OmniaScience

Intangible Capital

IC, 2025 – 21(2): 265-289 – Online ISSN: 1697-9818 – Print ISSN: 2014-3214

https://doi.org/10.3926/ic.3171

Exploring the role of organisational learning culture in the relationship between teamwork self-efficacy and employee satisfaction: Insights from the Indian IT sector across generations – an application of PLS predict

A. Shakti Priya, B. Prabu Christopher*

VIT Business School, Vellore Institute of Technology (India)

*Corresponding author: sayeeshakti@gmail.com

prabuchristopher.b@vit.ac.in

Received November, 2024

Accepted May, 2025

Abstract

Purpose: Comprehending employee satisfaction (ES) and its determinants is essential in the contemporary workplace, as it profoundly influences productivity, retention, and overall organisational performance. This study examines the functions of organisational learning culture (OLC) in mediating and moderating the association between teamwork self-efficacy (TSE) and ES.

Design/methodology/approach: Data were collected from 397 Information Technology (IT) experts in Tier 1 cities of India using purposive sampling technique. The data were analyzed using partial least squares–structural equation modeling (PLS-SEM), followed by PLS predict algorithm.

Findings: The results indicated that OLC partially mediates and moderates the link between TSE and ES. Furthermore, the study demonstrated that generational differences significantly influenced ES.

Practical implications: This study identifies generational disparities in satisfaction levels, specifically contrasting Generation Z with Generation X and Generation Y. Human Resource Development (HRD) professionals must enhance the organisational learning culture to mitigate generational inequalities in learning outcomes, thereby fulfilling both personal and organisational objectives in intrinsic and extrinsic dimensions.

Originality/value: This study decisively expands the literature on OLC by uncovering its mediating and moderating roles in the relationship between TSE and ES. The findings demonstrate that OLC significantly strengthens this relationship, as confirmed by PLSpredict, which validates the model's reproducibility. Furthermore, the research asserts the necessity of addressing generational differences in employee satisfaction, particularly for Generation Z. It strongly recommends targeted HR strategies, including enhanced group activities and mentoring, to foster collaboration across age groups effectively.

Keywords: Organisational learning culture, Employee satisfaction, Teamwork self-efficacy, Generation, IT industry, Mediation, Moderation, Structural equation modeling, PLS predict, Control variable

Jel Codes: J280, J620, M190, M540

To cite this article:

Priya, A.S., & Christopher, B.P. (2025). Exploring the role of organisational learning culture in the relationship between teamwork self-efficacy and employee satisfaction: Insights from the Indian IT sector across generations – an application of PLS predict. *Intangible Capital,* 21(2), 265-289. https://doi.org/10.3926/ic.3171

1. Introduction

Employee satisfaction (ES) originated in the mid-20th century within the fields of organisational behaviour and human resource management, concentrating on satisfaction with their job responsibilities and work environment. The term gained prominence in the 1950s and 1960s, mainly through Frederick Herzberg's Two-Factor Theory, which differentiated between hygienic factors and motivators in the workplace (Herzberg, 1966). Today, organisations increasingly acknowledge that a content workforce is vital for enduring success, resulting in an emphasis on comprehensive well-being, inclusive work environments, and ongoing professional development (Edmans, Pu, Zhang & Li , 2024). ES is influenced by two primary factors: internal and external. Employee intrinsic satisfaction pertains to the gratification derived from the work itself, encompassing personal development, accomplishment, and enjoyment of activities (Deci & Ryan, 2000). Extrinsic satisfaction for employees derives from external rewards such as compensation, benefits, and recognition (Herzberg, 1968). Intrinsic factors foster profound motivation and engagement, whereas extrinsic factors mitigate unsatisfied but are inadequate for guaranteeing sustained ES.

A key source of dissatisfaction is inadequate support, disrespect, and lack of collaboration from peers, teams, and organisations (Valle & Witt, 2001; Wu & Wu, 2011). In environments where the majority of Information Technology (IT) professionals collaborate in teams, teamwork self-efficacy (TSE) is crucial for their professional development and ambitions. TSE refers to a person's confidence in their capacity to execute tasks and effectively collaborate within teams. These concepts originated from Albert Bandura's extensive theory of self-efficacy, which was introduced in 1970s. It underscores the belief in one's ability to attain specific results (Bandura, 1977; Lippke, 2020). This notion was then adapted to teamwork contexts, emphasising the significance of collective confidence in team performance (Gibson, 2003; Nikbakht & Anvari, 2024). The concept became significant in organisational psychology, especially since teamwork became essential to contemporary work settings (Yonezawa & Nakai, 2024). Limited research has demonstrated the direct impact of TSE on employees' intrinsic and extrinsic satisfaction as well as their attitude towards teamwork in the Indian IT industry context (Konak & Kulturel-Konak, 2019; Priya & Christopher, 2024a).

In addition, layoffs and voluntary attrition due to technological advancement, dynamic strategic decisions, the COVID-19 pandemic, and evolving job demands remain perennial issues in the contemporary business environment, particularly within the IT sector (Smet, Dowling, Mugayar-Baldocchi & Rainone, 2021; Witte, 2022). As a solution, perpetual learning has become essential for every human (Rumage & Urwin, 2024). While individual learning is crucial in today's competitive landscape, the organisational environment and support are vital in enhancing employee competencies and to achieve sustainable organizational performance. Consequently, an organisational learning culture (OLC) is essential in the current business environment. OLC refers to an organization's commitment to continuous learning, knowledge dissemination, and adaptability. The concept was developed by Argyris and Schon in the late 1970s, and further popularised by Senge in the 1990s through his book "The Fifth Discipline" (Senge, 1990). Currently, OLC is essential for promoting innovation, agility, and sustained competitive advantage within businesses, emphasising a culture that fosters learning, open communication, and adaptability (Naqshbandi, Meeran & Wilkinson, 2023).

Moreover, extensive reports from McKinsey and Company and Deloitte Insights have highlighted the importance of integrating a learning culture inside organisations (Smith & McNally, 2021; Deloitte Global Report, 2024). The lessons from these surveys indicate that a learning culture improves employee engagement and adaptability, and is essential for sustainable organisational growth in the current complex business landscape. Recent studies have emphasised that a robust learning culture benefits organizations and their employees by

fostering innovation, adaptation, and sustained growth, while enhancing job satisfaction and career opportunities (Feeney, Grohnert, Gijselaers & Martens, 2023; Cetindamar, Katic, Burdon & Gunsel, 2021).

Prior research has concentrated on the positive impact of OLC on job satisfaction (Lim, 2010; Harter, Tatel, Agrawal, Blue, Plowman, Asplund et al., 2024), self-competence (Priya & Christopher, 2024b), organisational performance (Ozutler & Shaghasy, 2022; Basten & Haamann, 2018), and organisational effectiveness (Meher, Nayak, Mishra & Patel, 2022). These studies demonstrate that organisations may cultivate a more competent, engaged workforce that propels sustainable effectiveness and long-term success by integrating OLC into their frameworks. Previous studies (Priya & Christopher, 2024b; Esch, Wei & Chiang, 2018) have recommended for research into the impact of employee development practices on specific employee competencies, as such practices aimed at enhancing specific competencies could enhance employee outcomes and facilitate a more thorough analysis of the relationships among these factors. Similarly, it will aid organisations in formulating efficient employee development strategies and fostering a learning culture to optimise overall employee performance (Priya & Christopher, 2024b). Furthermore, only a limited number of empirical studies have examined intrinsic and extrinsic factors of job satisfaction (Warr, Cook & Wall, 1979; Priya & Christopher, 2024a).

The interplay between TSE and ES can be significantly enriched through OLC, which serves as a crucial factor in influencing and retaining employees within an organization. Existing research underscores the importance of OLC by examining its role as a mediating and moderating variable. For example, Lin, Huang and Zhang (2019) found that OLC mediates the relationship between employee acceptance of e-learning and job satisfaction. Similarly, Hambissa and Tadesse (2024) indicated that OLC mediates the connection between strategic human resource development practices and individual employee performance. Meanwhile, Otoo (2024) demonstrated that OLC mediates the relationship between training and development and employee competencies. However, Otoo's (2024) study also reported that OLC does not mediate the relationship between career development and employee competencies.

Conversely, OLC has demonstrated the potential to act as a moderator, strengthening the effect of psychological empowerment on organizational commitment (Joo & Shim, 2010; Naqvi, Hashmi, Raza, Zeeshan & Shaikh, 2011), the influence of leader-member exchange on employees' innovative behavior (Jung, Ullah & Choi, 2021), and the impact of human resource development (HRD) practices on employee competencies (Potnuru, Sahoo & Sharma, 2018; Potnuru, Sahoo & Parle, 2021). Additionally, OLC has been shown to moderate the influence of organizational career management on employees' self-competence (Priya & Christopher, 2024b). However, some studies have also indicated that OLC does not exert a moderating effect between employee empowerment and employee competency (Djunaedi, Nimran, Musadieq & Afrianty, 2023), as well as between transformational leadership style and employee job satisfaction (Khan, Anjam, Abu-Faiz, Khan & Khan, 2020). Furthermore, Udin (2023) demonstrated the dual role of OLC as a mediator and moderator in the relationship between transformational leadership and employee performance. Nonetheless, these studies would examine the impact of age cohorts on employee satisfaction. By doing so would elucidate the intricacies of how various age groups influence behavioural processes.

Besides, managing workplace diversity is progressively complex due to generational diversity, as individuals from all generations work together to achieve organisational goals (McMurray & Simmers, 2020). Seventy percent of HR managers believe that managing a multigenerational workforce poses a considerable challenge in contemporary society (Randstad, 2015). Organisations are witnessing a convergence of five generational cohorts: the Silent Generation (most have retired), Baby Boomers (most hold senior positions or are retired), Generation X (predominantly occupy higher roles or a small portion), and Generation Y, followed by Generation Z (Maan & Srivastava, 2023). Generation Z, succeeding Generation Y, has begun occupying a significant segment of the workforce (Rue, 2018; Aggarwal, Sadhna, Gupta, Mittal & Rastogi, 2020) and prefers employers that emphasise diversity. However, their retention poses challenges due to their tendency to shift jobs up to four times over their careers. Generational dynamics are crucial for businesses as they affect recruitment, retention, succession planning, communication, skill transfer, and knowledge dissemination (Rudolph, Rauvola, Costanza & Zacher, 2021).

Nevertheless, organisational researchers frequently need to incorporate diversity as a central aspect in analysing organisational Human Resource Development (HRD) practices. Intergenerational collaboration and the management of generational stereotypes are believed to influence the future dynamics of the workplace (Focardi, 2021). The State of Organisations Survey – 2023 report indicated that employees' job preferences, such as flexible hours, remote work, opportunities for advancement, meaningful tasks, and adequate compensation, may vary significantly based on age, life stage, and work experience (Simon, Maor, Guggenberger, Park, Luo, Klingler et al., 2023). Previous research suggests that an employee's age influences the relationship between financial incentives and task contributions for job satisfaction (Rudolph, 2016; Kollmann, Stöckmann, Kensbock & Peschl, 2020). Thus, understanding the diverse preferences of generational cohorts is essential for organisations and leaders to improve decision-making on leadership development, technology, training, and cultural nurturing. This study focuses on Indian IT professionals and examines their classification into Generation X, Generation Y, and Generation Z based on Indian generational cohorts (Maan & Srivastava, 2023). Generation X was born from 1956 to 1980, Generation Y from 1981 to 1995, and Generation Z from 1996 to 2007.

Thus, the above discussion highlights a significant research gap in addressing the mediating and moderating roles of OLC in the relationship between TSE and ES. Notably, there is a lack of empirical studies exploring how OLC influences ES, the impact of TSE on OLC, and the subsequent effects of TSE on overall ES, particularly among IT professionals in the Indian business context. Furthermore, the consideration of control variables—specifically the generational cohort of respondents, has been inadequately addressed in the literature. This paucity of research highlights the need for further investigation into these interrelationships to better understand the generational dynamics.

This study seeks to fill the identified gaps and extends the prior literature by examining the mediating and moderating influence of OLC in the link between TSE and ES within the Indian IT industry context. This study also examines the impact of respondents' generational cohort as a control variable on their satisfaction. Thus, the following research questions (RQ) are framed to address the identified research gaps:

RQ1: How does TSE influences EL in the Indian IT industry?

RQ2: Does OLC plays mediating and/ or moderating role in enhancing the influence of TSE on EL in the Indian IT industry?

RQ3: How does the nature of generational cohorts influence ES with respect to Indian IT professionals?

Highlighting these links may enhance comprehension of the psychological dimensions of employees, including motivational variables related to team dynamics, the development of OLC, and the impact of age cohorts. The study results address the implications in the subsequent section that assist HRD professionals in aligning OLC policies with employees' motivational elements.

2. Theoretical Background and Hypothesis Development

2.1. Teamwork Self-efficacy and Organisational Learning Culture

The relationship between TSE and OLC has received considerable focus in organisational behaviour research. TSE, defined as a collective belief in a team's ability to collaborate effectively (Bandura & Wessels, 1997), is rooted in social cognitive theory, indicating that self-efficacy influences motivation and action (Gist & Mitchell, 1992). Empirical evidence shows that higher levels of TSE promote knowledge sharing and open communication within organisations, which are crucial for fostering an OLC (Edmondson, 1999; Salanova, Llorens & Schaufeli, 2011; Schippers, Den Hartog & Koopman, 2007). Psychologically safe teams, characterized by the ability to express ideas without fear, exhibit enhanced learning behaviors (Edmondson, Kramer & Cook, 2004).

Additionally, studies confirm that TSE can positively influence both individual attitudes and group dynamics, making teams more adept at constructive conflict management, which is essential for generating innovative ideas (Tjosvold, Yu & Hui, 2004). Teams with strong TSE are better equipped to apply knowledge effectively in pursuit of organisational goals (Carmeli & Gittell, 2009). Furthermore, organisations that foster a robust learning culture must ensure that employees consistently adapt to new information and methodologies;

maintaining this adaptability is essential for meeting evolving organisational needs (Garvin, Edmondson & Gino, 2008). However, the relationship between TSE and OLC, especially in the context of the Indian IT industry, remains underexplored. Thus, to analyse this significant relationship, the following hypothesis is proposed.

H1: TSE significantly influences OLC.

2.2. Organizational Learning Culture and Employee Satisfaction

OLC, which emphasizes continuous learning and adaptability, has a positive correlation with ES. Organisations that cultivate a learning environment boost professional development, leading to improved job satisfaction (Senge, 1990; Marsick & Watkins, 1996). When employees feel valued for their contributions, it enhances their work experience and intrinsic motivation (Egan, Yang & Bartlett, 2004). Social Exchange Theory (SET) suggests that perceived organisational support fosters employee satisfaction and loyalty (Blau, 1964; Cropanzano & Mitchell, 2005).

Furthermore, Self-Determination Theory (SDT) asserts that environments meeting employees' needs for autonomy and competence contribute to satisfaction (Deci & Ryan, 1985). In strong learning cultures, organisations value and motivate employees by offering opportunities for professional development and mastery (Senge, 1990). As a result, employees exhibit higher job satisfaction and engagement, seeing their work as significant and aligned with both personal and organisational goals (Rowden, 2002; Rowden & Conine, 2005; Joo & Ready, 2012). Allen, Shore and Griffeth (2003) found that employees who have access to continuous learning opportunities are more inclined to feel valued in their workplace, leading to greater job satisfaction and engagement. Notably, Lin et al. (2019) found that OLC has a significant impact on job satisfaction, whereas Khan et al. (2020) found no such significant relationship. These contradictory findings highlight the ongoing debate regarding the relationship between OLC and ES in recent studies. Hence, further research is required to explore the interconnectedness of OLC and ES in today's context. Considering the limited studies focusing on this relationship in the Indian IT industry, this study proposes the following hypothesis.

H2: OLC significantly influences ES.

2.3. Teamwork Self-efficacy and Employee Satisfaction

Confidence in a team's collective efficacy enhances employees' intrinsic satisfaction by fostering a sense of competence and achievement. Team members with high self-efficacy are more engaged and satisfied in their work, as they perceive their contributions as relevant and valued (Bandura & Wessels, 1997; Cetin & Askun, 2018). High TSE creates a supportive atmosphere that boosts employees' confidence and motivation, further enhancing their intrinsic satisfaction (Tasa, Taggar & Seijts, 2007; Ciobanu, Androniceanu & Lazaroiu, 2019). Moreover, employees with strong TSE demonstrate greater resilience and adaptability, resulting in reduced conflicts and a more harmonious work environment (Lent & Brown, 2006). This sense of efficacy enhances communication, fosters relationship-building, and facilitates conflict resolution, all of which are associated with increased satisfaction (Luthans & Peterson, 2002).

Furthermore, TSE improves ES by boosting employees' confidence in accomplishing team objectives, often leading to enhanced recognition and rewards. When teams have confidence in their collective capabilities, they are more inclined to succeed and consequently obtain tangible rewards and recognition, such as promotions and bonuses (Gibson, 2003; Dang & Chou, 2020). Enhanced performance and acknowledgment lead to greater extrinsic satisfaction, as employees perceive their contributions as valued and rewarded (Bandura & Wessels, 1997). The correlation between team effectiveness and external rewards strengthens job satisfaction. Priya & Christopher (2024a) determined that TSE has a substantial correlation with employees' intrinsic and extrinsic satisfaction.

The aforementioned literature has explored the relationship between TSE and employees' intrinsic and extrinsic satisfaction. However, there is a lack of studies investigating the direct influence of TSE on ES in the Indian IT industry. Thus, this study aims to extend the existing literature by examining the influence of TSE on ES. Hence, the following hypothesis is proposed.

H3: TSE significantly influences ES.

2.4. Mediation of Organizational Learning Culture

OLC could influence the relationship between TSE and ES, suggesting that a learning-oriented atmosphere amplifies the beneficial effect of self-efficacy on satisfaction. This culture encourages continuous skill development and collaboration, fostering a sense of accomplishment and belonging that enhances ES (Zheng, Yang & McLean, 2010). It is achieved by promoting collaborative problem-solving and a constructive feedback system (Lin et al., 2019; Lin & Huang, 2021). Previous studies suggest that organisations that prioritise continuous development and maintain a strong learning orientation foster increased self-efficacy and higher satisfaction levels among employees (Argyris & Schön, 1996; Kim, Lee & Na, 2017).

A 2014 Deloitte report found that "98% of organisations with strong learning cultures reported higher employee productivity—37% more than their peers". OLC fosters empowerment, recognition, skill development, and a sense of achievement, reducing job insecurity and anxiety (Chrapaty & Stein, 2014). A recent Deloitte article (Kapoor, Kroma & Kyle, 2025) emphasises the need for tailored learning experiences aligned with individual career goals and skill gaps. Traditional one-size-fits-all training is ineffective in today's fast-changing business landscape. Organisations must adopt agile L&D strategies to help employees adapt to new technologies, market shifts, and competitive pressures. These insights indirectly highlights the role of OLC in enhancing employees' competencies and job satisfaction.

Although previous studies have explored the facilitating role of OLC in the relationship between teamwork and ES, research directly examining its mediating role is lacking. Thus, to address this gap in the literature, the following hypothesis is proposed.

H4: OLC mediates the relationship between TSE and ES.

2.5. Moderation of Organizational Learning Culture

Through OLC, organisations can either strengthen or weaken the link between self-efficacy for teamwork and ES. Strong learning cultures help organisations share information, engage in cooperative learning, and solve problems collectively, thereby improving employee self-efficacy and job satisfaction (Cronley & Kim, 2017; Khan et al., 2020; Ullah, Ishaque, Din & Safdar, 2020). Kim et al. (2017) found that self-efficacy significantly increases satisfaction in learning-oriented environments, as employees feel stronger support. According to a study by Yoon and Kayes (2016), team learning behaviour moderates the link between self-efficacy and employees' perception of individual learning.

Social Learning Theory clarifies this phenomenon by asserting that individuals exhibit higher levels of engagement in environments that support learning and development (Bandura, 1986). Studies by Joo and Park (2010) and Cheah, Ooi, Teh, Chong and Yong (2009) posit that TSE significantly improves ES in organisations that emphasise learning. In such cultures, employees are encouraged to take risks, learn from mistakes, and communicate effectively. Therefore, creating a positive environment strengthens the link between self-efficacy and satisfaction.

McKinsey's The State of Organisations – 2023 report suggests that organisational leaders should develop an OLC to effectively manage change by proactively coaching teams, fostering new behaviours, and building long-term resilience (Simon et al., 2023). It claims that a strong learning culture can improve team dynamics, superior-subordinate relationships, growth opportunities, and job security by empowering employees. These insights provide a stronger justification for the moderating role of OLC, where the relationship between team effectiveness and ES might be strengthened in organisations with a high OLC than in those with a lower OLC.

Furthermore, previous studies have not demonstrated the moderating effect of OLC between TSE and ES in the Indian IT industry context. To address this gap in the literature, this study proposes the following hypothesis.

H5: OLC moderates the relationship between TSE and ES.

3. Research Methodology

The data for this study were collected using a quantitative research approach and a cross-sectional method. Quantitative research methods are suitable for evaluating hypotheses and validating theories. This methodology

seems appropriate given that this study aims to generalize its findings to Indian IT professionals. This study employed a purposive sampling method to enable prompt and efficient data collection. Specifically, it focused on intermediate and entry-level IT professionals across various technical specialities from the top five IT organizations based on their performance in FY24 (IBEF, 2024). Notably, HR specialists and managers were excluded from the selection criteria to ensure the study's relevance. The rationale behind choosing top IT organizations is that they are the leading players in providing a comprehensive array of enterprise development services. In alignment with the study variables, the OLC is essential for IT organisations to adapt to rapid technological changes and maintain a competitive advantage (Simon et al., 2023). Further, the inclusion of intermediate and entry-level IT professionals is essential due to their significant representation within the workforce, coupled with their high job mobility resulting from perceived inadequate recognition and growth opportunities (Bhattacharyya & Sarkar, 2021; Biswas & Kannan, 2025). Understanding their preferences is crucial for large-scale operational organisations. Additionally, these inclusion criteria seem appropriate for this study since analysing TSE, OLC, and ES among these selection criteria could provide in-depth knowledge about their perception of the study variables. Furthermore, employees within these top IT firms are viewed as crucial intangible assets, as their skills and expertise are instrumental in enhancing organizational productivity. It underscores the vital role of human capital within the IT sector, particularly in stimulating economic growth and fostering innovation. Consequently, this study focused on engaging 150 individuals from each Tier 1 city to complete a survey to ensure a representative sample. To mitigate researcher bias and facilitate an assessment of respondents' perceptions regarding the constructs under investigation, a self-administered questionnaire (online form) was utilised (Ahamed, 2022; Bell, Bryman & Harley, 2022).

This study comprised 26 items (questions) and stipulated a requisite sample size of 260 participants, following the sample-to-item ratio of 1:10 as recommended by Hair Jr, Matthews, Matthews and Sarstedt (2017). The emphasis on a diverse participant pool is paramount, as it enhances the broader applicability of the findings, effectively capturing a variety of demographic segments pertinent to the research inquiry. Utilizing larger sample sizes facilitates more meaningful subgroup analyses and improves data representativeness, thereby mitigating the influence of outliers (Field, 2013). Furthermore, a heightened sample size contributes to the robustness of structural equation modeling and other multivariate techniques prevalent in social science research (Kline, 2023). Out of the 1,200 IT employees contacted, 450 agreed to share their insights, and the questionnaire was then distributed to this group. In total, 416 respondents completed the survey. During the data cleaning process, 19 responses were identified as outliers and were removed to ensure data quality. Consequently, a final sample size of 397 respondents was deemed appropriate for further data analysis. This sample size adheres to established methodological standards and enhances the validity of the findings for the broader population.

The research examining TSE, OLC, and ES within the Indian IT sector prioritizes ethical considerations to uphold the integrity and credibility of the findings. Prior to the commencement of data collection, ethical clearance was obtained from the doctoral committee of the institution, thereby ensuring adherence to established ethical standards. All participants provided informed consent, having been thoroughly briefed on the study's objectives. The study places significant emphasis on confidentiality and privacy, recognizing the sensitive nature of the data involved in the IT field. Anonymity of participants is diligently preserved, and selection biases are mitigated through rigorous sampling techniques, thereby enhancing the objectivity and validity of the research. The results are presented with transparency, underscoring a steadfast commitment to accuracy and the prevention of misrepresentation.

3.1. Measurement

The questionnaire measures opinions on TSE, views on the OLC, respondents' satisfaction level, and demographic information. Using a 5-point Likert scale, standardized measures were adopted to evaluate the constructs. This study utilized the instrument of Eby and Dobbins (1997) to examine employees' TSE. The measurement scale for TSE includes a series of statements designed to evaluate an individual's confidence in their ability to collaborate effectively within a team. For instance, the TSE2 is "I can contribute valuable insights to a team project". The Cronbach's alpha for the TSE scale is 0.916, which suggests good reliability. OLC was measured using Yang, Watkins and Marsick (2004) scale. It evaluates how well a company supports the education and development of its employees. For instance, the OLC1 is "In my organization, people are rewarded for

learning". The Cronbach's alpha for the OLC scale is 0.889, indicating good reliability. Finally, the satisfaction of employees' was measured through adapting Warr et al. (1979) instrument. It assesses the employees' various intrinsic and extrinsic motivational factors. To enhance the relevance of this instrument for the study's context, few minor modifications were made at the sentence level. For example, the original item "the freedom to choose your own method of working" has been adapted to "I am free to choose my own method of working". The code for this item is ES1. Likewise, the original item "the attention paid to suggestions you make" has been rephrased as "my suggestions towards organizational development are being considered". The code for this item is ES6. The Cronbach's alpha for the ES scale is 0.908, which indicates that it has good reliability.

3.2. Preliminary Considerations

When a common source influences the measurement of variables beyond the constructs in research, it can create a problem known as common method bias (CMB). CMB can distort the reliability between variables, resulting in incorrect findings. This study analyzed CMB using Harman's single-factor test. Harman's single-factor test exhibits 35.87%, less than the threshold value of 50% (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). Therefore, CMB was not an issue in the present study. Likewise, the researchers tested the normality to ensure that the data collected from the samples followed a normal distribution. This study used PLS-SEM to analyze the research model where skewness and kurtosis should be less than the threshold suggested by Hair, Risher, Sarstedt and Ringle (2019). The skewness values are from -1.420 to -0.412, which are on par with the threshold between + 2, whereas the kurtosis values are from -0.756 to 2.448, which are on par with the threshold between + 7. It confirms the normality of data and ensures that the samples comprises of representatives across different view points from the IT industry.

3.3. Descriptive Statistics

Of the total sample size of 397, 73% of the survey respondents are male, and 27% are female. Regarding age, 74% of the respondents are Gen Z, followed by 23% of Gen Y and 3% of Gen X. The experience of respondents account for 62% have one to three years of work experience, 16% have four to six years, 11% have ten and above years, 7% have seven to nine years, and 4% have below one year of experience. Table 1 displays the detailed descriptive statistics of the demographic profile.

Variables	Classifications	Sample count	Percentage
Gender	Male	289	73
	Female	108	27
Age	Gen X	14	3
	Gen Y	90	23
	Gen Z	293	74
Experience (years)	Below 1	15	4
	1 to 3	248	62
	4 to 6	65	16
	7 to 9	27	7
	10 and above	42	11

Table 1. Descriptive statistics of the demographic variables

4. Data Analysis and Hypothesis Testing Results

This study evaluated the data and verified the hypothesis using partial least squares- structural equation modelling (PLS-SEM) utilizing SMART PLS v.4 software (Ringle, Wende & Becker, 2022). PLS-SEM is a second-generation multivariate analysis technique that combines multiple linear regression, path analysis, and confirmatory factor analysis (Hair et al., 2019). Examining a structural model reveals the variation in the dependent variable, providing valuable insights into underlying patterns and relationships effectively. This method is ideal for complex models and novel phenomena in which prediction is more crucial than parameter estimation (Chin, Marcolin & Newsted, 2003). This study aims to predict the effects of individual employee

competence (TSE) and the workplace culture (OLC) on ES (a perception of an individual's content level). In addition, this method is appropriate for this study because it concentrates on explaining the variance in ES (the dependent variable) when evaluating the integrative model, which aims to identify the dual role of OLC in employees' TSE and their satisfaction correlation. Subsequent reason to use this appraoch is that, this study tries to analyse the model's predictive power using PLS-Predict algorithm.

As PLS-SEM examines the model in two phases, assessing the (i) measurement model and (ii) structural model, this study presents its results as suggested by Hair et al. (2019). Figures 1 and 2 explain the path model, which incorporates both the inner model and outer model of the research model for mediation and moderation of OLC analysis as postulated by this study. The following section elaborates on the PLS-SEM results.

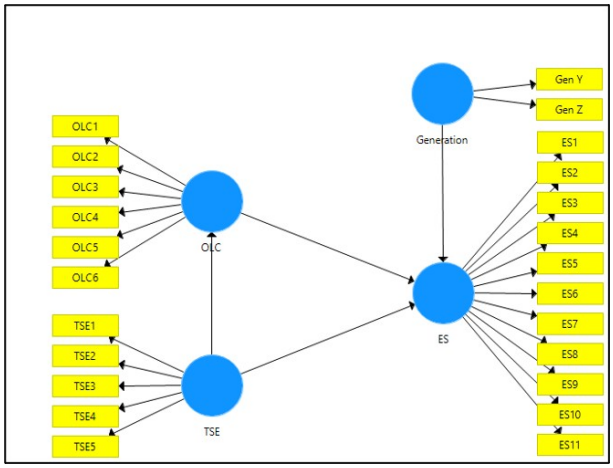

Figure 1. Path model for mediation analysis

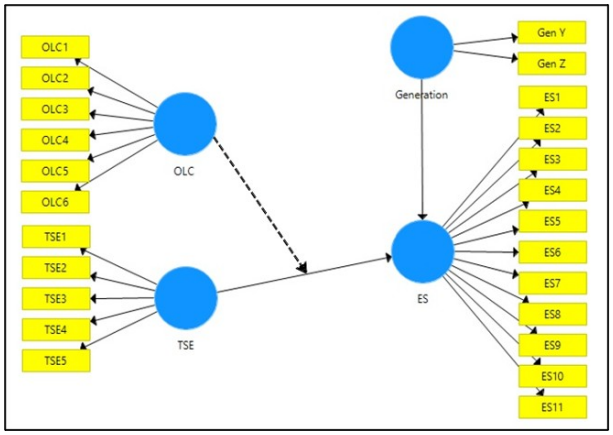

Figure 2. Path model for moderation analysis

4.1. Measurement Model

The analysis examined the factor loadings, Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE) to evaluate the measurement model. The reliability of the model's assessment using Cronbach's alpha (α) for the constructs ranges from 0.889 to 0.916, exceeding the recommended value of 0.7 and less than that of 0.95 (Nunnally, 1978). It indicates that the scale is highly reliable. Examining the measurement model's outer loadings assessed the questionnaire's internal consistency. The evaluation of the measurement model in this study adheres to established guidelines, focusing on the outer loadings of items within a reflective model. Hair et al. (2017) recommended a threshold of 0.708 as the preferred benchmark for loading values; a loading of 0.5 or above is acceptable, particularly when supplementary measurement model criteria—such as construct reliability and convergent validity—are satisfied. Before deciding on the retention of items with loadings situated between 0.5 and 0.708, an assessment of composite reliability (CR) and average variance extracted (AVE) for the constructs was conducted. The AVE values observed in this study ranged from 0.526 to 0.745, all exceeding the

requisite threshold of 0.5 (Hair et al., 2017), while the CR values ranged from 0.915 to 0.936 for all constructs, surpassing the minimum acceptable threshold of 0.7 (Hair et al., 2017). These results substantiate convergent validity and imply that retaining the items with loadings between 0.5 and 0.708 does not compromise the overall quality of the measurement model. Furthermore, the outer loadings for each item in the final model ranged from 0.568 to 0.880, aligning with the stipulated threshold of above 0.5 (Hair et al., 2017).

The analysis also incorporated the variance inflation factor (VIF) to gauge the strength of correlations among the variables in the outer model. Hair et al. (2017) recommend a threshold of less than 3.3 to indicate an absence of multicollinearity among indicators in formative latent variable assessments. In the case of reflective models, elevated VIF values (exceeding 5) are typically not viewed as problematic, as they reflect high correlations among indicators attributed to the construct itself. Consequently, this study applies the thresholds suggested by O'Brien (2007) and Hair et al. (2017), specifically the cutoff of less than 5, to ascertain the absence of multicollinearity issues within the model. The VIF values for the outer model in this study were found to range from 1.442 to 3.396, thereby confirming the lack of multicollinearity concerns. As a result, the validation of the measurement model demonstrates its reliability and consistency. Table 2 summarizes the results of the measurement model.

Items	Outer loadings	VIF	Cronbach's alpha	CR	AVE
ES1: I am free to choose my own method of working.	0.706	1.947	0.908	0.924	0.526
ES2: I get recognition for good work.	0.742	2.058			
ES3: I am aware of the amount of responsibility that I have.	0.718	2.163			
ES4: My job gives me an opportunity to make use of my abilities.	0.700	1.930			
ES5: I am getting fair chance of promotion.	0.576	1.507			
ES6: My suggestions towards organizational development are being considered.	0.740	2.009			
ES7: My fellow workers are collaborative.	0.797	2.361			
ES8: I am comfortable working with my immediate boss.	0.568	1.442			
ES9: I am getting paid for what I am performing.	0.772	2.291			
ES10: I have been provided with reasonable working hours.	0.809	2.786			
ES11: I feel I have a job security.	0.802	2.588			
OLC1: In my organization, people are rewarded for learning.	0.748	1.749	0.889	0.915	0.643
OLC2: In my organization, the teams revise their thinking as a result of group discussions or information collected.	0.801	2.123			
OLC3: My organization makes its lessons learned available to all employees.	0.786	2.078			
OLC4: My organization recognizes people for taking initiative.	0.838	2.408			
OLC5: My organization works together with the outside community to meet mutual needs.	0.782	1.973			
OLC6: In my organization, leaders look for opportunities to learn.	0.853	2.432			
TSE1: I can work very effectively in a group setting.	0.858	2.868	0.916	0.936	0.745
TSE2: I can contribute valuable insight to a team project.	0.863	3.139			
TSE3: I can easily facilitate communication between people.	0.880	3.342			
TSE4: I can effectively coordinate tasks and activities of a group.	0.877	3.396			
TSE5: I am able to resolve conflicts between individuals effectively.	0.838	1.956			

Table 2. Results of the measurement model

The heterotrait-monotrait (HTMT) correlation measure and the Fornell-Larcker criterion examine discriminant validity. According to Henseler, Ringle and Sarstedt (2015), the HTMT criterion should align the values with thresholds less than 0.85. The HTMT correlation ratio ranges from 0.251 to 0.731, supporting the discriminating criterion in Table 3 (the lower triangular matrix). Similarly, as per Fornell & Larcker's (1981) criterion, the diagonal values (in italic) denoting the square root of AVE (0.725 to 0.863) are greater than the correlation values between the constructs, exhibiting discriminant validity as presented in Table 3 (the upper triangular matrix). In conclusion, the measurement model demonstrates that it is accurate and reliable.

Constructs	ES	OLC	TSE
ES	*0.725*	0.670	0.295
OLC	0.731	*0.802*	0.236
TSE	0.320	0.251	*0.863*

Table 3. Result of discriminant validity

4.2. Model Fit Indices

The model fit indices for the mediation model analysis of the relationship between TSE and ES, in which OLC intervenes, represent the good model fit for the estimated model. For example, the results for the model with the control variable having Gen Y and Gen Z compared to Gen X exhibit good model fit with the standardized root mean square residual (SRMR): 0.070 and Normed Fit Index (NFI) 0.849. These values are on par with the thresholds for SRMR values less than 0.08 (Hu & Bentler, 1999) and the NFI value above 0.8 (Doll, Xia & Torkzadeh, 1994). A detailed summary of the results of the model fit with and without control variables for mediation and moderation model analysis is exhibited in Table 4. Similarly, the model fit indices for the moderation model analysis of the relationship between TSE and ES, which OLC moderates, represent the good model fit for the estimated model. For example, the results for with control variable having Gen Y and Gen Z compared to Gen X, exhibits good model fit with the criteria SRMR: 0.064 and NFI: 0.849. These values are on par with the thresholds for SRMR less than 0.08 (Hu & Bentler, 1999) and NFI above 0.8 (Doll et al., 1994).

Description	SRMR	NFI
Without control variable:		
Mediation analysis	0.068	0.859
Moderation analysis	0.068	0.859
With control variable:		
Mediation analysis:		
Gen Y and Gen Z compared to Gen X	0.070	0.849
Gen X and Gen Y compared to Gen Z	0.072	0.828
Moderation analysis:		
Gen Y and Gen Z compared to Gen X	0.064	0.849
Gen X and Gen Y compared to Gen Z	0.070	0.828

Table 4. Summary of the model fit results

4.3. Structural Model Assessment and PLS Predict Analysis

The researchers rigorously evaluated the hypothesis using a robust structural model, employing the advanced bootstrapping technique with 5,000 samples (Hair et al., 2017) to ensure accuracy and reliability. This comprehensive approach for separate mediation and moderation analyses not only strengthens the validity of the findings but also enhances our understanding of the complex relationships at play. By adopting this meticulous methodology, we can be confident in the insights drawn from the research, paving the way for more informed decision-making and further exploration in the field. The analysis was carried out separately for mediation and moderation analysis which further categorized into with and without control variable. The elaborated results are elucidated in the table 5. For instance, with control variable having Gen Y and Gen Z compared to Gen X is described in this section. The VIF for the inner model ranged from 1.000 to 1.088 in the mediation analysis and

from 1.018 to 1.102 in the moderation analysis, which met the threshold of less than 5 (Becker, Ringle, Sarstedt & Volckner, 2015) and less than 3.3 (Hair et al., 2017), which confirms the model has no multicollinearity issue about variables relationship. Cohen (1988) established a cutoff value of 0.26 as a substantial value for the coefficient of determination (R2) statistic. It explains the in-sample explanatory power. The observed value of R2 for ES is 0.491 for mediation and 0.502 for moderation analysis, which exceeds this threshold. In the case of R2 for OLC, the value 0.056 in the mediation analysis falls under the category of weak determination power. According to this finding, 49.1% of the variance in an ES is accounted for by the mediation model, and the moderation model accounts for 50.2% of the variance in an ES—likewise, the influence of TSE accounts for 5.6% of the variance in an OLC.

Besides, as Hair et al. (2019) and Shmueli, Sarstedt, Hair, Cheah, Ting, Vaithilingam et al. (2019) recommended, this study analysed the PLS path model's in-sample predictive accuracy by Q2 values and out-of-sample prediction by Q2 prediction. These criteria explain the path model's explanatory power and in-sample and out-of-sample predictive accuracy. Analysing these criteria helps to validate the model and gives future direction for the research. For Q2 analysis, as a guideline, values should be larger than zero for a specific endogenous construct to indicate the predictive accuracy of the structural model for that construct. As a rule of thumb, Q2 values higher than 0, 0.25 and 0.50 depict the PLS-path model's small, medium and higher predictive relevance. The values in the mediation study are 0.253 and 0.035 for ES and OLC, respectively. It shows medium predictive accuracy for ES and small predictive accuracy for OLC. Likewise, the Q2 value in the moderation study is 0.258 for ES. It shows medium predictive accuracy for ES.

Description	R^2	Q^2	Q^2 predict
Without control variable analysis			
Mediation analysis:			
ES	0.469	0.241	0.081
OLC	0.056	0.035	0.048
Moderation analysis:			
ES	0.478	0.246	0.464
With control variable analysis			
Mediation analysis:			
Gen Y and Gen Z compared to Gen X:			
ES	0.491	0.253	0.133
OLC	0.056	0.035	0.049
Gen X and Gen Y compared to Gen Z:			
ES	0.500	0.257	0.141
OLC	0.056	0.035	0.047
Moderation analysis:			
Gen Y and Gen Z compared to Gen X:			
ES	0.502	0.258	0.487
Gen X and Gen Y compared to Gen Z:			
ES	0.510	0.262	0.493

Table 5. Summary of the R^2, Q^2, and Q^2 predict

In the case of Q2 prediction accuracy analysis, the values of Q2 predict for the endogenous construct ES stands for 0.133 (mediation) and 0.487 (moderation), which is greater than zero, resembling good predictive relevance. Similarly, Q2 prediction for OLC stands for 0.049 (mediation), which resembles good predictive relevance. Further analysis compares the RMSE of PLS with a naive benchmark, linear regression model (LM), as Shmueli et al. (2019) recommended for business research applications. The result shows that a minor number of indicators in the PLS-SEM analysis yields higher prediction errors compared to the naive LM benchmark for the moderation model and the majority number of indicators in the case of the mediation model; this indicates that

the path model has a medium predictive power for moderation and low predictive power for mediation model. Table 5 displays the results of explanatory power (R2), Q2, and Q2 predict values for the endogenous construct.

The final step assesses the statistical significance and relevance of the path coefficients, including direct, indirect, and total effects in multivariate analysis. These values typically fall in the range of '-1 and +1'. Tables 6 and 7 illustrate the results of the hypothesis testing, comparing the analyses conducted with and without the inclusion of the control variable. Notably, this study identified significant changes in the beta values when the control variable was accounted for. Consequently, the following discussion will focus on interpreting these findings.

Type of effect	Relationship (hypothesis)	Beta	t	p	95% Confidence Intervals (With Bias Correction)	f^2	Decision/ Result
Mediation analysis							
Direct effect	TSE → OLC (H_1)	0.236	4.554	0.000	[0.133;0.334]	0.059	Accepted
	OLC → ES (H_{2a})	0.636	20.081	0.000	[0.565;0.691]	0.720	Accepted
	TSE → ES (H_{3a})	0.145	3.915	0.000	[0.071;0.215]	0.037	Accepted
Mediation effect	TSE → OLC → ES (H_4)	0.150	4.371	0.000	[0.083;0.219]	-	Accepted
Total effect	TSE → ES	0.295	6.953	0.000	[0.207;0.374]	-	Impact
Moderation analysis							
Direct effect	TSE → ES (H_{3b})	0.154	4.148	0.000	[0.079;0.225]	0.042	Accepted
	OLC → ES (H_{2b})	0.626	19.035	0.000	[0.556;0.686]	0.701	Accepted
	TSE x OLC → ES (H_5)	0.091	2.650	0.008	[0.020;0.157]	0.017	Accepted

Table 6. Summary of the hypothesis testing results (without control variable)

The p values demonstrate that less than 0.05 (5%) is significant and less than 0.01 (1%) is highly significant. Tables 6 and 7 also present a 95% confidence interval (lower and upper limits) with bias-corrected results of the bootstrapping technique for path coefficients. According to the analysis, TSE significantly influences OLC with a beta value 0.236 [0.131;0.331]. OLC significantly influences ES, with a beta value of 0.608 [0.534;0.670] in the mediation model analysis and 0.596 [0.525;0.657] in the moderation model analysis. Similarly, TSE significantly influences ES, with a beta value of 0.157 [0.081;0.227] in the mediation model and 0.166 [0.091;0.231] in the moderation model. Accordingly, H1, H2a, H2b, H3a, and H3b were accepted and supported with the statistical results. The mediation of OLC between TSE and ES was significant, with a beta value of 0.144 [0.080;0.206]. Hence, H4 was accepted. Likewise, the H5, which explains the interaction effect of TSE and OLC influences ES, was significant, with a beta value of 0.099 [0.031;0.164]. Therefore, H5 was accepted.

Moreover, generational differences' impact on ES is highly significant in both mediation and moderation analysis, with a negative beta value of 0.156 [-0.224;-0.082] in the mediation model and 0.161 [-0.231;-0.090] in the moderation model. In addition, the total effect of TSE on ES is highly significant, with a beta value of 0.301 [0.217;0.373]. Hence, the study results portray the crucial role of OLC as highly significant in the relationship between employees' competence (TSE) and their satisfaction.

According to Cohen (1988) and Chin et al. (2003), effect sizes (f2) below 0.02 are considered to have no impact, between 0.02 and 0.14 are considered to be small, between 0.15 and 0.34 are considered to be moderate, and over 0.35 are considered to be large. This study's effect size (f2) for H2a and H2b explains that the influence of OLC on ES seems to have the highest effect (0.667_mediation and 0.647_moderation). Meanwhile, in all other hypotheses concerning mediation and moderation, the effect size values range from 0.020 to 0.059, which seems to have a small effect and negligible significance. Even though the effect size (f2) is small, Chin et al. (2003, p.211) argue that this does not imply that the moderator effect should be ignored: 'Even a small interaction effect can be meaningful under extreme moderating conditions; if the resulting beta changes are meaningful, then it is important to take these conditions into account.' When the beta coefficient increases, even a minor influence in moderation can have a substantial effect. According to the study's findings, OLC moderates the relationship

between TSE and ES, which is supported by the fact that the beta coefficient of this relationship is nearly 0.100 and statistically significant at 1% (Huber, Herrmann, Meyer, Vogel & Vollhardt, 2007) with a small effect size.

Type of effect	Relationship (hypothesis)	Beta	t	p	95% Confidence Intervals (With Bias Correction)	f^2	Decision/ Result
Generation with Gen X as a reference group							
Mediation analysis							
Direct effect	TSE → OLC (H_1)	0.236	4.579	0.000	[0.131;0.331]	0.059	Accepted
	OLC → ES (H_{2a})	0.608	18.325	0.000	[0.534;0.670]	0.667	Accepted
	TSE → ES (H_{3a})	0.157	4.370	0.000	[0.081;0.227]	0.046	Accepted
	Generation → ES	-0.156	3.986	0.000	[-0.224;-0.082]	0.046	Impact
Mediation effect	TSE → OLC → ES (H_4)	0.144	4.414	0.000	[0.080;0.206]	-	Accepted
Total effect	TSE → ES	0.301	7.644	0.000	[0.217;0.373]	-	Impact
Moderation analysis							
Direct effect	TSE → ES (H_{3b})	0.166	4.547	0.000	[0.091;0.231]	0.052	Accepted
	OLC → ES (H_{2b})	0.596	18.335	0.000	[0.525;0.657]	0.647	Accepted
	TSE x OLC → ES (H_5)	0.099	2.867	0.004	[0.031;0.164]	0.020	Accepted
	Generation → ES	-0.161	4.322	0.000	[-0.231;-0.090]	0.051	Impact
Generation with Gen Z as a reference group							
Mediation analysis							
Direct effect	TSE → OLC (H_1)	0.236	4.598	0.000	[0.133;0.330]	0.059	Accepted
	OLC → ES (H_{2a})	0.606	18.183	0.000	[0.536;0.667]	0.676	Accepted
	TSE → ES (H_{3a})	0.152	4.131	0.000	[0.080;0.225]	0.044	Accepted
	Generation → ES	0.179	4.822	0.000	[0.103;0.247]	0.063	Impact
Mediation effect	TSE → OLC → ES (H_4)	0.143	4.420	0.000	[0.080;0.204]	-	Accepted
Total effect	TSE → ES	0.296	7.413	0.000	[0.218;0.370]	-	Impact
Moderation analysis							
Direct effect	TSE → ES (H_{3b})	0.161	4.483	0.000	[0.092;0.231]	0.050	Accepted
	OLC → ES (H_{2b})	0.595	17.734	0.000	[0.526;0.656]	0.657	Accepted
	TSE x OLC → ES (H_5)	0.095	2.825	0.005	[0.032;0.162]	0.019	Accepted
	Generation → ES	0.182	4.858	0.000	[0.104;0.250]	0.066	Impact

Table 7. Summary of the hypothesis testing results (with control variable)

Slope analysis was used to examine the findings (Hair et al., 2017) and the intensity of the interaction effect in the second phase of the moderation assessment. It illustrates how the magnitude of the impact on the correlation between the independent and dependent variables changes as the quantity of the moderating variable increases or declines. Figure 3 depicts the examination of the interaction effect using OLC values that were one standard deviation above and below the mean. The findings of the slope analysis indicate that a group of employees with a high OLC is more likely to develop higher ES levels than a group with a low OLC. It is because TSE improves as the OLC rises. Figure 3 demonstrates that when OLC is high (the slope is steeper), there is a stronger relationship between TSE and an ES than when OLC is low (the slope is shallow). Therefore, the results indicate that TSE has a more significant impact on ES when learning culture levels are high than when they are low.

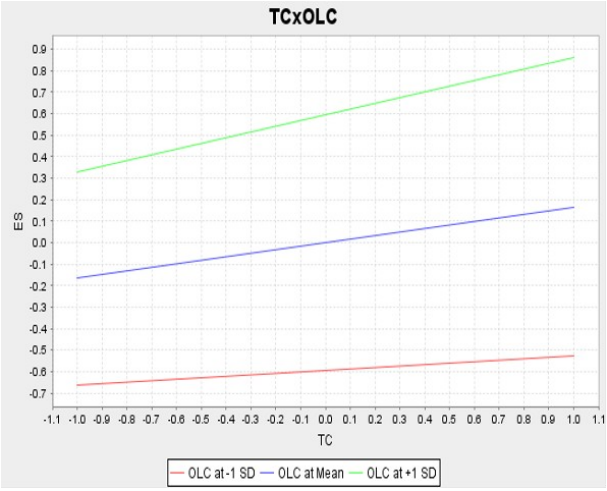

Figure 3. Simple slope plots for the moderation analysis

5. Discussion

The results of the study show that in both cases—when generation is considered as a control variable and where it is not—TSE and OLC significantly impact ES. This paper explores the control variable model analysis since the analysis including control variables explains the variance in ES practically and offers valuable predictive accuracy. Including this study is mostly meant to help to interpret important results in the modern workplace (Randstad, 2015; McMurray & Simmers, 2020; Rudolph et al., 2021). Furthermore, in the control variable model, comparing Gen Y and Gen Z to Gen X helps provide a more comprehensive understanding of their relatively high presence in the talent pool. Therefore, this discussion aims to elucidate the unique qualities and contributions of this generation, underscoring its relevance and influence in the modern workforce landscape.

First, the study revealed that TSE significantly influences OLC—where a 1% rise in TSE results in increase in OLC by 0.236%. The findings align with other research (Tjosvold et al., 2004; Carmeli & Gittell, 2009) confirming that TSE influences group activities and personal attitudes supporting a learning-oriented culture. According to the study findings, companies that focus on improving employees' TSE can positively affect the learning culture. An increase in employees' TSE helps them contribute more effectively to creating a workplace learning environment. They will be more effective, engage in continuous learning for mutual development, and assist their colleagues in becoming more efficient.

Second, the study revealed that OLC has a highly significant impact on ES, where a 1% increase in OLC leads to a 0.608% increase in ES in the mediation model and a 0.596% increase in the moderating model. The outcome is consistent with the results of Egan et al. (2004), who assert that since employees see themselves as valued, learning organisations ultimately help increase job satisfaction. According to the findings, a company with a strong learning culture can simultaneously function as a facilitator and a support system, thereby enhancing ES.

Third, the study revealed that TSE has a highly significant impact on ES, where a 1% increase in TSE enhances ES by 0.157% in the mediation model and 0.166% in the moderating model. The findings align with earlier research (Luthans & Peterson, 2002; Lent & Brown, 2006; Priya & Christopher, 2024a), demonstrating that employees with strong TSE exhibit greater resilience and adaptability, thereby reducing conflicts and fostering a positive workplace environment. According to the study findings, companies that focus on enhancing employee TSE can have a significantly positive impact on ES. This is because an increase in the employees' TSE boosts their confidence in performing tasks and contributing more effectively to teams, helping them achieve their targets and improve productivity. It can enhance their level of satisfaction both intrinsically and extrinsically, including a greater sense of achievement, ample opportunities, appreciation, job security, improved collaboration, and a supportive work environment.

The fourth finding reveals that OLC significantly mediates the link between TSE and ES, where a 1% increase in the facilitation of OLC results in a 0.144% increase in the TSE-ES relationship. The findings of this study align

with the argument of Argyris and Schon (1996), which demonstrates that by creating a motivating and growth-oriented environment, a learning culture enhances self-efficacy and bridges the gap to satisfaction. Moreover, the total effect of TSE on ES was found to be highly significant, increasing by 0.301% in the presence of OLC as a mediator. This suggests that, given the context of the Indian IT industry, facilitating OLC helps establish a link between employees' TSE and their satisfaction. Employees will work more efficiently, continuously learn for their personal development, and assist their peers in improving efficiency for mutual benefit. These factors contribute to increased ES and productivity.

Fifth, the study revealed that OLC significantly moderates the influence of TSE on ES; a 1% increase in OLC strengthens the influence of TSE on ES by 0.099%. Employees with high OLC are more likely to achieve higher levels of ES. This is because, as OLC increases, TSE also improves. The findings align with earlier studies (Cronley & Kim, 2017; Kim et al., 2017), which assert that a strong learning culture amplifies the positive effect of TSE on ES. This suggests that the workplace learning culture shapes employees' perceptions of their satisfaction in relation to how efficiently they utilise their TSE. Therefore, enhancing OLC leads to greater ES compared to situations where OLC remains unchanged.

Eventually, the study revealed that: (i) ES is negatively and significantly influenced by generational differences, with Gen Y and Gen Z reporting lower satisfaction compared to Gen X. (ii) Conversely, Gen X and Gen Y employees report higher satisfaction levels compared to Gen Z. This outcome aligns with research by Rudolph (2016) and Kollmann et al. (2020), which demonstrates that job satisfaction is strongly influenced by employee age. Variations in career phases across generations may help explain these findings. Gen X is in the maintenance stage of their careers, Gen Y is in the establishment stage, and Gen Z is navigating the exploration and establishment phases (Chourasiya & Agrawal, 2019; Vilela & Casado, 2023). Research suggests a relationship between age, career stages, and employee needs, leading to different job satisfaction levels (Hall & Nougaim, 1968; Dalton, Thompson & Price, 1977; Rush, Peacock & Milkovich, 1980; Mount, 1984; Erikson, 1994). In entry-level positions, Gen Z often receives lower pay due to their lack of experience, contributing to stagnation and anxiety regarding job security. In contrast, Gen X and Gen Y typically hold higher-level positions due to their greater expertise. These generational differences highlight the variations in ES within the IT industry, as satisfaction levels differ across generational groups.

Therefore, the study highlights that both TSE and OLC significantly influence ES, with OLC acting as both a mediator and a moderator in this relationship. A 1% increase in TSE leads to a 0.236% rise in OLC, reinforcing the idea that self-efficacious employees contribute to a stronger learning culture, which in turn enhances satisfaction. Additionally, OLC has a substantial impact on ES, with a 1% increase leading to a 0.608% rise in satisfaction in the mediation model. Generational differences play a crucial role, as Gen Z exhibits lower satisfaction levels compared to Gen X and Gen Y, potentially due to career stage differences, job security concerns, and workplace expectations. These findings emphasize the need for organizations to cultivate an inclusive learning culture, implement mentorship and counseling programs, and tailor HR strategies to address generational variations in satisfaction, ultimately fostering a more engaged and productive workforce.

5.1. Theoretical Implications

The results of this study have important theoretical relevance for social science research and organisational behaviour. In the framework of the Indian IT sector, pointing up direct and indirect links between TSE and ES adresses a significant research gap. This contribution is crucial for understanding how these constructs interact within a specific organizational setting, thereby enriching existing theoretical frameworks. Moreover, exploring OLC as a mediator and moderator in the TSE-ES relationship underscores the multifaceted nature of organizational culture. It suggests OLC as an active component affecting outcomes rather than only as a background for employee behaviour. The results imply that OLC can be a contextual supporter as well as a facilitator in TSE-ES relationship, thereby stressing the requirement of theoretical models to consider cultural elements and their dynamic roles in determining employee experiences. Examining the temporal dynamics of organisational culture helps scholars improve theoretical debate on employee competency and attitudes. This research will expose how cultural changes affect individual performance and involvement, so providing a

thorough framework linking corporate culture with employee results and so providing insightful analysis for academics and practitioners.

Furthermore, the study's analysis of generational cohorts shows notable variations in satisfaction among Gen X, Gen Y, and Gen Z, hence improving theoretical debate. Emphasising the need of frameworks including demographic characteristics, the data show Gen Z exhibits more dissatisfied than its predecessors and vice versa. Understanding the unique challenges and preferences associated with various generational cohorts depends on this awareness of them. Future studies should thus take these demographic differences into account as integral components of theoretical models. By using this, researchers will be able to better grasp how environmental elements interact with personal characteristics, therefore promoting more complex cross-cultural and social science study. Combining these ideas into research models or doing multi-group studies can help to more thoroughly investigate employees' different experiences across several demographic profiles.

5.2. Practical Implications

The study results have significant implications for HRD professionals and managers. In today's context, employees comprehend that OLC is a predecessor for their satisfaction, which has its highest practical significance in the study. Since OLC facilitates and strengthens the relationship between TSE and ES, HRD professionals and managers must handle it even more consciously. For example, as a cultural effort for employee learning and development at individual and organizational levels, HRD professionals could prioritize learning at the workplace from the onboarding of employees. Plus, make it more fun with rewards and recognition. It could build employees' TSE and self-efficacy where individual, team, and organizational goals could be achieved incessantly through improved productivity, cohesiveness and cooperative behaviour. It could ultimately enhance their satisfaction levels.

Further, the result that determines the significant amount of differences that exist among the different age groups has a notable influence on their satisfaction level. Hence, the organizational policies and efforts to satisfy their employees (specially, Gen Z) may not have a positive significant influence on their satisfaction because of their influence of age cohort in which they belong to. Otherwise, the organization did not take necessary efforts to improve the satisfaction of Gen Z in compared with Gen X and Gen Y. Hence, this study recommends that HRD professionals consider the generational differences among the workforce and try to reduce their differences through group activities. As evidenced by previous studies (Harris & Harris, 1996; LaFasto & Larson, 2001; Kozlowski & Ilgen, 2006; Anvari & Janjaria, 2023), working together in group activities enables them to understand each other better. It improves communication, creates a harmonious workplace, and provides more learning and a satisfying environment to accomplish tasks. It could further put inequality at bay. Robust intrinsic support systems could strengthen this process. In this regard, organizations and HR managers could facilitate employees with mentoring and counseling programmes. Several researchers (Swap, Leonard, Shields & Abrams, 2001; Kapoor & Solomon, 2011; Torun, 2013; Connor & Pokora, 2017; Wawrzonek, 2019; Deng & Turner, 2024) pointed out that adequate and proper mentoring and counseling programmes help employees to understand the work process and communicate well in the workplace which in turn reduces issues in teamwork and generational differences. Thus, HRD professionals should strengthen their managers by training them on enhanced techniques of mentoring and counseling or hiring professional counselors to strengthen their intrinsic support system. It facilitates organizations in managing and satisfying their diversified workforce better.

5.3. Social implications

The results demonstrate a significant negative effect for Generation Z and a positive effect for Generation X and Generation Y regarding employees' age cohort on their satisfaction levels. This study indicates that Generation Z exhibits greater dissatisfaction compared to Generation X and Generation Y. This may lead to increased frustration, rendering employees and their families susceptible. Several research papers from McKinsey & Company and Deloitte Insights indicate that Generation Z has greater anxiety and mental distress compared to their predecessors (Smith & McNally, 2021; Smet et al., 2021; Deloitte Global Report, 2024). This study recommends HRD professionals to mitigate the unfavourable perceptions of Gen Z in the workplace by implementing a robust internal support system, including mentorship and counselling programs, thereby alleviating their dissatisfaction levels. Moreover, enhancing the OLC could increase employee satisfaction and

happiness. It moreover maintains their concentration on learning and development for future pursuits. It could unleash their workforce capabilities and employ them more effectively without imposing excessive strain.

6. Conclusion

The study findings underscored the significant importance of OLC in the contemporary landscape, specifically concerning the Indian IT industry. This survey has verified that employees prefer it for their growth and development due to its multiple perks. Additionally, it performs facilitator and supporter roles at the individual level to enhance ES. The study examined how the generational characteristics of employees affect their satisfaction, which differs between generational cohorts. The study possesses significant theoretical, practical, and sociological consequences, along with possible avenues for further research in workplace culture and learning environment studies.

6.1. Limitations and Future Scope

Despite the study's considerable consequences, it possesses some limitations stemming from its major objectives. The research has validated the relationship among employees' TSE, satisfaction, and the OLC in the present context. Researchers examining the relationship among learning culture, employee competence, and organisational attitude could evaluate this model using additional individual competencies: self, communication, cross-cultural, change, and diversity. This study focusses on IT professionals as its population. The robust predictive relevance evidenced by the model's fit and prediction outcomes provides a chance to evaluate this model across many industrial contexts where the function of OLC is essential. This methodology can provide significant insights and produce meaningful results across various sectors. Furthermore, researchers focused on cross-cultural studies might assess the effects of generational influences across cultures through multi-group analysis. Furthermore, given this study concentrated on ES as a singular construct, additional research might be undertaken independently for intrinsic and extrinsic components. This may result in a profound comprehension of the variations in employment choices among generational cohorts across diverse industrial sectors. The socio-emotional selectivity theory (Carstensen, 1995) asserts that as individuals age, their perception of time alters, causing them to regard the remaining period of life as increasingly constrained. This developing temporal viewpoint has considerable ramifications for personal motivation, social interactions, goal setting, and emotional management (Kanfer & Ackerman, 2004; Rudolph, 2016). Consequently, future research might implement the model as a longitudinal study to thoroughly examine the evolving attitudes of employees across different generations as they age.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

References

Aggarwal, A., Sadhna, P., Gupta, S., Mittal, A., & Rastogi, S. (2022). Gen Z entering the workforce: Restructuring HR policies and practices for fostering the task performance and organizational commitment. *Journal of Public Affairs,* 22(3), e2535. https://doi.org/10.1002/pa.2535

Ahamed, A.J. (2022). The effect of demographic characteristics on considerations of future consequences and compulsive buying and their interlinks. *International Journal of Business and Emerging Markets*, 14(3), 279-295. https://doi.org/10.1504/IJBEM.2022.123873

Allen, D.G., Shore, L.M., & Griffeth, R.W. (2003). The role of perceived organizational support and supportive human resource practices in the turnover process. *Journal of Management,* 29(1), 99-118. https://doi.org/10.1177/014920630302900107

Anvari, R., & Janjaria, M. (2023). Contributing management factors to performance management effectiveness. *Journal of Business & Management,* 1(1), 57-68. https://doi.org/10.47747/jbm.v1i1.950

Argyris, C., & Schon, D.A. (1996). *Organizational learning II: Theory, Method and Practice*. Addison-Wesley, Reading, MA.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review,* 84(2), 191-215. https://doi.org/10.1037/0033-295X.84.2.191

Bandura, A. (1986). *Social foundations of thought and action* (23-28). Englewood Cliffs, NJ.

Bandura, A., & Wessels, S. (1997). *Self-efficacy* (4-6). Cambridge: Cambridge University Press.

Basten, D., & Haamann, T. (2018). Approaches for organizational learning: A literature review. *Sage Open,* 8(3), 2158244018794224. https://doi.org/10.1177/2158244018794224

Becker, J.M., Ringle, C.M., Sarstedt, M., & Volckner, F. (2015). How collinearity affects mixture regression results. *Marketing letters,* 26, 643-659. https://doi.org/10.1007/s11002-014-9299-9

Bell, E., Bryman, A., & Harley, B. (2022). *Business research methods.* UK: Oxford university press. https://doi.org/10.1093/hebz/9780198869443.001.0001

Bhattacharyya, R. & Sarkar, B. (2021). Indian Professionals Suffer Higher Stress Level Than Most Workers Globally, Shows Study. Economics Times, [Online]. Available at: https://economictimes.indiatimes.com/news/company/corporate-trends/indians-professionals-suffer-higher-stress-level-than-most-workersglobally-shows-study/articleshow/87328039.cms?from=mdr (Accessed: June 2023).

Biswas, B., & Kannan, U. (2025). Most employees in IT roles unhappy with their salaries. *The New Indian Express* [Online]. Available at: https://www.newindianexpress.com/business/2025/Feb/27/most-employees-in-it-roles-unhappy-with-their-salaries (Accessed: March 2025).

Blau, P.M. (1964). Justice in social exchange. *Sociological inquiry,* 34(2), 193. https://doi.org/10.1111/j.1475-682X.1964.tb00583.x

Carmeli, A., & Gittell, J.H. (2009). High-quality relationships, psychological safety, and learning from failures in work organizations. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior,* 30(6), 709-729. https://doi.org/10.1002/job.565

Carstensen, L.L. (1995). Evidence for a life-span theory of socioemotional selectivity. *Current Directions in Psychological science,* 4(5), 151-156. https://doi.org/10.1111/1467-8721.ep11512261

Cetin, F., & Askun, D. (2018). The effect of occupational self-efficacy on work performance through intrinsic work motivation. *Management Research Review,* 41(2), 186-201. https://doi.org/10.1108/MRR-03-2017-0062

Cetindamar, D., Katic, M., Burdon, S., & Gunsel, A. (2021). The interplay among organisational learning culture, agility, growth, and big data capabilities. *Sustainability,* 13(23), 13024. https://doi.org/10.3390/su132313024

Cheah, W.C., Ooi, K.B., Teh, P.L., Chong, A.Y.L., & Yong, C.C. (2009). Total quality management and knowledge sharing: Comparing Malaysia's manufacturing and service organizations. *Journal of applied Sciences,* 9(8), 1422-1431. https://doi.org/10.3923/jas.2009.1422.1431

Chin, W.W., Marcolin, B.L., & Newsted, P.R. (2003). A partial least squares latent variable modeling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study. *Information Systems Research,* 14(2), 189-217. https://doi.org/10.1287/isre.14.2.189.16018

Chourasiya, A., & Agrawal, V. (2019). A comparative analysis of age based career stage models needs and characteristics at various career stages. *International Journal of Research and Analytical Reviews,* 6(2), 87-91.

Chrapaty, K., & Stein, A.K. (2014). Learning about learning: Mateo's three insights. *Deloitte Global* [Online]. Available at: https://www2.deloitte.com/us/en/insights/topics/talent/learning-about-learning-mateos-three-insights.html (accessed on 17/03/2025).

Ciobanu, A., Androniceanu, A., & Lazaroiu, G. (2019). An integrated psycho-sociological perspective on public employees' motivation and performance. *Frontiers in Psychology,* 10(1), 36. https://doi.org/10.3389/fpsyg.2019.00036

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences.* Abingdon, England: Routledge.

Connor, M., & Pokora, J. (2017). *Coaching and mentoring at work: Developing effective practice: Developing effective practice.* UK: McGraw-Hill Education.

Cronley, C., & Kim, Y.K. (2017). Intentions to turnover: Testing the moderated effects of organizational culture, as mediated by job satisfaction, within the Salvation Army. *Leadership & Organization Development Journal,* 38(2), 194-209. https://doi.org/10.1108/LODJ-10-2015-0227

Cropanzano, R., & Mitchell, M.S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management,* 31(6), 874-900. https://doi.org/10.1177/0149206305279602

Dalton, G.W., Thompson, P.H., & Price, R.L. (1977). The four stages of professional careers-A new look at performance by professionals. *Organizational Dynamics,* 6(1), 19-42. https://doi.org/10.1016/0090-2616(77)90033-X

Dang, V.T., & Chou, Y.C. (2020). Extrinsic motivation, workplace learning, employer trust, self-efficacy and cross-cultural adjustment: An empirical study of Vietnamese laborers in Taiwan. *Personnel Review,* 49(6), 1232-1253. https://doi.org/10.1108/PR-10-2018-0427

Deci, E.L., & Ryan, R.M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of Research in Personality,* 19(2), 109-134. https://doi.org/10.1016/0092-6566(85)90023-6

Deci, E.L., & Ryan, R.M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry,* 11(4), 227-268. https://doi.org/10.1207/S15327965PLI1104_01

Deloitte Global Report (2024). Deloitte's 2024 Gen Z and Millennial Survey finds these generations stay true to their values as they navigate a rapidly changing world. *Deloitte Global* [Online]. Available at: https://www2.deloitte.com/content/dam/Deloitte/cn/Documents/about-deloitte/deloitte-cn-2024-genz-millennial-survey-en-240529.pdf (Accessed: October 2024).

Deng, C., & Turner, N. (2024). Identifying key mentor characteristics for successful workplace mentoring relationships and programmes. *Personnel Review,* 53(2), 580-604. https://doi.org/10.1108/PR-08-2022-0535

Djunaedi, Nimran, U., Musadieq, M.A., & Afrianty, T.W. (2024). Empowerment effect on competence and organizational commitments: Organizational learning culture as moderating. *Multidisciplinary Reviews,* 7(2), 2024038-2024038. https://doi.org/10.31893/multirev.2024038

Doll, W.J., Xia, W., & Torkzadeh, G. (1994). A confirmatory factor analysis of the end-user computing satisfaction instrument. *MIS Quarterly,* 18(4), 453-461. https://doi.org/10.2307/249524

Eby, L.T., & Dobbins, G.H. (1997). Collectivistic orientation in teams: an individual and group□ level analysis. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior,* 18(3), 275-295. https://doi.org/10.1002/(SICI)1099-1379(199705)18:3<275::AID-JOB796>3.0.CO;2-C

Edmans, A., Pu, D., Zhang, C., & Li, L. (2024). Employee satisfaction, labor market flexibility, and stock returns around the world. *Management Science,* 70(7), 4357-4380. https://doi.org/10.1287/mnsc.2023.4889

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

Edmondson, A.C., Kramer, R.M., & Cook, K.S. (2004). Psychological safety, trust, and learning in organizations: A group-level lens. Trust and distrust in organizations: *Dilemmas and Approaches,* 12(2004), 239-272.

Egan, T.M., Yang, B., & Bartlett, K.R. (2004). The effects of organizational learning culture and job satisfaction on motivation to transfer learning and turnover intention. *Human Resource Development Quarterly,* 15(3), 279-301. https://doi.org/10.1002/hrdq.1104

Erikson, E.H. (1994). *Identity and the life cycle.* NY: WW Norton.

Esch, E.V., Wei, L.Q., & Chiang, F.F. (2018). High-performance human resource practices and firm performance: The mediating role of employees' competencies and the moderating role of climate for creativity. *The International Journal of Human Resource Management,* 29(10), 1683-1708. https://doi.org/10.1080/09585192.2016.1206031

Feeney, M., Grohnert, T., Gijselaers, W., & Martens, P. (2023). Organizations, learning, and sustainability: A cross-disciplinary review and research agenda. *Journal of Business Ethics,* 184(1), 217-235. https://doi.org/10.1007/s10551-022-05072-7

Field, A. (2013). *Discovering Statistics Using IBM SPSS Statistics* (4th ed.). Los Angeles, US: Sage Publications.

Focardi, R. (2021). 6 key facts about the multigenerational workforce in 2021. *HRM Asia Newsroom* [Online]. Available at: https://hrmasia.com/6-key-facts-about-the-multigenerational-workforce-in-2021/ (Accessed: October 2024).

Fornell, C., & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research,* 18(1), 39-50. https://doi.org/10.1177/002224378101800104

Garvin, D.A., Edmondson, A.C., & Gino, F. (2008). Is yours a learning organization? *Harvard Business Review,* 86(3), 109.

Gibson, C.B. (2003). The efficacy advantage: Factors related to the formation of group efficacy. *Journal of Applied Social Psychology,* 33(10), 2153-2186. https://doi.org/10.1111/j.1559-1816.2003.tb01879.x

Gist, M.E., & Mitchell, T.R. (1992). Self-efficacy: A theoretical analysis of its determinants and malleability. *Academy of Management Review,* 17(2), 183-211. https://doi.org/10.2307/258770

Hair Jr, J.F., Matthews, L.M., Matthews, R.L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: updated guidelines on which method to use. *International Journal of Multivariate Data Analysis,* 1(2), 107-123. https://doi.org/10.1504/IJMDA.2017.087624

Hair, J.F., Risher, J.J., Sarstedt, M., & Ringle, C.M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review,* 31(1), 2-24. https://doi.org/10.1108/EBR-11-2018-0203

Hall, D.T., & Nougaim, K.E. (1968). An examination of Maslow's need hierarchy in an organizational setting. *Organizational Behavior and Human Performance,* 3(1), 12-35. https://doi.org/10.1016/0030-5073(68)90024-X

Hambissa, B.A., & Tadesse, W.M. (2024). Strategic human resource development practices and employee performance in ethiopian public sector organizations: the mediating role of organizational learning. *Annals of the University of Craiova for Journalism, Communication and Management,* 10, 94-101.

Harris, P.R., & Harris, K.G. (1996). Managing effectively through teams. *Team Performance Management: An International Journal,* 2(3), 23-36. https://doi.org/10.1108/13527599610126247

Harter, J.K., Tatel, C.E., Agrawal, S., Blue, A., Plowman, S.K., Asplund, J. et al. (2024). *The relationship between engagement at work and organizational outcomes.* Gallup Poll Consulting University Press, Washington.

Henseler, J., Ringle, C.M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science,* 43 (1), 115-135. https://doi.org/10.1007/s11747-014-0403-8

Herzberg, F. (1966). *Work and the Nature of Man. Cleveland,* OH: World.

Herzberg, F. (1968). *One more time: How do you motivate employees* (65). Boston, MA: Harvard Business Review.

Hu, L.T., & Bentler, P.M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal,* 6(1), 1-55. https://doi.org/10.1080/10705519909540118

Huber, F., Herrmann, A., Meyer, F., Vogel, J., & Vollhardt, K. (2008). *Kausalmodellierung mit partial least squares: eine anwendungsorientierte einführung.* Springer-Verlag.

IBEF (2024). Indian IT & BPM Industry Report. *India Brand Equity Foundation* [online]. Available at: https://www.ibef.org/industry/indian-it-and-ites-industry-analysis-presentation (Accessed: October 2024).

Joo, B.K., & Park, S. (2010). Career satisfaction, organizational commitment, and turnover intention: The effects of goal orientation, organizational learning culture and developmental feedback. *Leadership & Organization Development Journal,* 31(6), 482-500. https://doi.org/10.1108/01437731011069999

Joo, B.K., & Ready, K.J. (2012). Career satisfaction: The influences of proactive personality, performance goal orientation, organizational learning culture, and leader-member exchange quality. *Career Development International,* 17(3), 276-295. https://doi.org/10.1108/13620431211241090

Joo, B.K., & Shim, J.H. (2010). Psychological empowerment and organizational commitment: the moderating effect of organizational learning culture. *Human Resource Development International,* 13(4), 425-441. https://doi.org/10.1080/13678868.2010.501963

Jung, K.B., Ullah, S.E., & Choi, S.B. (2021). The mediated moderating role of organizational learning culture in the relationships among authentic leadership, leader-member exchange, and employees' innovative behavior. *Sustainability,* 13(19), 10802. https://doi.org/10.3390/su131910802

Kanfer, R., & Ackerman, P.L. (2004). Aging, adult development, and work motivation. *Academy of Management Review,* 29(3), 440-458. https://doi.org/10.2307/20159053

Kapoor, C., & Solomon, N. (2011). Understanding and managing generational differences in the workplace. *Worldwide Hospitality and Tourism Themes,* 3(4), 308-318. https://doi.org/10.1108/17554211111162435

Kapoor, A., Kroma, J.L., & Kyle, K. (2025). Learning for a Skills-Based Future. *Deloitte Global* [Online]. Available at: https://www.deloitte.com/uk/en/services/consulting/blogs/2025/learning-for-a-skills-based-future.html (Accessed: March 2025).

Khan, S.U.R., Anjam, M., Abu-Faiz, M., Khan, F., & Khan, H. (2020). Probing the effects of transformational leadership on employees' job satisfaction with interaction of organizational learning culture. *Sage Open,* 10(2), 2158244020930771. https://doi.org/10.1177/2158244020930771

Kim, H., Lee, J.H., & Na, S.H. (2017). Predictor-estimator using multilevel task learning with stack propagation for neural quality estimation. In *Proceedings of the second conference on machine translation* (562-568). Denmark. https://doi.org/10.18653/v1/W17-4763

Kline, R.B. (2023). *Principles and practice of structural equation modeling.* Guilford publications, New York.

Kollmann, T., Stöckmann, C., Kensbock, J.M., & Peschl, A. (2020). What satisfies younger versus older employees, and why? An aging perspective on equity theory to explain interactive effects of employee age, monetary rewards, and task contributions on job satisfaction. *Human Resource Management,* 59(1), 101-115. https://doi.org/10.1002/hrm.21981

Konak, A., & Kulturel-Konak, S. (2019). Impact of online teamwork self-efficacy on attitudes toward teamwork. *International Journal of Information Technology Project Management,* 10(3), 1-17. https://doi.org/10.4018/IJITPM.2019070101

Kozlowski, S.W., & Ilgen, D.R. (2006). Enhancing the effectiveness of work groups and teams. *Psychological Science in the Public Interest,* 7(3), 77-124. https://doi.org/10.1111/j.1529-1006.2006.00030.x

LaFasto, F.M., & Larson, C. (2001). *When teams work best: 6,000 team members and leaders tell what it takes to succeed.* California, USA: Sage Publications.

Lent, R.W., & Brown, S.D. (2006). Integrating person and situation perspectives on work satisfaction: A social-cognitive view. *Journal of Vocational Behavior,* 69(2), 236-247. https://doi.org/10.1016/j.jvb.2006.02.006

Lim, T. (2010). Relationships among organizational commitment, job satisfaction, and learning organization culture in one Korean private organization. *Asia Pacific Education Review,* 11(3), 311-320. https://doi.org/10.1007/s12564-010-9087-z

Lin, C.Y., & Huang, C.K. (2021). Employee turnover intentions and job performance from a planned change: The effects of an organizational learning culture and job satisfaction. *International Journal of Manpower,* 42(3), 409-423. https://doi.org/10.1108/IJM-08-2018-0281

Lin, C.Y., Huang, C.K., & Zhang, H. (2019). Enhancing employee job satisfaction via E-learning: the mediating role of an organizational learning culture. *International Journal of Human-Computer Interaction,* 35(7), 584-595. https://doi.org/10.1080/10447318.2018.1480694

Lippke, S. (2020). Self-efficacy theory. *Encyclopedia of personality and individual differences* (4722-4727). https://doi.org/10.1007/978-3-319-24612-3_1167

Luthans, F., & Peterson, S.J. (2002). Employee engagement and manager self-efficacy. *Journal of Management Development,* 21(5), 376-387. https://doi.org/10.1108/02621710210426864

Maan, P., & Srivastava, D.K. (2023). Examining the role of team climate, transactive memory system, and team leader humility in teams: an empirical study of Indian generational cohorts. *Benchmarking: An International Journal,* 30(9), 3302-3327. https://doi.org/10.1108/BIJ-11-2021-0658

Marsick, V.J., & Watkins, K.E. (1996). Adult educators and the challenge of the learning organization. *Adult Learning,* 7(4), 18-20. https://doi.org/10.1177/104515959600700409

McMurray, A.J., & Simmers, C.A. (2020). The impact of generational diversity on spirituality and religion in the workplace. *Vision,* 24(1), 70-80. https://doi.org/10.1177/0972262919884841

Meher, J.R., Nayak, L., Mishra, R.K., & Patel, G. (2022). Impact of organizational learning culture on organizational effectiveness: a serial mediation analysis with knowledge sharing and employee competencies. *VINE Journal of Information and Knowledge Management Systems,* 54(2), 324-338. https://doi.org/10.1108/VJIKMS-10-2021-0230

Mount, M.K. (1984). Managerial career stage and facets of job satisfaction. *Journal of Vocational Behavior,* 24(3), 340-354. https://doi.org/10.1016/0001-8791(84)90017-4

Naqshbandi, M.M., Meeran, S., & Wilkinson, A. (2023). On the soft side of open innovation: the role of human resource practices, organizational learning culture and knowledge sharing. *R&D Management,* 53(2), 279-297. https://doi.org/10.1111/radm.12566

Naqvi, S.A.H., Hashmi, M.A., Raza, S.A., Zeeshan, A., & Shaikh, F.M. (2011). Impact of supportive leadership and organizational learning culture as a moderator on the relationship of psychological empowerment and organizational commitment. *Australian Journal of Business and Management Research,* 1(8), 65-71. https://doi.org/10.52283/NSWRCA.AJBMR.20110108A07

Nikbakht, M., & Anvari, R. (2024). Service leadership and its influence on customer orientation, adaptive selling, in-role performance, and service recovery performance. *Caucasus Journal of Social Sciences,* 17(1), 252-261. https://doi.org/10.62343/cjss.2024.251

Nunnally, J.C. (1978). An overview of psychological measurement. *Clinical diagnosis of mental disorders: A handbook* (97-146). https://doi.org/10.1007/978-1-4684-2490-4_4

O'brien, R.M. (2007). A caution regarding rules of thumb for variance inflation factors. *Quality & Quantity,* 41, 673-690. https://doi.org/10.1007/s11135-006-9018-6

Otoo, F.N.K. (2024). The mediating role of organizational learning culture in the nexus of human resource development practices and employee competencies. *African Journal of Economic and Management Studies,* 15(4), 720-763. https://doi.org/10.1108/AJEMS-10-2023-0387

Ozutler, H.S., & Shaghasy, M.M. (2022). The Impact of Organizational Learning Culture on Organizational Performance: Case Study for Afghanistan. *Yasar Universitesi E-Dergisi,* 17(65), 95-116. https://doi.org/10.19168/jyasar.972624

Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y., & Podsakoff, N.P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology,* 88(5), 879. https://doi.org/10.1037/0021-9010.88.5.879

Potnuru, R.K.G., Sahoo, C.K., & Sharma, R. (2018). Team building, employee empowerment and employee competencies: Moderating role of organizational learning culture. *European Journal of Training and Development,* 43(1/2), 39-60. https://doi.org/10.1108/EJTD-08-2018-0086

Potnuru, R.K.G., Sahoo, C.K., & Parle, K.C. (2021). HRD practices, employee competencies and organizational effectiveness: role of organizational learning culture. *Journal of Asia Business Studies,* 15(3), 401-419. https://doi.org/10.1108/JABS-06-2020-0237

Priya, A.S., & Christopher, B.P. (2024a). Teamwork self-efficacy and employee satisfaction: a sequential framework to build employee cohesion. *International Journal of Public Health Science,* 13(2), 572-579. https://doi.org/10.11591/ijphs.v13i2.23553

Priya, A.S., & Christopher, B.P. (2024b). The role of organisational career management in enhancing employees' self-competence and the influence of organisational learning culture as moderator with specific reference to the IT industry. *International Journal of Work Innovation,* 5(1), 58-79. https://doi.org/10.1504/IJWI.2024.136094

Randstad (2015). Multi-generational workforce one of the biggest challenges for HR. *Randstad India* [Online]. Available at: https://www.randstad.in/about-us/press-releases/press/multi-generational-workforce-one-biggest-challenges-hr/ (accessed on 10/10/2024).

Ringle, C.M., Wende, S., & Becker, J.M. (2022). *SmartPLS 4. Boenningstedt: SmartPLS GmbH.* Available at: http://www.smartpls.com

Rowden, R.W. (2002). The relationship between workplace learning and job satisfaction in US small to midsize businesses. *Human Resource Development Quarterly,* 13(4), 407-425. https://doi.org/10.1002/hrdq.1041

Rowden, R.W., & Conine Jr, C.T. (2005). The impact of workplace learning on job satisfaction in small US commercial banks. *Journal of Workplace Learning,* 17(4), pp. 215-230. https://doi.org/10.1108/13665620510597176

Rudolph, C.W. (2016). Lifespan developmental perspectives on working: A literature review of motivational theories. *Work, Aging and Retirement,* 2(2), 130-158. https://doi.org/10.1093/workar/waw012

Rudolph, C.W., Rauvola, R.S., Costanza, D.P., & Zacher, H. (2021). Generations and generational differences: Debunking myths in organizational science and practice and paving new paths forward. *Journal of Business and Psychology,* 36(1), 945-967. https://doi.org/10.1007/s10869-020-09715-2

Rue, P. (2018). Make way, millennials, here comes Gen Z. *About Campus,* 23(3), 5-12. https://doi.org/10.1177/1086482218804251

Rumage, J., & Urwin, M. (2024). What Is Continuous Learning and Why Is It Important? *Built In* [Online]. Available at: https://builtin.com/articles/continuous-learning (Accessed: September 2024).

Rush, J.C., Peacock, A.C., & Milkovich, G.T. (1980). Career stages: A partial test of Levinson's model of life/career stages. *Journal of Vocational Behavior,* 16(3), 347-359. https://doi.org/10.1016/0001-8791(80)90060-3

Salanova, M., Llorens, S., & Schaufeli, W.B. (2011). "Yes, I can, I feel good, and I just do it!" On gain cycles and spirals of efficacy beliefs, affect, and engagement. *Applied Psychology,* 60(2), 255-285. https://doi.org/10.1111/j.1464-0597.2010.00435.x

Schippers, M.C., Den Hartog, D.N., & Koopman, P.L. (2007). Reflexivity in teams: A measure and correlates. *Applied Psychology,* 56(2), 189-211. https://doi.org/10.1111/j.1464-0597.2006.00250.x

Senge, P.M. (1990). *The fifth discipline: The art and practice of the learning organization.* New York: Doubleday/Currency.

Shmueli, G., Sarstedt, M., Hair, J.F., Cheah, J.H., Ting, H., Vaithilingam, S. et al. (2019). Predictive model assessment in PLS-SEM: guidelines for using PLSpredict. *European Journal of Marketing,* 53(11), 2322-2347. https://doi.org/10.1108/EJM-02-2019-0189

Simon, P., Maor, D., Guggenberger, P., Park, M., Luo, M., Klingler, D. et al. (2023) The State of Organizations 2023. *McKinsey & Company* [Online] Available at: https://www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/the-state-of-organizations-2023 (Accessed. October 2024).

Smet, A.D., Dowling, B., Mugayar-Baldocchi, M., & Rainone, N. (2021). The Great Attrition: Wanting the best, keeping the worst. *McKinsey & Company: People & Organizational Performance* [Online]. Available at: https://www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/the-organization-blog/the-great-attrition-wanting-the-best-keeping-the-worst (Accessed: September 2024).

Smith, M., & McNally, E.Y. (2021). Building a learning culture that drives business forward. *McKinsey & Company: People & Organizational Performance* [Online]. Available at: https://www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/building-a-learning-culture-that-drives-business-forward#/ (Accessed: September 2024).

Swap, W., Leonard, D., Shields, M., & Abrams, L. (2001). Using mentoring and storytelling to transfer knowledge in the workplace. *Journal of Management Information Systems,* 18(1), 95-114. https://doi.org/10.1080/07421222.2001.11045668

Tasa, K., Taggar, S., & Seijts, G.H. (2007). The development of collective efficacy in teams: a multilevel and longitudinal perspective. *Journal of Applied Psychology,* 92(1), 17. https://doi.org/10.1037/0021-9010.92.1.17

Tjosvold, D., Yu, Z.Y., & Hui, C. (2004). Team learning from mistakes: the contribution of cooperative goals and problem-solving. *Journal of Management Studies,* 41(7), 1223-1245. https://doi.org/10.1111/j.1467-6486.2004.00473.x

Torun, A. (2013). Employee opinions about workplace counselling: A qualitative study. *Bilgi Ekonomisi ve Yönetimi Dergisi,* 8(2), 133-144.

Udin, U. (2023). Linking transformational leadership to organizational learning culture and employee performance: The mediation-moderation model. *International Journal of Professional Business Review,* 8(3), 1-17. https://doi.org/10.26668/businessreview/2023.v8i3.1229

Ullah, A., Ishaque, A., Din, M.U., & Safdar, N. (2020). The Relationship between Employees Training and Job Satisfaction with Moderating Role of Organizational Culture. A Case of Banking Sector of KP, Pakistan. *Journal of Accounting and Finance in Emerging Economies,* 6(3), 857-871. https://doi.org/10.26710/jafee.v6i3.1389

Valle, M., & Witt, L.A. (2001). The moderating effect of teamwork perceptions on the organizational politics-job satisfaction relationship. *The Journal of Social Psychology,* 141(3), 379-388. https://doi.org/10.1080/00224540109600559

Vilela, N.G.S., & Casado, T. (2023). Career stages in management studies: a systematic review of scientific production from 2011 to 2020. *Revista de Gestão,* 30(1), 62-77. https://doi.org/10.1108/REGE-02-2021-0018

Warr, P., Cook, J., & Wall, T. (1979). Scales for the measurement of some work attitudes and aspects of psychological well-being. *Journal of Occupational Psychology,* 52(2), 129-148. https://doi.org/10.1111/j.2044-8325.1979.tb00448.x

Wawrzonek, A. (2019). The Need for Counselling Support in Multigenerational Working Teams. *Journal of Counsellogy/Studia Poradoznawcze,* 8(1), 351-372.

Witte, M.D. (2022). Why are there so many tech layoffs, and why should we be worried? Stanford scholar explains. *Stanford Report* [Online]. Available at: https://news.stanford.edu/stories/2022/12/explains-recent-tech-layoffs-worried (Accessed: September 2024).

Wu, L.C., & Wu, M. (2011). Employee dissatisfaction with organizational change: An Empirical study of a technology services company. *African Journal of Business Management,* 5(4), 1304-1311.

Yang, B., Watkins, K.E., & Marsick, V.J. (2004). The construct of the learning organization: Dimensions, measurement, and validation. *Human Resource Development Quarterly,* 15(1), 31-55. https://doi.org/10.1002/hrdq.1086

Yonezawa, T., & Nakai, Y. (2024). ICT self-efficacy, self-efficacy for teamwork, and collegial collaborations: an exploratory study of elementary school teachers' ICT uses in inquiry-based learning in Japan. *Frontiers in Education,* 9, 1410886. https://doi.org/10.3389/feduc.2024.1410886

Yoon, J., & Kayes, D.C. (2016). Employees' self-efficacy and perception of individual learning in teams: The cross-level moderating role of team-learning behavior. *Journal of Organizational Behavior,* 37(7), 1044-1060. https://doi.org/10.1002/job.2092

Zheng, W., Yang, B., & McLean, G.N. (2010). Linking organizational culture, structure, strategy, and organizational effectiveness: Mediating role of knowledge management. *Journal of Business Research,* 63(7), 763-771. https://doi.org/10.1016/j.jbusres.2009.06.005