

The effect of perception of transformational leadership on job satisfaction, innovative behavior, and work performance of the university's staff in Phnom Penh, Cambodia

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Abstract

Improving the quality of higher education is a national priority for Cambodia, and staff capability at universities represents a critical starting point for this effort. This study investigates the relationships among perceived transformational leadership, job satisfaction, innovative behavior, and work performance among university staff in Phnom Penh, Cambodia, and develops a causal model linking these constructs. A quantitative survey employing a five-point Likert scale questionnaire was distributed to 400 staff members across public and private universities through stratified sampling, achieving a response rate of 88.9 percent. Structural equation modeling was conducted using AMOS to test the hypothesized relationships. The model demonstrated an excellent fit to the data (chi square = 51.870, relative chi square = 0.961, $p = .557$, RMSEA = .0001, GFI = .984, CFI = 1.000, SRMR = .006, NFI = .993). The results indicate that transformational leadership has a significant positive effect on job satisfaction and work performance, and that job satisfaction and innovative behavior each have significant positive effects on work performance. However, transformational leadership does not exert a significant direct effect on innovative behavior, suggesting that job satisfaction plays an important intervening role in translating leadership perceptions into innovative behavior among university staff. These findings offer practical implications for university administrators seeking to strengthen staff performance through leadership development and job satisfaction initiatives.

Keywords: Transformational Leadership, Job Satisfaction, Innovative Behavior, Work Performance, Higher Education, Structural Equation Modeling, Cambodia

JEL Classification: I23, M12, M54, O15

1. Introduction

According to the Ministry of Education, Youth and Sport (2006), the Education Strategic Plan for 2006 to 2010 emphasized comprehensive quality assurance and improvement of leadership at all levels of education, including higher education institutions, with the explicit aim of guaranteeing and improving quality across both institutional and system wide standards (p. 372) and of strengthening the management and development of educational institutions more broadly. Higher education in Cambodia emerged during the middle of the twentieth century, although the system has experienced considerable fluctuation over time (Ngoy, Say, & Leang, 2019). Following the period of French influence from 1991 to 1994, the Royal Government of Cambodia undertook a reform of the higher education system in cooperation with international organizations, including the World Bank (Ayers, 2000). The number of public universities increased from eight to thirty nine between 1997 and 2004, while total student enrollment rose from approximately 10,000 to more than 200,000. Cambodia's higher education system underwent continuous reform from approximately 1989 to 2012 (MoEYS, 2016; UNESCO, 2010; World Bank, 2012; ADB, 2011). A subsequent strategic plan covering 2014 to 2018 identified three priorities for national development: expanding equitable access to education, improving the quality of education and student learning, and strengthening the leadership and administrative capacity of education personnel at all levels. This plan also called for expanding institutional capacity and preparing management professionals equipped to address future competitive challenges. In parallel, the World Bank supported Cambodian higher education through initiatives aimed at improving academic outcomes for students with limited prior preparation and at providing scholarships enabling staff to pursue further training (MoEYS, 2014; World Bank, 2016). The Cambodian government has further identified productivity and the quality of human capital as central to national economic growth.

Nevertheless, the pace of improvement in higher education has not always matched the needs of graduates entering the labor market, even as the government pursues jointly coordinated national development strategies (Ngoy, 2008). Prior research indicates that the education sector is closely tied to Cambodia's broader economic growth, which has averaged approximately seven percent annually; consequently, the Ministry of Education's vision for 2030 emphasizes that universities must adhere to rigorous standards and that executives and academic leaders must demonstrate strong commitment to the quality of graduates entering the workforce (World Bank, 2018; MoEYS, 2019). The Cambodian education system continues to confront challenges rooted in decades of underinvestment, including infrastructure damage dating to the civil conflict of the 1970s. Persistently low quality and inconsistent implementation remain central obstacles to higher education reform in Cambodia, constraining the sector's ability to compete regionally and to support national development (Altbach, 2004). As a developing country, Cambodia faces compounding effects of limited access to staff training, which further undermines institutional quality (Chealy, 2009). The Accreditation Committee of Cambodia (2011) has likewise called for

continued improvement in the quality of higher education. The United Nations Development Programme (2011) has similarly observed that Cambodia's higher education system is characterized by disparate organizational mechanisms, inconsistent output quality, and comparatively low enrollment relative to regional peers, noting that curricula have not always aligned with the demands of the labor market. For example, graduates of the Royal University of Phnom Penh have at times experienced difficulty securing employment, in part because training programs historically oriented toward secondary school teaching had not been fully updated to reflect market needs (Wakabayashi & Kato, 2002).

These interrelated factors continue to constrain the development of higher education and the cultivation of skilled human capital in Cambodia (Vicheth, 2012). A persistent mismatch between the outputs of higher education and labor market demand has contributed to an oversupply of graduates with comparatively limited practical training (Heng, 2011; D'Amico, 2011; Ford, 2006). Scholars examining the governance of Cambodian higher education have argued that continued improvement is essential to developing the country's human resources, and that inadequate financial support for the sector has constrained the intellectual and leadership capacity needed across institutions (Sen & Ros, 2013). Long (2014) suggests that school directors should work closely with deputy directors to strengthen education system management, while Kitamura (2016) found that the Cambodian labor market has not been able to fully absorb or effectively deploy university graduates, limiting their contribution to economic development. Taken together, gaps in the education system, the scarcity of staff training programs, and structural limitations within higher education have constrained educational quality in Cambodia, contributing to comparatively low university enrollment and to graduates seeking employment outside their fields of study. These challenges have, in turn, placed sustained pressure on university performance over an extended period.

For the purposes of this study, factors such as limited human resource capability, underdeveloped leadership skills, insufficient technology, structural weaknesses in the education system, an inadequate supply of qualified instructors, and limited standardization across domestic and international programs are understood to constrain the quality of university education in Cambodia. These constraints, in turn, limit staff capacity to evaluate and improve internal institutional performance and contribute to broader challenges such as insufficient student housing, particularly for female students. Improving university quality therefore requires strengthening existing resources through sustained investment in research and development. Accordingly, this study positions transformational leadership as the central explanatory variable, examining its direct and indirect effects on job satisfaction and innovative behavior and, through these constructs, on work performance. Transformational leadership is treated as a key lever for improving employee creativity and satisfaction, with the ultimate aim of strengthening institutional systems and human resource capacity within Cambodian universities.

2. Literature Review

2.1 Transformational Leadership and Work Performance

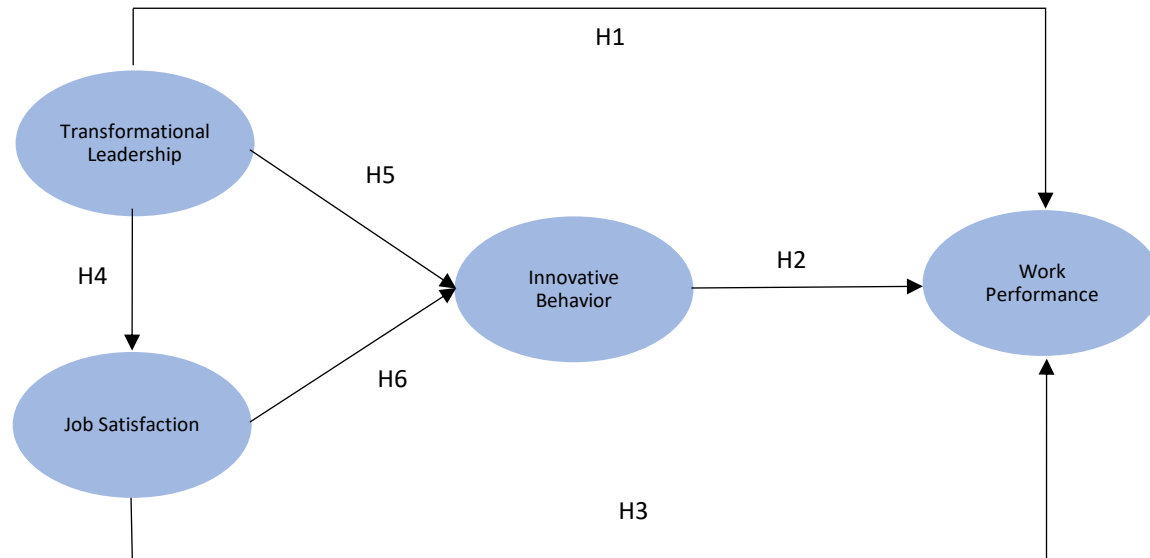
Transformational leadership refers to a leader's capacity to enact strategic change in pursuit of an organizational mission, and it is typically evaluated through followers' perceptions of a leader's commitment to the institution and its goals. Burns (1978) was among the first scholars to distinguish transformational leadership from transactional leadership, characterizing the former as an approach through which leaders support and motivate followers toward the achievement of shared goals. Burns (1978a) further clarified that transactional and transformational leadership differ in their underlying mechanisms, with transactional leadership emphasizing an exchange based relationship with employees, while transformational leadership reflects a leader's capacity to understand and respond to followers' needs and expectations (Burns, 1978b). Burns (1978, p. 426) additionally emphasized that transformational leadership seeks to elevate followers toward a shared, higher order mission. Transformational leadership has also been associated with efforts to shift employee attitudes and to raise expectations regarding work performance (Bass, 1985a; Yukl, 1999). Bass (1985b) proposed a typology situating specific leader behaviors within the broader categories of transactional and transformational leadership. Kuhnert (1994) further observed that transformational leaders exercise influence through two related functions, namely appealing to followers' intrinsic sense of worth and encouraging followers to identify effective courses of action on behalf of the organization rather than pursuing solely individual interests. Bass (1985c) identified four defining dimensions of transformational leadership: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration, each of which reflects a distinct mechanism through which leaders encourage employees to pursue organizational goals through new ways of thinking.

Idealized influence is reflected in leader statements conveying pride in association with followers and an emphasis on a collective sense of mission (Avolio & Bass, 1995). Antonakis (2012) further characterizes idealized influence as followers' perception of the leader's exemplary conduct. Inspirational motivation refers to a leader's capacity to communicate high expectations to employees, encouraging them to pursue organizational goals while projecting a compelling vision that benefits the collective beyond any single individual's preferred approach (Northouse, 2016a, p. 169). Intellectual stimulation, as described by Avolio and Bass (1995a), involves leader behaviors such as reexamining critical assumptions to determine their continued appropriateness and proposing new approaches to completing assignments. Individualized consideration refers to a leader's attentiveness to the needs of individual followers, functioning much as a mentor or coach who helps employees develop the capabilities needed to achieve high performance and to meet future challenges (Northouse, 2016c, p. 169).

Taken together, the four dimensions of transformational leadership, namely idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration, are understood

to motivate and encourage followers toward the achievement of shared goals (Lussier & Achua, 2004; Russell & Patterson, 2003; Epitropaki, Hall, & Kepner, 2002; Cox, 2001; Tichy & Devanna, 1986).

Figure 1. Conceptual Framework



Transformational leadership is widely regarded as a mechanism for enhancing employee performance and for supporting the range of roles employees undertake within an organization (Avolio, 1999; Bass & Avolio, 1990a). Transformational leadership is further associated with charisma, intellectual stimulation, and individualized consideration (Avolio, Waldman, & Einstein, 1988; Bass, 1990), and has been shown to shape followers' job attitudes, role perceptions, and performance (Podsakoff et al., 1996), as well as their sense of security at work (Conchie, Taylor, & Donald, 2012). Transformational leadership has also been linked to the broader work environment (Phinari & Bernarto, 2020), subordinate outcomes (Pastor & Mayo, 2006), the pursuit of organizational goals (Moynihan, Pandey, & Wright, 2012), and the effectiveness of strategic decision making (Abuzaid et al., 2019). Across this body of work, transformational leadership has consistently been associated with improved work outcomes, individual behavior, employee capability, the broader work environment, work motivation, the pursuit of organizational goals, the effectiveness of strategic decisions, personal skill development, and employee attitudes and behavior. On the basis of this theoretical and empirical evidence, we propose the following hypothesis.

H1: Transformational leadership has a positive effect on work performance.

2.2 Innovative Behavior and Work Performance

Innovative behavior can be defined as the deliberate set of individual behaviors directed toward generating, promoting, and implementing new ideas within an organization. De Jong and Den Hartog (2008) describe innovative work behavior as encompassing both the exploration of opportunities and the generation of new ideas, or creativity related behavior, as well as behaviors directed toward implementing change, applying new knowledge, or improving processes to enhance personal or organizational performance, or implementation oriented behavior (p. 5). Innovative behavior has also been described as intentional conduct directed toward implementing novel concepts for the benefit of a group, organization, or individual role (Tavalaee, 2013). As an outcome of creativity, innovative behavior is oriented toward converting new ideas into productive processes; creative behavior, in turn, reflects novel and distinctive thinking that organizations can support and encourage (Harborne & Johnne, 2003). Innovative behavior has further been characterized as conduct that extends beyond an employee's formally prescribed role and that is directed toward explicit recognition of new contributions (Torka et al., 2013), and as encompassing all behaviors associated with an employee's engagement in the innovation process, from which outcomes and continued innovation can be anticipated (De Jong & Den Hartog, 2014). Other scholars have characterized innovative behavior as the process by which new ideas are generated, developed, and applied at the organizational level, encompassing activities such as exploration, idea development, support, and application (Zadeh, 2015). This process has been described as comprising idea generation, idea promotion, and the implementation of novel concepts (Kazadi et al., 2016; Brown & Duguid, 1991). Beaver and Prince (2002) similarly describe innovative behavior in terms of planning, organization, implementation, and monitoring, while Sanders et al. (2010) treat innovative behavior as a distinct construct associated with organizational effectiveness, encompassing the generation, promotion, and implementation of novel ideas that enhance performance. Kanter (1988) and Janssen (2000) likewise describe innovative behavior as comprising three stages: idea generation, idea promotion, and idea implementation. For the purposes of this study, innovative behavior is conceptualized as comprising three components: idea generation, idea promotion, and idea implementation.

2.2.1 Ideas Generation

Idea generation refers to the process of developing a pool of candidate ideas for subsequent evaluation and implementation (Monica, 2001). In some cases, the objective is to generate a large number of ideas, while in others the goal is to produce a smaller number of high quality ideas (De Bono, 1970; Gallupe et al., 1992). Idea generation has also been defined as the process through which employees identify problems and formulate new and promising ideas to address them within their area of responsibility (Janssen, 2000; De Spiegelaere et al., 2014). In this study, idea generation is understood as the process of formulating new ideas grounded in the identification of a problem and the consideration of potential alternative solutions.

2.2.2 Idea Implementation

Idea implementation refers to the development of an original idea to the point of realization within a job role, group, or organization (Janssen, 2000). It involves transforming an innovative concept into a tangible product, service, or process through activities such as measurement, selection, and program implementation (Skerlavaj et al., 2014).

2.2.3 Idea Promotion

Idea promotion refers to the process of securing support and recognition from potential allies, such as colleagues, friends, or sponsors, for a newly generated idea (Hanif & Bukhari, 2015). Idea promotion is understood to be more interpersonal and political in orientation than idea generation, requiring the exercise of interpersonal skill, social influence, and a degree of organizational authority (Baer, 2012; Perry-Smith & Mannucci, 2017). Innovative behavior has further been associated with the quality of an employee's job experiences and their capacity to navigate challenges within the work environment (Garg & Dhar, 2017), as well as with characteristics that help reduce role conflict. Additional research suggests that innovative behavior depends on factors that support the completion of job tasks (Hakimian et al., 2016) and that organizations must actively motivate innovation in order to sustain productivity gains (Kuratko, Hornsby, & Covin, 2014). Notably, innovative behavior is not necessarily dependent on technology but instead reflects the time and effort employees devote to improving the speed, quality, and quantity of their work, thereby generating new ideas and enhancing overall job performance. On the basis of this theoretical and empirical evidence, we propose the following hypothesis.

H2: Innovative behavior has a positive effect on work performance.

2.3 Job Satisfaction and Work Performance

Job satisfaction can be defined as an employee's emotional response to their work situation, reflecting a positive attitude that results from the evaluation of one's work experience. McClelland's (1961) need theory suggests that employees are motivated by internal characteristics of the workplace and by a personal drive toward achievement, a perspective echoed in goal setting theory, which similarly proposes that employees are motivated to pursue increasingly ambitious goals as a means of achieving personal fulfillment (Brunstein & Heckhausen, 2018). Job satisfaction has also been described as an outcome of comparing one's expectations against actual work experiences (Bullock, 1952), and as reflecting an individual's overall orientation toward their work (Srivastava, 1974). Locke (1976) similarly describes job satisfaction as a pleasurable emotional state resulting from the appraisal of one's job experience, while Vroom (1978) frames it as the favorable disposition an individual holds toward the various facets of the work environment. Davis (1981) describes job satisfaction as reflecting the degree of positive or negative affect employees hold toward their work, and Blegen and Mueller (1987) similarly describe it as the extent of favorable disposition employees exhibit toward their jobs. Koustelios

and Koustelios (2001) describe job satisfaction as encompassing both favorable and unfavorable orientations employees hold toward completing their work, while Statt (2004) frames it as an extension of employee motivation grounded in the rewards employees derive from their roles.

Job satisfaction has also been conceptualized as encompassing employees' broader sentiment toward their work, including their accumulated experience, skill development, and openness to future change (Kidd, 2006), as well as employees' overall happiness with their jobs (Furnham, Eracleous, & Chamorro-Premuzic, 2009). Employees' prior work experience often shapes how they approach current responsibilities, influencing the development of new ideas and individual initiative. Employee behavior in turn shapes work performance through employees' feelings of satisfaction or dissatisfaction with the work environment. Judge, Weiss, Hulin, and Dalal (2017) examined job satisfaction and organizational commitment in relation to several components, including task performance, supervision, promotion, pay, and job involvement. For the purposes of this study, job satisfaction is conceptualized as comprising five components: opportunity for promotion or advancement, recognition, responsibility, achievement, and the nature of the work itself.

2.3.1 Opportunity for Promotion or Advancement

Promotion reflects an employee's assessment of the organization's rules and practices governing career advancement (Friday & Friday, 2003). The prospect of promotion provides employees with the opportunity to develop their abilities, take on greater responsibility, and improve their social standing within the organization (Bajpai & Srivastava, 2004). Promotion opportunities have been positively associated with employee satisfaction (Ramasodi, 2010) and are widely regarded as a central determinant of employee satisfaction more broadly. Parvin and Kabir (2011) define promotion as the attainment of higher status within the workplace through effective performance, generally accompanied by increases in position, status, and remuneration.

2.3.2 Recognition

Recognizing employee contributions within an organization can take many forms, including acknowledging problem solving efforts, providing written commendation, establishing formal recognition programs such as employee of the month or employee of the year awards, and incorporating recognition into regular performance reporting (Weir, 1976a; Syptak, Marsland, & Ulmer, 1999a). Recognition has been described as an important form of non-financial reward that contributes to employee job satisfaction (Barton, 2002), and employees generally respond positively to the experience of being recognized for their contributions (Sarvadi, 2005). Danish and Usman (2010) define recognition as the process through which an organization provides employees with meaningful acknowledgment of their contributions.

2.3.3 Responsibility

Responsibility refers to the degree of accountability assigned to an employee for their own activities, along with the autonomy and latitude granted to exercise judgment in carrying out those activities. Providing employees with meaningful and challenging responsibility is understood to be an important source of job satisfaction (Weir, 1976c; Syptak, Marsland, & Ulmer, 1999c).

2.3.4 Achievement

Achievement reflects the extent to which an employee's role allows them to apply their talents effectively, supported by an environment that clearly communicates expectations, sets high standards, and provides employees with a clear understanding of organizational goals and strategy. Achievement is further supported by timely feedback that helps employees recognize their progress and feel a healthy sense of accomplishment relative to their peers (Weir, 1976d; Syptak, Marsland, & Ulmer, 1999d).

2.3.5 Work Itself

The nature of the work itself refers to how effectively job tasks are structured to support teamwork and to align individual and group activities with the organization's broader purpose, goals, and strategic plan (Professional Development Foundation, 2021). Job satisfaction has been associated with work performance (Judge et al., 2001) and with the quality of workplace communication (Hochwarter et al., 1999), and has been shown to positively influence both the quality and productivity of employees' work (Yeun et al., 2018). Job satisfaction is understood to support broader employee wellbeing and professional growth, shaping employees' attitudes and behaviors at work, as well as their perceptions of organizational performance evaluation and strategy (Gonzalez et al., 2014).

More broadly, researchers across a range of disciplines have examined job satisfaction as a central determinant of the work environment and of employees' overall wellbeing. Employees' willingness to adapt their behavior in coordination with their work group is closely tied to the broader work environment and organizational strategy, while employee attitudes shaped by discipline, competency, and empowerment have been shown to support improvements in work performance and the achievement of organizational goals. On the basis of this theoretical and empirical evidence, we propose the following hypothesis.

H3: Job satisfaction has a positive effect on work performance.

2.4 Transformational Leadership and Job Satisfaction

Transformational leadership theory suggests that leaders can positively influence employee attitudes through individualized consideration, a factor closely associated with improvements in the broader work environment (Khan et al., 2020). As summarized in Table 1, transformational leadership has been shown to shape work outcomes, individual behavior, and organizational

commitment, positioning it as a critical factor influencing employee satisfaction and, through it, the broader attitudes and behaviors that support the achievement of organizational goals.

Transformational leadership has further been shown to positively influence job related outcomes (Walumbwa et al., 2004; Prochazka et al., 2017), employee attitudes and behavior (Walumbwa, Orwa, Wang, & Lawler, 2005; Nguni et al., 2006; Barroso Castro et al., 2008), employee motivation (Givens, 2008), team level outcomes (Braun et al., 2013; Judge & Piccolo, 2004), and reductions in undesirable outcomes such as turnover intention and job withdrawal (Walumbwa & Lawler, 2003). Given the established relationship between transformational leadership and employee behavior within teams, we propose the following hypothesis on the basis of this theoretical and empirical evidence.

H4: Transformational leadership has a positive effect on job satisfaction.

2.5 Transformational Leadership and Innovative Behavior

Transformational leadership has been associated with the development of innovative and creative groups within organizations (Eisenbeiss, Van Knippenberg, & Boerner, 2008). Transformational leaders may help employees strengthen both core task performance and innovative activity (Ng, 2017), and transformational leadership has more broadly been associated with employee creativity and group level creativity. Transformational leadership may also support innovative progress by motivating employees toward innovation through organizational support, while shaping the broader dynamics of group conflict, knowledge sharing, and the creative process (Bai, Lin, & Li, 2016). Weng et al. (2015) similarly find that transformational leadership motivates employees to engage in problem solving that supports innovative behavior, suggesting a positive relationship between the two constructs. Transformational leadership is therefore understood to strengthen the work environment through mechanisms of motivation and support. On the basis of this theoretical and empirical evidence, we propose the following hypothesis.

H5: Transformational leadership has a positive effect on innovative behavior.

2.6 Job Satisfaction and Innovative Behavior

The relationship among creativity, job satisfaction, and job commitment reflects the broader premise that satisfied employees are more likely to approach their work with greater openness and encouragement (Basadur, 2001). Job satisfaction has been linked to innovative behavior through its association with employee creativity, job autonomy, work engagement, and work motivation. Choi et al. (2018) similarly find that job satisfaction positively relates to creativity and innovation by fostering a more encouraging work environment, whereas Chang, Jia, Takeuchi, and Cai (2013) note that job resources associated with satisfaction can help offset work avoidance and motivate individual innovative behavior within organizations. Job satisfaction is understood to improve employee behavior and performance more broadly, and satisfied employees tend to approach their

work with greater enthusiasm, which in turn supports the development of employee creativity. On the basis of this theoretical and empirical evidence, we propose the following hypothesis.

H6: Job satisfaction has a positive effect on innovative behavior.

2.7 Mediating Effect of Job Satisfaction Relationship between Transformational Leadership and Work Performance

Employee performance may be shaped by intervening mechanisms linking transformational leadership to performance outcomes, among which job satisfaction has received particular attention in the literature.

Table 1. Mediating Role of Job Satisfaction

Nº	Name	Topic	Description	Page	Paragraph
1	Curado and Santos, 2021	Transformational leadership and work performance in health care: the mediating role of job satisfaction.	The results show that job satisfaction fully mediates the relation between transformational leadership and adaptive performance.	1	1
2	Amalia et al., 2022	The Effect of Transformational Leadership and Work Motivation Against Employee Performance with Job Satisfaction as Mediation Variable: The Case of The Takalar District Court.	The results in the study mean that the influence of transformational leadership on employee performance at the Takalar District Court is mediated by job satisfaction.	114	4
3	Angriani, et al., 2020	The effect of transactional and transformational leadership on lecturer performance with job satisfaction as the mediation.	Job satisfaction mediate the effect of transformational leadership on the lecturers' performance.	1271	4

4	Kawiana et al., 2020	How transformational leadership intensify employee performance mediating by job satisfaction.	this research found that job satisfaction played an essential role as a mediating between transformational leadership on employee performance.	454	1
5	Lasiny et al., 2021	The Effect of Transformational Leadership and Work Motivation on Employee Performance with Job Satisfaction as a Mediation Variable.	Transformational leadership has an significant effect on employee performance through job satisfaction.	840	6
6	Paracha et al., 2012	Impact of leadership style (transformational & transactional leadership) on employee performance & mediating role of job satisfaction. Study of private school (educator) in Pakistan.	Job satisfaction is mediating between transformational leadership and employees performance	61	3
7	Pratama, 2016	Effect of Transformational Leadership Towards Employee's Performance Through Satisfaction and Moderated by Culture.	The overall results support that transformational leadership style has a significant positive impact on employees' job performance as well as	92	1

			mediating by work satisfaction		
8	Rafia and Achmad Sudiro, 2020	The Effect of Transformational Leadership on Employee Performance Mediated by Job Satisfaction and Employee engagement.	Job satisfaction mediate the effect between transformational leadership and employee performance.	124	2
9	Rawashdeh et al., 2020	Job satisfaction as a mediator between transformational leadership and employee performance: Evidence from a developing country.	The mediating effect of job satisfaction in the relationship between transformational leadership and employee performance.	3861	4
10	Roz, 2019	Job satisfaction as a mediation of transformational leadership style on employee performance in the food industry in Malang City.	Another thing found in this study is job satisfaction that is able to mediate the transformational leadership style on employee performance.	57	2

As summarized in Table 1, transformational leadership, understood as a leader's ability to encourage employees to pursue organizational goals through both strategic outcomes and intrinsic motivation, is closely associated with employee satisfaction. Job satisfaction, in turn, reflects employees' emotional response to their work and has consistently been shown to influence both work performance and broader employee outcomes across the reviewed literature.

2.8 Mediating effect of innovative behavior relationship between transformational leadership and work performance

The generation and implementation of new ideas represent important mechanisms linking leadership to productivity, and innovative behavior has been shown to positively influence work performance through its effects on employee behavior and attitudes.

Table 2. Mediating Role of Innovative Behavior

Nº	Name	Topic	Description	Page	Paragraph
1	Adre and Dizon, 2021	The mediating effect of innovative work behavior on the impact of transformational leadership on work performance: The case of Mekení Food Corporation	The results of the mediation analysis revealed that Innovative Work Behavior fully mediates the impact of Transformational Leadership on Work Performance.	1	1
2	Supriyanto et al., 2018	Transformational leadership role in mediating the effect of emotional intelligence on manager performance moderated by innovative work behavior.	Innovative work behavior moderated the effect of transformational leadership on manager performance.	100	1
3	Purwanto, 2020	The Impacts of Leadership and Culture on Work Performance in Service Company and Innovative Work Behavior as Mediating Effects	Based on the results of the study, it can be concluded that transformational leadership have a positive and significant influence on work performance, which is directly and	288	2

through innovative work
behavior as mediating

As summarized in Table 2, innovative behavior improves employee behavior and supports the generation of new ideas, exerting a positive influence on employee outcomes and attitudes. Transformational leadership may motivate employees to pursue organizational goals by encouraging the generation of new ideas, suggesting that transformational leadership can positively influence work performance through innovative behavior as a mediating mechanism.

3. Methodology

This study employed a quantitative research design based on a structured survey questionnaire. Quantitative methods are well suited to research requiring statistical analysis of collected data for interpretation and demonstration of empirical results (Creswell, 2014; Field, 2013; Turner et al., 2013; Bryman, 2012). Black and Champion (1976) similarly note that a variable represents the logical unit of measurement through which numerical values are assigned for analysis.

3.1 Population, Sample Size, and Sampling Methods

The population for this study comprised university staff in Phnom Penh, Cambodia. According to the annual report of the Ministry of Education, Youth and Sport, there are 76 universities providing higher education services in Cambodia, comprising 6 public and 49 private institutions in Phnom Penh, with a combined staff population of 16,652, of whom 13,569 are employed across institutions offering associate, bachelor, master, and doctoral degrees (MoEYS, 2020). Following the parameter ratio recommended by Hair et al. (2018), which suggests a ratio of 20 respondents for each observed variable, the minimum required sample size was calculated as 16 multiplied by 20, or 320 respondents. To strengthen the robustness of the analysis, the researchers targeted a sample of 400 respondents, considered acceptable relative to the total number of model parameters. Sampling approaches are generally classified as probability or non-probability; this study employed stratified random sampling, a probability based method, to ensure adequate representation across public and private universities. As data collection is central to research quality, careful attention was given to sampling and instrument design to support both ease of interpretation and analytical rigor (Bernard, 2002).

Data collection proceeded in three stages. First, the researchers targeted 160 respondents from public universities and 240 respondents from private universities, with approximately 20 respondents drawn from each of the 20 participating institutions. Second, respondents were selected according to three criteria: that they had at least one year of part time or full time work experience at the university, that they were not currently enrolled as trainee staff, and that they completed a printed questionnaire while the researcher was present to ensure timely and complete responses. Third, in cases where the target of 400 completed responses was not met, the researchers returned to the first stage to identify additional respondents. This structured approach, which

combined clear eligibility criteria with the immediate collection of printed questionnaires, was designed to enhance the accuracy, completeness, and representativeness of the data collected, thereby supporting the overall credibility of the research findings.

3.2 Research Instrument

The research instrument represents a critical tool for facilitating structured data collection aligned with study objectives (Kumar, 2011). The questionnaire was developed based on a synthesis of the study's latent variables and their associated observed indicators, and was organized into two sections. The first section comprised seven items addressing personal information, including gender, age, educational background, position, work experience, and type of university. The second section comprised sixteen items addressing the study's latent variables, encompassing eighty observed items used to measure each construct. Respondents rated each item using a five point Likert scale ranging from 1, indicating strong disagreement, to 5, indicating strong agreement.

3.3 Data Collection Procedure

Data collection followed established procedures for managing the types of data gathered and subsequently analyzed. Following Finn and Wang (2002), primary data refer to raw or original data collected directly from respondents, while secondary data refer to data previously compiled and stored by an organization.

3.4 Data Analysis

Data analysis proceeded in two phases: preliminary analysis and structural equation modeling. Following data collection, the dataset was screened for completeness prior to measurement model analysis. The analytic procedure comprised several steps. Descriptive statistics, including means, frequencies, and standard deviations, were computed using SPSS. Correlations among observed variables were examined prior to structural equation modeling. Structural equation modeling was then used to evaluate whether the theoretical model provided an adequate fit to the empirical data (Schumacker & Lomax, 2016). Prior to structural equation modeling, the normality of the data was assessed, as this represents a foundational assumption for subsequent analysis; skewness and kurtosis values served as the primary indicators of normality (Hair, Babin, Anderson, & Black, 2018).

4. Results

4.1 Pilot Test Result of Internal Reliability of the Questionnaire

A pilot test involving 30 respondents indicated that corrected item total correlation values for each variable ranged from .275 to .839. Cronbach's alpha values for individual variables ranged from .788 to .937, with an overall Cronbach's alpha of .983 for the full construct, indicating a high level of reliability (Pallant, 2013). The research instrument's content validity was assessed through

expert evaluation using the item objective congruence method, with all items receiving scores of plus one, indicating strong alignment between item content and the study's research objectives. On this basis, the questionnaire was deemed suitable for use in data collection for this study.

4.2 Personal Information

Following approval from staff at each participating university, questionnaires were distributed offline, primarily during employees' break periods to minimize disruption to their work. A total of 450 questionnaires were distributed, of which 400 valid responses were retained after excluding incomplete submissions, corresponding to an effective response rate of 88.88 percent. Detailed demographic characteristics of the sample are presented in Table 3.

Table 3. Sample demographics (N=400)

Characteristics	Category	Number (%)
Gender	Male	260 (65%)
	Female	140 (35%)
Age	18-25	335 (83.80%)
	26-35	34 (8.50%)
	36-45	26 (6.50%)
	46-55	4 (1.00%)
	56-65	1 (0.30%)
Education background	Associate	29 (7.30%)
	Bachelor	316 (79.00%)
	Master	40 (10.00%)
	Ph.D.	12 (3.00%)
	Other	3 (0.80%)
Work experiences	1-5 years	333 (83.30%)
	6-10 years	51 (12.80%)
	16-20 years	15 (3.80%)
	30 or more	1 (0.30%)

Monthly income (\$)	USD 200 – USD 599	356 (89.00%)
	USD 600 – USD 899	16 (4.00%)
	USD 900 – USD 1499	1 (0.30%)
	USD 1500 – USD 2499\$	23 (5.80%)
	USD 2500 – USD 3499\$	0 (0.00%)
	USD 3500 up	4 (1.00%)

4.3 Descriptive Statistics

The descriptive statistics presented in Table 4 indicate that the mean value of each observed item ranged from 3.740 to 3.902, with standard deviations ranging from 0.926 to 1.067, suggesting that responses were relatively concentrated with limited dispersion and favorable overall adaptability of the measurement items.

Table 4. Descriptive Statistics

Variable	Item	Mean	SD	Factor Loading
Transformational Leadership	Idealized Influence	3.761	1.055	.889
	Inspirational Motivation	3.878	1.015	.967
	Intellectual Stimulation	3.740	1.067	1.000
	Individualized Consideration	3.896	1.018	.922
Job Satisfaction	Opportunity	3.901	1.001	.971
	Recognition	3.843	0.997	.928
	Achievement	3.825	0.979	.991
	Responsibility	3.920	0.975	.933
	Work Itself	3.930	1.009	.932
Innovative Behavior	Idea Implementation	3.901	0.955	.994

Variable	Item	Mean	SD	Factor Loading
Work Performance	Idea Generation	3.891	0.926	.934
	Idea Promotion	3.839	0.953	.928
	Productivity	3.809	0.954	.976
	Job Efficiency	3.874	0.999	.917
	Job Quality	3.902	0.941	.976
	Job Effectiveness	3.893	0.968	.960

4.4 Normality of the Data Distribution

As shown in Table 4, coefficients of variation for the observed indicators ranged from 22.171 to 34.807, indicating a moderate to high degree of variability across the distributions. Following the criteria proposed by Kline (2011, pp. 62 to 63), skewness and kurtosis values falling between negative three and positive three indicate an approximately normal distribution; all indicators in this study met this criterion. Furthermore, given the sample size of 400, which is generally regarded as sufficiently large to support the assumption of normality (Hair et al., 2014), the data were concluded to approximate a normal distribution.

4.5 Table 5. The correlation of latent variables of the Model

Latent Variable	Transformational leadership	Job satisfaction	Innovative behavior	Work performance
Transformational leadership	1	-	-	-
Job satisfaction	.865**	1	-	-
Innovative behavior	.810**	.878**	1	-
Work performance	.833**	.879**	.894**	1

** $p < .01$

As shown in Table 5, The model's latent variables which included Transformational Leadership, Job Satisfaction, Innovative Behavior, and Work Performance, show substantial positive correlations ($p < .01$). increased degrees of Transformational Leadership are linked to increased job satisfaction ($r = .865$), more innovative behavior ($r = .810$), and better work performance ($r = .833$). Moreover, job satisfaction substantially correlated with innovative behavior ($r = .878$) and work performance ($r = .879$). Finally, Innovative Behavior has a positive correlation with Work

Performance ($r=.894$). The findings show that these constructs are intimately connected in terms of statistics. It means that there are gains in one area tending to correlate with improvements in others within the model of Working Performance.

Table 6. Correlation Analysis

Variables	Idealized influence	Inspirational motivation	Intellectual stimulation	Individual consideration	Opportunity for promotion	Recognition	Achievement	Responsibility	Work itself	Idea implementation	Idea generation	Idea promotion	Productivity	Job efficiency	Job quality	Job effectiveness
Idealized influence	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inspirational motivation	.740**	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Intellectual stimulation	.718**	.786**	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Individual consideration	.660**	.778**	.788**	1	-	-	-	-	-	-	-	-	-	-	-	-
Opportunity for promotion	.683**	.712**	.708**	.690**	1	-	-	-	-	-	-	-	-	-	-	-
Recognition	.666**	.712**	.711**	.718**	.760**	1	-	-	-	-	-	-	-	-	-	-
Achievement	.680**	.713**	.723**	.732**	.760**	.818**	1	-	-	-	-	-	-	-	-	-
Responsibility	.687**	.737**	.716**	.727**	.755**	.751**	.763**	1	-	-	-	-	-	-	-	-
Work itself	.656**	.689**	.628**	.651**	.735**	.686**	.767**	.756**	1	-	-	-	-	-	-	-
Idea implementation	.649**	.676**	.670**	.692**	.730**	.735**	.764**	.782**	.764**	1	-	-	-	-	-	-
Idea generation	.627**	.698**	.686**	.688**	.698**	.694**	.739**	.711**	.759**	.807**	1	-	-	-	-	-
Idea promotion	.660**	.674**	.688**	.688**	.685**	.694**	.740**	.751**	.695**	.784**	.773**	1	-	-	-	-
Productivity	.692**	.701**	.733**	.694**	.725**	.741**	.784**	.746**	.728**	.749**	.759**	.778**	1	-	-	-
Job efficiency	.647**	.702**	.697**	.746**	.715**	.743**	.758**	.742**	.690**	.765**	.765**	.763**	.792**	1	-	-
Job quality	.659**	.694**	.691**	.716**	.700**	.680**	.752**	.760**	.733**	.767**	.777**	.805**	.816**	.841**	1	-
Job effectiveness	.659**	.705**	.676**	.668**	.673**	.708**	.760**	.698**	.744**	.736**	.787**	.744**	.803**	.780**	.812**	1

** $p < .01$

According to the Table 6, figuring out the correlation among observed variables in the SEM model of job Working Performance. The results from Bartlett's Test of Sphericity showed $\chi^2 = 7318.815$ ($p < .001$), and the correlation matrix was not an identity matrix. The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was .974, which is higher than .50 and indicates the data is suitable for factor analysis. Therefore, it can be concluded that the correlation matrix is not an identity matrix, and the observed variables are correlated enough to proceed with factor analysis to test the model's structural validity.

4.6 The Result of the 2nd Order Confirmatory Factor Analysis

The confirmatory factor analysis (CFA) results for the first measurement model, illustrated in Figure 2, indicated an excellent fit to the data: chi square = 153.253 with 137 degrees of freedom, $p = .162$; root mean square residual (RMR) = .028; goodness of fit index (GFI) = .963; and Tucker Lewis index (TLI) = .995. The relative chi square of 1.119 fell below the recommended threshold of 2, and the RMR fell below the recommended cutoff of .05; both the GFI and TLI exceeded the recommended threshold of .95, together indicating an excellent fit for this measurement model (Schumacker & Lomax, 2016). The CFA results for the second measurement model, illustrated in Figure 4, likewise indicated a good fit: chi square = 244.704 with 218 degrees of freedom, $p = .104$; RMR = .026; GFI = .953; and TLI = .994. The relative chi square of 1.122 again fell below the threshold of 2, with the RMR below .05 and both the GFI and TLI exceeding .95, supporting the adequacy of this measurement model (Schumacker & Lomax, 2016).

Figure 2. the Second order CFA of TL

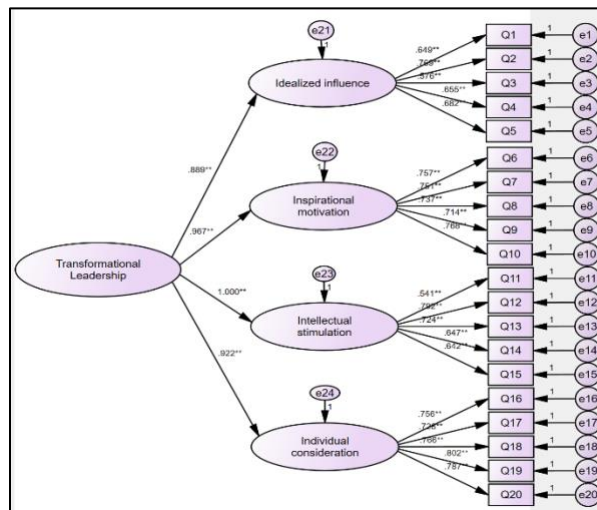
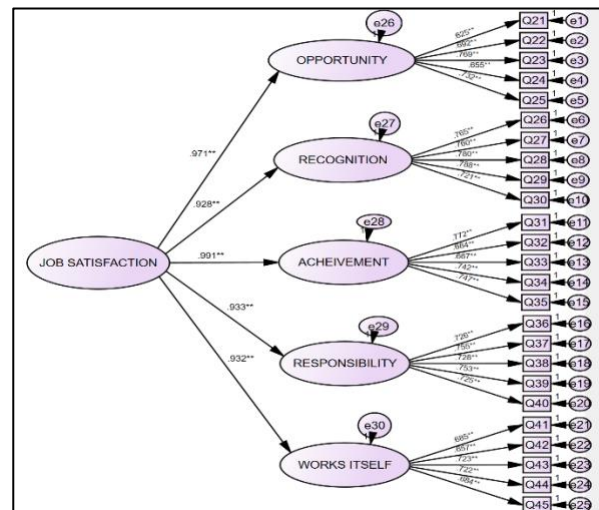


Figure 3. the Second order CFA of JS



The CFA results for the third measurement model, illustrated in Figure 4, indicated an excellent fit: chi square = 91.828 with 75 degrees of freedom, $p = .091$; RMR = .019; GFI = .971; and TLI = .993. The relative chi square of 1.224 fell below the threshold of 2, with the RMR below .05 and both the GFI and TLI exceeding .95 (Schumacker & Lomax, 2016). The CFA results for the fourth measurement model, illustrated in Figure 5, indicated an excellent fit: chi square = 157.985 with 132 degrees of freedom, $p = .061$; RMR = .020; GFI = .963; and TLI = .993. The relative chi square of 1.197 again fell below the threshold of 2, with the RMR below .05 and both the GFI and TLI exceeding .95 (Schumacker & Lomax, 2016).

Figure 4. the Second order CFA of IB

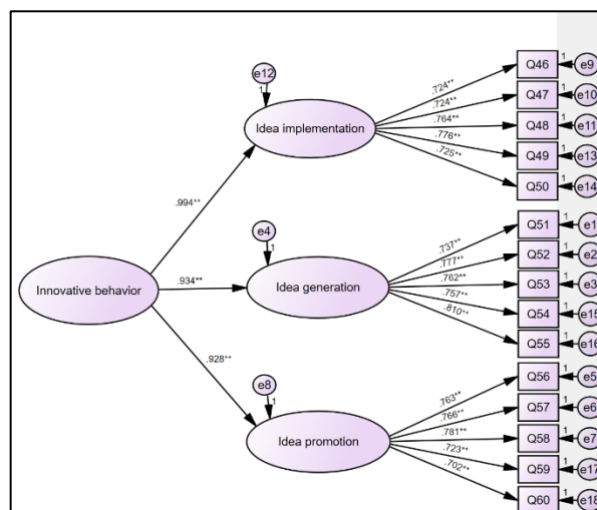
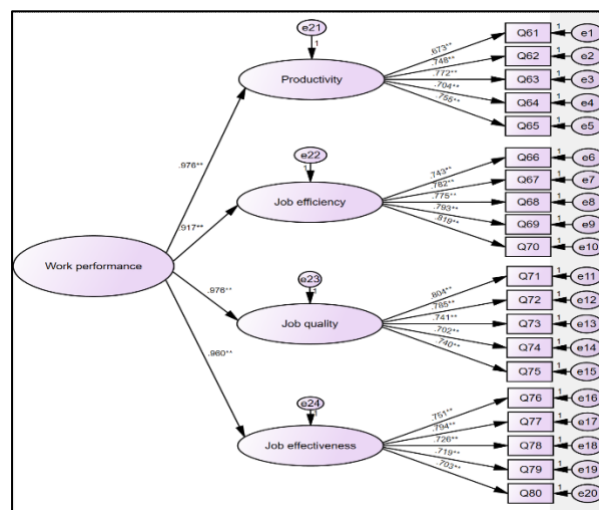


Figure 5. the Second order CFA of WP



Finally, as shown in Figure 6, the structural equation model demonstrated a strong overall fit to the data: chi square = 51.870, relative chi square = 0.961, root mean square error of approximation (RMSEA) = 0.0001, root mean square residual (RMR) = 0.006, goodness of fit index (GFI) = 0.984, comparative fit index (CFI) = 1.000, and normed fit index (NFI) = 0.993. The chi square p value of 0.557 exceeded the conventional threshold of 0.05, the relative chi square fell below 2, both RMSEA and RMR fell below 0.05, and the GFI, CFI, and NFI each exceeded 0.95. Collectively, these indices indicate that the hypothesized model provided a good fit to the empirical data (Schumacker & Lomax, 2016).

Figure 6. The path diagram of the structural equation

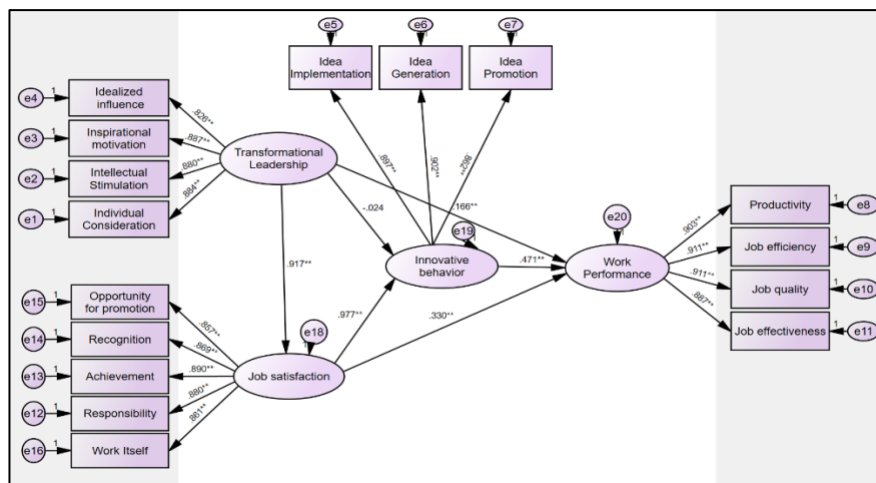


Table 7. The Summary of Hypothesis Testing

No	Research hypothesis	Status
1	H1. Transformational Leadership has a positive effect on Work Performance.	Accepted
2	H2. Innovative Behavior has a positive effect on Work Performance.	Accepted
3	H3. Job Satisfaction has a positive effect on Work Performance.	Accepted
4	H4. Transformational Leadership has a positive effect on Job Satisfaction.	Accepted
5	H5. Transformational Leadership has a positive effect on Innovative Behavior.	Rejected
6	H6. Job Satisfaction has a positive effect on Innovative Behavior.	Accepted

5. Discussion

5.1.1 Transformational Leadership and Work Performance

The first hypothesis examined the influence of transformational leadership on work performance. The results indicate a significant positive relationship between transformational leadership and

employee performance, consistent with prior studies demonstrating that transformational leadership positively influences work performance (Azmy & Perkasa, 2024; Bakti & Hartono, 2022; Ekhsan & Setiawan, 2021; Park et al., 2021; Riyanto et al., 2021; Widodo & Mawarto, 2020; Eliyana & Wijayanti, 2020; Buil et al., 2019; Chandrasekara, 2019; Al-Amin, 2017; Mangkunegara & Huddin, 2016; Paracha et al., 2012).

5.1.2 Innovative Behavior and Work Performance

The second hypothesis examined the influence of innovative behavior on work performance. The results indicate a significant positive relationship, suggesting that employees who engage in innovative behavior tend to demonstrate higher levels of performance. Innovative behavior plays a critical role in enhancing organizational productivity by encouraging creative solutions, adaptability, and proactive problem solving (Kuratko, Hornsby, & Covin, 2014). This behavior is not confined to technological contexts but instead reflects the time and effort employees invest in improving the speed, quality, and quantity of their work. This finding is consistent with prior studies conducted across diverse organizational and geographic contexts, which have similarly found that innovative behavior positively influences work performance (Pham et al., 2024; Lu et al., 2022; Purwanto, 2020; Tang et al., 2020; Nasir et al., 2019; Kim & Koo, 2017; Balkar, 2015).

5.1.3 Job Satisfaction and Work Performance

The third hypothesis examined the influence of job satisfaction on work performance. The results demonstrate a significant positive relationship, indicating that higher levels of job satisfaction are associated with improved employee performance. This finding is consistent with prior research; for instance, Khan et al. (2016) found that job satisfaction positively influences employee output, Badrianto and Ekhsan (2020) identified both partial and simultaneous positive effects, and Torlak and Kuzey (2019) confirmed a significant effect of job satisfaction on work performance.

5.1.4 Transformational Leadership and Job Satisfaction

The fourth hypothesis examined the influence of transformational leadership on job satisfaction. The results reveal a significant positive relationship, indicating that transformational leadership enhances employee satisfaction. This finding aligns with prior studies that have consistently demonstrated the positive influence of transformational leadership on employee attitudes and performance outcomes (Pratama, 2021; Hilton et al., 2021; Khoso, 2021; Kishen et al., 2020; Siswanto et al., 2020; Eliyana & Ma'arif, 2019; Jameel & Ahmad, 2019; Malik et al., 2017; Long et al., 2014; Metwally et al., 2014; Bushra et al., 2011; Judge et al., 2004).

5.1.5 Transformational Leadership and Innovative Behavior

The fifth hypothesis examined the influence of transformational leadership on innovative behavior. Contrary to expectations, the results indicate that transformational leadership does not exert a significant effect on innovative behavior. Although this outcome diverges from a substantial

portion of the existing literature, it is consistent with a growing body of research reporting weak or non significant associations between transformational leadership and innovation (Bednall et al., 2018; Sethibe & Steyn, 2017; Nederveen Pieterse et al., 2010; Jaussi & Dionne, 2003; Basu & Green, 1997). This finding is particularly consistent with Sattayaraksa and Boon-itt (2018), who likewise reported no significant relationship between transformational leadership and innovation performance.

5.1.6 Job Satisfaction and Innovative Behavior

The sixth hypothesis examined the influence of job satisfaction on innovative behavior. The results reveal a significant positive relationship, indicating that higher levels of job satisfaction are associated with increased innovative behavior. This finding is consistent with prior research demonstrating that satisfied employees are more likely to engage in innovation related activities (Sena, 2020; Hrnjic et al., 2018; Cingoz & Kaplan, 2015; Wijayati, 2014).

6. Conclusion

This study developed and validated an assessment framework for transformational leadership and examined its influence on job satisfaction, innovative behavior, and work performance among university staff in Phnom Penh, Cambodia. Drawing on responses from 400 participants and employing confirmatory factor analysis and structural equation modeling, the study established both the correlations among transformational leadership, job satisfaction, innovative behavior, and work performance, and a causal model linking these constructs. The validated survey instrument yielded reliable quantitative evidence indicating that transformational leadership meaningfully shapes staff outcomes within higher education institutions. These findings offer practical guidance for university administrators seeking to strengthen institutional effectiveness through leadership development, while supporting the cultivation of a more innovative and performance oriented academic environment in Cambodia.

6.1 Contribution of this Research

This research contributes to both academic and practical domains by offering a structured framework for assessing transformational leadership within Cambodian universities. For institutions in the early stages of adopting transformational leadership practices, the assessment framework developed here provides a practical tool for enhancing leadership effectiveness, staff motivation, and institutional performance, supporting closer alignment between leadership practice and strategic goals. The study further contributes to the relatively limited body of literature on leadership within the Cambodian education sector, providing scholars with validated instruments and contextual insights for future research on leadership dynamics in higher education. Practitioners and policymakers may likewise draw on these findings to inform the design of leadership training and development programs. More broadly, the study underscores the role of transformational leadership in fostering shared vision, organizational commitment, and collective

achievement, positioning it as a potential driver of sustainable development and academic excellence within Cambodia's higher education system.

6.2 Limitations and Future Studies

This study offers valuable insight into the application of transformational leadership within Cambodian universities, contributing to a deeper understanding of how transformational leadership shapes organizational outcomes in higher education. The study is nonetheless subject to several limitations related to sample size, generalizability, and contextual scope that should be considered when interpreting the findings.

First, the sample of 400 participants, while adequate for the structural equation modeling techniques employed, may not fully represent the broader population of university staff across Cambodia, particularly given the geographic and institutional diversity of the sector. Future research should therefore consider larger and more geographically diverse samples to strengthen the generalizability of findings.

Second, as higher education institutions in the region continue to evolve, further research is needed to understand how leadership styles shape employee motivation, engagement, and satisfaction, with particular attention to contextual factors such as organizational structure, cultural norms, and administrative support that may moderate the effectiveness of transformational leadership. Related research might also examine how leadership styles contribute to creativity, knowledge sharing, and problem solving within academic institutions, again attending to organizational culture, leadership development, and resource constraints as potential moderating factors.

Third, as universities face increasing demands for accountability, innovation, and quality service delivery, further research should examine how specific dimensions of transformational leadership, including individualized consideration, inspirational motivation, and intellectual stimulation, contribute to productivity and goal achievement, while accounting for mediating factors such as organizational support, job satisfaction, and professional development opportunities. This study is intended to serve as a foundation for such future research, informing strategies to promote effective leadership, strengthen staff wellbeing, and improve educational outcomes within Cambodian universities.

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