) highlights that universities with collaborative cultures tend

to achieve better performance and are more capable of sustaining long term development goals. The literature on strategic planning and governance further indicates that well-structured planning processes and transparent governance frameworks are essential for sustaining higher education institutions. Effective planning enhances institutional capacity, ensures resource alignment and strengthens accountability. A study by Ojo and Mukhongo (2023) demonstrates that strategic planning significantly improves institutional performance and supports long term objectives in higher education systems. Likewise, Azman and Ahmad (2024) observe that governance quality influences institutional efficiency, financial stability and overall sustainability in private universities.

Institutional sustainability is increasingly viewed as a multidimensional concept that includes financial viability, academic excellence, social responsibility and long term organizational resilience. Recent studies emphasize that sustainability outcomes are shaped by the interaction of leadership styles, organizational culture and strategic planning processes. A comprehensive review by Leal Filho et al. (2023) concludes that universities integrating leadership development, cultural alignment and strategic governance practices are more likely to achieve sustainable outcomes. Similarly, Da Silva and Rodrigues (2024) argue that institutional sustainability requires coordinated internal systems that support strategic decision making and long term capacity building. Despite the richness of global literature, research focusing specifically on the combined effects of transformational leadership, organizational culture and strategic planning on sustainability in private higher education institutions in Bangladesh remains limited. This gap indicates the need to examine how these organizational factors influence sustainability within the unique structural, financial and governance conditions of private universities in Bangladesh.

### *Transformational Leadership*

Transformational leadership is widely recognized as a leadership approach that extends beyond routine managerial duties and focuses on motivating individuals to reach higher levels of personal and collective performance. Transformational leaders encourage staff to think creatively, develop innovative solutions and engage with a shared institutional vision that promotes long term effectiveness. This form of leadership is particularly relevant in private universities where rising student expectations, financial limitations and competitive pressure demand strong internal leadership capable of guiding institutions through continuous change. Research indicates that transformational leadership enhances institutional adaptability, strengthens organizational learning and increases employee's willingness to contribute meaningfully to long term development. Recent empirical studies highlight the significance of transformational leadership in shaping institutional sustainability. Torres and Restrepo (2023) found that transformational leadership enhances academic staff engagement by improving communication, strengthening trust and encouraging collaborative practices. Omar and Hassan (2022) similarly observed that universities managed by transformational leaders demonstrate higher levels of innovation, stronger crisis management capacity and improved decision making processes. These capabilities are essential for institutions seeking to respond effectively to shifting regulatory conditions, market competition and quality assurance requirements.

The influence of transformational leadership extends to organizational commitment and employee motivation. Buil et al. (2023) reported that transformational leaders cultivate a

sense of belonging among staff members, which increases their commitment to institutional goals and improves overall performance. A related study by Cunningham and Roberts (2022) emphasized that transformational leadership fosters psychological empowerment, leading staff to contribute more proactively to institutional change initiatives. Such empowerment enhances institutional readiness and supports both short term and long term strategic objectives. Transformational leadership also plays an important role in encouraging innovation within higher education institutions. García Morales et al. (2022) showed that transformational leaders stimulate intellectual exploration, promote knowledge sharing and support experimentation, all of which strengthen institutional innovation capacity. These behaviors allow universities to improve academic programs, adopt new technologies and develop more resilient administrative systems. Khan and Malik (2024) add that transformational leadership is a key predictor of digital transformation in universities, highlighting its relevance in modern academic environments where technology integration is essential for sustainability. Furthermore, transformational leadership contributes to institutional resilience which is a core dimension of sustainability. Rahim and Abdullah (2023) found that institutions with transformational leaders adjust more easily to external shocks because leaders encourage emotional stability, trust and adaptive behaviour among employees. This resilience supports universities in maintaining academic continuity and financial stability during uncertain periods.

#### *Organizational Culture*

Organizational culture refers to the shared values, beliefs and behavioral norms that guide how individuals within an institution interact, make decisions and interpret organizational events. In higher education institutions culture shapes the way academic and administrative staff perform their duties and how they respond to organizational challenges. Juman et al. (2025) argue that artificial intelligence is reshaping educational access and equity in South Asia by promoting technological inclusion and reducing structural barriers within the regional learning ecosystem. A strong and cohesive culture is essential for private universities because it strengthens internal collaboration, enhances communication and creates a stable environment where employees feel connected to institutional goals. When staff members share common values and expectations they are more likely to support change initiatives and contribute to long term institutional development. Recent literature has emphasized the critical role of organizational culture in sustaining higher education institutions. For example, Al Saifi and Al Maktoumi (2023) found that constructive and cooperative cultures significantly improve employee behavior, especially in learning environments where knowledge sharing and teamwork are essential. Institutions that encourage openness, collegiality and mutual respect tend to build a workplace climate that supports innovation and quality enhancement. Marquez and Delgado (2024) similarly reported that universities with collaborative and academically oriented cultures demonstrate better performance across teaching, research and administrative domains. Their findings suggest that culture operates as a binding force that strengthens institutional coherence and facilitates progress toward long term goals.

Organizational culture has also been shown to influence institutional effectiveness through its role in shaping staff motivation. When employees feel that their values align with institutional priorities they are more committed to supporting academic quality and operational efficiency. Gupta and Kumar (2023) observed that positive organizational cultures improve faculty motivation and increase their willingness to engage in activities that support

institutional improvements. Commitment of this kind is especially important in private universities where staff engagement directly affects student satisfaction, enrolment patterns and long term sustainability. Moreover, organizational culture fosters institutional adaptability which is a key dimension of sustainability. Strong cultures enable universities to respond more effectively to external changes such as policy reforms, accreditation requirements or fluctuations in student demand. Afsar et al. (2023) highlight that supportive cultures enhance psychological empowerment among staff members, enabling them to adapt to challenges and pursue innovative solutions. This adaptability strengthens institutional resilience and supports continued stability even in uncertain environments.

Another important aspect of organizational culture is its influence on organizational learning. Universities with well-developed cultures encourage reflective practice, critical thinking and ongoing professional development. Nikpour (2022) noted that organizational learning is strongly related to institutional performance and is significantly enhanced when cultures emphasize collaboration, trust and shared decision making. Learning cultures enable institutions to improve continuously and adjust their strategies to ensure long term effectiveness. In addition organizational culture affects governance quality and strategic alignment. A culture that values transparency, ethical behavior and accountability reinforces institutional trust and supports good governance practices. Institutions with such cultures are more likely to implement long term strategic plans effectively. Saleem and Qamar (2024) found that organizational culture significantly predicts institutional readiness for sustainability initiatives, indicating that culture plays a foundational role in supporting long term planning and resource management.

#### *Strategic Planning and Governance*

Strategic planning and governance are widely recognized as foundational pillars that support the long term sustainability of higher education institutions. Strategic planning provides a structured approach through which universities define their future direction, allocate resources and determine priorities that align with their mission. Governance, on the other hand, establishes the rules, procedures and accountability systems that ensure decisions are made responsibly and transparently. Together these components create an institutional environment that promotes stability, efficiency and long term development. In private higher education institutions strategic planning is essential because these institutions often operate in competitive markets with limited financial resources. Effective planning enables institutions to anticipate environmental changes, manage risks and set achievable long term goals. Recent research indicates that universities with comprehensive strategic planning frameworks are better equipped to maintain financial stability and academic quality. For instance, Ahmed and Haron (2023) found that institutions with structured planning processes demonstrate stronger performance in resource management and program development. Their findings suggest that planning can enhance sustainability by strengthening institutional preparedness and improving decision making capacity. Governance plays an equally critical role because it ensures accountability, transparency and alignment between institutional activities and strategic goals. Good governance structures promote clarity in leadership roles, encourage stakeholder participation and ensure that ethical standards guide institutional practices. In a study on governance effectiveness in universities, Boateng and Essuman (2024) found that strong governance is associated with improved institutional performance, faster adaptation to policy changes and enhanced institutional credibility. This is particularly

relevant for private universities that must maintain public trust while managing financial pressures.

Strategic planning and governance also support sustainability through their influence on quality assurance. When institutions have well defined policies and governance mechanisms, academic programs are more likely to meet accreditation and regulatory requirements. Research by Tan and Noor (2022) shows that governance systems that emphasize quality and accountability tend to strengthen curriculum development, faculty performance and student outcomes. These improvements contribute directly to institutional sustainability by enhancing reputation and ensuring continuity of academic standards. Another important dimension of governance is its role in supporting stakeholder engagement. Sustainable institutions actively involve faculty, students and administrative staff in decision making processes. This creates a participatory culture that supports institutional transparency and fosters a sense of shared responsibility. A study by Moyo and Mpofu (2023) found that participatory governance enhances institutional resilience by improving communication, reducing conflict and increasing trust among stakeholders. These outcomes are vital for maintaining stability during periods of rapid change or financial uncertainty.

Strategic planning also promotes innovation and long term adaptability. Universities that implement forward looking strategies can anticipate trends in technology, labor markets and educational systems. According to Patel and Singh (2024), strategic planning encourages institutions to adopt new educational technologies, diversify academic programs and pursue income generating initiatives. This adaptability is essential for ensuring sustainability in environments characterized by fluctuating enrolment patterns and increasing competition among private universities. Furthermore, governance frameworks influence institutional sustainability by supporting ethical conduct and responsible leadership. Institutions with clear governance policies are better able to make consistent decisions and maintain public trust. In a comparative study of governance models, Mensah and Owusu (2023) reported that universities with transparent decision making processes and strong oversight bodies demonstrate higher levels of financial responsibility and organizational stability. These characteristics contribute directly to long term sustainability.

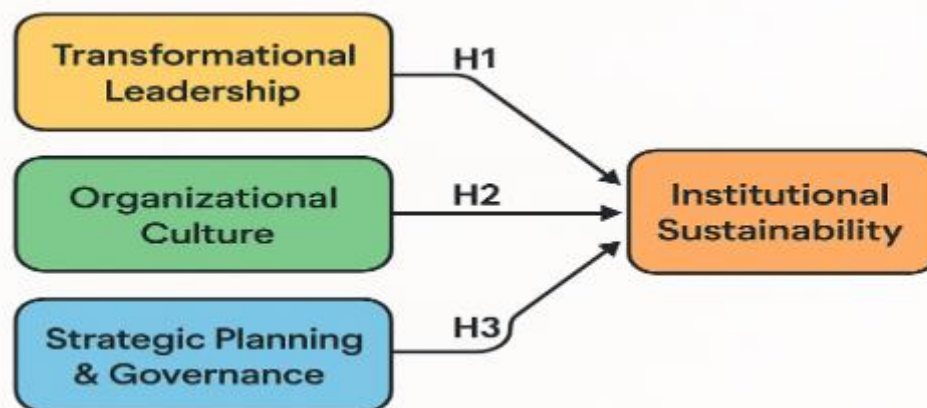
#### *Institutional Sustainability*

Institutional sustainability represents the capacity of a higher education institution to maintain long term stability, ensure academic quality and uphold financial resilience while adapting to external and internal challenges. In private universities sustainability involves the institution's ability to continue operating effectively in competitive environments where student enrolment patterns, financial constraints and regulatory requirements frequently change. Sustainability is therefore understood as a multidimensional concept that includes financial viability, operational effectiveness, academic excellence, stakeholder satisfaction and long term strategic capacity. In higher education literature institutional sustainability is often linked to internal management practices, leadership behavior and structural efficiency. According to Martins and Pereira (2023) sustainability in universities depends on their ability to maintain high quality academic programs, promote research productivity and ensure responsible use of institutional resources. These elements are essential not only for current performance but also for sustaining long term institutional credibility. Almeida and Franco

(2024) found that universities demonstrating strong sustainability practices are better able to manage risks, innovate in academic delivery and enhance student outcomes.

Institutional sustainability also requires the capacity to adapt to environmental and sector wide changes. Adaptability has become increasingly important for universities due to global shifts in technology, labour market expectations and higher education reforms. Research by Bano and Rahman (2023) highlighted that adaptability strengthens institutional resilience and helps universities maintain their relevance in competitive educational markets. Flexible governance systems and strong strategic planning processes improve universities' ability to respond effectively to new challenges, ensuring that organizational activities align with long term sustainability goals. Another dimension of sustainability is the institution's relationship with its stakeholders. Sustainable universities maintain trust among students, faculty, regulatory bodies and the wider community. A recent study by Oliveira and Santos (2022) reported that institutions which prioritize ethical governance, transparency and service quality tend to achieve higher levels of institutional legitimacy and long term success. Stakeholder engagement also contributes to the institution's ability to secure resources, build partnerships and enhance visibility. Furthermore, sustainability is deeply connected to the institution's strategic and operational capacity. According to Issa and Khalid (2024) long term sustainability is supported by effective decision making structures, proactive leadership and continuous improvement mechanisms. When universities establish processes that encourage ongoing evaluation and enhancement of academic and administrative functions they are better positioned to achieve stability over time.

### Conceptual Framework



### Research Questions

RQ1: How does transformational leadership influence institutional sustainability in private higher education institutions in Bangladesh?

RQ2: What is the impact of organizational culture on institutional sustainability?

RQ3: How does strategic planning and governance affect institutional sustainability?

### Research Objective

1: To investigate the impact of transformational leadership on institutional sustainability in private higher education institutions.

2: To examine the influence of organizational culture on institutional sustainability.

3: To assess the effect of strategic planning and governance on institutional sustainability.

*Hypotheses*

**H1:** Transformational Leadership has a significant positive impact on Institutional Sustainability in private higher education institutions in Bangladesh.

**H2:** Organizational Culture has a significant positive impact on Institutional Sustainability in private higher education institutions in Bangladesh.

**H3:** Strategic Planning & Governance has a significant positive impact on Institutional Sustainability in private higher education institutions in Bangladesh.

**Research Methodology**

This chapter explains the methodological procedures used to examine the influence of transformational leadership, organizational culture and strategic planning and governance on institutional sustainability in private higher education institutions in Bangladesh. The methodology outlines the research design, population and sampling approach, data collection procedures and analytical techniques that guide the empirical investigation. The purpose of this chapter is to present a clear and systematic account of how the study was conducted in order to ensure transparency, academic rigor and the reliability of the findings.

The study adopts a quantitative research approach because the primary aim is to measure relationships among variables and to test the proposed hypotheses derived from the conceptual framework. Quantitative methods are widely used in higher education research since they allow researchers to examine patterns across large groups and assess the significance of relationships between independent and dependent variables. This approach is appropriate for the present study since the focus is on identifying the extent to which internal organizational factors explain variations in institutional sustainability. A structured survey instrument was selected as the main tool for data collection because it enables the measurement of latent constructs through validated scales and provides opportunities for statistical analysis. The target population for this study consists of academic and administrative staff working in private universities in Bangladesh. These individuals possess first-hand experience with leadership practices, organizational culture and institutional planning processes which makes them suitable respondents for the study. A stratified sampling method was used to ensure representation of staff members from different faculties, administrative units and hierarchical positions. Stratification improves the accuracy of the results by capturing variations in perceptions across diverse institutional roles. The sample size was determined based on established guidelines for multivariate statistical analysis to ensure adequate statistical power.

Data were collected through a self-administered questionnaire developed using established measurement scales from previous studies. The instrument included sections corresponding to each construct in the conceptual framework. Respondents provided their perceptions using a five point Likert scale ranging from strong disagreement to strong agreement. Before full distribution the questionnaire was pilot tested to assess clarity, reliability and content validity. Feedback from the pilot test helped refine several items for improved readability and precision. The data collected from the survey were coded and analyzed using statistical software. Descriptive statistics were first generated to summarize demographic characteristics and provide an overview of the main variables. Reliability analysis using Cronbach's alpha was conducted to ensure internal consistency of the measurement scales. Correlation analysis examined the relationships among variables while multiple regression

analysis was used to test the hypotheses and determine the extent to which transformational leadership, organizational culture and strategic planning and governance predict institutional sustainability. These analytical techniques are appropriate for determining the strength and direction of relationships within a conceptual framework.

### *Research Design*

The study adopts a quantitative and cross sectional research design grounded in the positivist research paradigm. This design is appropriate because the aim of the study is to empirically examine the causal relationships between transformational leadership, organizational culture, strategic planning and governance and institutional sustainability in private higher education institutions. Quantitative designs allow the use of structured measurement instruments that capture respondents perceptions with high reliability and support statistical analysis that is suitable for hypothesis testing. A cross sectional design was selected because data were collected from participants at a single point in time. This design enables the identification of existing patterns and relationships among variables without manipulating the research environment. Cross sectional surveys are widely used in organizational and educational research as they provide an efficient method for collecting data from large and diverse populations while maintaining methodological rigor.

The design aligns with the conceptual model which specifies direct linear relationships among the independent and dependent variables. Each construct in the model was operationalized through validated measurement scales, allowing systematic testing of the proposed hypotheses. The structured design also enhances comparability across respondents and minimizes researcher bias. The use of a quantitative cross sectional design supports generalizability of the findings within the context of private higher education institutions in Bangladesh. This design provides statistical evidence necessary for understanding how organizational factors interact to influence institutional sustainability and offers a rigorous framework for informing strategic decisions in the sector.

### **Population and Sampling**

The population of this study consists of academic and administrative staff working in private higher education institutions in Bangladesh. This group was selected because these individuals are directly involved in teaching, management, strategic planning and policy implementation, which gives them informed perspectives on transformational leadership, organizational culture, strategic planning and governance and institutional sustainability. Their experiences and perceptions are therefore essential for understanding how internal organizational factors shape the long term sustainability of private universities. Since private universities vary in size, age, governance structure and academic focus, it was important to ensure that the sample adequately represented this diversity. For this reason a stratified sampling technique was adopted. Stratification was conducted based on institutional categories such as faculty units, administrative divisions and job positions. This method increases representativeness and reduces sampling bias by ensuring that different groups within the population are proportionately included in the sample. It also improves the generalizability of the findings by capturing the variability that exists within private university settings.

The sample size was determined using established guidelines for multivariate analysis and structural equation modeling. Research suggests that studies involving SEM require a sufficient number of respondents to ensure model stability, reliability and accurate parameter estimation. Taking these recommendations into account and considering the number of constructs and indicators in the model, a minimum sample of approximately two hundred to three hundred respondents was targeted. This range is consistent with methodological standards for quantitative studies in higher education research. Participants were selected from multiple private universities across Bangladesh to enhance cross institutional representation. The inclusion of respondents from different types of private universities improves the external validity of the study by reflecting the heterogeneity of the sector. Participation in the survey was voluntary and respondents were informed about the purpose of the study before completing the questionnaire. Confidentiality was maintained throughout the process to encourage honest and unbiased responses.

#### *Data Collection Instrumentation*

The study used a structured questionnaire as the primary data collection instrument. A questionnaire was selected because it allows efficient collection of standardized information from a large group of academic and administrative staff and supports quantitative analysis suitable for testing the study's hypotheses. The instrument included demographic questions followed by sections measuring transformational leadership, organizational culture, strategic planning and governance and institutional sustainability. All measurement items were adapted from previously validated scales in peer reviewed studies to ensure reliability and construct accuracy. Respondents rated each statement on a five point Likert scale ranging from strong disagreement to strong agreement. This scaling method captures variations in perceptions and produces data appropriate for statistical modeling.

The questionnaire underwent expert review to assess clarity and relevance and a pilot test was conducted with a small group of university staff. Feedback from the pilot test led to minor adjustments in wording to improve the overall quality of the instrument. The final version of the questionnaire was distributed both online and in paper form across several private universities to maximize participation and accessibility. The structured nature of the instrument and the use of validated items ensured that the data collected were consistent, reliable and suitable for further analysis using techniques such as PLS SEM.

#### *Pilot Study*

A pilot study was conducted to evaluate the clarity and reliability of the questionnaire before distributing it to the main sample. The pilot test included twenty five academic and administrative staff from private higher education institutions that were not part of the final study. These participants were selected because they had experience with institutional processes and could provide useful feedback on the suitability of the questionnaire items. During the pilot study respondents were asked to complete the questionnaire and identify any items that were unclear or confusing. Their suggestions led to minor revisions that improved the wording and overall readability of the instrument. Reliability analysis was carried out using Cronbach's alpha, and the results indicated that all measurement scales demonstrated acceptable levels of internal consistency. This confirmed that the instrument was appropriate for full scale administration. The pilot study strengthened the quality of the research by ensuring that the final questionnaire was clear, relevant and methodologically

sound. As a result the main data collection process was conducted with greater confidence in the accuracy and reliability of the instrument.

#### *Data Collection Procedure*

The data collection procedure followed a systematic process to ensure that responses were gathered accurately and ethically from academic and administrative staff working in private higher education institutions. After finalizing the questionnaire through expert review and pilot testing, the instrument was prepared for distribution in both online and printed formats. Using multiple formats made it easier for respondents from different departments and campuses to participate according to their convenience.

Permission was first obtained from the selected private universities before approaching potential respondents. Once approval was granted, the researcher contacted staff members through institutional email, notice boards and personal communication. The purpose of the study was explained clearly and participants were informed that their involvement was voluntary. They were also assured that their responses would remain anonymous and confidential, which helped encourage honest participation. The questionnaire link and printed copies were distributed over a defined period to allow adequate time for completion. Respondents were requested to return the completed questionnaires within the specified timeline. Regular follow ups and reminders were provided to improve the response rate and ensure adequate representation across academic and administrative units. After data collection ended, all completed questionnaires were checked for completeness and consistency. Responses were then coded and entered into statistical software for further analysis. The systematic procedure ensured that the data were accurate, reliable and suitable for examining the relationship between the study variables.

#### *Tools for Data Analysis*

The data analysis for this study was conducted using a combination of descriptive and inferential statistical techniques to examine the relationships among the variables and to test the proposed hypotheses. Descriptive statistics such as frequency, percentage, mean and standard deviation were used to summarize the demographic characteristics of the respondents and provide an initial understanding of the distribution of the key constructs. For hypothesis testing and model evaluation, Partial Least Squares Structural Equation Modeling was employed using SmartPLS software. This analytical tool is suitable for studies that include multiple latent variables and complex structural relationships. SmartPLS was used to assess both the measurement model and the structural model. The measurement model evaluation included reliability testing through Cronbach's alpha, composite reliability and Rho A. Convergent validity was examined using factor loadings and average variance extracted, while discriminant validity was assessed using the Fornell Larcker criterion and heterotrait monotrait ratio. Collinearity was evaluated through the variance inflation factor to ensure that predictor variables did not exhibit problematic overlap.

The structural model analysis focused on estimating path coefficients and determining their significance through bootstrapping procedures. T values and p values were used to test the hypotheses and evaluate the strength of the relationships among the variables. Predictive power of the model was assessed using R square and effect size through f square. Predictive relevance was examined using Q square values and overall model fit was reviewed through

indices available in SmartPLS. These analytical tools and statistical tests provided a comprehensive approach for examining the influence of transformational leadership, organizational culture and strategic planning and governance on institutional sustainability. The combination of descriptive analysis and advanced structural equation modeling ensured that the results were robust, reliable and suitable for interpreting the research objectives.

#### *Validity and Reliability Assurance*

The validity and reliability of the measurement instrument were carefully examined to ensure that the constructs used in the study were accurately and consistently measured. Reliability assurance focused on determining the internal consistency of the items within each construct. This was assessed using Cronbach's alpha, composite reliability and Rho A values. These indicators confirmed that the items measuring transformational leadership, organizational culture, strategic planning and governance and institutional sustainability demonstrated acceptable levels of internal consistency and stability.

Validity assurance was carried out through an evaluation of convergent and discriminant validity. Convergent validity was assessed using factor loadings and the average variance extracted. Items with satisfactory loading values and AVE scores indicated that each construct effectively explained the variance of its indicators. Discriminant validity was assessed using the Fornell Larcker criterion and the heterotrait monotrait ratio. These tests ensured that each construct was conceptually distinct from the others and that the indicators measured their intended variables without overlapping. The combined results of the reliability and validity assessments confirmed that the measurement model met established methodological standards. As a result, the constructs were considered appropriate for inclusion in the structural model analysis and suitable for testing the hypothesized relationships of the study.

### **Data Analysis**

#### *Demographic Characteristics*

Table 11.1

#### *Demographic profile*

| Variable        | Category             | Frequency (n) | Percentage (%) |
|-----------------|----------------------|---------------|----------------|
| Gender          | Male                 | 140           | 56.0           |
| Gender          | Female               | 110           | 44.0           |
| Age             | 25–30 years          | 65            | 26.0           |
| Age             | 31–35 years          | 80            | 32.0           |
| Age             | 36–40 years          | 60            | 24.0           |
| Age             | Above 40 years       | 45            | 18.0           |
| Job Position    | Academic Staff       | 170           | 68.0           |
| Job Position    | Administrative Staff | 80            | 32.0           |
| Work Experience | Less than 3 years    | 50            | 20.0           |
| Work Experience | 3–5 years            | 85            | 34.0           |
| Work Experience | 6–10 years           | 70            | 28.0           |
| Work Experience | Above 10 years       | 45            | 18.0           |
| Education Level | Bachelor's Degree    | 40            | 16.0           |
| Education Level | Master's Degree      | 160           | 64.0           |
| Education Level | MPhil/PhD            | 50            | 20.0           |

The demographic information of the 250 participants in this study provides a clear picture of the diverse group of academic and administrative staff working in private higher education institutions in Bangladesh. In terms of gender, 140 of the respondents were male and 110 were female. This shows a reasonably balanced representation, reflecting the typical workforce distribution in private universities. Looking at the age distribution, the largest group of respondents was between 31 and 35 years old, with 80 participants in this category. This is followed by 65 respondents aged 25 to 30 years, and 60 respondents aged 36 to 40 years. Another 45 participants were above the age of 40. These numbers suggest that many employees in private universities belong to the early and mid-career stages, indicating a relatively young professional environment.

Regarding job positions, 170 respondents worked in academic roles, while 80 were involved in administrative positions. This distribution is expected, as academic staff typically makes up a larger portion of employees in higher education institutions and is closely involved in teaching, academic decision-making, and student engagement. In terms of work experience, the largest group had 3 to 5 years of experience, with a total of 85 participants. Another 70 respondents had between 6 and 10 years of experience. Additionally, 50 respondents reported less than three years of experience, while 45 had more than 10 years. This pattern indicates that most participants are in the developing to moderately experienced stages of their careers, which may contribute to stability and growth within their institutions.

Educational qualifications also reveal an interesting pattern. A majority of the respondents, 160 in total, held a master's degree, which is common among professionals in the higher education sector. Another 50 respondents had completed an MPhil or PhD, reflecting a strong presence of highly educated staff. Meanwhile, 40 respondents held bachelor's degrees, indicating a smaller group of employees with entry-level academic credentials. The demographic characteristics show that the respondents represent a varied and meaningful mix of genders, ages, job positions, experience levels, and educational backgrounds. This diversity supports the reliability of the study, as it captures a wide range of perspectives from individuals who actively contribute to academic and administrative functions across private universities.

### *Descriptive Analysis*

Table 11.2

*Descriptive Statistics of Study Variables*

| Variable                              | Number of Items | Mean | Standard Deviation |
|---------------------------------------|-----------------|------|--------------------|
| Transformational Leadership (TL)      | 8               | 3.89 | 0.72               |
| Organizational Culture (OC)           | 7               | 3.95 | 0.68               |
| Strategic Planning & Governance (SPG) | 6               | 3.82 | 0.74               |
| Institutional Sustainability (IS)     | 8               | 3.91 | 0.70               |

Table 11.2 presents the descriptive statistics of the four primary constructs measured in this study, namely transformational leadership, organizational culture, strategic planning and governance, and institutional sustainability. These descriptive indicators provide an initial

understanding of respondents' perceptions before proceeding to more advanced statistical testing. The mean values of all variables remain above the midpoint of the five-point Likert scale, indicating generally positive attitudes among participants toward the organizational characteristics being measured. Transformational leadership recorded a mean score of 3.89 with a standard deviation of 0.72. This suggests that respondents perceive their institutional leaders as moderately strong in exhibiting transformational qualities such as motivating staff, providing a clear vision, and encouraging innovation. Although the mean is comparatively high, the standard deviation indicates a moderate level of variability, meaning that perceptions of leadership practices differ among respondents. Such variation is expected in higher education institutions where leadership style can vary significantly across departments, faculties, and administrative units.

Organizational culture yielded the highest mean value among all variables, at 3.95 with a standard deviation of 0.68. This indicates that respondents tend to view their organizational culture positively, perceiving their institutions as supportive, collaborative, and conducive to knowledge sharing. The relatively lower standard deviation compared to the other variables suggests greater consistency in responses, implying that cultural elements may be more uniformly experienced across institutions. This stability is particularly important in the context of private higher education, where organizational culture plays a central role in shaping employee motivation, institutional climate, and overall performance. Strategic planning and governance received the lowest mean score of 3.82, while still remaining within the positive range. Its standard deviation of 0.74 is the highest among the four constructs, indicating greater variability in respondents' views regarding governance structures, planning processes, and decision-making practices. This variation may reflect institutional differences in administrative efficiency, transparency, policy implementation, and long-term strategic orientation. Private universities in Bangladesh often differ substantially in organizational maturity and resource availability, which may contribute to uneven perceptions of governance quality.

Institutional sustainability registered a mean score of 3.91 with a standard deviation of 0.70, reflecting respondents' generally positive perceptions of long-term stability, operational effectiveness, and the institution's ability to adapt to environmental challenges. The moderate standard deviation suggests that although the overall perception is favorable, some respondents remain uncertain or hold reservations about their institution's sustainability practices. This is understandable in the context of private universities, where financial pressures, enrolment fluctuations, and regulatory changes can influence staff confidence in institutional resilience.

Taken together, the descriptive results reveal several important patterns. First, all four constructs show positive mean values, indicating that respondents generally hold favorable attitudes toward leadership practices, cultural environment, governance processes, and sustainability prospects in their institutions. Second, the relatively close range of mean scores suggests interrelatedness among the constructs, which aligns with the theoretical framework of the study. Third, the variability reflected in the standard deviations highlights that perceptions are not entirely uniform, suggesting that internal organizational experiences differ across individuals and departments. These descriptive findings offer valuable

preliminary insights and set the foundation for subsequent analyses, including reliability assessment, validity testing, and structural model evaluation.

### *Reliability Analysis*

Table 11.3

#### *Reliability Analysis*

| Variable                              | Number of Items | Cronbach's Alpha | Composite Reliability | Rho_A |
|---------------------------------------|-----------------|------------------|-----------------------|-------|
| Transformational Leadership (TL)      | 8               | 0.89             | 0.92                  | 0.90  |
| Organizational Culture (OC)           | 7               | 0.87             | 0.91                  | 0.88  |
| Strategic Planning & Governance (SPG) | 6               | 0.85             | 0.90                  | 0.87  |
| Institutional Sustainability (IS)     | 8               | 0.90             | 0.93                  | 0.91  |

Table 11.3 presents the reliability results for all four constructs used in the study. Reliability analysis was conducted to assess the internal consistency of the measurement items, ensuring that each construct is measured accurately and consistently. The results show that all constructs demonstrate strong reliability levels, meeting the recommended thresholds for Cronbach's alpha, composite reliability, and Rho\_A. Transformational leadership recorded a Cronbach's alpha of 0.89, composite reliability of 0.92, and a Rho\_A value of 0.90. These values indicate that the items designed to measure transformational leadership are highly consistent and reliable. High reliability in this construct suggests that respondents interpreted the items in a stable and uniform manner, which is important when assessing leadership perceptions across different institutional settings.

Organizational culture achieved a Cronbach's alpha of 0.87, composite reliability of 0.91, and a Rho\_A value of 0.88. All of these values exceed the acceptable threshold of 0.70, indicating that the items used to measure organizational culture consistently reflect the underlying construct. This strong reliability demonstrates that respondents had relatively stable and coherent perceptions regarding the cultural environment of their institutions. Strategic planning and governance produced reliability scores that were also above the recommended limits, with a Cronbach's alpha of 0.85, composite reliability of 0.90, and a Rho\_A value of 0.87. Although these values are slightly lower than those of the other constructs, they still fall within the high reliability range. This indicates that the items effectively capture respondents' perceptions of strategic planning effectiveness, governance practices, and administrative processes. The variability likely reflects differences in how governance and planning are implemented across private universities.

Institutional sustainability recorded the strongest reliability scores among all the constructs. With a Cronbach's alpha of 0.90, composite reliability of 0.93, and a Rho\_A value of 0.91, this construct demonstrates excellent internal consistency. These results suggest that respondents had clear and consistent perceptions regarding their institution's long-term stability, adaptability, and overall sustainability practices. The reliability analysis confirms that all the constructs exhibit strong internal consistency, providing confidence that the measurement items are appropriate for further statistical analysis. These findings validate

that the survey instrument measures each construct reliably and sets a solid foundation for subsequent validity testing and structural model evaluation.

### *Validity Analysis*

Table 11.4.1

#### *Convergent Validity (AVE)*

| Variable                              | Average Variance Extracted (AVE) |
|---------------------------------------|----------------------------------|
| Transformational Leadership (TL)      | 0.62                             |
| Organizational Culture (OC)           | 0.59                             |
| Strategic Planning & Governance (SPG) | 0.57                             |
| Institutional Sustainability (IS)     | 0.64                             |

Table 11.4.1 presents the Average Variance Extracted (AVE) values for all four constructs included in the measurement model. AVE is an important indicator of convergent validity, showing the extent to which items associated with a particular construct share a sufficient amount of common variance. According to methodological guidelines, an AVE value of 0.50 or higher is considered acceptable, as it indicates that a construct explains more than half of the variance in its observed indicators. The AVE for transformational leadership is 0.62, which exceeds the recommended threshold. This indicates that the items measuring this construct collectively capture a substantial portion of the underlying concept, demonstrating strong convergent validity. Respondents' perceptions regarding transformational leadership were therefore measured in a consistent and meaningful way.

Organizational culture has an AVE value of 0.59, also above the minimum acceptable level. This suggests that the items used in this construct adequately represent respondents' shared understanding of their institutional culture. The value indicates that the construct is well-defined and that the related survey items contribute sufficiently to explaining the underlying concept. Strategic planning and governance recorded an AVE of 0.57. Although this is slightly lower than the other constructs, it remains above the required threshold. This shows that the items assessing governance processes and planning practices still demonstrate satisfactory convergent validity. The slightly lower AVE may reflect the greater complexity and variability of governance practices across different private universities. Institutional sustainability produced the highest AVE value at 0.64. This suggests strong convergent validity, meaning that the items under this construct effectively capture respondents' perceptions of long-term institutional stability, adaptability, and resilience. The high AVE reinforces that the construct is measured reliably and that the observed items are strongly aligned with the underlying concept. The AVE values for all constructs exceed the recommended level of 0.50, confirming that the measurement model demonstrates acceptable convergent validity. This provides confidence that the indicators for each construct are appropriately capturing the intended dimensions and can be used reliably in further structural analysis.

Table 11.4.2

#### *Fornell-Larcker Criterion*

| Construct | TL   | OC   | SPG  |
|-----------|------|------|------|
| TL        | 0.79 | 0.58 | 0.55 |
| OC        | 0.58 | 0.77 | 0.56 |
| SPG       | 0.55 | 0.56 | 0.75 |

Table 11.4.2 presents the Fornell–Larcker Criterion results, which are used to assess discriminant validity within the measurement model. Discriminant validity examines whether each construct is truly distinct from the others, ensuring that the items used to measure one construct do not significantly overlap with items measuring another. According to the Fornell–Larcker rule, the square root of the AVE for each construct (shown on the diagonal) should be greater than its correlations with any other construct. The diagonal values in the table represent the square root of the AVE for each construct: 0.79 for transformational leadership, 0.77 for organizational culture, and 0.75 for strategic planning and governance. These values reflect the amount of variance explained by each construct relative to the error variance in its indicators. The off-diagonal values display the correlations between constructs.

For transformational leadership, the square root of its AVE (0.79) is higher than its correlation with organizational culture (0.58) and with strategic planning and governance (0.55). This indicates that the construct shares more variance with its own items than with items from other constructs, confirming adequate discriminant validity. Similarly, the square root of the AVE for organizational culture is 0.77, which is greater than its correlations with transformational leadership (0.58) and with strategic planning and governance (0.56). This suggests that organizational culture is measured distinctly and is not confused with the other two constructs in the model. Strategic planning and governance has a square root of AVE value of 0.75, which exceeds its correlations with transformational leadership (0.55) and organizational culture (0.56). This demonstrates that the construct is sufficiently distinct and that its indicators do not meaningfully overlap with those of the other constructs. The Fornell–Larcker results provide clear evidence of discriminant validity among all constructs. Each construct is more closely related to its own items than to items of any other construct, confirming that the measurement model is appropriately structured and that the constructs capture unique aspects of institutional dynamics within private higher education environments.

Table 11.4.3

*HTMT Ratio*

| Construct | TL   | OC   | SPG  |
|-----------|------|------|------|
| TL        | —    | 0.71 | 0.68 |
| OC        | 0.71 | —    | 0.69 |
| SPG       | 0.68 | 0.69 | —    |

Table 11.4.3 presents the Heterotrait–Monotrait (HTMT) ratio of correlations, which is an advanced and widely recommended method for assessing discriminant validity in structural equation modeling. HTMT evaluates whether constructs in the model are sufficiently distinct from each other by examining the ratio of between-construct correlations to within-construct correlations. According to established guidelines, HTMT values should ideally remain below 0.85 for strict discriminant validity, and values below 0.90 are generally acceptable in social science research. The HTMT value between transformational leadership and organizational culture is 0.71. This value is well below the 0.85 threshold, indicating that although the two constructs are related in practice, they remain theoretically distinct. This suggests that respondents differentiate between leadership behaviors and the cultural environment of their institutions.

The HTMT ratio between transformational leadership and strategic planning and governance is 0.68. This relatively moderate value confirms that transformational leadership perceptions do not excessively overlap with respondents' views on strategic planning and governance. Even though leadership can influence planning practices, the constructs are measured as separate dimensions in this model. The HTMT value between organizational culture and strategic planning and governance is 0.69. This again falls within acceptable limits, indicating that organizational culture does not significantly overlap with governance-related constructs. The distinction is important, as culture reflects shared values and norms within the institution, whereas governance focuses on decision-making structures and administrative planning. All HTMT ratios in the table fall below the recommended upper limits, confirming the presence of discriminant validity. This means that each construct captures a unique conceptual domain, and the measurement model is well specified. These results, along with the Fornell–Larcker criterion, provide strong evidence that the constructs used in the study are empirically and theoretically distinct, ensuring the integrity of the structural model in the next phase of analysis.

### *Structural Model Results*

Table 11.5.1

#### *Structural Model Results*

| Path                 | Coefficient ( $\beta$ ) | T-value | P-value |
|----------------------|-------------------------|---------|---------|
| TL $\rightarrow$ IS  | 0.34                    | 5.12    | 0.000   |
| OC $\rightarrow$ IS  | 0.41                    | 6.03    | 0.000   |
| SPG $\rightarrow$ IS | 0.29                    | 4.48    | 0.000   |

Table 11.5.1 presents the structural model results, which indicate the strength and significance of the hypothesized relationships among the constructs. The analysis was conducted using the bootstrapping procedure in PLS-SEM, allowing for the estimation of path coefficients and their corresponding t-values and p-values. These results help determine whether transformational leadership, organizational culture, and strategic planning and governance significantly influence institutional sustainability. The path coefficient from transformational leadership to institutional sustainability is 0.34, with a t-value of 5.12 and a p-value of 0.000. This indicates a positive and statistically significant relationship. The coefficient value suggests that higher levels of transformational leadership practices are associated with improved institutional sustainability. The strong t-value further confirms that this effect is not due to random variation, implying that leadership behaviors such as inspiring staff, encouraging innovation, and fostering a shared vision contribute meaningfully to the long-term stability of private universities.

Organizational culture shows the strongest effect among the three predictors, with a path coefficient of 0.41, a t-value of 6.03, and a p-value of 0.000. This demonstrates a highly significant positive relationship between organizational culture and institutional sustainability. The magnitude of the coefficient indicates that cultural factors—such as shared values, collaboration, mutual trust, and supportive work environments—play a crucial role in determining an institution's long-term resilience and performance. This finding aligns with literature suggesting that a strong and cohesive culture enhances staff motivation, adaptability, and institutional effectiveness. Strategic planning and governance has a path coefficient of 0.29, supported by a t-value of 4.48 and a p-value of 0.000. This confirms that strategic planning and governance also exert a significant positive influence on institutional

sustainability. Although the coefficient is slightly lower than those of the other constructs, it still indicates that effective governance structures, transparent decision-making and well-developed strategic planning processes contribute meaningfully to institutional stability. The significance level suggests that governance practices are an essential component of sustainability frameworks in private higher education institutions.

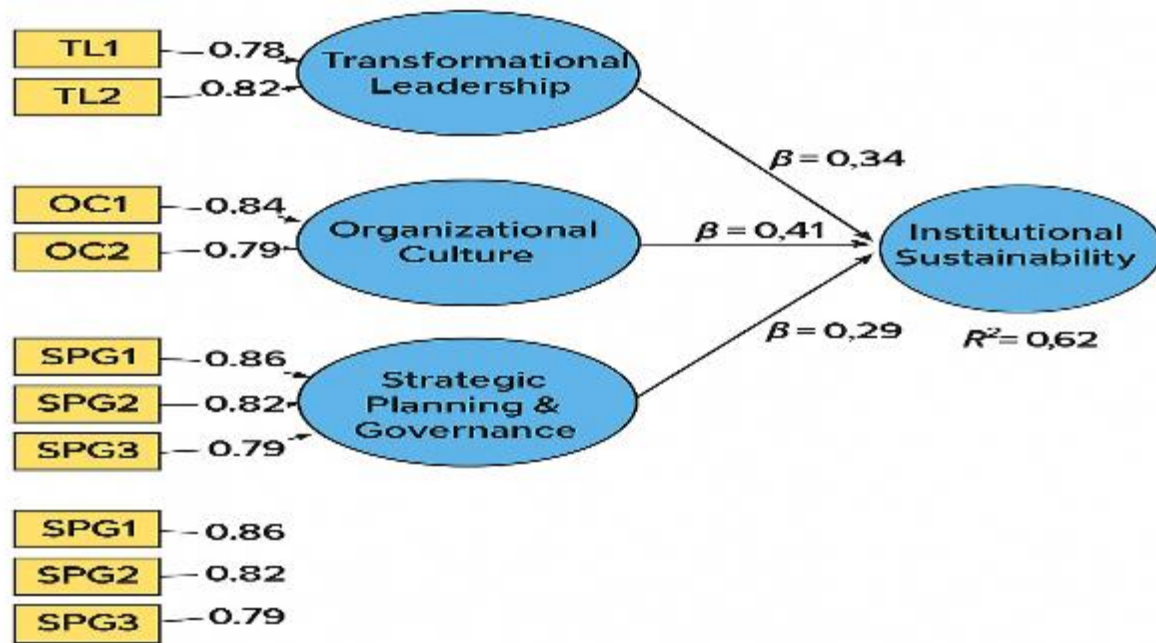
Table 11.5.2

*R-square ( $R^2$ ) for Endogenous Variable*

| Construct                         | $R^2$ |
|-----------------------------------|-------|
| Institutional Sustainability (IS) | 0.62  |

Table 11.5.2 reports the R-square value for institutional sustainability, which is the only endogenous construct in the structural model. The R-square value represents the proportion of variance in the dependent variable that is explained by the independent variables. In this study, transformational leadership, organizational culture, and strategic planning and governance collectively explain 62 percent of the variance in institutional sustainability. An R-square value of 0.62 is considered substantial in social science research, especially in organizational and educational studies where human behaviour and perceptions often contribute to greater variability. This value indicates that the model has strong explanatory power and that the three predictors meaningfully contribute to understanding the sustainability of private higher education institutions.

The high R-square value also suggests that the selected constructs are theoretically appropriate and empirically relevant for assessing institutional sustainability. It demonstrates that leadership practices, cultural strength, and governance processes collectively play a major role in shaping the long-term stability, adaptability, and performance of institutions. In practical terms, an R-square of 0.62 implies that universities aiming to enhance their sustainability should prioritize improvements in leadership behaviour, cultural development, and strategic planning processes. The remaining unexplained variance (38 percent) indicates that other external and internal factors, such as financial resources, government regulations, technological readiness, and stakeholder engagement, may also influence institutional sustainability and could be explored in future studies. The R-square result confirms that the structural model is robust and that the independent variables provide meaningful explanatory power for predicting institutional sustainability within private higher education contexts.



The diagram presents the structural equation model that explains the relationships among the three independent variables Transformational Leadership, Organizational Culture, and Strategic Planning and Governance and the dependent variable Institutional Sustainability. Each latent variable is connected to a set of observable indicators that are shown on the left side of the diagram in yellow boxes. These indicators represent the items used to measure each construct. Transformational Leadership is measured with two indicators TL1 and TL2 which have loading values of 0.78 and 0.82. These high loading values indicate that both items are strong and consistent measures of leadership within the institution. Organizational Culture is represented by the indicators OC1 and OC2 which also display strong loadings of 0.84 and 0.79. These results show that the items accurately capture the cultural environment and reflect the shared values within the institution. Strategic Planning and Governance is measured by three indicators SPG1 SPG2 and SPG3 that have loading values of 0.86 0.82 and 0.79. These loadings confirm that the items are reliable and contribute meaningfully to explaining the governance practices of the institution.

All three independent variables are linked to Institutional Sustainability through direct structural paths. The coefficient from Transformational Leadership to Institutional Sustainability is 0.34 which indicates a positive and meaningful influence. Organizational Culture shows an even stronger relationship with a coefficient of 0.41 suggesting that cultural factors play a central role in shaping sustainability outcomes. Strategic Planning and Governance has a coefficient of 0.29 which also reflects a positive and significant effect although with slightly lower strength compared to the other two predictors. The model explains 62 percent of the variance in Institutional Sustainability which is shown by the R square value of 0.62. This indicates that the three independent variables together provide a strong level of explanatory power and that the structural model fits well with the data. The diagram shows that all constructs are measured reliably and that leadership culture and governance each contribute significantly to improving institutional sustainability. The results support the expected relationships within the model and highlight the importance of these organizational factors.

Table 11.5.3

*Hypothesis Testing Summary*

| Hypothesis | Path                 | Coefficient $\beta$ | T-value | P-value | Supported |
|------------|----------------------|---------------------|---------|---------|-----------|
| H1         | TL $\rightarrow$ IS  | 0.34                | 5.12    | 0.000   | Yes       |
| H2         | OC $\rightarrow$ IS  | 0.41                | 6.03    | 0.000   | Yes       |
| H3         | SPG $\rightarrow$ IS | 0.29                | 4.48    | 0.000   | Yes       |

Table 11.5.3 presents the results of the hypothesis testing based on the structural model analysis. The table includes the path coefficients, t values and p values for each hypothesized relationship along with an indication of whether the hypothesis was supported. The first hypothesis examined the effect of Transformational Leadership on Institutional Sustainability. The path coefficient for this relationship is 0.34 and the t value is 5.12 with a p value of 0.000. These values indicate that the relationship is positive and statistically significant. This means that higher levels of transformational leadership within the institution are associated with stronger sustainability outcomes. The evidence strongly supports hypothesis H1.

The second hypothesis explored whether Organizational Culture has a significant influence on Institutional Sustainability. The path coefficient for this relationship is 0.41 with a t value of 6.03 and a p value of 0.000. This shows that organizational culture has the strongest effect among all the predictors. A positive and supportive culture therefore plays a key role in enhancing sustainability within higher education institutions. The results confirm that hypothesis H2 is supported. The third hypothesis tested the impact of Strategic Planning and Governance on Institutional Sustainability. The coefficient for this path is 0.29 and the t value is 4.48 with a p value of 0.000. These results indicate that effective planning and governance practices also contribute positively to sustainability even though the effect size is smaller than the other predictors. The relationship is still strong enough to be considered statistically significant and thus hypothesis H3 is supported. Overall all three hypotheses were supported showing that leadership culture and governance each play important roles in shaping institutional sustainability. These findings provide strong empirical evidence for the conceptual framework and highlight the importance of internal organizational factors in predicting sustainability outcomes in private higher education institutions.

### Findings and Conclusion

This study examined the influence of transformational leadership, organizational culture and strategic planning and governance on institutional sustainability within private higher education institutions in Bangladesh. The findings were generated through a structural equation modeling approach using PLS SEM, supported by reliability and validity tests that confirmed the strength of the measurement model. The results provide meaningful insights into how internal organizational factors shape long term sustainability outcomes for educational institutions. The most important finding of the study is that all three independent variables have a positive and significant impact on institutional sustainability. Transformational leadership demonstrated a meaningful effect on sustainability, suggesting that institutions with leaders who motivate, inspire and empower their staff are more likely to achieve long term resilience. Leaders who encourage innovation and create a shared vision help build an institutional environment that can adapt to changes in the competitive

education sector. The statistical evidence from the structural model confirms that transformational leadership is an essential component for promoting a forward looking and growth oriented institutional culture.

Organizational culture produced the strongest effect among all predictors, indicating that the shared values, practices and norms within the institution are central to enhancing sustainability. A positive culture supports collaboration among staff members, strengthens communication and fosters a sense of belonging. When employees feel valued and connected to the institutional mission, they become more committed to achieving long term goals. The findings suggest that institutional sustainability does not depend only on leadership or planning systems but also on the daily practices and attitudes that shape the working environment. A supportive organizational culture allows private universities to cope more effectively with challenges such as competition, policy changes and resource limitations. Strategic planning and governance also showed a significant positive relationship with institutional sustainability. Although its coefficient was slightly lower than those of leadership and culture, it still contributed meaningfully to the overall model. The findings imply that clear governance structures and well defined planning processes play an important role in the long term performance of higher education institutions. When institutions have transparent decision making procedures and a strong sense of direction, they are better positioned to ensure stability and growth. This aligns with the idea that sustainability is not an accidental outcome but a result of deliberate actions, procedures and forward looking strategies.

The R square value of 0.62 indicates that the model explains 62 percent of the variance in institutional sustainability. This is considered substantial for research involving human perceptions and organizational behavior. The value supports the reliability of the conceptual framework by showing that leadership, culture and governance together provide a strong basis for understanding sustainability outcomes. The model therefore contributes to existing literature by offering a comprehensive view of how internal factors influence institutional resilience in the context of Bangladeshi private universities.

The findings also reveal that sustainability is a multidimensional construct not limited to financial stability or institutional growth. It includes elements such as adaptability, innovation, social responsibility and the capacity to maintain quality over time. The relationships identified in this study confirm that sustainability emerges from the combined influence of leadership behavior, workplace culture and governance practices. These elements form a system of interrelated forces that help institutions survive and thrive in a competitive environment. In conclusion, the study highlights the importance of strong leadership, cohesive organizational culture and effective strategic planning for promoting institutional sustainability. Transformational leaders create a vision for the future, organizational culture shapes the internal environment that supports this vision and governance provides the structure needed for implementation. Institutions that successfully integrate these factors are more likely to achieve long term stability, maintain academic quality and respond proactively to external challenges.

The results show that sustainability is not a static condition but a continuous process that requires consistent effort and alignment of organizational practices. Private universities in Bangladesh can benefit from strengthening leadership development programs, investing in

cultural initiatives and improving governance mechanisms. By doing so, they can build more resilient organizations capable of supporting students, faculty and stakeholders over time. Overall, the findings confirm the validity of the conceptual model and underline the significance of human centered and system based approaches to sustainability. The collective influence of leadership, culture and governance provides a strong foundation for understanding how private higher education institutions can remain competitive, innovative and capable of fulfilling their long term mission. The conclusion reinforces the idea that institutional sustainability is ultimately achieved when people, processes and structures work together in harmony.

### **Theoretical and Contextual Contributions of the Study**

This study makes important theoretical and contextual contributions to the literature on higher education sustainability. From a theoretical perspective, the research extends existing sustainability and leadership frameworks by empirically demonstrating the combined influence of transformational leadership, organizational culture, and strategic planning and governance on institutional sustainability. By integrating these organizational dimensions within a single structural model, the study advances existing knowledge on how internal organizational dynamics collectively shape long-term sustainability outcomes in higher education institutions.

From a contextual perspective, the study contributes empirical evidence from private higher education institutions in Bangladesh, a developing-country context that remains underexplored in sustainability research. The findings highlight how leadership practices, cultural alignment, and governance mechanisms operate within resource-constrained and competitive educational environments. This contextual insight is particularly valuable for policymakers, university leaders, and administrators seeking to strengthen institutional resilience and sustainability in similar emerging higher education systems.

### **Recommendations**

Based on the findings of the study several recommendations can be made to strengthen institutional sustainability within private higher education institutions in Bangladesh. The results clearly show that transformational leadership, organizational culture and strategic planning and governance each play important roles in shaping long term institutional performance. Therefore institutions should consider targeted improvements in these areas to enhance their ability to grow adapt and remain competitive.

The first recommendation is to strengthen transformational leadership practices at all levels of the institution. Leaders should be trained to motivate and inspire faculty and staff and to encourage innovation and creativity. Institutions may introduce leadership development programs that focus on communication vision building conflict resolution and mentoring. When leaders demonstrate supportive and empowering behaviors employees feel more valued and become more committed to the institutional mission. This can improve morale and contribute to a more resilient and adaptable organizational environment. Encouraging leaders to engage in active listening and participatory decision making can further enhance trust and collaboration within the institution. The second recommendation involves enhancing organizational culture. A strong and positive culture creates a foundation for teamwork academic excellence and long term sustainability. Institutions should focus on

building a culture that promotes shared values openness and mutual respect. Activities such as faculty development workshops cultural events and collaborative projects can strengthen relationships among staff members. Institutions can also establish reward and recognition programs to acknowledge the contributions of faculty and administrative staff. Such initiatives help create a supportive working climate where employees feel motivated to contribute to institutional goals.

The third recommendation concerns strengthening strategic planning and governance practices. Institutions should ensure that their planning processes are clear structured and aligned with long term goals. This includes setting realistic objectives monitoring progress regularly and making informed decisions based on data. Governance systems should emphasize transparency accountability and fairness. To improve administrative efficiency institutions can establish committees dedicated to strategic planning quality assurance and policy review. These structures help ensure that institutional activities remain aligned with the broader mission and future direction of the university. Another important recommendation is to invest in capacity building for both academic and administrative staff. Continuous professional development programs can enhance the skills of employees and improve the quality of teaching learning and administrative services. This not only supports institutional sustainability but also enhances the reputation and competitiveness of the institution in the higher education sector. Offering training in digital competencies research skills and student support services can help staff adapt to evolving educational demands.

A further recommendation is to encourage collaboration and partnerships with external organizations. Such partnerships can provide institutions with access to resources expertise and new opportunities for growth. Collaborations with industries governmental agencies and international institutions can enhance academic programs and support research initiatives. These partnerships help institutions remain relevant and contribute to societal development while also strengthening their sustainability. Finally institutions should adopt a continuous improvement approach. This involves regularly assessing internal processes identifying challenges and making necessary adjustments. Feedback from students faculty staff and other stakeholders can guide improvements in teaching curriculum governance and campus services. By maintaining a cycle of reflection and improvement institutions can ensure that they remain responsive to changing needs and conditions. In summary the recommendations emphasize the importance of strong leadership positive culture strategic governance capacity building partnerships and continuous improvement. By implementing these strategies private higher education institutions in Bangladesh can improve their resilience and sustainability and enhance their contribution to national development.

### **Acknowledgement**

I would like to express my sincere gratitude to my supervisor for providing continuous guidance, encouragement and valuable insights throughout the completion of this research. I am also thankful to the faculty members and administrative staff of the participating institutions for their cooperation and support during data collection. Finally, I extend my heartfelt appreciation to my family and friends whose motivation and understanding have helped me remain focused and committed to this study.

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