Influence of Organizational Factors on Employee Retention among Software Engineers: A Study based on a Selected IT Company in Sri Lanka

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Abstract:

The IT sector in Sri Lanka is experiencing rapid growth yet faces a persistent challenge in retaining skilled software engineers. This research explores how specific work environment factors influence employee retention among software engineers in a selected IT company located in the Western Province of Sri Lanka. Grounded in a positivist, quantitative design, the research examines six variables collaborative culture, work-life balance, effective leadership, recognition, social connections, and access to modern technologies identified from the literature and mapped to the Sri Lankan context. Primary data were collected via a structured Likert-scale questionnaire from 201 software engineers. Findings from regression analysis provided that effective leadership, technology slacks, collaborative culture and work-life balance are considered statistical significant while recognition and social connection is identified to have no statistical significance. The study contributes sector-specific evidence for Sri Lanka, highlighting practical levers for retention; institutionalizing flexible work and workload management, developing transformational leadership capabilities, strengthening meaningful recognition, and ensuring timely access to up-to-date tools.

Keywords—Effective Leadership, Employee Retention, Technology Slack

I. INTRODUCTION

Employee retention had been a major challenge in the global IT industry, especially in developing countries like Sri Lanka. Many IT companies found it difficult to retain skilled software engineers due to high job demands, work stress, and better opportunities available in both local and international markets. High employee turnover disrupted project timelines, increased recruitment and training costs, and led to significant knowledge loss within organizations (Kumar and Mathimaran, 2017). A growing body of international research had highlighted that work environmental factors such as leadership quality, organizational culture, recognition systems, work-life balance, and access to modern technologies, play a crucial role in shaping employee retention decisions (Eisenberger et al., 2015; Eva et al., 2019). Although many companies were aware of this issue, practical solutions were often lacking mainly due to limited research on the specific factors influencing retention in local contexts.

The purpose of the study is to investigate the influence of selected work environment factors on the intention to retain among software engineers in a selected IT company in Sri Lanka. As per the the operationalization of secondary studies, collaborative culture, work-life balance, effective leadership, recognition, social connections and technology slack are selected.

II. LITERATURE REVIEW

A. IT Industry

IT infrastructure management, automation, cloud services, and cybersecurity, are recognized as a strategic player in Sri Lanka's expanding digital economy (ICTA, 2020). The problem of retention was not unique to this company, but reflected a broader industry trend. In Sri Lanka, turnover rates in the IT sector rose from 9.9 per cent to 14 per cent between 2013 and 2022 (IASSL, 2022). Globally, the technology industry recorded even higher levels of attrition, with estimates ranging from 13 to 18 per cent, and embedded software engineers experiencing turnover rates as high as 21.7 per cent (TalentRise, 2023). Studies also found that more than two-thirds of software developers worldwide had less than two years of tenure, showing how volatile the workforce had become (Terlecki, 2025). These statistics indicated that the challenges faced by the selected company were part of wider national and international patterns.

B. Organizational factors and Employee Retention

For instance, Barbosa et al. (2021) argue that inclusive team structures strengthen organizational commitment, particularly in technology-driven firms where cross-functional collaboration is crucial for project success. Similarly, Nguyen et al. (2022) emphasize that collaborative environments increase employee commitment by creating a sense of unity and shared purpose. Early and mid-2010s evidence shows that flexible work designs and supportive supervision reduce work-family conflict, improve satisfaction, and can lower turnover intentions (Kelly, Moen and Tranby, 2014; Allen, Golden and Shockley, 2015; Moen, Kelly and Lam, 2016). Later reviews confirm that Work-life balance practice such as schedule control, remote work, and supervisor support are associated with lower stress and better well-being, which typically favor retention (Sirgy and Lee, 2018). Effective leadership is widely associated with stronger employee attitudes and lower turnover intentions. Over time, evidence has accumulated from multiple

meta-analyses showing positive links between transformational leadership and outcomes such as job satisfaction, commitment, and performance (Wang et al, 2011; Rockstuhl et al, 2012; Dulebohn et al, 2012; Cheong et al, 2016; Frazier et al, 2017; Hoch et al, 2018; Eva et al, 2019). More recent syntheses continue to link supportive, recognition-rich climates with positive outcomes, and empirical studies report that rewards and recognition increase motivation and performance; sectoral evidence also connects recognition to retention (Kurtessis et al., 2017; Manzoor et al., 2021). Kim et al. (2020) found that strong workplace friendships help lower stress levels and prevent employees from considering leaving the organization. Similarly, Ahmed et al. (2022) reported that social bonds among employees reduce withdrawal behaviors and turnover intentions. firms with best-in-class developer tools report higher developer satisfaction and retention than firms with weaker toolchains (McKinsey & Company, 2020).

C. Conceptual Framework

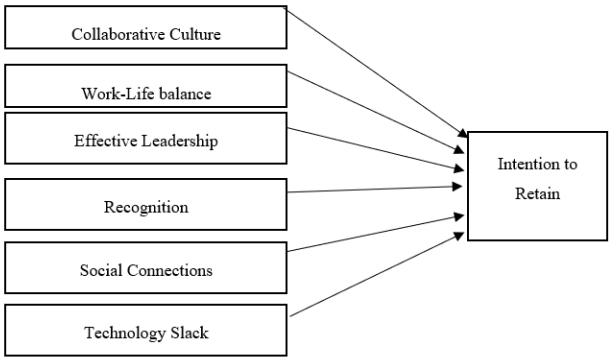

Figure 1: Conceptual Framework (Authors developed, 2025)

III. METHODOLOGY

A. Research Methods

This study adopted a quantitative research approach underpinned by the positivist philosophy. A deductive approach was selected, as the study aimed to test pre-defined hypotheses derived from the literature review and conceptual framework. The research was conducted as a case study, focusing on a selected IT company in Sri Lanka. As the study followed a mono-method quantitative design, it employed a structured questionnaire as the primary data collection tool. The questionnaire consisted of closed-ended questions using a Likert scale, enabling the collection of numerical data that could be statistically analyzed. The data collection was cross-sectional, capturing responses from software engineers at a single point in time. This design was appropriate for identifying patterns and testing correlations without requiring long-term study.

B. Sampling Framework

The target population for this study consisted of 420 software engineers who were employed at the selected IT company in Sri Lanka. These individuals represented the entire workforce involved in various software development roles across multiple departments within the organization.

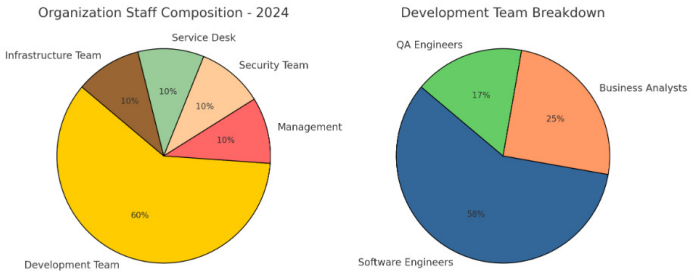

Figure 2: Sample Composition

As per the Krejice and Morgan table a sample size of 196 need to be selected and as the research sample a sample size of 201 respondents was determined for the study. The sample of the study was selected from stratified sampling technique.

IV. RESULTS AND FINDINGS

A. Sample Composition

Table 1: Sample

Sample Composition (N= 201)		
Age	Gender	Job titles
• 18-28 years 22%	Male 55%	Software Engineers 100%
• 29-39 years 54%		
• 40-50 years 17%	Female 45%	
• 51 above 7%		

The sample consist of 201 respondents where 100% of the sample are software Engineers. The sample exhibit 55% of males and 45% females. Majority of the professionals are young and middle-career professionals between the age ranges of 29-39 years and 18-28 years which consist of 76% of the sample.

B. Regression Analysis

Table 2: Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.778[a]	.605	.593	.35382

a. Predictors: (Constant), Technology_Slack, Recognition, Social_Connections, Collaborative_Culture, Effective_Leadership, Work_Life_Balance

The regression analysis was conducted to assess the ability of the predictor variables to determine the independent variable. The Model summary shows an R square (R2) value of 0.605, indicating that 60.5% of the variation in software engineer retention is explained by collaborative culture, work-life balance, effective leadership, recognition, social connections, and Technology slack collectively.

Table 3: ANOVA Table

ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	37.189	6	6.198	49.511	.000[b]
Residual	24.286	194	.125		
Total	61.475	200			

a. Dependent Variable: SE_Retention

b. Predictors: (Constant), Technology_Slack, Recognition, Social_Connections, Collaborative_Culture, Effective_Leadership, Work_Life_Balance

Further, the analysis of Variance (ANOVA) table indicates that the null hypothesis can be rejected, as the F-statistic (F) = 49.511 provides statistical significance to the model, with a p-value of 0.000, which is less than the 0.05 alpha value, making the model statistically significant.

Table 4: Coefficient Table

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.362	.134		2.704	.007		
Collaborative_Culture	.152	.047	.229	3.255	.001	.411	2.436
Work_Life_Balance	.139	.063	.167	2.192	.030	.353	2.836
Effective_Leadership	.536	.099	.359	5.403	.000	.462	2.162
Recognition	.005	.061	.005	.075	.940	.562	1.778
Social_Connections	-.381	.067	-.385	-5.704	.000	.446	2.241
Technology_Slack	.217	.047	.302	4.670	.000	.487	2.051

a. Dependent Variable: SE_Retention

The coefficient table based on the multiple linear regression provided that with Effective_Leadership (B=0.536, p<.001) emerging as the strongest positive predictor, followed by Technology_Slack (B=0.217, p<.001) and Collaborative_Culture (B=0.152, p=.001). Conversely, Social_Connections is a strong negative and significant predictor (B=-0.381, p<.001), suggesting that an increase in this factor is associated with decreased retention. Work_Life_Balance is also a significant positive predictor (B=0.139, p=.030), while Recognition (B=0.005, p=.940) has no statistically significant impact on retention when considering the other factors. Given that all VIF values are below 3 (ranging from 1.778 to 2.836), there are no issues with multicollinearity among the predictors.

V. CONCLUSION AND RECOMMENDATIONS

The primary aim of this research was to investigate the influence of the work environment on employee retention among software engineers in a selected IT company in Sri Lanka, with a particular focus on how factors such as collaborative culture, work-life balance, effective leadership, recognition, social connections, and access to modern technologies affect employees' decisions to remain within the organization.

The analysis revealed that Effective leadership was also shown to foster trust and motivation, reducing turnover intentions, whereas recognition of employees' contributions strengthened their commitment and attachment to the organization. Moreover, Technology Slack, Collaborative Culture and Work-life balance were found to enhance job satisfaction and overall retention, highlighting the importance of interpersonal relationships at work. Finally, access to modern technologies was shown to improve efficiency and satisfaction, further supporting employee retention. Collectively, these findings demonstrate that the work environment has a substantial impact on retaining software engineers, thereby fulfilling the central aim of the study and providing valuable insights for organizational strategies aimed at minimizing employee turnover.

Based on the findings of this research, it is evident that employee retention among software engineers is strongly influenced by multiple aspects of the work environment, including collaborative culture, leadership style, technology support, career development opportunities, and work-life balance. First, it is recommended that organizations institutionalize collaborative practices by embedding teamwork within operational frameworks. In line with Nguyen et al. (2022), collaboration fosters unity and shared purpose. It is recommended that organizations introduce flexible working arrangements. These may include hybrid or remote working models, flexible schedules, and performance measures that focus on results rather than fixed working hours. In addition, managers are encouraged to build an empathetic workplace culture. Employees should feel safe to discuss personal challenges without fear of judgment. Regular surveys and feedback systems can help identify stress or overwork early, allowing timely solutions. It is recommended that organizations invest in leadership development programs to enhance the soft skills of managers. Training in emotional intelligence, conflict resolution, and coaching can prepare leaders to better support their teams. It is recommended that organizations encourage opportunities for social interaction beyond formal project work. Activities such as team-building sessions, cross-functional projects, mentorship programs, and informal gatherings can help engineers build trust, improve communication, and strengthen their sense of belonging. Organizations should also invest in regular training and skill development programs to ensure employees can effectively use these technologies.

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