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Transformational Leadership and Sustainable Innovation: Psychological Pathways and Organisational Outcomes

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Abstract

Aims and Objectives: The study aims to examine the multidimensional nature of Transformational Leadership (TLT) and its cascading effects on psychological, behavioural, and organisational outcomes. Specifically, it seeks to investigate the mediating and moderating mechanisms through which leadership influences innovative behaviour, performance, and retention-related outcomes. **Research Design and Key Findings:** The study adopted a quantitative research design using survey methodology and Structural Equation Modelling (SEM), complemented by PROCESS Model 14 to test Moderated mediation effects. The findings indicate that transformational leadership significantly enhances psychological empowerment and innovative behaviour, with perceived organisational support strengthening the indirect effects. The results further confirm that psychological and behavioural mechanisms collectively contribute to firm-level outcomes. **Managerial Implications:** The findings highlight the importance of fostering transformational leadership behaviours to cultivate empowerment, innovation, and employee retention. Organisations should strengthen perceived organisational support systems to amplify the positive effects of leadership on innovation and performance. Investing in leadership development and supportive organisational climates can yield sustainable competitive advantages. **Originality and Contribution:** This study contributes to the leadership literature by integrating dimensional, psychological, behavioural, and performance outcomes into a single comprehensive model. Employing a Moderated mediation framework, it advances understanding of the conditional mechanisms through which transformational leadership drives innovation and firm performance.

Keywords: Firm Performance, Innovative Behaviour, Knowledge Sharing Intention, Team Efficacy, Transformational Leadership

JEL Classification Code: M12, O31, O32, Q56, D23

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1. Introduction

In today's knowledge-driven economy, innovation has become a central determinant of organisational competitiveness and long-term sustainability. Organisations increasingly depend on employees' capacity to generate, promote, and implement novel ideas that enhance processes, products, and services (Anderson *et al*., 2014). Within this context, leadership plays a pivotal role in shaping the psychological and structural conditions that foster innovative behaviour. Among various leadership approaches, transformational leadership has emerged as one of the most influential frameworks for understanding how leaders inspire followers to exceed expectations and embrace change (Bass, 1985; Bass & Avolio, 1994). Transformational leaders articulate a compelling vision, intellectually stimulate employees, provide individualised consideration, and serve as role models. Prior research consistently links transformational leadership to creativity and innovation (Gumusluoglu & Ilsev, 2009; Wang *et al*., 2011). However, while the direct relationship between transformational leadership and innovative behaviour is well established, the underlying psychological and contextual mechanisms through which this influence unfolds remain insufficiently integrated. Scholars have emphasised psychological empowerment as a key motivational pathway (Spreitzer, 1995; Zhang & Bartol, 2010), yet the boundary conditions under which empowerment strengthens or weakens innovation are less clearly understood.

A critical issue confronting contemporary organisations is not merely how to stimulate innovation, but how to sustain innovative work behaviour over time and translate it into tangible organisational outcomes such as firm performance, organisational commitment, and employee retention. Despite extensive research on leadership and innovation, few studies have simultaneously examined transformational leadership, psychological empowerment, perceived organisational support, knowledge sharing, self-efficacy, sustainable innovative work behaviour, and downstream organisational outcomes within a unified structural framework. Moreover, limited empirical attention has been given to Moderated mediation mechanisms that clarify how contextual support systems influence the empowerment-innovation linkage (Hayes, 2018). Accordingly, the present study addresses three core gaps. First, it integrates psychological (empowerment, self-efficacy), relational (identification, shared values), and contextual (perceived organisational support) mechanisms into a comprehensive model linking transformational leadership to innovative and sustainable outcomes. Second, it examines a Moderated mediation structure to determine whether perceived organisational support conditions the indirect effect of transformational leadership on innovative behaviour as depicted in Figure 2. Third, it extends prior research by tracing innovation's cascading impact on

organisational commitment, organisational citizenship behaviour, firm performance, and intention to stay. By offering a multidimensional and process-oriented explanation of leadership-driven innovation, this study contributes to both leadership theory and innovation research. It advances understanding of how internal psychological resources and external organisational support jointly shape employee behaviour and long-term organisational sustainability.

The remainder of this paper is structured as follows. The next section reviews the relevant literature and develops the study hypotheses. This is followed by a detailed description of the research methodology, including sample characteristics, measurement instruments, and analytical procedures. Subsequently, the results of the structural model and Moderated mediation analyses are presented. The paper concludes with a discussion of theoretical contributions, managerial implications, research limitations, and directions for future research.

2. Literature Review

Transformational leadership theory (Bass, 1985; Bass & Avolio, 1994) provides the primary foundation for understanding how leaders influence innovative behaviour. Transformational leaders articulate a compelling vision, provide intellectual stimulation, demonstrate individualised consideration, and serve as role models. Unlike transactional leadership, which emphasises exchanges and rewards, transformational leadership inspires followers to transcend self-interest and pursue collective goals. Empirical evidence consistently links transformational leadership with creativity and innovation (Gumusluoglu & Ilsev, 2009; Wang *et al.*, 2011), yet the psychological and contextual mechanisms underlying this relationship require further integration. Psychological empowerment represents a key motivational pathway. Rooted in intrinsic motivation theory (Deci & Ryan, 1985) and conceptualised by Spreitzer (1995), empowerment reflects employees' perceptions of meaning, competence, autonomy, and impact. Transformational leaders enhance these perceptions by fostering trust, confidence, and participation. Self-determination theory further suggests that when autonomy and competence needs are satisfied, individuals are more likely to engage in proactive and innovative behaviours (Ryan & Deci, 2000). Complementing this perspective, social cognitive theory (Bandura, 1997) highlights the importance of self-efficacy. By modelling confidence and reframing challenges, transformational leaders strengthen followers' efficacy beliefs, which promote persistence and creative problem-solving (Chen & Bliese, 2002).

Relational and contextual dynamics further shape innovation. Social exchange theory (Blau, 1964) explains how supportive leadership and organisational environments encourage reciprocity through discretionary behaviours such as knowledge sharing and innovation. Perceived organisational support reinforces this exchange relationship (Eisenberger *et al.*, 2001). However, conservation of resources theory (Hobfoll, 1989) suggests that contextual resources may substitute for or interact with psychological resources, providing theoretical grounding for examining Moderated mediation effects. From a knowledge-based perspective (Grant, 1996), innovation depends on effective knowledge integration. Transformational

leadership fosters trust and shared values that promote knowledge sharing (Bryant, 2003), thereby strengthening innovative capacity. Finally, organisational commitment theory (Meyer & Allen, 1997) and research on citizenship behaviour (Organ, 1988) explain how innovation-related experiences translate into broader organisational outcomes, including performance and retention (Janssen, 2000; Anderson *et al.*, 2014). Collectively, these theoretical perspectives suggest that transformational leadership activates psychological empowerment, strengthens efficacy beliefs, enhances knowledge sharing, and fosters commitment mechanisms that ultimately drive innovative behaviour and sustainable organisational outcomes. Building on this integrated framework, the following section develops hypotheses of the study.

2.1 Four Dimensions of Transformational Leadership

Transformational Leadership (TLT) is conceptualised as a multidimensional construct encompassing idealised influence, inspirational motivation, intellectual stimulation, and individualised consideration (Bass, 1985; Bass & Avolio, 1994). These dimensions operate collectively to elevate followers' motivation, align values, and foster performance beyond transactional exchanges. Rather than isolated behaviours, they represent interdependent mechanisms through which transformational leaders shape follower attitudes and outcomes.

Idealised Influence (IFT) reflects leaders' ethical conduct, credibility, and role-modelling behaviour. By demonstrating integrity and commitment to shared values, leaders earn admiration and trust, forming the moral foundation of transformational leadership (Judge & Piccolo, 2004). Inspirational Motivation (IMT) refers to leaders' ability to articulate an inspiring vision and instil optimism, thereby enhancing intrinsic motivation and collective commitment (Shamir *et al.*, 1993). Intellectual Stimulation (IST) captures leaders' encouragement of creativity and critical thinking, enabling followers to challenge conventional assumptions and engage in innovative problem-solving (Bass, 1985). Individualised Consideration (ICT) involves personalised mentoring and developmental support, strengthening leader–follower relationships and fostering growth (Bass & Avolio, 1994). Together, these four dimensions represent the behavioural core of transformational leadership. Each contributes uniquely through ethical modelling, inspirational communication, cognitive activation, and individualised development, yet collectively they form the higher-order construct of TLT. Based on the above arguments, the researchers have posited the following hypothesis:

H1a, H1b, H1c, and H1d: The dimensions of transformational leadership, like IFT, IMT, IST, and ICT, are positively associated with TLT.

2.2 Transformational Leadership and Psychological Safety, Identification with Leaders, Shared Vision, and Self-Efficacy

TLT represents a value-based and motivational leadership approach that shapes followers' psychological states and collective orientations (Bass, 1985; Bass & Avolio, 1994; Burns,

1978). Beyond performance outcomes, transformational leaders influence how followers perceive safety, identity, shared purpose, and personal capability (Avolio, Walumbwa, & Weber, 2009; Wang *et al*., 2011). Drawing on social identity theory, social cognitive theory, and positive organisational scholarship, TLT can be theoretically linked to Psychological Safety (PST), Identification with Leader (IWLT), Shared Vision (SVT), and Self-Efficacy (SFT). First, TLT fosters Psychological Safety (PST) by creating climates characterised by trust, openness, and supportive interpersonal exchange. Leaders who encourage voice, tolerate mistakes, and model respect reduce fear of negative evaluation (Edmondson, 1999; Detert & Burris, 2007). Transformational behaviours, particularly intellectual stimulation and individualised consideration, have been empirically associated with enhanced psychological safety and team learning (Kark & Carmeli, 2009; Nembhard & Edmondson, 2006). Second, TLT strengthens IWLT. Through idealised influence and value congruence, followers internalise the leader's vision and integrate it into their self-concept (Kark *et al*., 2003). Social identity theory suggests that charismatic leadership enhances relational and collective identification (Shamir *et al*., 1993; van Knippenberg, van Knippenberg, De Cremer, & Hogg, 2004). Empirical studies confirm that transformational leadership significantly predicts follower identification and commitment (Wang *et al*., 2011). Third, TLT cultivates Shared Vision (SVT) by articulating an inspiring and meaningful future. Vision communication aligns individual and organisational goals, fostering collective efficacy and strategic cohesion (Bass & Riggio, 2006). Research indicates that inspirational motivation enhances shared understanding and collective commitment across organisational levels (Kirkpatrick & Locke, 1996; Pearce & Ensley, 2004). Finally, TLT enhances Self-Efficacy (SFT). Drawing from social cognitive theory, leaders influence followers' efficacy beliefs through mastery experiences, verbal persuasion, and confidence signalling (Bandura, 1997). Transformational leaders who provide intellectual stimulation and developmental support significantly strengthen followers' performance-related self-efficacy (McColl-Kennedy & Anderson, 2002; Walumbwa, Avolio, & Zhu, 2008). Taken together, transformational leadership operates through psychological, relational, and motivational mechanisms that elevate follower functioning beyond transactional exchange. Based on the above arguments, the researchers have posited the following hypothesis:

H2a, H2b, H2c, and H2d: TLT is positively associated with follower outcomes, such as PST, IWLT, SVT, and SFT.

2.3 Self- Efficacy with Team Efficacy

SFT refers to an individual's belief in their capability to perform specific tasks (Bandura, 1997) successfully. When individuals with strong self-efficacy interact within collaborative settings, their confidence, persistence, and problem-solving orientation can extend beyond personal performance and influence collective functioning. Through processes such as social modelling, verbal persuasion, and mastery experiences, individual efficacy beliefs contribute to the development of Team Efficacy, defined as a shared belief among team members regarding their collective capability to achieve goals (Bandura, 2000; Gully,

Incalcaterra, Joshi, & Beaubien, 2002). High self-efficacy individuals tend to communicate confidence, take initiative, and support peers, thereby strengthening collective confidence and performance expectations. Empirical research suggests that individual-level efficacy beliefs aggregate and interact to shape team-level efficacy perceptions, particularly in interdependent work contexts (Chen, Gully, & Eden, 2001). Accordingly, the researchers posit the following hypothesis:

H5: SFT is positively associated with TFT.

2.4 Organisational Commitment with Sustainable Innovative Work Behaviour

Sustainable Innovative Work Behaviour (SIWB) reflects employees' continuous engagement in generating, promoting, and implementing novel ideas that contribute to long-term organisational sustainability (Janssen, 2000; Scott & Bruce, 1994). Such sustained innovation requires not only creativity but also persistence and emotional investment. Organisational Commitment, particularly affective commitment, captures employees' emotional attachment and identification with the organisation (Meyer & Allen, 1991). From a social exchange perspective (Blau, 1964), employees who feel strongly committed are more likely to reciprocate through proactive and future-oriented behaviours that benefit the organisation. Empirical evidence suggests that committed employees are more willing to invest sustained effort, embrace change, and engage in discretionary innovation activities (Meyer *et al*., 2002). Accordingly, the researchers posit the following hypothesis:

H4: Organisational Commitment (OCT) is positively associated with Sustainable Innovative Work Behaviour (SIWB).

2.5 Team Efficacy with Firm Performance and Knowledge Sharing Intention with Firm Performance

Team Efficacy and Knowledge Sharing Intention are widely recognised as critical collective drivers of Firm Performance. Team Efficacy reflects a shared belief among team members in their collective capability to organise and execute actions required to achieve desired outcomes (Bandura, 2000). When teams possess strong collective confidence, they demonstrate greater coordination, persistence, and adaptive problem-solving, which translates into higher productivity and goal attainment. Empirical evidence shows that team efficacy is positively related to team effectiveness and organisational performance outcomes (Gully *et al*., 2002; Tasa, Taggar, & Seijts, 2007). Similarly, Knowledge Sharing Intention refers to employees' willingness to share information, expertise, and insights with colleagues (Bock *et al*., 2005). In knowledge-intensive environments, performance increasingly depends on the effective exchange and integration of knowledge resources. Drawing from the knowledge-based view of the firm (Grant, 1996), organisations that foster knowledge sharing enhance innovation, decision quality, and operational efficiency. Studies consistently demonstrate that knowledge-sharing behaviours positively influence organisational innovation capability and overall firm performance (Wang & Wang, 2012; Cabrera & Cabrera, 2005).

Collectively, team efficacy strengthens coordinated effort and collective execution, while knowledge sharing intention enhances intellectual capital utilisation. Both mechanisms contribute to improved strategic outcomes, competitive advantage, and sustained firm performance. Based on these arguments, the researchers posit the following hypotheses:

H6: Team Efficacy (TFT) is positively associated with Firm Performance (FPT).

H7: Knowledge Sharing Intention is positively associated with Firm Performance (FPT).

2.6 Shared Vision with Innovative Behaviour

Shared Vision (SV) reflects a collectively understood and emotionally endorsed image of the organisation's future that aligns individual aspirations with organisational goals (Bass & Riggio, 2006). When employees internalise a shared vision, they develop a sense of purpose and direction that transcends routine task execution. From a motivational perspective, shared vision enhances intrinsic motivation and goal commitment, both of which are essential drivers of innovative behaviour (Shamir *et al.*, 1993). Innovation often involves uncertainty and risk; a clearly articulated and collectively supported vision reduces ambiguity and encourages employees to invest effort in creative idea generation and implementation.

Drawing on goal-setting theory and social identity theory, shared vision strengthens collective focus and fosters psychological ownership, thereby promoting proactive and innovation-oriented actions (Kirkpatrick & Locke, 1996; van Knippenberg *et al.*, 2004). Empirical research suggests that vision clarity and alignment significantly enhance creativity and innovative work behaviours by fostering commitment and strategic coherence (Pearce & Ensley, 2004; Wang *et al.*, 2011). When employees perceive that their innovative contributions align with a broader organisational purpose, they are more likely to sustain innovative efforts over time. Accordingly, the researchers posit the following hypothesis:

H8: Shared Vision is positively associated with Innovative Behaviour.

2.7 Organisational Outcomes

Intention to Stay (ITS) reflects an employee's conscious and deliberate willingness to remain with an organisation over time, serving as a key indicator of retention and workforce stability. OCT, particularly affective commitment, has consistently been identified as one of the strongest predictors of intention to stay, as emotionally attached employees are more likely to maintain long-term organisational membership (Meyer & Allen, 1991; Meyer *et al.*, 2002). Similarly, Organisational Citizenship Behaviour (OCB), which involves discretionary and prosocial behaviours that support organisational functioning, is often exhibited by employees who feel psychologically connected to the organisation and therefore demonstrate lower turnover intentions (Organ, 1988; Podsakoff *et al.*, 2009). Employees who voluntarily go beyond formal role requirements typically exhibit stronger attachment and loyalty, reinforcing their intention to remain. Firm Performance also plays a critical role in shaping employees' intention to stay. When organisations demonstrate strong performance outcomes such as growth, profitability, and strategic success, employees perceive stability, career prospects, and organisational prestige, all

of which enhance retention intentions (Huselid, 1995; Shaw, Duffy, Johnson, & Lockhart, 2005). High-performing firms often provide better rewards, developmental opportunities, and job security, thereby strengthening employees' desire to continue their association. Collectively, attitudinal attachment (commitment), discretionary contribution (OCB), and perceived organisational success (firm performance) function as reinforcing mechanisms that enhance employees' intention to stay. Based on these arguments, the researchers posit the following hypotheses:

H9a: Firm Performance is positively associated with Intention to Stay.

H9b: Organisational Commitment is positively associated with Intention to Stay.

H9c: Organisational Citizenship Behaviour is positively associated with Intention to Stay.

2.7.1 Moderated Mediation

TLT has consistently been associated with enhanced Employee Innovative Behaviour (EIB), as transformational leaders articulate a compelling vision, stimulate intellectual curiosity, and encourage autonomy (Bass, 1985; Wang *et al.*, 2011). By fostering intrinsic motivation and challenging existing assumptions, TLT creates a context conducive to idea generation and implementation (Gumusluoglu & Ilsev, 2009). Thus, leadership serves as a foundational driver of innovative work behaviour. However, the mechanism through which TLT translates into innovation can be better understood through Psychological Empowerment (PEP). Psychological empowerment reflects employees' perceptions of meaning, competence, self-determination, and impact in their work roles (Spreitzer, 1995). Transformational leaders enhance these cognitions by providing autonomy, expressing confidence in followers' abilities, and linking tasks to broader organisational goals (Avolio *et al.*, 2004). Empowered employees are more likely to engage in proactive and innovative behaviours because they perceive greater control and capability (Zhang & Bartol, 2010). Hence, psychological empowerment functions as a mediating psychological mechanism between leadership and innovation. At the same time, the effectiveness of empowerment in fostering innovation may depend on contextual resources, particularly Perceived Organisational Support (POS). POS reflects employees' beliefs that the organisation values their contributions and cares about their well-being (Eisenberger *et al.*, 1986). Drawing from social exchange theory, when employees perceive high organisational support, they are more likely to reciprocate through enhanced performance and innovation (Rhoades & Eisenberger, 2002). High POS strengthens the positive impact of empowerment on innovative behaviour by reinforcing employees' confidence that their innovative efforts will be recognised and supported. Conversely, low POS may weaken this relationship, as employees may hesitate to take risks despite feeling empowered. Accordingly, this framework in Fig2 suggests both mediation and moderation effects, forming a conditional indirect (Moderated mediation) model.

2.7.2 Direct Effect

H1: Transformational Leadership (TLT) is positively associated with Employee Innovative Behaviour (EIB).

2.7.3 Mediation Effect

H2: Transformational Leadership (TLT) is positively associated with Psychological Empowerment (PEP).

H3: Psychological Empowerment (PEP) is positively associated with Employee Innovative Behaviour (EIB).

H4: Psychological Empowerment (PEP) mediates the relationship between Transformational Leadership (TLT) and Employee Innovative Behaviour (EIB).

2.7.4 Moderation Effect

H5: Perceived Organisational Support (POS) moderates the relationship between Psychological Empowerment (PEP) and Employee Innovative Behaviour (EIB), such that the relationship is stronger when POS is high.

2.7.5 Moderated Mediation Effect

H6: The indirect effect of Transformational Leadership (TLT) on Employee Innovative Behaviour (EIB) through Psychological Empowerment (PEP) is conditional upon Perceived Organisational Support (POS), such that the mediated relationship is stronger at higher levels of POS.

3. Research Design

Drawing on the integrated conceptual framework and the gaps identified in prior literature, particularly the need to examine transformational leadership as a higher-order construct and its cascading psychological and behavioural outcomes, the following research questions are proposed. These questions capture the full structural model, including dimensional, relational, psychological, and behavioural linkages.

RQ1: How do the dimensions of transformational leadership, IFT, IMT, IST, and ICT collectively contribute to the formation of TLT as a higher-order construct?

RQ2: How does TLT influence key follower psychological outcomes, namely PST, IWLT, SVT, and SFT?

RQ3: How do these follower-level psychological mechanisms (PST, IWLT, SVT, and SFT) translate into behavioural and organisational outcomes such as SIWB, OCB, Team Efficacy, Knowledge Sharing Intention, Firm Performance, and Intention to Stay?

RQ4: To what extent do psychological and contextual mechanisms (e.g., Psychological Empowerment and Perceived Organisational Support) mediate or condition the relationship between TLT and employee innovative and performance-related outcomes?

Together, these research questions provide a comprehensive inquiry into the structural, psychological, behavioural, and conditional pathways embedded within the proposed model.

The researchers employed a structured questionnaire using a five-point Likert scale, where 1 represented the lowest level of agreement, and 5 represented the highest. The instrument was pre-tested to ensure clarity, reliability, and content validity before large-scale administration (Sathyanarayana *et al.*, 2024).

The survey was distributed to 1,514 respondents, of which 1,312 completed questionnaires were received, yielding a response rate of 86.66%. After data screening for missing values, outliers, and response consistency, 1,127 usable responses were retained for the final analysis, representing 74.44% of the total distributed questionnaires and 85.90% of the returned responses.

The constructs included in the final model as shown in Fig1 were: IFT, IMT, IST, ICT, TLT, PST, IWLT, SVT, KST, SIWT, SFT, OCT, OCB, and FPT. Measurement items for these constructs were adapted from well-established and validated scales to ensure construct validity and reliability. Specifically, transformational leadership dimensions were adopted from the Multifactor Leadership Questionnaire (Bass & Avolio, 1995); psychological empowerment and self-efficacy scales were derived from Spreitzer (1995) and Bandura (1997); psychological safety from Edmondson (1999); identification constructs from Kark *et al.* (2003); knowledge sharing intention from Bock *et al.* (2005); innovative work behaviour from Janssen (2000); organisational commitment from Meyer and Allen (1991); OCB from Podsakoff *et al.* (2000); and firm performance measures were adapted from established strategic management research (Venkatraman & Ramanujam, 1986). The use of validated instruments enhances measurement rigour and supports the robustness of the empirical analysis.

The study employed a simple random sampling technique, ensuring that each member of the target population had an equal probability of selection, thereby reducing selection bias and enhancing the representativeness of the sample (Creswell, 2014).

Before hypothesis testing, the collected data were examined for the fundamental assumptions of regression analysis. These included tests of normality (skewness and kurtosis), linearity, homoscedasticity, independence of errors (Durbin–Watson statistic), and absence of multicollinearity (Variance Inflation Factor and tolerance values) (Hair *et al.*, 2019; Tabachnick & Fidell, 2013; Sathyanarayana S., 2026). The results indicated that the data met acceptable threshold values, confirming suitability for multivariate analysis.

Reliability of the constructs was assessed using Cronbach's alpha, where values above 0.70 indicate acceptable internal consistency (Nunnally & Bernstein, 1994). In addition, Composite Reliability (CR) was computed to provide a more robust estimate of construct reliability within a Structural Equation Modelling (SEM) framework (Hair *et al.*, 2019). All constructs demonstrated reliability values exceeding recommended thresholds, confirming measurement consistency.

To establish construct validity, Confirmatory Factor Analysis (CFA) was conducted using SEM procedures. Convergent validity was assessed through factor loadings (>0.60), Average Variance Extracted (AVE >0.50), and CR (>0.70), while discriminant validity was evaluated using the Fornell–Larcker criterion (Fornell & Larcker, 1981). Model fit indices such as CFI, TLI, RMSEA, and SRMR were examined to ensure adequate model fit (Hu & Bentler, 1999).

Given the self-reported nature of the data, Common Method Bias (CMB) was tested using Harman's single-factor test. The unrotated factor

solution revealed that the first factor accounted for 32.33% of the total variance, which is below the critical threshold of 50%, indicating that common method variance was not a serious concern (Podsakoff *et al*., 2003).

Subsequently, SEM was employed to test the hypothesised relationships among constructs, as SEM allows simultaneous estimation of multiple direct and indirect effects while accounting for measurement error (Kline, 2016). Furthermore, the Moderated mediation effect was examined using PROCESS Model 14 (Hayes, 2018), which tests conditional indirect effects where the mediator-to-outcome path is moderated. Bootstrapping procedures with bias-corrected confidence intervals were used to assess the significance of indirect and Moderated mediation effects, as recommended in contemporary mediation analysis literature (Hayes, 2018; Preacher, Rucker, & Hayes, 2007).

4. Data Analysis

Table 1 reflects the demographic profile of the respondents provides a comprehensive overview of the sample characteristics and reflects a reasonably diverse representation across gender, age, income, education, designation, and work experience. A total of 1,127 valid responses were considered for the analysis. With respect to gender distribution, the sample is moderately male-dominated. Out of the total respondents, 683 individuals, constituting 60.60 per cent, are male, while 444 respondents, accounting for 39.40 per cent, are female. Although the proportion of male respondents is higher, the representation of female participants is substantial, enabling meaningful gender-based analytical comparisons if required. In terms of age composition, the majority of respondents fall within the younger age brackets. A significant 54.21 per cent (611 respondents) are below 30 years of age, followed by 37.27 per cent (420 respondents) in the 31-35 age group. Only a small proportion of respondents are in the higher age categories, with 4.26 per cent (48 respondents) each in the 36-40 and above 40 age groups. This indicates that more than 91 per cent of the sample comprises individuals below 35 years, suggesting that the dataset predominantly captures perspectives from early- and mid-career professionals. Regarding marital status, the distribution is relatively balanced. Married respondents constitute 52.17 per cent (588 individuals), whereas unmarried respondents represent 47.83 per cent (539 individuals). The near-equal representation ensures that marital status-based behavioural or perceptual variations can be examined without significant sampling bias. Monthly Household Income (MHI) levels reveal that a substantial portion of respondents belong to lower and middle-income brackets. Nearly 46.85 per cent (528 respondents) report an income of less than ₹50,000 per month. The next largest segment, comprising 23.34 per cent (263 respondents), falls within the ₹50,001-₹1,00,000 range. Higher income brackets are comparatively less represented, with 9.58 per cent (108 respondents) earning between ₹1,00,001-₹1,50,000, 5.32 per cent (60 respondents) in the ₹1,50,001-₹2,00,000 category, and 14.91 percent (168 respondents) reporting income above ₹2,00,000. The income distribution thus suggests a concentration in the lower-to-middle income segments, which may have implications for financial behaviour or perception-based constructs in subsequent analysis. Academic qualifications indicate a highly educated sample. A majority of

Table 1. Demographic profile of the respondents

VARIABLE	CATEGORY	NO OF RESPONDENTS	PERCENT
Gender	Male	683	60.60
	Female	444	39.40
Age	<30	611	54.21
	31-35	420	37.27
	36-40	48	4.26
	>40	48	4.26
Marital Status	Married	588	52.17
	Unmarried	539	47.83
MHI	<50000	528	46.85
	50001-100000	263	23.34
	100001-150000	108	9.58
	150001-200000	60	5.32
	>200000	168	14.91
Academic Details	Degree	420	37.27
	Masters	683	60.60
	Others	24	2.13
Position	Non-management / Technical	372	33.01
	Technical Support	108	9.58
	Service	180	15.97
	Managerial	299	26.53
	Supervisory	36	3.19
	Others	132	11.71
Work Experience	<5 Years	479	42.50
	5-10 Years	540	47.91
	>10 Years	108	9.58

respondents, 60.60 per cent (683 individuals), possess a Master's degree, while 37.27 per cent (420 respondents) hold a Bachelor's degree. A small fraction, 2.13 per cent (24 respondents), fall under other educational categories. The dominance of postgraduate respondents strengthens the intellectual and professional credibility of the data, particularly for studies

Table 2. Confirmatory factor analysis results

Items	Cronbach's Alpha	Loadings	AVE		CR	SqrtAVE
IC1	0.889	0.854	0.652	0.854***	0.845	0.807
IC2		0.743		0.743***		
IC3		0.814		0.814***		
IC4		0.791		0.791***		
IC5		0.83		0.83***		
IS1	0.879	0.851	0.678	0.851***	0.839	0.823
IS2		0.835		0.835***		
IS3		0.808		0.808***		
IS4		0.786		0.786***		
IS5		0.834		0.834***		
IM1	0.911	0.887	0.629	0.887***	0.843	0.793
IM2		0.659		0.659***		
IM3		0.806		0.806***		
IM4		0.879		0.879***		
IM5		0.709		0.709***		
IF1	0.896	0.84	0.627	0.84***	0.834	0.792
IF2		0.83		0.83***		
IF3		0.842		0.842***		
IF4		0.721		0.721***		
IF5		0.716		0.716***		
TL1	0.923	0.82	0.633	0.82***	0.888	0.796
TL2		0.774		0.774***		
TL3		0.825		0.825***		
TL4		0.806		0.806***		
TL5		0.812		0.812***		
TL6		0.766		0.766***		
TL7		0.764		0.764***		

IFT: Idealised Influence; IMT: Inspirational motivation; IST: Intellectual Stimulation; IC: Individualised Consideration; TLT: Transformational Leadership.

CMIN=513.325; DF=205; P=0.000(<0.01); CMIN/DF =2.504; RMSEA = 0.032; GFI = 0.891; AGFI = 0.892; PGFI = 0.936; NFI = 0.972; IFI = 0.944; TLI = 0.931; CFI = 0.912

involving managerial perceptions or strategic decision-making constructs. The distribution of respondents by position reflects heterogeneity across organisational hierarchies. Non-management or technical roles account for 33.01 per cent (372 respondents), forming the largest category. Managerial positions represent 26.53 per cent (299 respondents), followed by service roles at 15.97 per cent (180 respondents). Technical support staff constitute 9.58 per cent (108 respondents), supervisory roles account for 3.19 per cent (36 respondents), and 11.71 per cent (132 respondents) fall under other categories. The presence of respondents across different functional and hierarchical levels enhances the robustness of perceptual and behavioural analyses. Finally, work experience data show that the majority of respondents are relatively experienced professionals. While 42.50 per cent (479 respondents) have less than five years of experience, a larger proportion, 47.91 per cent (540 respondents), possess between five and ten years of experience. Only 9.58 per cent (108 respondents) have more than ten years of experience. This indicates that nearly 58 per cent of the respondents have more than five years of professional experience, suggesting adequate industry experience to provide informed responses.

The CFA results in Table2 indicate that the measurement model demonstrates an overall acceptable to good fit with the observed data. The chi-square statistic was significant, χ^2 (205) = 513.325, $p < .01$. Although a significant chi-square traditionally suggests some discrepancy between the model and the data, it is well established in structural equation modelling literature that the chi-square test is highly sensitive to sample size and model complexity (Sathyanarayana & Mohanasundaram, 2024). Therefore, researchers typically rely on additional fit indices to evaluate model adequacy. The relative chi-square (CMIN/DF) value of 2.504 falls within the commonly accepted threshold of less than 3.00, indicating a reasonable level of model fit. More importantly, the Root Mean Square Error of Approximation (RMSEA) is 0.032, which is well below the recommended cutoff of 0.06. This suggests a very good approximation of the model to the population covariance matrix and reflects minimal residual error. Incremental fit indices further support the adequacy of the model. The Normed Fit Index (NFI = 0.972), Incremental Fit Index (IFI = 0.944), Tucker–Lewis Index (TLI = 0.931), and Comparative Fit Index (CFI = 0.912) all exceed the conventional threshold of 0.90. In particular, the NFI and IFI values approaching or exceeding 0.95 indicate strong comparative fit relative to the null model. These indices collectively suggest that the proposed factor structure substantially improves upon a baseline model with no relationships among variables. The absolute fit indices present a slightly more nuanced picture. The Goodness-of-Fit Index (GFI = 0.891) and Adjusted Goodness-of-Fit Index (AGFI = 0.892) are marginally below the traditional 0.90 benchmark. However, these indices are known to be sensitive to sample size and model complexity, and values approaching 0.90 are generally considered acceptable in applied research contexts. The Parsimony Goodness-of-Fit Index (PGFI = 0.936) indicates that the model achieves good explanatory power while maintaining parsimony. Taken together, the combination of a low RMSEA, acceptable CMIN/DF ratio, and strong incremental fit indices provides convincing evidence that the measurement model fits the data well.

Although the chi-square test is significant and GFI/AGFI fall slightly below 0.90, the overall pattern of fit statistics supports the adequacy of the factor structure. Therefore, it can be reasonably concluded that the constructs in the study demonstrate satisfactory construct validity, and the measurement model is suitable for proceeding to structural model testing. The measurement model demonstrates strong reliability and validity across all five dimensions of transformational leadership. Cronbach's alpha coefficients range from .879 to .923, indicating high internal consistency for Individualised Consideration (α = .889), Intellectual Stimulation (α = .879), Inspirational Motivation (α = .911), Idealised Influence (α = .896), and Transformational Leadership (α = .923). All values substantially exceed the recommended threshold of .70, confirming that the items within each construct consistently measure their respective latent dimensions. The standardised factor loadings for all items are statistically significant at $p < .001$ and range from .659 to .887. Specifically, Individualised Consideration items load between .743 and .854; Intellectual Stimulation between .786 and .851; Inspirational Motivation between .659 and .887; Idealised Influence between .716 and .842; and Transformational Leadership between .764 and .825. The majority of loadings exceed .70, indicating strong item reliability, while the lowest loading (.659) remains within acceptable limits for confirmatory factor analysis. Overall, the strength and consistency of the factor loadings indicate that each observed variable contributes meaningfully to its intended construct. Convergent validity is supported by Average Variance Extracted (AVE) values ranging from .627 to .678, all exceeding the recommended cutoff of .50. This indicates that each construct explains more than half of the variance in its respective indicators, demonstrating adequate shared variance between items and their latent factors. Composite Reliability (CR) values range from .834 to .888, further confirming strong internal consistency and aligning closely with Cronbach's alpha results (Sathyanarayana, S., 2026b). Overall, the pattern of reliability coefficients, significant factor loadings, adequate AVE, strong composite reliability, and satisfactory discriminant validity indicates that the measurement model is psychometrically

Table 3. Discriminant validity of the measurement model

	IC	IS	IM	IF	TL	Mean	SE	SD
IC	**0.807**	0.312	0.413	0.345	0.211	3.91	0.051	0.891
IS		**0.823**	0.194	0.279	0.432	3.98	0.034	0.698
IM			**0.793**	0.189	0.298	4.01	0.029	1.012
IF				**0.792**	0.209	4.07	0.047	0.945
TL					**0.796**	3.93	0.061	0.911

IFT: Idealised Influence; IMT: Inspirational motivation; IST: Intellectual Stimulation; IC: Individualised Consideration; TLT: Transformational Leadership.

robust. The constructs demonstrate solid internal consistency and construct validity, providing strong empirical support for proceeding to structural model analysis (Sathyanarayana & Mohanasundaram, 2024).

The discriminant validity results in Table 3 provide strong evidence that the five constructs, IC, IS, IM, IF, and TL, are empirically distinct from one another. Using the Fornell-Larcker criterion, discriminant validity is established when the square root of the AVE for each construct is greater than its correlations with other constructs. In the present results, the diagonal values (square root of AVE) range from .792 to .823, specifically IC (.807), IS (.823), IM (.793), IF (.792), and TL (.796). Each of these values is higher than the corresponding inter-construct correlations in its row and column, confirming adequate discriminant validity. The inter-construct correlations range from .189 to .432. The highest observed correlation is between IS and TL at .432, which remains well below the square root of AVE values for both constructs (.823 and .796, respectively). Similarly, the correlations between Individualised Consideration and Inspirational Motivation (.413) and between Individualised Consideration and Idealised Influence (.345) are moderate in magnitude but remain lower than their respective diagonal values. The lowest correlations appear between Inspirational Motivation and Idealised Influence (.189), indicating a clear conceptual separation between these dimensions. Overall, none of the correlations approaches problematic levels (e.g., above .85), suggesting the absence of multicollinearity concerns. Descriptive statistics further contextualise the constructs. The mean values range from 3.91 (IC) to 4.07 (IF), indicating generally high perceptions of transformational leadership dimensions among respondents. Standard errors are relatively small (ranging from .029 to .061), reflecting stable mean estimates, while standard deviations range from .698 to 1.012, suggesting moderate variability in responses. Inspirational Motivation exhibits the highest variability (SD = 1.012), whereas

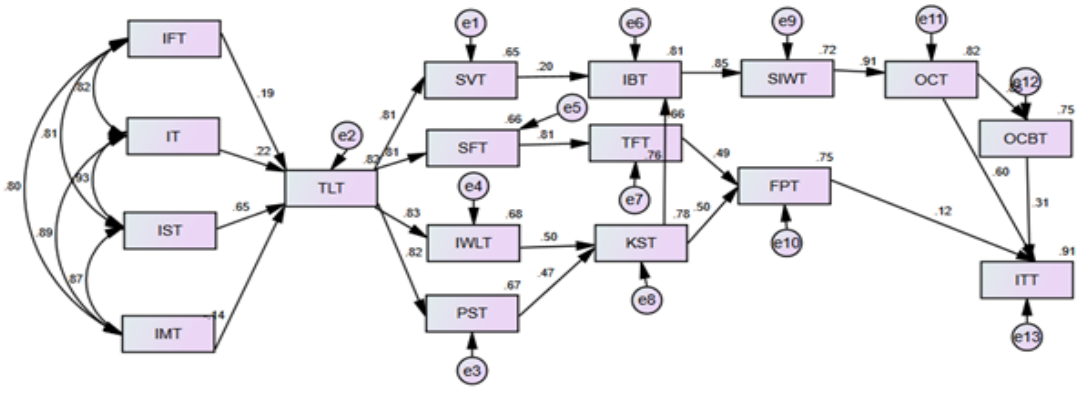


Figure 1. Graph showing the structural relationship of the final model.

Table 4. Testing of hypotheses

Path	U Coeff.	S Coeff.	S.E.	C.R.	P	Label
IFT → TLT	0.256	0.193	0.031	8.197	***	Supported
IMT → TLT	0.178	0.138	0.039	4.597	***	Supported
IST → TLT	0.797	0.647	0.044	18.231	***	Supported
ICT → TLT	0.306	0.225	0.053	5.761	***	Supported
TLT→ IWLT	0.562	0.526	0.011	49.101	***	Supported
TLT → PST	0.631	0.821	0.013	48.233	***	Supported
TLT→ SVT	0.642	0.805	0.014	45.605	***	Supported
PST→ KST	0.558	0.465	0.032	17.261	***	Supported
IWLT→KST	0.678	0.501	0.036	18.599	***	Supported
SVT→IBT	0.178	0.196	0.029	6.199	***	Supported
KST→IBT	0.6	0.762	0.024	25.126	***	Supported
TLT→SFT	0.642	0.815	0.014	47.156	***	Supported
IBT→SIWT	0.735	0.848	0.013	57.475	***	Supported
SIWT→OCT	1.127	0.907	0.015	76.033	***	Supported
SFT→TFT	0.967	0.811	0.021	46.475	***	Supported
OCT→OCB	0.809	0.864	0.014	59.933	***	Supported
TFT→FP	0.383	0.486	0.033	11.435	***	Supported
KST→FP	0.404	0.503	0.033	12.31	***	Supported
OCBT→IT	0.237	0.314	0.014	17.351	***	Supported
FPT→IT	0.088	0.118	0.014	6.257	***	Supported
OCT→IT	0.425	0.6	0.017	24.671	***	Supported

IFT: Idealised Influence; IMT: Inspirational motivation; IST: Intellectual Stimulation; ICT: Individual Consideration; TLT: Transformational Leadership; PST: Psychological Safety; IWLT: Identification with leader; SVT: Shared vision; KST: Knowledge sharing intention; SIWT: Sustainable innovative work behaviour; SFT: Self Efficacy; TFT: Team Efficacy; OCT: Organisational commitment; OCB: Organisational Citizenship Behaviour; FPT: Firm Performance. CMIN=501.774; DF=259; P0.000(<0.01); CMIN/DF =1.937; RMSEA = 0.021; GFI = 0.899; AGFI = 0.877; PGFI = 0.927; NFI = 0.962; IFI = 0.964; TLI = 0.905; CFI = 0.964

Intellectual Stimulation shows comparatively lower dispersion (SD = .698). Taken together, the comparison between the square root of AVE values and inter-construct correlations strongly supports discriminant validity. Each construct demonstrates greater shared variance with its own indicators than with other constructs in the model. These findings confirm that the chosen variables represent related yet distinct dimensions within the broader transformational leadership framework, thereby strengthening the credibility of the measurement model.

5. Analysis

The above data presented in Table 4 relates to model fit with respect to structural equation modelling (SEM) model fit assessment. These statistics help evaluate how well the model fits the observed data. CMIN/DF (Chi-Square Divided by Degrees of Freedom): The value is 1.937, which should ideally be less than 3 for a good fit. A value significantly greater than 1 may indicate a less-than-ideal fit. Root Mean Square Error of Approximation (RMSEA): The RMSEA value is 0.021, which is well below the typical threshold of 0.05, suggesting a good fit to the data. GFI (Goodness of Fit Index): The GFI is 0.899, which is close to 1. A GFI value above 0.90 is considered indicative of a good model fit. Adjusted Goodness of Fit Index (AGFI): The AGFI is 0.877, which, while slightly lower than GFI, is still relatively close to 1. An AGFI value above 0.90 is generally considered acceptable. PGFI (Parsimony Goodness of Fit Index): The PGFI is 0.927, which reflects the trade-off between model parsimony and fit. A value above 0.50 is often deemed satisfactory. NFI (Normal Fit Index): The NFI is 0.962, well above the threshold of 0.90, indicating a good fit. RFI (Relative Fit Index): The RFI is 0.903, also above the acceptable threshold of 0.90. IFI (Incremental Fit Index): The IFI is 0.964, indicating a good fit to the data. TLI (Tucker-Lewis Index): The TLI is 0.905, which is above the recommended threshold of 0.90. CFI (Comparative Fit Index): The CFI is 0.964, showing a good model fit. The model fit statistics generally suggest a good fit for your model. The RMSEA value of 0.021, which is well below 0.05, indicates a close fit between the model and the observed data. Additionally, indices like GFI, AGFI, NFI, RFI, IFI, TLI, and CFI all surpass their respective recommended thresholds, supporting the notion that the model fits the data well. Overall, the results suggest that the specified model is a good representation of the underlying relationships among the variables.

The first hypothesis tested the relationship between IFT and TLT. The analysis revealed a significant positive path coefficient (B=0.256, β = 0.193, SE=0.031, t=8.197, $p < 0.001$), indicating a strong and positive association between IFT and TLT. This suggests that higher levels of idealised influence are associated with higher levels of transformational leadership. This hypothesis is strongly supported. The second hypothesis examined the link between IMT and TLT. The analysis found a significant path coefficient (B=0.178, β = 0.138, SE=0.039, t=4.597, $p < 0.001$), indicating a direct relationship between IMT and TLT. Higher levels of Inspirational Motivation are associated with higher levels of Transformational Leadership. The third hypothesis investigated the association between IST and TLT. The analysis uncovered a significant positive path coefficient (B= 0.797, β = 0.647, SE=0.044, t=18.231, $p < 0.001$), indicating a strong positive

relationship between IST and TLT. Higher levels of Intellectual Stimulation are strongly linked to higher levels of Transformational Leadership. The fourth hypothesis explored the connection between ICT and TLT. The analysis demonstrated a significant positive path coefficient (B=0.306, β = 0.225, SE=0.053, t=5.761, p < 0.001), suggesting a strong and positive relationship between ICT and TLT. Higher levels of Individualized consideration are associated with higher levels of Transformational Leadership. The analysis revealed a significant positive path coefficient (B=0.562, β =0.526, SE=0.011, t=49.101, p < 0.001), indicating a strong and positive association between TLT and IWLT. Higher levels of transformational leadership are associated with higher levels of identification with leaders. The sixth hypothesis tested the connection between TLT and PST. The analysis demonstrated a significant positive path coefficient (B = 0.631, β = 0.821, SE=0.013, t=48.233, p < 0.001), indicating a strong and positive relationship between TLT and PST. Higher levels of transformational leadership are strongly associated with higher levels of psychological safety. The seventh hypothesis explored the relationship between TLT and SVT. The analysis found a significant positive path coefficient (B = 0.642, β = 805, SE=0.014, t=45.605, p < 0.001), indicating a strong and positive association between TLT and SVT. Higher levels of transformational leadership are strongly linked to higher levels of shared values. The eighth hypothesis examined the association between PST and KST. The analysis revealed a significant positive path coefficient (B = 0.558, β = 465, SE=0.032, t=17.261, p < 0.001), indicating a strong and positive relationship between PST and KST. Higher levels of psychological safety are associated with higher levels of knowledge sharing. The ninth hypothesis examined the relationship between IWLT and KST. The analysis revealed a significant positive path coefficient (B=0.678, β =501, SE=0.036, t=18.559, p < 0.001), indicating a strong and positive association between IWLT and KST. Higher levels of identification with leaders are associated with higher levels of knowledge sharing. The tenth hypothesis tested the connection between SVT and IBT. The analysis demonstrated a significant positive path coefficient (B = 0.178, β = 0.196, SE=0.029, t=6.199, p < 0.001), indicating a positive relationship between SVT and IBT. Higher levels of shared values are associated with higher levels of innovative behaviour. The eleventh hypothesis explored the association between KST and IBT. The analysis found a significant positive path coefficient (B = 0.6, β = 0.762, SE=0.024, t=25.126, p < 0.001), indicating a strong and positive relationship between KST and IBT. Higher levels of knowledge sharing are strongly linked to higher levels of innovative behaviour. The twelfth hypothesis examined the relationship between TLT and SFT. The analysis revealed a significant positive path coefficient (B=0.642, β = 0.815, SE=0.014, t=47.156, p < 0.001), indicating a strong and positive association between TLT and SFT. Higher levels of transformational leadership are strongly associated with higher levels of self-efficacy. The thirteenth hypothesis examined the relationship between IBT and SIWT. The analysis revealed a significant positive path coefficient (B=0.735, β = 0.848, SE=0.013, t=57.475, p < 0.001), indicating a strong and positive association between IBT and SIWT. Higher levels of innovative behaviour are strongly associated with higher levels of sustainable innovative work behaviour. The fourteenth hypothesis

tested the connection between SIWT and OCT. The analysis demonstrated a significant positive path coefficient (B=1.127, β =0.907, SE=0.015, t=76.033, p < 0.001), indicating a strong and positive relationship between SIWT and OCT. Higher levels of sustainable innovative work behaviour are strongly linked to higher levels of organisational commitment. The fifteenth hypothesis examined the association between SFT and TFT. The analysis found a significant positive path coefficient (B = 0.967, β = 0.811, SE=0.021, t=46.475, p < 0.001), indicating a strong and positive relationship between SFT and TFT. Higher levels of self-efficacy are strongly associated with higher levels of team efficacy. The sixteenth hypothesis explored the relationship between OCT and OCB. The analysis revealed a significant positive path coefficient (B= 0.809, β = 0.864, SE=0.014, t=59.933, p < 0.001), indicating a strong and positive association between OCT and OCB. Higher levels of organisational commitment are strongly linked to higher levels of organisational citizenship behaviour. The seventeenth hypothesis examined the relationship between TFT and FP. The analysis revealed a significant positive path coefficient (B= 0.383, β = 0.486, SE=0.033, t=11.483, p < 0.001), indicating a strong and positive association between TFT and FP. Higher levels of team efficacy are associated with better firm performance. The eighteenth hypothesis tested the connection between KST and FP. The analysis demonstrated a significant positive path coefficient (B=0.404, β = 0.503, SE=0.033, t=12.31, β = p < 0.001), indicating a strong and positive relationship between KST and FP. Higher levels of knowledge sharing are strongly linked to better firm performance. The nineteenth hypothesis examined the association between OCB and IT. The analysis found a significant positive path coefficient (B=0.237, β = 0.314, SE=0.014, t=17.351, p < 0.001), indicating a positive relationship between OCB and IT. Higher levels of organisational citizenship behaviour are associated with a stronger intention to stay within the organisation. The twentieth hypothesis explored the relationship between FP and IT. The analysis revealed a

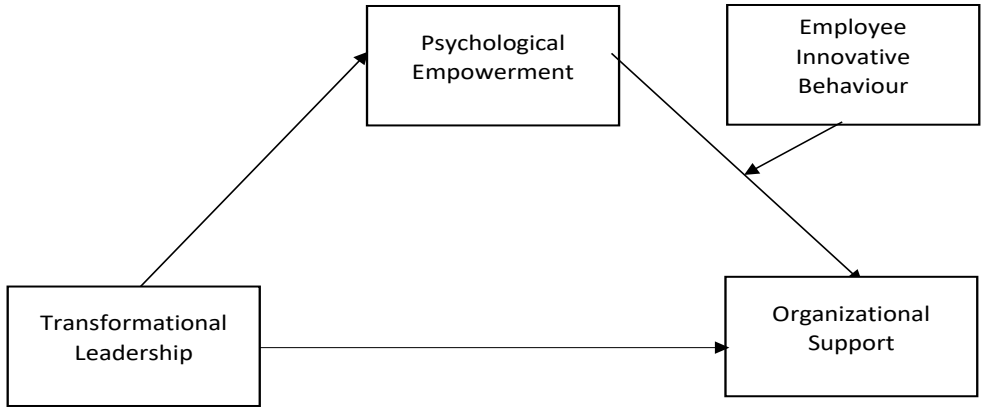


Figure 2. Mediated moderation.

significant positive path coefficient (B=0.088, β =0.188, SE=0.014, t=17.351, p < 0.001), indicating a positive relationship between FP and IT. Higher firm performance is associated with a stronger intention to stay within the organisation. The twenty-first hypothesis examined the relationship between OCT and IT. The analysis found a significant positive path coefficient (B=0.425, β = 0.6, SE=0.017, t=24.671, p < 0.001), indicating a strong and positive association between OCT and IT. Higher levels of organisational commitment are strongly linked to a stronger intention to stay within the organisation.

A Moderated mediation analysis was conducted using PROCESS Model 14 (Hayes, 2018) to examine whether PEP mediates the relationship between TLT and EIB, and whether this mediating mechanism is contingent upon POS. The sample consisted of 1,128 respondents (Sathyanarayana & Mohanasundaram, 2025).

Table 5. Model summary: Moderated mediation

	DV: Psych Emp			DV: EIB		
Path	**Coeff.**	**SE**	**LLCI (ULCI)**	**Coeff.**	**SE**	**LLCI (ULCI)**
C	1.4946	0.3655	0.7774 (2.2118)	0.4285	0.6352	-1.6748(0.8179)
X	0.811	0.0153	0.7811(0.8410)	0.2029	0.0195	0.1645 (0.2412)
M				0.4944	0.0463	0.4035 (0.5854)
W				0.2619	0.0384	0.1864 (0.3373)
M*W				-0.0062	0.0017	-0.0096 (-0.0029)
	R^2	0.7148		R^2	0.788	
		28241.48		F (4, 1123)	1043.46	

Table 6. Index of Moderated mediation

	Index	**BootSE**	**BootLLCI**	**BootULCI**
POS	-0.0051	0.0011	-0.0073	-0.0029

Table 7. Conditional effects of the focal predictor at values of the moderator

POS	**Effect**	**se**	**t**	**p**	**LLCI**	**ULCI**
11.6769	0.4215	0.0329	12.8097	0.0000	0.3569	0.4860
19.2926	0.3739	0.0286	13.0766	0.0000	0.3178	0.4300
26.9082	0.3263	0.0299	10.9276	0.0000	0.2677	0.3849

Table 5 reflects the outcome of regression analysis conducted to examine whether TLT predicts PEP. The overall model was statistically significant, $F(1, 1126) = 2821.48$, $p < .001$, explaining a substantial proportion of variance in psychological empowerment ($R^2 = .715$). This indicates that transformational leadership accounts for approximately 71.5% of the variability in employees' psychological empowerment, reflecting a very strong explanatory effect. Transformational leadership emerged as a strong and positive predictor of psychological empowerment, $b = .811$, $SE = .015$, $t(1126) = 53.12$, $p < .001$, 95% CI [.781, .841]. The confidence interval does not include zero, confirming the robustness of this effect. Substantively, this finding suggests that higher levels of transformational leadership are associated with significantly higher levels of psychological empowerment among employees. In practical terms, leaders who articulate a compelling vision, provide intellectual stimulation, and offer individualised consideration appear to enhance employees' perceptions of meaning, competence, autonomy, and impact within their roles. The magnitude of the regression coefficient (.811) indicates a strong positive relationship, implying that even incremental increases in transformational leadership are associated with meaningful increases in psychological empowerment. This result satisfies the first condition of mediation in the PROCESS Model 14 framework, demonstrating that transformational leadership significantly predicts the mediator (psychological empowerment). Given the strength and significance of this path, psychological empowerment serves as a viable psychological mechanism through which transformational leadership may influence employee innovative behaviour in subsequent analyses.

A multiple regression analysis was conducted to examine the effects of TLT, PEP, POS, and their interaction (PEP × POS) on employee innovative behaviour (EIB). The overall model was statistically significant, $F(4, 1123) = 1043.46$, $p < .001$, explaining 78.8% of the variance in innovative behaviour ($R^2 = .788$). This indicates that the set of predictors provides substantial explanatory power in understanding employee innovation.

Transformational leadership had a significant positive direct effect on employee innovative behaviour, $b = .203$, $SE = .020$, $t(1123) = 10.38$, $p < .001$, 95% CI [.165, .241]. This finding indicates that even after accounting for psychological empowerment and organisational support, transformational leadership independently contributes to higher levels of innovative behaviour. The persistence of this effect suggests partial mediation rather than full mediation. Psychological empowerment was also a strong positive predictor of innovative behaviour, $b = .494$, $SE = .046$, $t(1123) = 10.67$, $p < .001$, 95% CI [.404, .585]. Employees who feel empowered, experiencing autonomy, competence, and meaningfulness in their roles, are significantly more likely to engage in idea generation and implementation. Perceived organisational support similarly demonstrated a significant positive main effect, $b = .262$, $SE = .038$, $t(1123) = 6.81$, $p < .001$, 95% CI [.186, .337]. This indicates that employees who perceive their organisation as supportive are more inclined toward innovative behaviours, independent of leadership and empowerment effects.

Importantly, the interaction between psychological empowerment and perceived organisational support was negative and statistically significant, b = -.006, SE = .002, $t(1123)$ = -3.65, p < .001, 95% CI [-.010, -.003]. The confidence interval excludes zero, confirming a reliable moderation effect. The negative coefficient indicates that perceived organisational support weakens the positive relationship between psychological empowerment and innovative behaviour. In other words, while empowerment promotes innovation across all levels of organisational support, its influence becomes less pronounced when employees perceive high levels of support. This pattern suggests a substitution dynamic: in highly supportive organisational contexts, structural and contextual resources may compensate for individual psychological empowerment, thereby reducing its relative impact on innovative behaviour. Conversely, when perceived organisational support is low, employees rely more heavily on their internal sense of empowerment to engage in innovative actions. Taken together, these findings indicate that employee innovative behaviour is shaped by both leadership and psychological mechanisms, but the strength of these mechanisms depends on the organisational context. Transformational leadership directly enhances innovation and indirectly does so by fostering psychological empowerment. However, the empowerment innovation link is contingent upon perceived organisational support, such that empowerment plays a stronger role in less supportive environments. The results, therefore as shown in Table 6, provide evidence of a Moderated mediation structure in which contextual organisational factors shape the effectiveness of internal psychological states in driving innovative behaviour.

The interaction between PEP and POS was examined to determine whether POS moderates the relationship between PEP and EIB. The test of the highest-order unconditional interaction was statistically significant, ΔR^2 = .0025, $F(1, 1123)$ = 13.35, p < .001. This indicates that the inclusion of the interaction term (PEP × POS) significantly improved the explanatory power of the model beyond the main effects alone.

Although the increase in explained variance (0.25%) appears modest, it is statistically meaningful given the large sample size (N = 1,128) and the already high baseline R^2 of the model. In moderation analysis, particularly within well-specified models, even small changes in R^2 can reflect theoretically meaningful interaction effects. The significant interaction confirms that the strength of the relationship between psychological empowerment and innovative behaviour depends on the level of perceived organisational support.

To better understand the nature of this interaction, conditional effects of psychological empowerment on innovative behaviour were examined at low (-1 SD), mean, and high (+1 SD) levels of perceived organisational support as shown in Table7. At low levels of POS, the effect of psychological empowerment on innovative behaviour was strongest, b = .422, SE = .033, t = 12.81, p < .001, 95% CI [.357, .486]. At mean levels of POS, the effect remained positive and significant, b = .374, SE = .029, t = 13.08, p < .001, 95% CI [.318, .430]. At high levels of POS, the effect was weaker but still statistically significant, b = .326, SE = .030, t = 10.93, p < .001, 95% CI [.268, .385]. Importantly, the relationship between psychological empowerment and innovative behaviour remained positive and statistically significant across all observed levels

of perceived organisational support. However, the magnitude of this relationship systematically decreased as perceived organisational support increased.

The pattern of conditional effects reveals a negative moderation effect. Specifically, as perceived organisational support increases, the strength of the positive association between psychological empowerment and innovative behaviour declines. This suggests that psychological empowerment plays a more critical role in stimulating innovative behaviour when organisational support is relatively low. In such environments, employees appear to rely more heavily on their internal sense of autonomy, competence, and meaning to engage in innovative actions. Conversely, in highly supportive organisational contexts, the incremental contribution of empowerment becomes smaller, possibly because structural and contextual support mechanisms already facilitate innovation. Thus, perceived organisational support does not eliminate the influence of empowerment; rather, it attenuates its strength.

The significant interaction effect, combined with the systematic reduction in simple slopes across levels of POS, provides clear evidence that perceived organisational support moderates the empowerment–innovation relationship. These findings reinforce the importance of considering contextual organisational factors when examining psychological mechanisms underlying employee innovative behaviour. If you would like, I can now integrate this section seamlessly with your conditional indirect effects and index of Moderated mediation into one fully polished, journal-ready results section.

The direct effect of TLT on employee EIB, controlling for PEP, POS, and their interaction, was statistically significant, $b = .203$, $SE = .020$, $t(1123) = 10.38$, $p < .001$, 95% CI [.165, .241]. Because the confidence interval does not include zero, the direct effect is robust. This indicates that transformational leadership contributes to innovative behaviour independently of the mediating mechanism of psychological empowerment. In other words, even after accounting for empowerment and contextual support, transformational leadership still exerts a meaningful positive influence on employees' innovative actions. This pattern is consistent with partial mediation, rather than full mediation. Below is a detailed, APA-style interpretation of the direct, indirect, and Moderated mediation effects from your PROCESS Model 14 analysis.

The direct effect of TLT on EIB, controlling for PEP, POS, and their interaction, was statistically significant, $b = .203$, $SE = .020$, $t(1123) = 10.38$, $p < .001$, 95% CI [.165, .241]. Because the confidence interval does not include zero, the direct effect is robust. This indicates that transformational leadership contributes to innovative behaviour independently of the mediating mechanism of psychological empowerment. In other words, even after accounting for empowerment and contextual support, transformational leadership still exerts a meaningful positive influence on employees' innovative actions. This pattern is consistent with partial mediation, rather than full mediation. Bootstrapping procedures with 5,000 resamples were used to estimate the conditional indirect effects of transformational leadership on innovative behaviour through psychological empowerment at different levels of perceived organisational support. At low levels of POS (-1 SD), the indirect effect was

strongest, b = .342, BootSE = .025, 95% CI [.294, .390]. At the mean level of POS, the indirect effect was moderate, b = .303, BootSE = .023, 95% CI [.257, .347]. At high levels of POS (+1 SD), the indirect effect was weaker, though still statistically significant, b = .265, BootSE = .024, 95% CI [.216, .311].

Importantly, none of the confidence intervals include zero, indicating that the indirect effect remains statistically significant across all observed levels of perceived organizational support. However, the magnitude of the indirect effect systematically decreases as POS increases. This pattern demonstrates that the mediating role of psychological empowerment is stronger when perceived organizational support is low and becomes progressively weaker as support increases. The index of Moderated mediation was statistically significant, Index = −.0051, BootSE = .0011, 95% CI [−.0073, −.0029]. Because the confidence interval does not include zero, this provides formal evidence that the indirect effect of transformational leadership on innovative behaviour via psychological empowerment varies as a function of perceived organizational support. The negative value of the index indicates that the strength of the indirect effect decreases as perceived organizational support increases. This confirms the presence of negative Moderated mediation.

Pairwise contrasts further revealed significant differences between the conditional indirect effects at different levels of POS. For instance, the indirect effect at mean POS was significantly lower than at low POS (contrast = -.039, 95% CI [-.056, -.022]). Similarly, the indirect effect at high POS was significantly lower than at low POS (contrast = -.077, 95% CI [-.111, -.044]), and lower than at mean POS (contrast = -.039, 95% CI [-.056, -.022]). These comparisons confirm that the reduction in the indirect effect across increasing levels of perceived organizational support is statistically meaningful. Taken together, the findings reveal a Moderated mediation structure. Transformational leadership enhances innovative behaviour both directly and indirectly through psychological empowerment. However, the strength of this mediating pathway depends on perceived organizational support. Specifically,

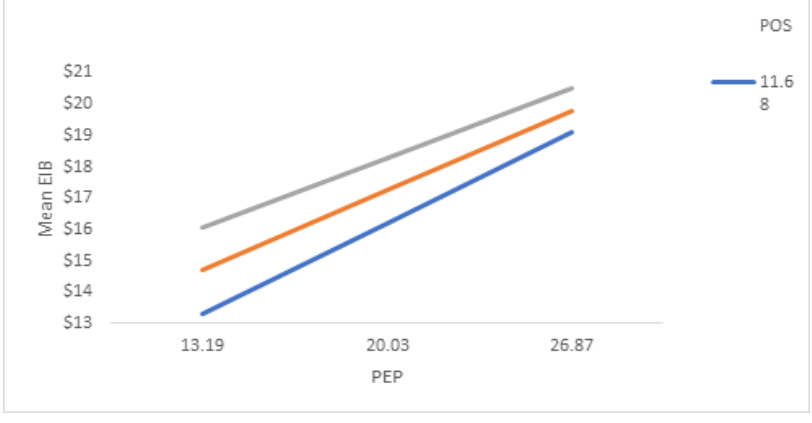


Figure 3. Graph showing interaction effect.

psychological empowerment serves as a stronger mechanism linking transformational leadership to innovative behaviour in contexts where organizational support is relatively low. When organizational support is high, the mediating role of empowerment becomes weaker, although it remains significant. This pattern suggests a substitution dynamic in which organizational support partially compensates for or substitutes the motivational function of psychological empowerment. In supportive environments, employees may rely less on internal empowerment to engage in innovation because external structural resources already facilitate such behaviours.

The interaction graph in Figure 3 offers a clear and intuitive picture of how psychological empowerment and perceived organisational support jointly influence employee innovative behaviour. Across all three levels of organisational support, the upward-sloping lines show that employees who feel more psychologically empowered consistently display higher levels of innovative behaviour. This indicates that empowerment remains an important driver of innovation irrespective of the level of support provided by the organisation. However, the graph also reveals meaningful differences in the strength of this relationship. When perceived organisational support is low, the line is steepest, suggesting that empowerment plays a particularly critical role in motivating employees to generate and implement new ideas. In contrast, as organisational support increases, the slope of the line gradually flattens. This visual pattern indicates that although empowered employees continue to be innovative in highly supportive environments, the additional contribution of empowerment becomes less pronounced. In practical terms, the graph suggests that employees rely more heavily on their internal sense of autonomy, competence, and control to engage in innovative behaviour when organisational support is limited. When support is abundant, structural resources, encouragement, and organisational systems appear to compensate for lower reliance on individual empowerment. Importantly, the absence of any crossover in the lines confirms that empowerment never becomes unimportant; rather, its influence is moderated by the level of organisational support. Overall, the graph visually reinforces the substitution effect observed in the statistical analysis, demonstrating that organisational support attenuates but does not eliminate the positive impact of psychological empowerment on employee innovative behaviour.

6. Discussion and Conclusion

The present study offers a comprehensive examination of TLT as a foundational driver of EIB, SIWB, and broader organisational outcomes. The findings confirm that transformational leadership significantly predicts multiple psychological, behavioural, and organisational variables, including psychological empowerment, identification with leaders, shared values, knowledge sharing, self-efficacy, team efficacy, organisational commitment, OCB, firm performance, and intention to stay. These results strongly align with the foundational theory of transformational leadership proposed by Bass (1985) and later refined by Bass and Avolio (1994), which posits that transformational leaders elevate followers' motivation, cognition, and performance beyond transactional exchanges.

Consistent with prior research (Judge & Piccolo, 2004; Wang *et al*., 2011), transformational leadership demonstrated strong direct effects on innovative behaviour. This supports the argument that transformational leaders foster intellectual stimulation, encourage risk-taking, and promote creative problem-solving (Gumusluoglu & Ilsev, 2009). In particular, the strong path from intellectual stimulation to transformational leadership underscores the cognitive mechanism through which leaders cultivate innovation-oriented climates. Previous studies have similarly found that leaders who challenge assumptions and promote new perspectives significantly enhance employee creativity (Shin & Zhou, 2003; Pieterse *et al*., 2010).

The mediation analysis provides robust evidence that psychological empowerment serves as a key explanatory mechanism linking transformational leadership to innovative behaviour. This finding aligns with Spreitzer's (1995) conceptualisation of empowerment as comprising meaning, competence, autonomy, and impact. Transformational leaders appear to strengthen these dimensions by articulating vision, demonstrating confidence in employees, and encouraging participative decision-making (Ahearne *et al*., 2005). Prior empirical work has similarly demonstrated that empowerment mediates leadership–innovation relationships (Zhang & Bartol, 2010; Aryee *et al*., 2012). The magnitude of the effect observed in this study suggests that empowerment is not merely a peripheral mechanism but a central psychological conduit through which leadership translates into innovation. Importantly, the Moderated mediation findings introduce a nuanced understanding of contextual dynamics. The negative interaction between psychological empowerment and POS indicates a substitution effect: empowerment exerts a stronger influence on innovation when organisational support is relatively low. This pattern is theoretically consistent with social exchange theory (Blau, 1964) and conservation of resources theory (Hobfoll, 1989). In environments where structural support is limited, employees may rely more heavily on internal psychological resources to sustain innovative efforts. Conversely, when organisational support is high, structural resources partially compensate for lower levels of personal empowerment. Similar substitution patterns have been observed in leadership and resource-based models (Eisenberger *et al*., 2001; Erdogan & Enders, 2007).

The significant direct effect of transformational leadership on innovative behaviour, even after accounting for empowerment, indicates partial mediation. This suggests that transformational leadership operates through multiple mechanisms, including affective commitment (Meyer & Allen, 1997), identification processes (Kark *et al*., 2003), and knowledge-sharing climates (Bryant, 2003). The strong relationships found between transformational leadership and knowledge sharing further reinforce this perspective. Knowledge sharing has been widely recognised as a precursor to innovation (Carmeli *et al*., 2013; Lin, 2007), and the present findings confirm its central mediating role in driving innovative and sustainable work behaviour. Moreover, the sequential pathways extending from innovative behaviour to sustainable innovative work behaviour, organisational commitment, OCB, firm performance, and intention to stay reflect a cascading performance model. These results are

consistent with prior research linking innovation to long-term organisational outcomes (Janssen, 2000; Anderson *et al*., 2014). Organisational commitment's strong association with intention to stay aligns with established meta-analytic evidence (Mathieu & Zajac, 1990; Meyer *et al*., 2002), reinforcing the idea that innovation and psychological engagement contribute to employee retention.

The findings regarding self-efficacy and team efficacy also align with Bandura's (1997) social cognitive theory. Transformational leadership enhances followers' confidence, which translates into collective efficacy and improved firm performance. Previous research has similarly demonstrated that collective efficacy mediates leadership-performance relationships (Walumbwa *et al*., 2008; Chen & Bliese, 2002). Thus, the present study extends this body of knowledge by integrating psychological, behavioural, and organisational outcomes into a unified structural framework. Overall, the study contributes to the leadership and innovation literature by demonstrating a complex yet coherent mechanism in which transformational leadership influences innovation through both psychological empowerment and contextual support structures. It also advances Moderated mediation research by empirically validating a negative index of Moderated mediation, thereby clarifying how contextual support reshapes the potency of internal motivational states.

This study provides comprehensive empirical evidence that transformational leadership is a foundational driver of innovative behaviour and long-term organisational outcomes. Transformational leadership not only directly enhances employee innovation but also indirectly influences it through psychological empowerment. However, this mediating process is contingent upon perceived organisational support, confirming the presence of Moderated mediation. The findings suggest that innovation is not driven solely by leadership behaviours or organisational systems in isolation. Rather, innovation emerges from the interplay between leadership inspiration, psychological empowerment, and contextual support mechanisms. When organisational support is limited, employees rely more strongly on their internal sense of empowerment. When support is abundant, structural mechanisms supplement individual motivation, reducing but not eliminating the role of empowerment. Beyond innovation, the study demonstrates downstream effects linking innovative behaviour to sustainable innovation, commitment, citizenship behaviour, firm performance, and retention intentions. These cascading relationships reinforce the strategic importance of leadership-driven innovation in achieving long-term organisational sustainability. In essence, transformational leadership functions as both a psychological catalyst and a structural enabler of innovation and performance. Organisations seeking sustainable competitive advantage must therefore invest not only in leadership development but also in empowerment climates and supportive infrastructures.

7. Managerial Implications

The findings provide several actionable implications for organisational leaders and Human Resources (HR) practitioners. First, leadership development programs should prioritise transformational competencies,

particularly intellectual stimulation and individualised consideration. Training initiatives should equip managers with skills to articulate compelling visions, challenge conventional thinking, and provide personalised developmental support. Evidence suggests that transformational behaviours can be cultivated through structured interventions (Barling *et al.*, 1996). Second, organisations should actively foster psychological empowerment by increasing autonomy, participative decision-making, and role clarity. Empowerment-enhancing practices such as delegation of authority, recognition systems, and feedback mechanisms can significantly elevate innovative engagement (Spreitzer, 1995; Zhang & Bartol, 2010). Third, while strengthening perceived organisational support remains essential, managers must recognise its interactive effects. Excessive structural support may unintentionally dilute the motivational salience of empowerment. Therefore, organisations should balance systemic support with opportunities for employees to exercise autonomy and self-direction. Fourth, knowledge-sharing systems should be institutionalised through collaborative platforms, cross-functional teams, and incentive structures. Given its strong link to innovation and performance, knowledge sharing should be treated as a strategic capability rather than an informal practice. Fifth, to enhance retention, organisations should align innovation initiatives with career progression pathways. Employees who perceive that innovative contributions translate into recognition and advancement are more likely to demonstrate organisational commitment and long-term engagement (Meyer & Allen, 1997). Finally, the cascading effect from innovation to firm performance underscores the importance of embedding innovation into performance management systems. Metrics should capture not only financial outcomes but also behavioural indicators such as idea generation, experimentation, and collaborative problem-solving.

8. Research Limitations and Directions for Future Research

Despite its theoretical and empirical contributions, this study has several limitations. First, the cross-sectional research design restricts causal inference, as temporal precedence cannot be firmly established (Podsakoff *et al.*, 2003). Although the structural paths are statistically significant, longitudinal or time-lagged designs would provide stronger evidence of directional effects among transformational leadership, psychological empowerment, and innovative behaviour (Cole & Maxwell, 2003). Second, the reliance on self-reported measures may introduce common method variance and social desirability bias, potentially inflating parameter estimates (Podsakoff *et al.*, 2003). Future research should incorporate multi-source data, including supervisor ratings or objective performance indicators, to enhance methodological rigour (Conway & Lance, 2010). Third, although the sample size is substantial (N = 1,128), generalizability may be limited by contextual factors such as industry, culture, or national setting. Leadership and innovation processes may vary across institutional environments (House *et al.*, 2004). Cross-cultural and multi-industry replications would strengthen external validity. Fourth, while the model integrates key mediators and moderators, other theoretically relevant constructs such as psychological capital

(Luthans *et al*., 2007), learning climate (Jansen *et al*., 2006), and innovation climate (Scott & Bruce, 1994) were not examined. Future research could incorporate these variables to expand explanatory depth. Finally, the Moderated mediation framework examined only perceived organisational support as a boundary condition. Additional contextual moderators such as environmental dynamism (Dess & Beard, 1984) or HR systems (Jiang *et al*., 2012) should be explored. Longitudinal, multilevel, and experimental studies would further refine the understanding of leadership-driven innovation dynamics.

9. References

Ahearne, M., Mathieu, J., & Rapp, A. (2005). To empower or not to empower. Journal of Applied Psychology, 90(5), 945-955. https://doi.org/10.1037/0021-9010.90.5.945 PMid:16162066.

Anderson, N., Potočnik, K., & Zhou, J. (2014). Innovation and creativity in organizations: A state-of-the-science review and guiding framework. Journal of Management, 40(5), 1297-1333. https://doi.org/10.1177/0149206314527128

Aryee, S., Walumbwa, F. O., Zhou, Q., & Hartnell, C. A. (2012). Transformational leadership and innovative behavior. Journal of Applied Psychology, 97(2), 368-382.

Avolio, B. J., Walumbwa, F. O., & Weber, T. J. (2009). Leadership: Current theories, research, and future directions. Annual Review of Psychology, 60, 421-449.

Avolio, B. J., Zhu, W., Koh, W., & Bhatia, P. (2004). Transformational leadership and organizational commitment. Journal of Organisational Behaviour, 25(8), 951-968. https://doi.org/10.1002/job.283

Bandura, A. (1997). Self-efficacy: The exercise of control. W. H. Freeman.

Bandura, A. (2000). Exercise of human agency through collective efficacy. Current Directions in Psychological Science, 9(3), 75-78. https://doi.org/10.1111/1467-8721.00064

Barling, J., Weber, T., & Kelloway, E. K. (1996). Effects of transformational leadership training. Journal of Applied Psychology, 81(6), 827-832. https://doi.org/10.1037/0021-9010.81.6.827

Bass, B. M. (1985). Leadership and performance beyond expectations. Free Press.

Bass, B. M., & Avolio, B. J. (1994). Improving organizational effectiveness through transformational leadership. Sage.

Bass, B. M., & Avolio, B. J. (1995). MLQ Multifactor Leadership Questionnaire. Mind Garden. https://doi.org/10.1037/t03624-000

Bass, B. M., & Riggio, R. E. (2006). Transformational leadership (2nd ed.). Lawrence Erlbaum Associates. https://doi.org/10.4324/9781410617095

Blau, P. (1964). Exchange and power in social life. Wiley.

Bock, G. W., Zmud, R. W., Kim, Y. G., & Lee, J. N. (2005). Behavioral intention formation in knowledge sharing. MIS Quarterly, 29(1), 87-111. https://doi.org/10.2307/25148669

Bryant, S. E. (2003). The role of transformational and transactional leadership in creating, sharing and exploiting organizational knowledge. Journal of Leadership and Organisational Studies, 9(4), 32-44. https://doi.org/10.1177/107179190300900403

Burns, J. M. (1978). Leadership. Harper & Row.

Cabrera, Á., & Cabrera, E. F. (2005). Fostering knowledge sharing through people management practices. The International Journal of Human Resource Management, 16(5), 720-735. https://doi.org/10.1080/09585190500083020

Carmeli, A., Gelbard, R., & Reiter-Palmon, R. (2013). Leadership, creative problem-solving capacity. The Leadership Quarterly, 24(1), 95-109. https://doi.org/10.1002/hrm.21514

Chen, G., & Bliese, P. D. (2002). The role of different levels of leadership. Journal of Applied Psychology, 87(3), 549-556. https://doi.org/10.1037/0021-9010.87.3.549 PMid:12090612.

Chen, G., Gully, S. M., & Eden, D. (2001). Validation of a new general self-efficacy scale. Organizational Research Methods, 4(1), 62-83. https://doi.org/10.1177/109442810141004

Cole, D. A., & Maxwell, S. E. (2003). Testing mediational models with longitudinal data. Journal of Abnormal Psychology, 112(4), 558-577. https://doi.org/10.1037/0021-843X.112.4.558 PMid:14674869.

Conway, J. M., & Lance, C. E. (2010). What reviewers should expect regarding common method bias. Organizational Research Methods, 13(3), 325-334. https://doi.org/10.1007/s10869-010-9181-6

Creswell, J. W. (2014). Research design: Qualitative, quantitative, and mixed methods approaches (4th ed.). Sage.

Deci, E. L., & Ryan, R. M. (1985). Intrinsic motivation and self-determination in human behavior. Plenum Press. https://doi.org/10.1007/978-1-4899-2271-7

Dess, G. G., & Beard, D. W. (1984). Dimensions of organizational task environments. Administrative Science Quarterly, 29(1), 52-73. https://doi.org/10.2307/2393080

Detert, J. R., & Burris, E. R. (2007). Leadership behavior and employee voice. Academy of Management Journal, 50(4), 869-884. https://doi.org/10.5465/amj.2007.26279183

Edmondson, A. (1999). Psychological safety and learning behavior in work teams. Administrative Science Quarterly, 44(2), 350-383. https://doi.org/10.2307/2666999

Eisenberger, R., Armeli, S., Rexwinkel, B., Lynch, P. D., & Rhoades, L. (2001). Reciprocation of perceived organizational support. Journal of Applied Psychology, 86(1), 42-51. https://doi.org/10.1037/0021-9010.86.1.42 PMid:11302232.

Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. Journal of Applied Psychology, 71(3), 500-507. https://doi.org/10.1037/0021-9010.71.3.500

Erdogan, B., & Enders, J. (2007). Support from the top. Journal of Applied Psychology, 92(2), 321-330. https://doi.org/10.1037/0021-9010.92.2.321 PMid:17371081.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models. Journal of Marketing Research, 18(1), 39-50. https://doi.org/10.2307/3151312

Grant, R. M. (1996). Toward a knowledge-based theory of the firm. Strategic Management Journal, 17(S2), 109-122. https://doi.org/10.1002/smj.4250171110

Gully, S. M., Incalcaterra, K. A., Joshi, A., & Beaubien, J. M. (2002). A meta-analysis of team-efficacy, potency, and performance. Journal of Applied Psychology, 87(5), 819-832. https://doi.org/10.1037/0021-9010.87.5.819 PMid:12395807.

Gumusluoglu, L., & Ilsev, A. (2009). Transformational leadership and organizational innovation. Journal of

Business Research, 62(4), 461-473. https://doi.org/10.1016/j.jbusres.2007.07.032

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). Multivariate data analysis (8th ed.). Cengage.

Hayes, A. F. (2018). Introduction to mediation, moderation, and conditional process analysis (2nd ed.). Guilford Press.

Hobfoll, S. E. (1989). Conservation of resources. American Psychologist, 44(3), 513-524. https://doi.org/10.1037/0003-066X.44.3.513 PMid:2648906.

House, R. J., et al. (2004). Culture, leadership, and organizations: The GLOBE study of 62 societies. Sage.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis. Structural Equation Modelling, 6(1), 1-55.

Huselid, M. A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. Academy of Management Journal, 38(3), 635-672. https://doi.org/10.2307/256741

Jansen, J. J. P., et al. (2006). Exploratory innovation and exploitative innovation. Management Science, 52(11), 1661-1674. https://doi.org/10.1287/mnsc.1060.0576

Janssen, O. (2000). Job demands, perceptions of effort-reward fairness and innovative work behaviour. Journal of Occupational and Organizational Psychology, 73(3), 287-302. https://doi.org/10.1348/096317900167038

Jiang, K., et al. (2012). How does human resource management influence organizational outcomes? Academy of Management Journal, 55(6), 1264-1294. https://doi.org/10.5465/amj.2011.0088

Judge, T. A., & Piccolo, R. F. (2004). Transformational and transactional leadership: A meta-analytic test of their relative validity. Journal of Applied Psychology, 89(5), 755-768. https://doi.org/10.1037/0021-9010.89.5.755 PMid:15506858.

Kark, R., & Carmeli, A. (2009). Alive and creating. Journal of Organisational Behaviour, 30(6), 785-804.

Kark, R., Shamir, B., & Chen, G. (2003). The two faces of transformational leadership. Journal of Applied Psychology, 88(2), 246-255. https://doi.org/10.1037/0021-9010.88.2.246 PMid:12731708.

Kirkpatrick, S. A., & Locke, E. A. (1996). Direct and indirect effects of leadership. Journal of Applied Psychology, 81(1), 36-51. https://doi.org/10.1037/0021-9010.81.1.36

Kline, R. B. (2016). Principles and practice of structural equation modelling (4th ed.). Guilford Press.

Lin, H. F. (2007). Knowledge sharing and firm innovation capability. International Journal of Manpower, 28(3/4), 315-332. https://doi.org/10.1108/01437720710755272

Luthans, F., et al. (2007). Psychological capital. Personnel Psychology, 60(3), 541-572.

Mathieu, J. E., & Zajac, D. M. (1990). Organizational commitment. Psychological Bulletin, 108(2), 171-194. https://doi.org/10.1037/0033-2909.108.2.171

Meyer, J. P., & Allen, N. J. (1991). A three-component conceptualization of organizational commitment. Human Resource Management Review, 1(1), 61-89.

Meyer, J. P., & Allen, N. J. (1997). Commitment in the workplace: Theory, research, and application. Sage Publications. https://doi.org/10.4135/9781452231556

Meyer, J. P., et al. (2002). Affective commitment meta-analysis. Journal of Vocational Behavior, 61(1), 20-52. https://doi.org/10.1006/jvbe.2001.1842

Meyer, J. P., Stanley, D. J., Herscovitch, L., & Topolnytsky, L. (2002). Affective, continuance, and normative commitment to the organization: A meta-analysis. Journal of Vocational Behaviour, 61(1), 20-52. https://doi.org/10.1006/jvbe.2001.1842

Nembhard, I. M., & Edmondson, A. C. (2006). Making it safe. Journal of Organisational Behaviour, 27(7), 941-966. https://doi.org/10.1002/job.413

Nunnally, J. C., & Bernstein, I. H. (1994). Psychometric theory (3rd ed.). McGraw-Hill.

Organ, D. W. (1988). Organizational citizenship behavior: The good soldier syndrome. Lexington Books.

Pearce, C. L., & Ensley, M. D. (2004). A reciprocal and longitudinal investigation of the innovation process. Journal of Organisational Behaviour, 25(2), 259-278.

Pieterse, A. N., et al. (2010). Transformational and transactional leadership and innovation. Journal of Organisational Behaviour, 31(4), 609-623. https://doi.org/10.1002/job.650

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research. Journal of Applied Psychology, 88(5), 879-903.

Podsakoff, P. M., Whiting, S. W., Podsakoff, N. P., & Blume, B. D. (2009). Individual- and organizational-level consequences of organizational citizenship behaviors. Journal of Applied Psychology, 94(1), 122-141. https://doi.org/10.1037/a0013079 PMid:19186900.

Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses. Multivariate Behavioral Research, 42(1), 185-227. https://doi.org/10.1080/00273170701341316 PMid: 26821081.

Rhoades, L., & Eisenberger, R. (2002). Perceived organizational support. Journal of Applied Psychology, 87(4), 698-714. https://doi.org/10.1037/0021-9010.87.4.698 PMid: 12184574.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation. American Psychologist, 55(1), 68-78. https://doi.org/10.1037/0003-066X.55.1.68 PMid:11392867.

Sathyanarayana, S. (2026). Assessing normality in quantitative analysis: Diagnostics, consequences and remedies. Asian Journal of Probability and Statistics, 28(1), 31-57. https://doi.org/10.9734/ajpas/2026/v28i1853

Sathyanarayana, S. (2026b). Reliability measure in social science research: Some conceptual issues. Asian Journal of Economics, Business and Accounting, 26(2), 472-483. https://doi.org/10.9734/ajeba/2026/v26i22192

Sathyanarayana S., Mohanasundaram, T., & Hema Harsha, Pushpa B.V. (2024). Selecting the right sample size: Methods and considerations for social science researchers. International Journal of Business and Management Invention. 13(7). 152-167.

Sathyanarayana, S., & Mohanasundaram, T. (2024). Fit indices in structural equation modelling and confirmatory factor analysis: reporting guidelines. Asian Journal of Economics, Business and Accounting, 24(7), 561-577. https://doi.org/10.9734/ajeba/2024/v24i71430

Sathyanarayana, S., & Mohanasundaram, T. (2025). Moderation Analysis in Business Research: Concepts, Methodologies, Applications and Emerging Trends. Asian Journal of Economics, Business and Accounting, 25(3), 357-378.

Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior. Academy of Management Journal, 37(3), 580-607. https://doi.org/10.2307/256701

Shamir, B., House, R. J., & Arthur, M. B. (1993). The motivational effects of charismatic leadership. Organisation Science, 4(4), 577-594. https://doi.org/10.1287/orsc.4.4.577

Shaw, J. D., Duffy, M. K., Johnson, J. L., & Lockhart, D. E. (2005). Turnover, social capital losses, and performance. Academy of Management Journal, 48(4), 594-606. https://doi.org/10.5465/amj.2005.17843940

Shin, S. J., & Zhou, J. (2003). Transformational leadership and creativity. Academy of Management Journal, 46(6), 703-714. https://doi.org/10.2307/30040662

Spreitzer, G. M. (1995). Psychological empowerment in the workplace. Academy of Management Journal, 38(5), 1442-1465. https://doi.org/10.2307/256865

Tabachnick, B. G., & Fidell, L. S. (2013). Using multivariate statistics (6th ed.). Pearson.

Tasa, K., Taggar, S., & Seijts, G. H. (2007). The development of collective efficacy in teams. Academy of Management Journal, 50(1), 17-35. https://doi.org/10.1037/0021-9010.92.1.17 PMid:17227148.

van Knippenberg, D., van Knippenberg, B., De Cremer, D., & Hogg, M. A. (2004). Leadership, self, and identity. Academy of Management Review, 29(3), 825-841. https://doi.org/10.1016/j.leaqua.2004.09.002

Venkatraman, N., & Ramanujam, V. (1986). Measurement of business performance. Academy of Management Review, 11(4), 801-814. https://doi.org/10.2307/258398

Walumbwa, F. O., Avolio, B. J., & Zhu, W. (2008). How transformational leadership impacts performance. Personnel Psychology, 61(4), 793-825. https://doi.org/10.1111/j.1744-6570.2008.00131.x

Walumbwa, F. O., et al. (2008). Authentic leadership. Journal of Management, 34(1), 89-126. https://doi.org/10.1177/0149206307308913

Wang, G., Oh, I. S., Courtright, S. H., & Colbert, A. E. (2011). Transformational leadership and performance across criteria and levels. Journal of Applied Psychology, 96(3), 534-550.

Wang, S., & Wang, N. (2012). Knowledge sharing, innovation and firm performance. Expert Systems with Applications, 39(10), 8899-8908. https://doi.org/10.1016/j.eswa.2012.02.017

Zhang, X., & Bartol, K. M. (2010). Linking empowering leadership and employee creativity. Academy of Management Journal, 53(1), 107-128. https://doi.org/10.5465/amj.2010.48037118