

國立臺灣大學管理學院企業管理碩士專班



碩士論文

Global MBA

College of Management

National Taiwan University

Master's Thesis

影響新加坡科技產業人才留任之因素

Factors Affecting Retention of Employees in the Technology
Industry of Singapore

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中華民國 114 年 1 月

January, 2025

Acknowledgement

Firstly, I would like to extend my heartfelt thanks to Professor Leon van Jaarsveldt, for his invaluable guidance and support throughout the research. And I would like to thank the defense committee members – Professor Ming Daw, Cheng and Professor Mucahid Bayrak, for all their time and effort being part of the committee. And contributing their selfless insights and sharing to make this thesis better.

Next, I want to wholeheartedly thank my family for their constant support and encouragement throughout this journey. Thank you for always believing in me and pushing me forward. Without their support, I would not be able to complete this thesis.

And to my close friends, I am thankful to have you guys being around me and constantly checking out on me, always making sure I'm not overly stressed or upset when encountering obstacles. I am incredibly grateful for the companionship.

Finally, this achievement would not have been possible without the love, support and guidance of all of you. Thank you for being an integral part of this journey.

Abstract

Employee retention remains a critical challenge in the technology sector, an industry characterized by rapid innovation and high turnover rates. This research explores the role of Career Development and Advancement (CDA) in improving retention among technology professionals. By analyzing key factors such as career progression opportunities, skill development programs, and organizational support, the study aims to uncover actionable insights that enhance workforce stability and satisfaction.

A mixed-methods approach was employed, combining quantitative surveys and qualitative interview. The survey, distributed to 104 technology professionals in Singapore, included 20 Likert-scale questions and 5 demographic questions, focusing on employee perceptions of career growth, training, and recognition. Interview with senior professional provided qualitative insights that complemented the survey results. Participants highlighted gaps in organizational strategies, emphasizing the need for transparent career pathways, personalized training programs, and equitable recognition systems. Other critical factors identified included work-life balance, compensation satisfaction, and job security, underscoring the multifaceted nature of employee retention.

This research contributes to the existing literature by bridging gaps in understanding the interplay between CDA and retention in the technology sector. The findings emphasize the importance of aligning career development initiatives with employee aspirations and organizational goals. In this study, practical recommendations such as a proposed framework for talent retention that technology organization can refer as a guideline in improving retention. This includes refining career progression pathways, fostering a supportive culture, addressing individual needs and other tailored retention strategies.

Keywords: Career Development, Career Advancement, Job Retention, Technology Sector

doi:10.6342/NTU202500372

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1. Introduction

1.1 Background of Study

The study aims to identify the possible contributing factors that specifically relate to employees' career development and advancement (CDA), which may affect employee retention in Singapore's technology industry. The scope of this study encompasses an in-depth analysis of the different degrees and categories of contributing factors towards employees' CDA and their intention to remain on the current career track.

This research aims to identify patterns, challenges relating to employees' CDA, and strategies to enhance retention by reducing employee turnover rate and reduce attrition, ultimately improving organizational stability and employee well-being in the technology industry. Companies' human resources management (HRM) strategize not only to focus on job empowerment, job enrichment, monetary and non-monetary rewards and work-life balance (Ghosh et al., 2013) but also consider improving employee's CDA opportunities as one of the critical retention strategies. The thesis revolves around understanding the factors that influence employee retention in the technology industry, a sector known for its high turnover rates (Park et al., 2019; Binushika & Karandakatiya, 2020). While many research highlights key aspects such as competitive compensation, career growth opportunities and organizational culture as essential to employee satisfaction (Aguenza & Som, 2018; Biason, 2020), gaps remain in understanding how employees' CDA affect long-term retention.

This thesis aims to answer specific questions such as: How does CDA impact employee loyalty? What roles do CDA play in retention? Which part of CDA is more significant towards retention? Are corporations putting enough effort and measures to address the needs of employees?

1.2 Motivation and Purpose of Study

Employee retention in the technology industry is a pressing issue, given the sector's high turnover rates and the demand of skilled employees for organizational success. The aim of this research is to explore how CDA specifically influence employee retention in the technology industry of Singapore. By focusing on CDA, this study seeks to identify and analyze challenges faced by employees in Singapore's technology sector. And provide actionable strategies that can improve retention rates and promote employee well-being.

A key objective of this research is to analyze the contributing factors that connect CDA with employee retention. These factors include opportunities for career progression, access to skill development & training programs, and the organizational support & recognition of employees' effort. Understanding these elements will help identify the specific areas where organizations can improve in meeting employees' needs and career aspirations. Moreover, the study aims to evaluate how these factors in CDA can influence employees' decisions to stay or leave their current roles.

Another crucial objective is to investigate the challenges employees face in achieving career development and advancement. These challenges may stem from organizational limitations, such as insufficient training opportunities, a lack of promotion pathways, inadequate support from management and others. By identifying these barriers, the research will provide a comprehensive understanding of how gaps in CDA efforts contribute to turnover in the technology industry of Singapore.

The study also seeks to evaluate the current efforts made by technology companies to address employees' CDA needs. This includes examining the extent to which organizations implement structured career development plans, mentorship programs, and

leadership opportunities. Additionally, the research will assess whether these measures align with employees' expectations and contribute to their satisfaction and loyalty.

Finally, the study will provide recommendations for technology organizations to enhance their CDA initiatives. These recommendations will focus on creating tailored career development plans, improving internal mobility, fostering leadership opportunities and addressing employee concerns regarding transparency and growth. The technology industry is renowned for its rapid pace and evolving demands, which makes employee retention particularly challenging. Skilled employees are always in high demand, and without adequate CDA opportunities, Singapore's technology organizations risk losing valuable talent to competitors. This research emphasizes the importance of aligning organizational strategies with employees' career goals to foster loyalty and engagement.

In conclusion, this research aims to bridge the gap between career development and advancement efforts and employee retention strategies in Singapore's technology industry. By analyzing factors and addressing challenges, the study seeks to provide actionable insights that technology organizations can use to enhance their CDA initiatives. These findings will not only benefit organizations by improving retention rates but also contribute to employees' professional growth and overall well-being, creating a mutually beneficial relationship that supports long-term success.

1.3 Scope and Limitation of the Study

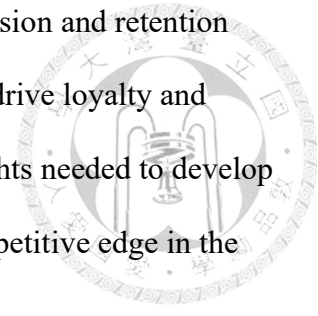
Extensive research has explored the effects of financial compensation and interpersonal relationships on employee retention (Ahsana, 2013), highlighting their importance in fostering job satisfaction and commitment (Nawab, 2011). However, there remains a significant gap in understanding the specific impact of career development and advancement opportunities on employee retention. While career growth is often cited as a factor in employee satisfaction (Bashir, 2008), limited studies have focused exclusively on how structured career pathways and advancement opportunities contribute to retaining talent.

This gap is particularly evident in industries with high turnover rates, where employees often prioritize professional development and upward mobility. Without a deeper understanding of how career development influences retention (Shoaib et al., 2009), organizations may miss valuable opportunities to address employee needs effectively. Further research is essential to determine how tailored career progression strategies can enhance employee loyalty, reduce turnover costs, and build a stable workforce, ultimately contributing to long-term organizational success in competitive and dynamic business environments.

This study focuses on the technology sector in Singapore, technology industry is renowned for its rapid evolution and consistently high employee turnover rates (Prakash, 2022). Such turnover presents significant challenges for organizations, particularly for technology giants and other companies striving to secure top talent in a highly competitive and fast-paced environment. The financial and operational impact of high turnover is substantial, including costs associated with recruitment, training, and lost productivity (Tymon et al., 2011). Despite the dynamic nature of the technology industry, there is limited research examining the direct link between career development and advancement opportunities and their influence on employee retention (Horton, 2009). This study seeks to

doi:10.6342/NTU202500372

address this gap by exploring the relationship between career progression and retention among technology professionals. By identifying the key factors that drive loyalty and commitment, this research aims to equip organizations with the insights needed to develop effective strategies, ultimately reducing turnover and ensuring a competitive edge in the rapidly changing technology landscape.



Enhancing employee retention through financial compensation is relatively straightforward, as it largely depends on a company's budget and willingness to offer competitive pay. However, it is not sustainable to resolve the issues by throwing money (Dias et al., 2022). Similarly, interpersonal relationships and organizational culture can be shaped by the organization's vision, mission, and the leadership approach of top management (Shakeel & But, 2015). However, addressing employees' career development and advancement needs (Mandhanya, 2015) presents a far more complex challenge. Meeting these needs is critical, as a lack of growth opportunities significantly increases the likelihood of employees seeking employment elsewhere. Despite its importance, career development is often less prioritized, leaving organizations struggling to provide clear pathways for progression. This challenge becomes even more pronounced in fast-paced industries like the technology sector, where employees often prioritize professional growth over other factors.

The study aims to identify the key factors in employees' career development and advancement and how these factors impact their willingness to remain with their current organization. It will provide valuable insights for technology companies in Singapore to develop targeted strategies, enhancing retention efforts and effectively reducing turnover rates in a competitive industry.

1.4 Importance and Significance of the Study

Employee retention is a critical challenge globally (Aguenza & Som, 2018), in the technology industry, where high turnover rates can significantly disrupt business operations, escalate costs, and hinder efficiency. This research focuses on addressing these issues by exploring strategies to improve employee retention, a necessity in a field marked by intense competition for top talent. Shakeel and But (2015) emphasize that retaining employees is essential for sustaining productivity and reducing turnover across industries, particularly in the technology sector, where skilled professionals are constantly in high demand.

Technology companies face unique challenges due to rapid advancements and a competitive global market. Mishra and Sahoo (2018) highlight that as technology evolves, retention strategies must also adapt to address the growing complexities of retaining key talent. High employee turnover not only impacts organizational stability but also leads to increased recruitment costs and a loss of institutional knowledge. Therefore, understanding the factors that influence employee retention is crucial for maintaining a motivated and stable workforce.

This research will provide valuable insights into strategies that enhance employees' CDA, to improve job satisfaction, which promotes retention rate (Biaison, 2020) and job commitment in the technology sector. By addressing factors in CDA such as professional development and training (Terera & Ngirande, 2014), mentoring and coaching (Ingersoll & Strong, 2012), career planning (Salleh et al., 2020) and others, technology firms can reduce turnover rates and foster loyalty. Retention strategies rooted in addressing employees' needs and aspirations help organizations build a resilient workforce capable of navigating industry challenges.

Ultimately, this study is highly relevant for technology organizations in Singapore seeking to strengthen their organizational performance in an intensely competitive global market. By implementing effective retention strategies, companies can improve employee engagement, minimize turnover costs. And maintain a sustainable edge in attracting and retaining top talent, thereby ensuring long-term success and operational excellence in the dynamic technology industry.

1.5 Structure of the Thesis

The thesis is organized into six primary chapters, each dedicated to specific content and information, ensuring a focused presentation of the research's key aspects and comprehensive coverage of the study.

Chapter 1 outlines the foundation for this study, offering a comprehensive introduction to the research topic, its scope, and the motivations driving the inquiry. This chapter emphasizes the importance of the study in addressing key issues, provides detailed context for the problem being explored, and highlights its relevance to the field. It outlines the objectives and questions the research seeks to address while defining the framework and boundaries of the investigation. By presenting the motivations and rationale behind the study, Chapter 1 sets a clear direction and establishes a solid foundation for the subsequent chapters.

Chapter 2 provides a comprehensive exploration of the topic through an in-depth review of existing literature. It examines frameworks and concepts established by previous research, offering valuable insights into the subject. This chapter also identifies gaps and limitations within the current body of knowledge. By highlighting these gaps, the study establishes how it aims to leverage existing findings to address the missing elements in the present context, contributing to a deeper understanding and advancing research in the field.

Chapter 3 details the methodology employed for this study, focusing on the processes of data collection, ensuring research validity and reliability, and the techniques used for data analysis. This chapter outlines the specific tools and approaches implemented to gather accurate and relevant data while maintaining rigor and credibility throughout the research process. It also highlights how the chosen methods align with the study's objectives, ensuring that the findings are reliable and meaningful. The chapter serves as a guide to the research framework and analytical procedures used.

Chapter 4 presents the results of this study, offering a detailed evaluation of the findings and their relationship with hypotheses. This chapter systematically analyzes the data collected, providing insights into how the results align with or differ from the expectations set by the research hypotheses. It highlights significant patterns, relationships, and trends uncovered during the analysis, ensuring a comprehensive interpretation of the data. Additionally, the chapter evaluates the implications of these findings within the context of the study's objectives and research framework. By critically examining the outcomes, Chapter 4 bridges the gap between data collection and the study's conclusions, paving the way for informed discussions and recommendations.

Chapter 5 summarizes the key findings and provides an in-depth discussion of their implications and impact towards talent retention. This chapter reflects on how the results align with the study's objectives and offers meaningful insights into the research topic. Then provide recommended strategies and insightful measures for technology organizations, ultimately, to improve their rate of retention.

Chapter 6 concludes the study, highlights the limitations encountered during the study and suggests practical recommendations for future research.

2. Literature Review



2.1 Theories, Ideas and Studies

2.1.1 Financial Compensation and Rewards

There are several theories that can be compared and applied for the study.

Herzberg's Two-Factor Theory, also known as the Motivation-Hygiene Theory, emphasizes that job satisfaction and dissatisfaction arise from two different sets of factors: motivators, such as achievement and recognition, and hygiene factors, such as salary and company policies by Herzberg (1966) would influence job satisfaction and employee retention. And as mentioned by Mandhanya (2015), he states that lack of growth opportunities, low pay packages and inability to adapt to organizational cultures were identified as causes of low retention and high turnover. Ghani (2022) mentioned that attractive compensation is necessary to attract and retain good employees. And mentioned by Nawab (2011) that compensation in a job is relevant toward employee's commitment in the organization. Numerous sources emphasize the direct relationship between financial rewards and employee retention. Employees who perceive their compensation as competitive and fair are more likely to stay with their current organization.

2.1.2 Interpersonal Relationship and Corporate Culture

Social Exchange Theory suggests that relationships are built through a series of reciprocal exchanges, where individuals weigh the costs and benefits of interactions, leading to the development of trust and loyalty over time (Blau, 1986). The theory suggests that individuals engage in relationships where they perceive a balance of give and take. In the context of employee retention, this means that employees are more likely to stay with organizations where they feel valued, respected, and supported by their supervisors and

doi:10.6342/NTU202500372

colleagues. They are likely to reciprocate this positive treatment with loyalty and commitment to the organization. (Alias, 2019)



The quality of the relationship between employees and their organization, based on mutual benefits, plays a crucial role in retention. Other studies mentioned that well-structured relationships between employees and supervisors, along with a positive workplace environment, foster a sense of well-being, which in turn enhances commitment levels (Upadhyaya & Ayari, 2019). Organizational support significantly contributes to enhancing employee retention by creating a sense of value and belonging. When employees perceive that their organization supports them, they are more likely to remain committed, reducing turnover and promoting loyalty. This sense of support strengthens the employee-organization relationship, fostering a stable and dedicated workforce (Akgunduz & Sanli, 2017). Effective communication between supervisors and employees fosters a sense of transparency and understanding, leading to increased job satisfaction and a stronger sense of belonging. This, therefore, improved the employee's intention to stay in the organization as recommended by Saniewski (2011).

2.1.3 Career Development and Advancement for Employees

Career development and advancement opportunities are also a key factor in employee retention, especially in industries with high turnover rates, such as the technology sector. Employees are more likely to remain loyal to an organization when their career path and development opportunities are well-defined. Clear guidance on professional growth fosters commitment, strengthening the bond between employees and the organization (Mayangdarastri & Khusna, 2020). For long-term employee retention, organizations need to ensure employees have a clear understanding of their career trajectory.

Pathak and Srivastava (2017) argue that recognition and challenges, such as those embedded in a well-structured career path, enhance employee commitment and job longevity. When organizations provide opportunities for career development, employees are less inclined to look outside the organization for growth, fostering loyalty and reducing turnover in the competitive sector. A lack of promotion opportunities is a significant factor contributing to employee turnover (Cook et al., 2015). When employees perceive limited chances for advancement, their motivation and commitment to the organization can decline. Implementing a well-defined career path serves as a proactive strategy to address this challenge by providing employees with clear opportunities for progression into higher job roles.

This not only enhances employee satisfaction and loyalty but also reduces turnover rates and supports the organization's long-term workforce stability and growth. Askari (2023) mentioned that employers who create opportunities for growth within the organization can enhance job embeddedness, reducing employees' desire to leave. By fostering internal mobility, organizations demonstrate their commitment to employee development and satisfaction.

Employees constantly need training opportunities, which promote their career advancement, resulting in higher willingness to remain in their organization (Horton, 2020). Other study by Acton and Golden (2002) suggested that employees who received better training are more satisfied and perceived as recognizing their contribution to organization. And such recognition promotes talent retention in organizations (Upadhyaya & Ayari, 2019). This proactive approach not only strengthens employee loyalty but also aids in retaining valuable talent, as employees are more likely to remain when they see opportunities for advancement and development internally.

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Employee retention is shaped by several critical factors, including career development opportunities, fair compensation, organizational support and the quality of relationships between employees and supervisors (Park et al., 2019). When employees perceive opportunities for growth, fair rewards and a supportive environment, their commitment to the organization strengthens (Ghosh et al., 2013). This reduces turnover rates and creates a stable, engaged and productive workforce in the competitive technology industry.

2.2 Key Debates

2.2.1 Intrinsic and Extrinsic Motivation in Retention

Firstly, the comparison between intrinsic and extrinsic motivation in retention. The debate over intrinsic and extrinsic factors in employee retention focuses on whether employees are more likely to remain with a company due to personal satisfaction and professional growth (intrinsic) or financial compensation and benefits (extrinsic). According to Dhillon (2020), employee retention strategies in the Indian Technology sector need to address both intrinsic and extrinsic motivators, yet there remains a gap in personalized approaches. In the technology industry, where innovation and creativity are key, some argue that intrinsic motivators such as job autonomy and work-life balance are more important.

However, others believe that financial rewards like salaries and bonuses remain the most effective retention tools. As mentioned by Lockwood and Walton (2008), for an organization to succeed in its retention strategy, it must provide competitive, market-aligned compensation and benefits. Such offerings play a crucial role in motivating employees and fostering their commitment to the organization. When employees perceive their pay and benefits as fair and reflective of their value, they are more likely to remain loyal and engaged.

Competitive compensation not only enhances job satisfaction but also strengthens the organization's ability to retain top talent in today's highly competitive job market.



2.2.2 Leadership and Peer Influence in Retention

Secondly, the importance of leadership and peer influence regarding retention.

Kamalaveni and Ramesh (2019) argue that leadership practices and organizational support are essential in ensuring long-term employee retention, particularly in industries undergoing rapid change like technology. This debate centers around whether leadership or peer relationships have a stronger influence on retaining tech employees. Supporters of leadership's role argue that good managers who provide mentorship and direction are crucial for employee satisfaction and retention.

Studies conducted by Oh and Oh (2017) suggested that authentic leadership is more likely to have a positive impact on employee commitment and retention in smaller organizations. Leaders who demonstrate authenticity foster trust, loyalty, and engagement, creating an environment where employees feel valued and supported, ultimately enhancing their commitment and reducing turnover rates (Naz et al., 2020). On the other hand, peer influence is seen as equally significant, with proponents suggesting that strong team dynamics and camaraderie may be the deciding factor for employees choosing to stay in a company. According to Askari (2023), workplace groups can have both positive and negative impact towards employees' working attitude and commitment. And such negativity in employees would therefore result in an increase in voluntary turnover.

2.2.3 Employee Engagement and Career Advancement in Retention

Thirdly, employee engagement and career advancement as retention strategies.

There is a growing debate over whether companies should prioritize employee engagement

doi:10.6342/NTU202500372

initiatives or focus on clear career advancement opportunities to retain technology employees. Employee engagement is viewed as a positive psychological mindset that promotes beneficial outcomes, including job satisfaction and commitment. It creates a sense of security and productivity, encouraging employees to stay with organizations that nurture these qualities. Tymon (2011) highlighted that engaged employees feel appreciated and motivated, enhancing their loyalty and likelihood of remaining with the organization.

Moreover, Chatzoudes (2022) argued that employee engagement may not have a significant impact towards employees' intention to stay or not. Meanwhile, others assert that without defined career paths and opportunities for promotions, especially in fast-evolving sectors like the technology industry, employees will seek better prospects elsewhere. Sharma et al. (2015) pointed out that a lack of learning and growth opportunities in a job can lead to career stagnation, causing employees to feel unchallenged and unmotivated. Without chances to develop new skills or advance professionally, employees may become dissatisfied, ultimately impacting their productivity and increasing the likelihood of seeking opportunities elsewhere.

The study will mainly focus on the aspect of Career Development and Advancement as it is intertwined with the other two areas. While "Intrinsic and Extrinsic Motivation" and "Leadership and Peer Influence" are undoubtedly important, CDA offers a unique blend of tangibility, modern relevance and actionable insights. With the focus on CDA, this will study retention through a structured, development-focused lens while naturally incorporating aspects of motivation and leadership. The research aims to provide both theoretical and practical contributions, with immediate applicability for organizations looking to enhance retention strategies.

2.3 Research Hypothesis Development



Table 1

Category and Factors of Career Development and Advancement

Career Development and Advancement Category	Key Factors
Career Progression and Growth Opportunities	▪ Clear Career Pathways ▪ Opportunities for Advancement ▪ Leadership Development
Skill Development and Learning Opportunities	▪ Skill Development and Training ▪ Job Rotation and Cross Training ▪ Access to Resources
Support & Recognition	▪ Mentorship and Guidance ▪ Performance Recognition ▪ Organizational Support

In this research, Career Development and Advancement factors are categorized into three key areas: Career Progression and Growth Opportunities, Skill Development and Learning Opportunities, and Support & Recognition. These categories encompass critical elements that drive employee engagement, enhance satisfaction, and contribute to organizational stability. By addressing these areas effectively, organizations can create a more motivated workforce, reduce turnover, and strengthen their ability to achieve long-term success.

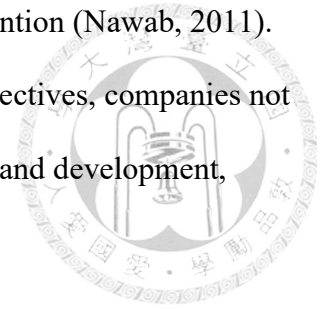
Career Progression and Growth Opportunities play a pivotal role in fostering employee engagement and retention by addressing their aspirations for advancement and

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development. This involves creating transparent career pathways, offering consistent opportunities for promotion, and implementing leadership development programs. Employees highly value clarity regarding their growth potential within an organization, as it instills a sense of purpose and motivates them to remain committed to their roles (Mayangdarastri & Khusna, 2020). Clearly defined career pathways provide employees with a roadmap to achieve their professional goals, reducing uncertainty and enhancing their long-term loyalty. Leadership development initiatives further bolster this commitment by equipping employees with the skills and confidence needed to take on future roles. These programs not only prepare employees for leadership positions but also foster a culture of internal mobility and progression (Pathak & Srivastava, 2017). When employees see tangible opportunities to grow and succeed, their motivation and connection to the organization deepen, reducing turnover and promoting organizational stability (Cook et al., 2015).

Skill Development and Learning Opportunities focuses on enhancing employees' competencies through targeted initiatives such as training programs, job rotation, and cross-training. These opportunities allow employees to acquire new skills and broaden their expertise, enabling them to adapt to evolving organizational demands. Access to structured learning programs not only boosts job satisfaction but also ensures that employees' skills align with organizational goals, fostering a sense of purpose and achievement (Ghani, 2022). Job rotation and cross-training expose employees to various roles, increasing their versatility and value to the organization (Mandhanya, 2015). Providing resources and tools for continuous learning demonstrates an organization's commitment to its workforce, which is a key factor in strengthening employee loyalty and reducing turnover. Employees are more likely to remain with companies that actively invest in their professional growth (Tymon et al., 2011). Moreover, skill development opportunities empower employees to take ownership

of their career trajectories, promoting engagement and long-term retention (Nawab, 2011). By aligning employee competencies with strategic organizational objectives, companies not only enhance workforce agility but also cultivate a culture of growth and development, ensuring sustained organizational success.



Support & Recognition encompasses mentorship, performance acknowledgment, and organizational support, which are essential for fostering employee engagement and retention. Mentorship provides employees with valuable career guidance, helping them navigate challenges and identify opportunities for growth. This guidance not only enhances professional development but also builds trust and loyalty within the organization (Alias, 2019). Performance recognition, whether through rewards, promotions, or simple acknowledgment, ensures employees feel appreciated for their contributions, which significantly boosts morale and motivation (Upadhyaya & Ayari, 2019). Organizational support plays a pivotal role in creating a positive work environment where employees feel valued and respected. When employees perceive genuine support from their organization, it fosters a sense of belonging and commitment, ultimately reducing turnover (Akgunduz & Sanli, 2017). Together, these elements contribute to a motivated, satisfied, and loyal workforce.

With the illustration as described in Table 1, the hypotheses of this study are as follows:

Table 2

Hypotheses of Study

Hypotheses of Study	
H1	Clear career pathways and regular opportunities for advancement positively influence employee retention in the technology industry.
H2	Access to skill development programs and learning opportunities positively influence employee retention in the technology industry.
H3	Organizational support, mentorship and performance recognition positively influence employee retention in the technology industry

This research aims to explore the most influential factors impacting employee retention in the technology industry by investigating three key hypotheses as shown in Table 2. Understanding which factors have the most significant effect on retention will guide organizations in developing effective strategies to retain employees.

Hypothesis 1 (H1): Career Progression and Growth Opportunities

The first hypothesis examines if clear career pathways and opportunities for advancement play a pivotal role in retaining employees within the technology industry. When employees have a transparent understanding of their potential career trajectory and access to promotions, their loyalty and commitment to the organization strengthen. Such opportunities create a sense of purpose and motivation, reducing turnover rates and fostering long-term organizational stability in a highly competitive job market.

Hypothesis 2 (H2): Skill Development and Learning Opportunities

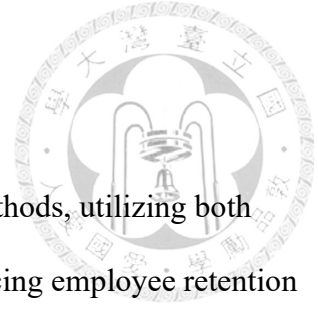
The second hypothesis proposes that providing employees with access to skill development programs, workshops, and cross-training opportunities significantly impacts their intention to remain with the organization. Continuous learning fosters professional growth, enhances job satisfaction, and aligns employee capabilities with organizational goals. When companies invest in the skill enhancement of their workforce, employees feel valued and supported, increasing their likelihood of staying in the organization and contributing to its long-term success.

Hypothesis 3 (H3): Organizational Support & Recognition

The third hypothesis suggests that organizational support, mentorship, and recognition are essential factors in fostering employee satisfaction and retention. Employees who feel valued and appreciated for their contributions are more likely to remain committed to their organization. Mentorship programs provide guidance for growth, while performance recognition motivates employees to excel. These factors collectively strengthen the bond between employees and their organization, reducing turnover and promoting a positive workplace culture.

By testing the three key hypotheses, the research will provide valuable insights into the key drivers of employee retention, allowing organizations to refine their strategies to meet the specific needs and motivations of their workforce.

3. Research Methodology



3.1 Research Design

This study employs descriptive and verification research methods, utilizing both quantitative and qualitative approaches to explore the factors influencing employee retention through Career Development and Advancement. A structured questionnaire will serve as the primary quantitative tool for data collection. The survey is designed to measure key variables across the key factors of CDA, including career progression, skill development and training, organizational support & recognition, and their overall impact on employees' decisions to stay or leave an organization. Respondents will evaluate their experiences and perceptions using a 5-point Likert scale, ranging from "strongly disagree" to "strongly agree."

To complement the survey data, qualitative insights will be gathered through an interview with an employee from a large corporation. The selected interviewee will have at least 10 years of working experience in the technology sector, with the experience to provide deep insights into long-term career challenges and opportunities. This method hopes to uncover context-specific factors, such as organizational culture, compensation satisfaction and work-life balance, which may not be fully captured in the survey.

By integrating quantitative and qualitative methods, the study ensures a comprehensive exploration of the topic. The triangulation of data enhances the validity and reliability of the findings, enabling a deeper understanding of CDA's role in retention. This mixed-methods approach aligns with prior research emphasizing the importance of combining structured surveys and interviews for robust organizational studies (Mandhanya, 2015; Tymon et al., 2011; Akgunduz & Sanli, 2017).

3.2 Procedures and Sources

Online questionnaires would be used to collect data from employees from startups to large technology companies, including software developers, technology professionals, engineers and operations & support roles. The sample size would target approximately 100 participants located in Singapore, ensuring a diverse representation of job roles, levels of experience and company sizes. Snowball sampling from the pilot survey respondents will be used to ensure the benchmarking from pilot survey, having representation across various job levels, roles and company sizes within the Singapore's technology industry. The quantitative data will be analyzed using regression and correlation analysis to determine the relationship between retention factors and employees' intention to stay.

3.3 Survey and Questionnaire

A pilot survey was conducted with a small group of participants – around 10 to 20, mainly located in or having working experience in Singapore to ensure clarity and relevance of the survey questions and examine potential issues and errors (Sarantakos, 2023) before the final survey. These questions use a 5-point Likert scale, where participants can respond with options ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

The final survey consists of 5 questions regarding participant's general demographics and background information. However, information with the possibility of identifying participants is strictly not collected to ensure anonymity. The main survey consists of 20 questions, with 4 main areas revolving employees' CDA that this study is investigating: Career progression and growth opportunities, Skill development and training, Support & Recognition, Retention and overall. The length of survey is observed to avoid respondent fatigue (Ghafourifard, 2023). The set of survey questions is as shown in Appendix

A. The survey will be conducted via online survey forms for easy access and outreach to approximately 100 professionals who are currently working in the technology sector.

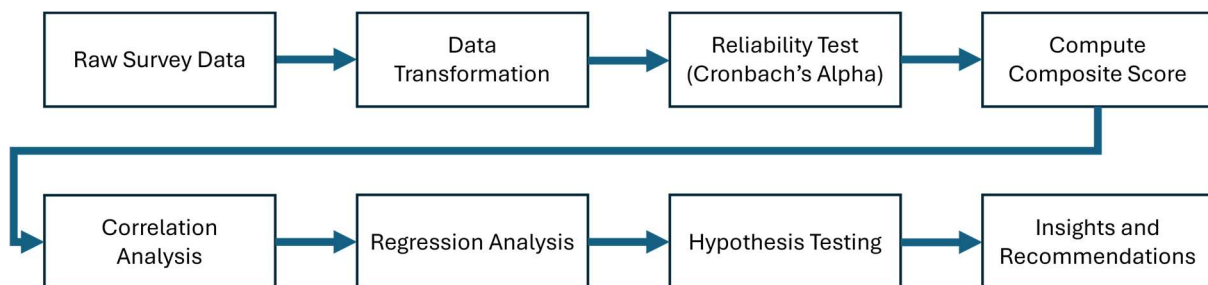


3.3.1 Analysis of Survey Results

The collected respondents' answers will be processed, then underwent in-depth analysis to discover insights regarding the study.

Figure 1

Overview of Analysis Process



The research methodology follows a systematic sequence to ensure reliability, validity and meaningful interpretation of the collected survey data. The process begins with Data Transformation, where raw survey responses are cleaned and prepared for analysis. This includes formatting, coding responses and addressing missing data.

Next, a Reliability Test is performed to evaluate the internal consistency of survey items for each construct. The study will use Cronbach's Alpha to ensure that the survey responses are reliable for further analysis.

Following this, Composite Scores are computed by averaging responses for related survey items under each construct, offering a consolidated view of key factors such as Career Progression, Skill Development, Support & Recognition and Retention.

Once the composite scores are obtained, Correlation Analysis is conducted to

doi:10.6342/NTU202500372

identify relationships between the key factors and assess their strength and direction. This step is critical for understanding preliminary associations among variables.

The analysis progresses to Regression Analysis, where the impact of independent variables (e.g., Career Progression, Skill Development, Support & Recognition) on the dependent variable (Retention) is assessed. This provides insights into the predictors of employee retention.

Finally, Hypothesis Testing is conducted to confirm or reject the proposed hypotheses based on statistical results. This step integrates findings from the correlation and regression analyzed to draw conclusions and inform actionable recommendations. Each step in this process builds on the previous, ensuring a cohesive and thorough analysis of the survey data.

3.3.2 Cronbach's Alpha Value

Reliability is a crucial aspect of survey-based research as it ensures that the instrument used consistently measures the intended constructs. In this study, Cronbach's Alpha was employed to assess the internal consistency of the survey items related to the four key factors: Career Progression, Skill Development, Support & Recognition, and Retention. This metric determines how well the items within each construct align with one another, with values ranging from 0 to 1. A Cronbach's Alpha value of 0.7 or higher is considered acceptable, while values above 0.8 indicate good to excellent reliability (Perry et al., 2004). The values will be computed using a Python script.

3.3.3 Composite Scores

To analyze the survey responses effectively, composite scores were calculated for

key categories identified in the study: Career Progression, Skill Development, Support & Recognition, and Retention. Composite scores consolidated responses from multiple related questions into single, representative metrics for each construct, improving reliability and interpretability. For example, the Career Progression Composite score aggregated responses to questions about career pathways, leadership development programs, and manager support. Similarly, the Retention Composite score combined responses to questions about employees' intention to stay, satisfaction with career development opportunities, and the perceived alignment of organizational support with personal goals. By averaging responses across multiple items, composite scores provided a holistic view of each construct while minimizing the impact of random errors in individual responses.

This approach offered several advantages. First, it allowed for the standardization of measurement across different constructs, enabling meaningful comparisons between categories. Second, it facilitated the use of advanced statistical techniques, such as regression analysis, to test the relationships between constructs, such as the influence of Career Progression on Retention. Finally, composite scores enhanced the alignment between the research methodology and hypotheses, ensuring that the analysis captured the study's intended focus on broad, conceptually relevant areas.

3.3.4 Correlation Analysis

By conducting correlation analysis, it identifies the strength and direction of the relationships between variables. Using Pearson's correlation coefficient, the analysis reveals whether factors such as Support & Recognition are positively or negatively associated with retention. For instance, a strong positive correlation between support and retention indicates that employees who feel recognized and supported are more likely to stay with their

organization. This step serves as a foundation for understanding interdependencies among variables and prioritizing focus areas.



3.3.5 Regression Analysis

Regression analysis builds on the findings of correlation analysis by assessing the predictive power of independent variables on the dependent variable (retention). It determines how factors like career progression and skill development collectively impact retention and identifies which predictors have the most significant influence. The regression results help validate hypotheses and offer actionable insights into the factors driving employee loyalty.

3.3.6 Hypothesis Testing

The hypotheses derived for this study focus on career progression, skill development, Support & Recognition, and their collective impact on retention outcomes. They were tested using a combination of correlation analysis and regression modeling. The correlation matrix identified significant associations between key constructs, while the regression analysis provided deeper insights into the strength and direction of these relationships. Composite scores for Career Progression, Skill Development, Support & Recognition, and Retention were used as variables for analysis, enabling a consolidated and precise examination of the hypotheses.

3.4 Expert Interview

An interview session is conducted in attempt to uncover more insights and information about the topic. The interviewee is Ms. Lee, an executive of a multinational company (MNC), overseeing the company's ICT-related operations in the Asia-Pacific (APAC) region. She has over 15 years' working experience in Singapore's technology sector

and previously held positions in the public sector. Ms. Lee will be sharing her views on employee retention and CDA, her experience as an employee and a mid-level manager, as well as whether there are any differences between the public and private sector. The interview transcript is as shown in Appendix D.



4. Research Findings and Analysis



4.1 Research Findings

The expected result may likely echo similar results from various past research studies on this topic. However, the study hopes to find out other insights and possibilities, and strategies to improve employee retention rate specifically towards Singapore technology industry.

4.2 Results Collected from Survey

4.2.1 Demographics of Respondents

The demographics of respondents from pilot survey in the Singapore technology sector has a wide range of educational backgrounds and work experiences.

Table 3

Demographic Profile of Respondents (N=21)

Demographic Variables	Category	Frequency	Percentage
Age	21 to 29	3	14.29%
	30 to 39	13	61.9%
	40 to 49	5	23.81%
	50 to 59	0	0%
	60 and above	0	0%
Gender	Male	11	52.38%
	Female	10	47.62%
Nationality	Singapore	19	90.48%
	Others	2	9.52%
Geographic Location	Singapore	20	95.24%
	Others	1	4.76%
Educational Level	Diploma and below	5	23.81%
	Bachelor's degree	12	57.14%
	Master's degree	4	19.05%
	Doctorate or professional certification	0	0%

doi:10.6342/NTU202500372

Table 3 shows the demographic information of the 21 pilot survey respondents. The respondents age group comprised between 21 to 49 years of age. With largely consists of 30 to 39 years of age, representing 61.9% of total respondents. Respondents were fair in gender ratio, having male and female representation with 52.38% and 47.62% respectively. As the study will primarily focus on the employee retention of technology sector in Singapore, hence the respondent's nationality and current geographic location were mainly in Singapore, with 90.48% and 95.24% respectively. And respondents' educational backgrounds were well represented, ranging from diploma and below to postgraduate degree.

Table 4

Career Profile of Respondents (N=21)

Career-related Variables	Category	Frequency	Percentage
Occupation	Manager/Executive	4	19.05%
	Engineer/Senior Engineer	17	80.95%
	Administrative/Support	0	0%
Job Tenure	Less than 1 year	1	4.76%
	1 to 2 years	6	28.57%
	3 to 6 years	6	28.57%
	7 to 10 years	4	19.05%
	More than 10 years	4	19.05%
Employment Status	Employed Full-time	21	100%
	Unemployed	0	0%

And Table 4 shows the career profile of respondents, largely comprised of technical related occupation, with engineers representing 80.95% of total respondents. Management related roles as the remaining 19.05%. Job tenure of respondents ranged from less than 1 year to more than 10 years, with more than 95% of respondents having job tenure of 1 year and above. This showed respondents were experienced in their career, being able to provide

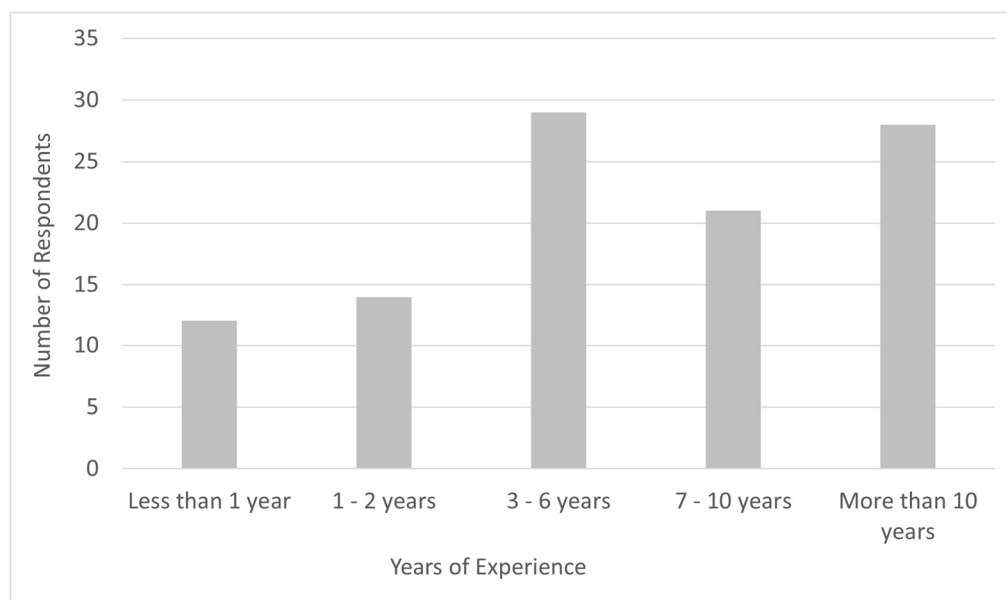
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accurate responses in the questionnaire. And all respondents were currently employed as full-time employees in their respective roles. The pilot survey demographics serve as an indicator of the target population for this study and reflect the diversity within the sample. Snowball sampling from this initial group ensures that the final survey is likely representative of the same population.

For the final survey, there was a total of 104 responses collected from the questionnaire, representing professionals with diverse backgrounds and work experiences in the technology industry. Respondents varied widely in their years of experience, as shown in Figure 2, ranging from those with less than a year to over 10 years, providing a comprehensive perspective on how career development needs and expectations evolve over time.

Figure 2

Final survey respondents' years of working experience

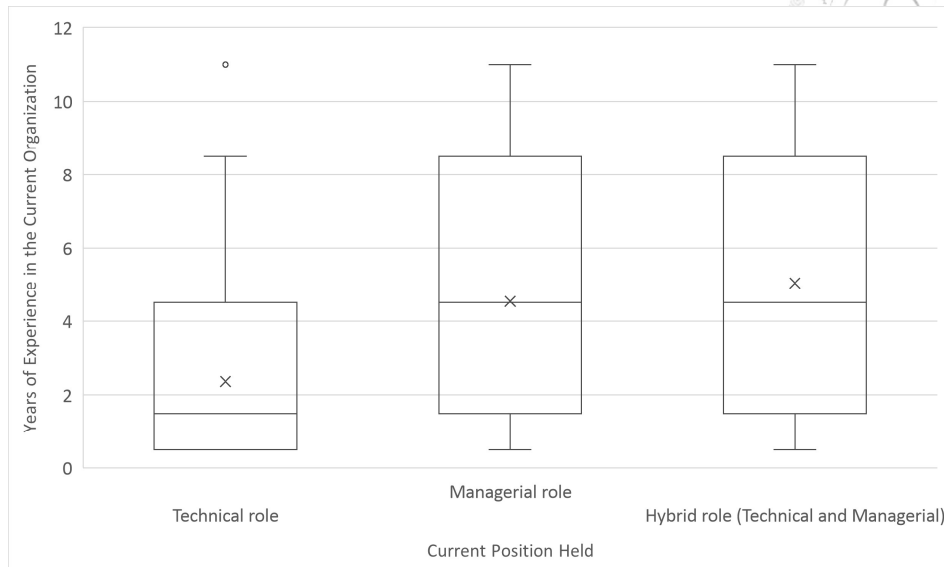


Respondents held roles spanning technical, managerial and hybrid positions, as shown in Figure 3, offering insights into how career development impacts employees at different levels within an organization.

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Figure 3

Distribution of current tenure by position held



The survey also captured organizational diversity, with respondents working in startups, small-to-medium enterprises (SMEs), and larger companies. Organizational sizes ranged from fewer than 50 to over 1000 employees, highlighting the varied approaches to career development based on organizational scale and resources.

4.2.2 Results of Cronbach's Alpha

Cronbach's Alpha analysis was conducted with the collected dataset processed using a Python script, and the four key factors' values are – Career Progression ($\alpha=0.702$), Skill Development ($\alpha=0.851$), Support Recognition ($\alpha=0.823$), and Retention ($\alpha=0.872$). These values were all above 0.7, in the acceptable range, which validates the survey's consistency and ensures the robustness of the data for further analysis.

4.2.3 Results of Composite Scores

The composite scores calculated for Career Progression, Skill Development, Support & Recognition, and Retention revealed insightful trends that align with the study's objectives.

These composite scores, derived from averaging corresponding survey responses of a particular related focus area, provide a consolidated view of key constructs and their relationships. The comparison of composite scores shows how respondents perceived from their past and current experience and impression on the impact of current CDA and retention initiatives by their organizations. This provides a clear view on possible area of improvement and areas that currently are doing well by technology organizations.

Table 5

Composite Score of Key Factors

	Composite Score (Max 5)	Rank
Retention	3.84	1
Career Progression	3.66	2
Support & Recognition	3.60	3
Skill Development	3.55	4

Table 5 illustrates the average composite scores of the four key factors assessed in the questionnaire. The scores are based on a Likert-scale ranging from 1 to 5, with higher scores indicating greater agreement or satisfaction. The rank of satisfaction is as follows: Retention, Career Progression, Support & Recognition and Skill Development, ranking from 1 to 5 respectively.

Retention composite score averaged 3.84, is the highest score among the factors, indicating relatively strong intent to remain within their organization by the respondents. It suggests that retention is positively influenced by their organization's initiatives, and respondents showed high satisfaction and agreement on current organizational effort in talent retention. This reflects well on efforts to maintain employee loyalty through targeted retention initiatives. However, the interconnected nature of employee engagement factors

indicates that further enhancements in other areas could strengthen retention even more.

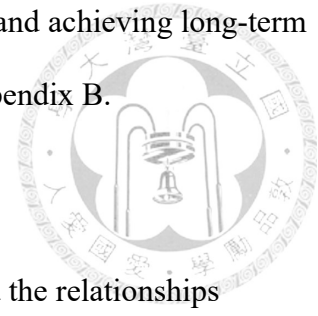
Career Progression ranked second among other factors. Respondents reported moderate to high composite scores, with an average score of 3.66 out of 5. This indicates general satisfaction with the availability of career pathways and leadership development opportunities in their respective organization. Respondents acknowledge the existence of career pathways, but there may be areas for improvement. Refining career progression frameworks to ensure they are transparent and personalized can drive higher engagement and commitment.

Support & Recognition ranked third, received an average composite score of 3.6, reflecting moderate satisfaction with organizational support and recognition practices. While respondents may feel supported in their roles, there exist gaps between current organizational efforts and respondents' expectations. These could be areas requiring attention for improvement.

Skill Development ranked the last, with composite score averaged 3.55. The score is slightly lower indicating that training and learning opportunities are viewed positively but are not perceived as entirely sufficient. Respondents may feel that these programs by their organization lack alignment with individual goals or fail to cater to specific developmental needs. Addressing these gaps with tailored learning opportunities and equitable recognition systems can indirectly bolster retention by fostering a more engaged and motivated workforce.

In summary, organizations in the technology sector are doing better with their Retention strategy than the other three areas of CDA. However, organizations can further improve in the other areas to create a more supportive and growth-oriented environment for

its employees. This could lead to even greater employee satisfaction and achieving long-term commitment. For detailed statistics on composite scores, refer to Appendix B.



4.2.4 Results of Correlation Matrix

The correlation matrix is a statistical tool used to understand the relationships between multiple variables of a dataset using Pearson correlation coefficients. In this study, the matrix highlights the direction and strength of associations between CDA key factors – Career Progression, Skill Development, Support & Recognition and Retention. The correlation matrix can serve as a foundation for identifying which factors are more related to retention, as the focus of this study. Thus, organizations can place more focus on which area to better improve their retention rates.

The correlation coefficients range between -1 and +1, where values closer to +1 indicate a strong positive relationship, and those closer to -1 represent a strong negative relationship.

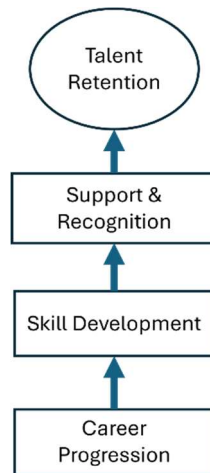
Table 6

Correlation Matrix Between Retention and Key Factors

	Career Progression	Skill Development	Support & Recognition	Retention
Career Progression	1			
Skill Development	0.742	1		
Support & Recognition	0.739	0.806	1	
Retention	0.775	0.834	0.871	1

Figure 4

Level of Correlation with Retention and Other Factors

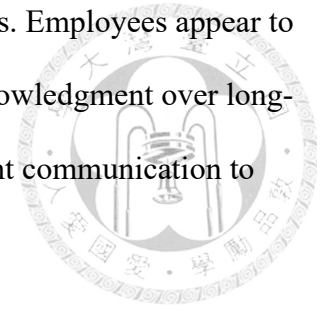


From Table 6, it was observed that Support & Recognition had the strongest correlation with Retention of 0.871, underscoring the pivotal role of organizational support and consistent recognition in retaining employees. Skill Development, with 0.834, also showed a significant positive relationship with Retention, emphasizing the importance of continuous learning opportunities in fostering loyalty. Career Progression has 0.775, while slightly less influential, still exhibited a strong correlation, indicating that clear pathways for advancement are critical for retention.

Based on the correlation matrix, this shows that there is a strong correlation between Retention and both Support & Recognition and Skill Development. The correlation values suggest that employees who feel valued through consistent recognition and have access to continuous learning opportunities are more likely to remain with their organizations. This emphasizes the importance of fostering an environment where their contributions are acknowledged by the organization and development is a central focus. On the other hand, Career Progression demonstrates a moderately weaker correlation with Retention compared to other factors. This finding suggests that while providing clear career pathways and advancement opportunities is essential, organizations may achieve better retention outcomes

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by focusing more on recognition systems and skill-building initiatives. Employees appear to value the immediate, tangible benefits of skill development and acknowledgment over long-term career pathways, which may require more visible and transparent communication to fully resonate.



By strengthening these areas, organizations in the technology sector can significantly enhance their ability to retain skilled talent, thereby reducing turnover and promoting organizational stability. The matrix also revealed strong inter-relationships among the independent variables, which will be covered in the Discussion chapter.

4.2.5 Results of Regression Analysis

Table 7

Regression Analysis of Key Factor Composite Scores

Multiple R	R ²	Adjusted R ²	Std. Error	Observations
0.907	0.823	0.817	0.339	104

ANOVA					
	df	SS	MS	F	Sig. F
Regression	3	53.342	17.781	154.774	< .001
Residual	100	11.488	0.115		
Total	103	64.83			

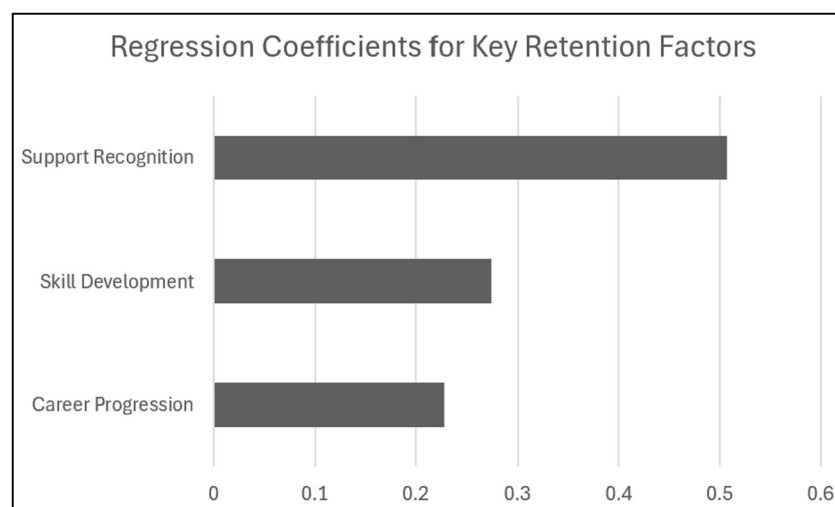
Coefficients				
	Coefficients	Std. Error	t Stat	P-value
Intercept	0.209	0.187	1.119	0.266
Career Progression	0.227	0.078	2.898	0.005
Skill Development	0.274	0.071	3.858	< .001
Support & Recognition	0.507	0.079	6.427	< .001

doi:10.6342/NTU202500372

The regression analysis conducted in this study reveals key insights into the independent and dependent factors influencing employee retention. Using composite scores for Career Progression, Skill Development and Support Recognition as predictors, the model achieved a high R-Square value of 82.3% and adjusted R-Square value of 81.7%. This indicated that the variables collectively explain a significant portion of the variance in employee retention, while accounting for model complexity. And it indicates a strong positive correlation between the independent and dependent variables, with Multiple R value of 0.907.

Figure 5

Impact of Predictors on Employee Retention



Among the predictors, Support & Recognition Composite emerged as the most influential factor, with a regression coefficient of 0.507 and a highly significant p-value of < 0.001 . This highlights the importance of consistent recognition and organizational support in fostering employee loyalty. Skill Development Composite, with a coefficient of 0.274 and a significant p-value of < 0.001 , also played a crucial role, demonstrating the value of professional growth opportunities. Lastly, Career Progression Composite, with a coefficient

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of 0.227 and a p-value of 0.005, underscored the relevance of clear career pathways, with a slightly lesser impact compared to the other factors.

From the analysis, Support & Recognition stood out as the most important, it has the greatest influence on retention. Employees who feel recognized and supported by their organization are much more likely to stay. Skill development has the second most significant impact on retention. Opportunities for learning and professional growth make employees feel valued and invested in, which makes employees more willing to stay. Finally, while slightly less impactful, career progression is still very important in retention. Employees want to see clear pathways for growth and advancement in their careers, making employees feel motivated and loyal to the organization.

4.3 Insights from Expert Interview

The interview was conducted with Ms. Lee, who has 15 years of working experience in Singapore technology sector, including 10 years in the public sector as a senior software engineer before joining the private sector. Currently she is serving her 5th year in an MNC, as a mid-level manager, overseeing the company's ICT operations in the APAC region. The purpose of the interview was to gather qualitative insights into CDA – career development, skill enhancement, organizational support, retention strategies and others. Conducted via telecommunication, the interview provided a detailed perspective on Ms. Lee's professional journey, emphasizing her experiences with career growth opportunities, mentorship programs, recognition practices and her observations of co-workers and subordinates. Open-ended questions encouraged Ms. Lee to share her perceptions, challenges and recommendations, resulting in rich and context-specific data. The discussion lasted approximately 15 minutes, with key themes such as transparency in career progression, training gaps and the contrast between public and private sector retention strategies emerging

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prominently. The interview findings were analyzed to complement quantitative survey data, ensuring a comprehensive understanding of the factors influencing retention in the technology sector.



4.3.1 Career Development and Advancement

Career development opportunities are critical for employee engagement and retention, particularly in industries like technology where growth and innovation are constant. Ms. Lee, a seasoned professional with 15 years of experience, shared *“Ongoing growth, whether through leadership roles or skill development, keeps me engaged and motivated.”* She emphasized that career development programs not only provide a sense of purpose and career progression, but also ensure employees remain competitive in a rapidly evolving field.

Ms. Lee then shared some examples of different initiatives by organizations in promoting career development, such as mentorship programs, leadership training workshops, and funding for professional certifications. An example, Ms. Lee described that leadership workshops were commended for fostering skill-building and networking. However, mentorship program was described as *“less impactful as it lacks structure and regular engagement.”* This inconsistency limits the ability of employees to benefit fully from such initiatives, which hinder the program’s ability to provide meaningful and personalized support to all employees.

Other significant challenges persist in the organization’s approach to career advancement, such as unclear career paths. As mentioned by Ms. Lee, *“The criteria often feel subjective, and communication about advancement requirements can be inconsistent.”*, shows that many employees uncertain about their career trajectories. Furthermore, she highlighted the uneven distribution of opportunities, noting that *“leadership roles often favor*

those with strong networking skills, leaving some employees struggling to get noticed despite their contributions.”

To address these gaps and challenges, Ms. Lee suggested tailored career paths and regular progress discussions, stating, *“More personalized career planning would better align these initiatives with my individual career goals.”* Aligning programs with employees' unique aspirations can significantly enhance their effectiveness, creating a stronger connection between individuals and the organization. She also advocated for greater transparency in promotion criteria and structured mentorship programs that engage employees consistently. This approach ensures that career development efforts are both relevant and impactful, benefiting both employees and the organization.

4.3.2 Skill Development and Learning Opportunities

Skill development and learning opportunities are essential components of professional growth, particularly in industries characterized by rapid technological advancements and evolving roles. Ms. Lee highlighted the positive impact of her organization's initiatives, which include technical certifications, soft skills training and leadership workshops. These programs have enabled her to stay updated on emerging technologies and transition from a technical role to a managerial position. *“The leadership workshops were instrumental in helping me transition to management, while technical training ensured I stayed updated on emerging technologies,”* she noted, emphasizing their value in equipping employees with the necessary skills for career progression.

Despite these benefits, Ms. Lee identified significant gaps in the organization's approach to skill development, particularly for mid-level managers. *“There's a lack of structured guidance or tailored programs for mid-level managers like myself,”* she explained.

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While her role provides some learning opportunities, such as exposure to cross-functional teams and challenging projects, much of the growth remains self-directed. The absence of formalized plans for skill building and leadership progression limits the effectiveness of these opportunities. One example Ms. Lee shared was organization could formalize arrangement for hands on experience in strategic decision-making or exposure to global roles could better prepare her for senior leadership positions.

These insights highlight the importance of evolving skill development strategies to meet the specific needs of employees at different career stages. Tailored learning plans that align with individual career aspirations can enhance engagement and ensure that employees feel supported in their professional journeys. By formalizing growth frameworks and incorporating advanced learning opportunities, organizations can create a motivated and capable workforce ready to meet the challenges of an ever-changing industry landscape.

4.3.3 Organizational Support & Recognition

Organizational support and recognition are fundamental to employee motivation, engagement and retention. Ms. Lee stated the positive impact of initiatives such as mentorship programs and regular performance evaluations in fostering career development. She shared, *“My manager encouraged me to apply for leadership training, which was instrumental in my promotion,”* demonstrating how proactive managerial support can empower employees to achieve their career goals. However, she noted that the level of support often depends on individual managers, leading to inconsistencies in how employees experience mentorship and guidance. The absence of personalized career mapping discussions further limits the effectiveness of these initiatives, as employees often struggle to align their goals with organizational opportunities.

Recognition practices within the organization also reveal significant gaps. While major project achievements are acknowledged, Ms. Lee observed that *“smaller day-to-day contributions often go unnoticed.”* This inconsistency can demotivate employees, causing them to question their value to the organization. The broader consequences of inadequate recognition are evident, with several colleagues leaving the company after years of unacknowledged dedication. As Ms. Lee emphasized, *“When recognition is frequent and meaningful, it significantly boosts motivation and strengthens the intention to stay.”*

To address these challenges, organizations must standardize support and recognition practices across all levels. Management should formulate structured mentorship programs, having consistent career mapping discussions. And regular acknowledgment of both major and routine contributions is key to fostering a culture of appreciation and growth. By ensuring employees feel valued and supported, organizations can enhance retention rate by creating a thriving workplace environment.

4.3.4 Retention and Challenges

Employee retention is a multifaceted challenge influenced by professional opportunities, organizational support and personal priorities. Ms. Lee emphasized the importance of continued growth opportunities, fair compensation and consistent recognition in her decision to remain with her organization. *“A lack of clarity in career progression or inadequate support for my career goals could push me to consider opportunities elsewhere,”* she noted. Personal factors, such as work-life balance, also play a crucial role particularly for employees managing family responsibilities. These insights highlight the need for a holistic retention strategy that addresses both professional aspirations and personal well-being.

To enhance retention, organizations must improve their career development

initiatives by tailoring approaches to the diverse needs of their workforce. Ms. Lee reiterated the importance of clear career paths to be discussed and plan for individual employees. Employees in different stages of their career would require different support for their growth and progression, which highly related to their intention to remain in the organization. For instance, junior employees would benefit more from foundational training, mentorship and clear career mapping are essential for building confidence and navigating early career stages. Meanwhile, senior employees benefit from advanced leadership programs, cross-functional exposure and opportunities to take on strategic roles. Transparent communication about growth opportunities across all levels fosters trust and inclusiveness, ensuring employees feel valued and supported, according to Ms. Lee.

Having career background in both public and private sectors, Ms. Lee shared on the differences in retention strategy from her observation. In the public sector, retention efforts often focus on stability, robust benefits and job security, which is more appealing to employees who value long-term predictability. In contrast, private sector retention strategies emphasize dynamic career opportunities, competitive compensation and performance-based incentives. *“While both approaches have their strengths, the private sector requires more innovation to meet the fast-evolving needs of its workforce,”* Ms. Lee observed. This underscores the private sector’s need to adapt retention strategies to address challenges such as high turnover rates and shifting employee expectations.

By addressing these challenges through tailored retention frameworks, organizations can better align their strategies with employee needs. Comprehensive approaches that balance professional growth, organizational support and personal well-being foster a motivated and committed workforce, which would enhance the talent retention rate in technology organizations. Refer to Appendix D from the full transcript of the interview.

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4.4 Results of Hypothesis Testing

The goal was to validate the hypotheses by analyzing the relationships between predictors (Career Progression, Skill Development and Support & Recognition) and the dependent variable (employee retention).

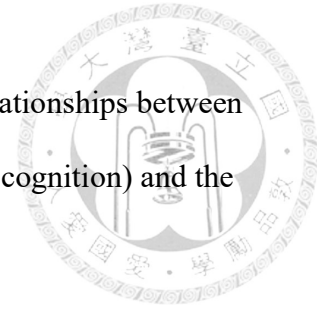


Table 8

Summary of Hypothesis Testing Result

Hypotheses of Study	
H1	Clear career pathways and regular opportunities for advancement positively influence employee retention in the technology industry.
H2	Access to skill development programs and learning opportunities positively influence employee retention in the technology industry.
H3	Organizational support, mentorship, and performance recognition positively influence employee retention in the technology industry.

Hypothesis	Predictor Variable	Regression Coefficient	p-value	Supported?
H1	Career Progression Composite	0.227	0.005	Yes
H2	Skill Development Composite	0.274	< .001	Yes
H3	Support Recognition Composite	0.507	< .001	Yes

For H1, the regression analysis demonstrated a significant positive relationship between Career Progression and Retention, with p-value as 0.005 and a standardized coefficient of 0.227. This indicates that H1 is supported; employees with access to well-defined career pathways and transparent promotion criteria are more likely to remain committed to their organization. This finding aligns with interview insights, where the lack of

doi:10.6342/NTU202500372

clarity in progression opportunities emerged as a major barrier to retention.

On H2, Skill Development had a positive and significant effect on Retention, with p-value $< .001$ and a standardized coefficient of 0.274. Employees value tailored training programs and certifications that align with their career aspirations. This mirrors the interviewee's emphasis on the importance of personalized development plans for mid-level managers, particularly in strategic and leadership roles. Hence, H2 is supported.

Lastly with H3, Support & Recognition showed the strongest positive correlation with Retention, with p-value $< .001$ and the highest regression coefficient of 0.507, which supports H3. The interview confirmed the critical role of recognition in boosting motivation and loyalty. Inconsistent acknowledgment of contributions, as noted by the interviewee, can significantly undermine retention, emphasizing the importance of consistent and meaningful recognition systems.

5. Discussion



5.1 Discussion Overview

The discussion section intends to bridge the gap between the findings and their implications. This section provides a platform to interpret the results, connect them to existing literature, then assess their practical and theoretical significance. This study investigated the influence of career development and advancement factors on employee retention within Singapore's technology industry. By combining quantitative data from survey responses with qualitative insights from expert interviews, the study offers a comprehensive understanding of the relationship between these factors and retention outcomes.

One of the key findings was the strong predictive relationship between Support & Recognition and employee retention, as evidenced by the regression analysis and correlation matrix. The other factors – Career Progression and Skill Development, also demonstrated significant roles with varying levels of influence. Insights from the expert interview complemented these quantitative results by highlighting organizational practices and employee perspectives, such as the disparity in recognition practices and gaps in mentorship programs.

This section delves into the findings by discussing their implications in relation to the research hypotheses and objectives. Additionally, it contextualizes the results within the broader literature on employee retention, identifying areas of alignment and divergence. The discussion further explores actionable recommendations for improving retention strategies and addresses the limitations of the study.

5.2 Analysis and Impact of Key Factors on Retention

This section examines the three identified key factors – Career Progression, Skill Development and Support & Recognition, on employee retention influence. This is based on the results of the composite scores, correlation matrix, regression analysis, and insights from the expert interview. Each factor's role is analyzed in detail, highlighting its significance and implications for employee engagement and organizational stability.

5.2.1 Career Progression's Impact on Retention

Career Progression emerged as a critical factor in employee retention, with a composite score of 3.66 and a strong positive correlation with retention ($r = 0.77$). The regression analysis further demonstrated its predictive value, indicating that clear career pathways and leadership opportunities significantly influence employees' decisions to stay.

From the expert interview, emphasis is placed on the critical role of structured career development initiatives in fostering employees' long-term commitment and engagement. However, not every employee faced certain and clear career path as observed by interviewee. Thus, clearer communication and personalized career pathways were suggested as strategies to address the gaps and ensure alignment with employee aspirations to stay motivated in contributing to their organization.

These findings suggest that while career progression frameworks exist, they require greater transparency and alignment with employees' aspirations. Organizations can adopt a more engaging approach to provide clarity in career path; by offering regular career discussions, individualized growth plans and clear communication about promotion pathways.

5.2.2 Skill Development's Impact on Retention

Skill Development scored an average composite of 3.55 and showed a positive relationship with retention ($r = 0.74$). Training programs, mentorship opportunities and access to certifications were valued by respondents. In regression analysis, Skill Development has the second most significant impact on retention. Opportunities for learning and professional growth make employees feel valued and invested in, which makes employees more willing to stay in their organization.

The expert interview highlighted the necessity to have continuous skill development and learning opportunities to be given to stay competitive in the rapidly evolving technology industry. The interviewee recounted on her past experiences, having the right skillsets and training in order to climb up the corporate ladder. However, she also criticized the limited arrangements from her organization to provide a structured framework for mid-level managers like her.

Therefore, there is a need for technology organizations to introduce tailored skill development programs for individual employees. Such as foundational course for junior employees to handle their core duties, while focusing on advanced courses like strategic thinking and formalized cross-functional collaboration are recommended for more senior employees. This ensures that the needs of employees are satisfied in different stages of their career, creating a motivated environment for them to strive for progression in their career. Ultimately, improving the talent retention rate of the corporation.

5.2.3 Support & Recognition's Impact on Retention

Support & Recognition received a composite score of 3.6 but demonstrated the highest correlation with retention ($r = 0.87$). This suggests that how employees perceive

acknowledgment, feedback and organizational support plays a pivotal role in fostering loyalty. The regression analysis confirmed this, with Support & Recognition showing the strongest predictive power among all factors.



The expert interview revealed that while employees appreciated recognition for major accomplishments, day-to-day contributions often went unnoticed. This lack of consistent acknowledgment can lead to feelings of undervaluation and disengagement. And support from management is largely dependent on individual managers' dedication, which can be unfair and demotivating for many.

To address this, organizations should implement robust recognition systems that balance formal and informal acknowledgment, ensuring inclusivity and fairness. Additionally, managers should be trained to provide regular, constructive feedback to enhance employees' sense of purpose and alignment with organizational goals. Constantly providing support to employees, especially for those who are already demoralized or in need of any form of support from the management.

5.2.4 Retention Outcome

Retention is the ultimate dependent variable in this study, with a composite score averaging 3.84, reflecting moderately high satisfaction among respondents regarding their intention to stay with their current organization. Retention demonstrated strong correlations with Career Progression ($r = 0.77$), Skill Development ($r = 0.74$), and Support & Recognition ($r = 0.87$), highlighting its interconnected nature with these critical factors.

The regression analysis further emphasized the importance of these predictors, with Support & Recognition emerging as the most significant factor influencing retention. Employees who perceived consistent feedback, acknowledgment, and mentorship reported

doi:10.6342/NTU202500372

higher loyalty to their organizations. Conversely, gaps in recognition and career progression, particularly among mid-level managers, were identified as potential causes of turnover.

Qualitative insights from the expert interview added depth to these findings, highlighting the role of organizational transparency and fairness in fostering retention. For example, employees who experienced inequities in promotion criteria or a lack of structured mentorship programs often reported dissatisfaction, impacting their intention to stay. Interviewee also noted that differences in retention strategy between public and private sectors. In the public sector, retention efforts often focus on stability, robust benefits and job security. In contrast, private sector retention strategies emphasize dynamic career opportunities, competitive compensation and performance-based incentives. This represents a clear sign that employees from different sectors are likely to have different focuses on career aspirations. Therefore, it is necessary for technology corporations to take into consideration when formulating retention strategies to best fit the differences.

The findings underscore the need for a holistic retention strategy that integrates career progression, skill development and consistent organizational support. Technology organizations should prioritize clear communication about growth opportunities, personalized career discussions and equitable recognition systems to improve retention outcomes. And to adopt appropriate retention strategies that fit the requirements of employees in their personal and professional goals and emphasis.

5.3 Theoretical Implications

This section draws connections between the study's findings and existing literature to contextualize the relationship between Career Development and Advancement (CDA) factors and employee retention. By aligning theoretical perspectives with empirical results,

the discussion highlights critical areas of convergence and gaps, offering deeper insights into the mechanisms that influence retention.



5.3.1 Career Progression and Retention

Career progression plays a pivotal role in employee retention (Binushika & Karandakatiya, 2020), as supported by both this study and existing literature. Such as Hassan (2013) mentioned that career development opportunities and training have a direct effect on employee retention. Bhatnagar (2007) suggested that career development is an aspect for revealing employee engagement and loyalty. Mayangdarastri and Khusna (2020) emphasize that structured career frameworks foster employee loyalty, aligning with this study's findings that retention correlates strongly with transparent progression opportunities. However, discrepancies noted in the survey and interview such as inconsistent promotion criteria and communication gaps highlighted areas where organizations often fall short.

The interviewee's statement, *"A lack of clarity in career progression could push me to consider opportunities elsewhere,"* underscores the importance of consistent career discussions and personalized development plans. These insights align with Pathak and Srivastava's (2017) assertion that challenges embedded in structured career paths enhance commitment, suggesting that refining these frameworks can significantly improve retention outcomes. Employees who perceive clear pathways for growth are more likely to remain committed to their organizations. This correlates with the findings from Hanif et al. (2013), to have a clear and accelerated promotion pathway can be a good retention measure.

5.3.2 Skill Development and Retention

Skill development is another critical factor influencing retention, particularly in fast-evolving industries like technology. This study corroborates the findings of Nawab (2011),

doi:10.6342/NTU202500372

who argued that professional growth opportunities strengthen organizational commitment. Survey respondents who rated Skill Development highly were more likely to express intentions to stay, emphasizing the importance of accessible training and certification programs. This echoes the study by Anis et al. (2011) stated training is a tool for retaining employees.



However, gaps in alignment between training initiatives and individual career goals were highlighted in both survey and interview results. The interviewee observed, “*Generic training programs enhance basic competencies but do little to prepare employees for strategic roles.*” This aligns with Mandhanya’s (2015) findings that inadequate growth opportunities contribute to high turnover rates. And employees are likely to leave if their organizations do not satisfy their needs and desire to grow in skill development (Aguenza & Som, 2012). Technology organizations must therefore tailor training programs to address diverse career aspirations, ensuring that skill development initiatives effectively support retention.

5.3.3 Support & Recognition and Retention

Support and recognition emerged as strong predictors of retention, echoing findings from Alias et al. (2019), which argued that employees who feel valued and respected exhibit greater loyalty. This study revealed significant correlations between retention and both mentorship opportunities and acknowledgment practices. Survey respondents highlighted inconsistencies in recognition, with the interviewee noting, “*Smaller day-to-day contributions often go unnoticed, which can be demotivating.*”

These results align with Upadhyaya and Ayari’s (2019) findings that well-structured employee-supervisor relationships and positive workplace climates enhance commitment.

Organizational support through mentorship programs, regular feedback and acknowledgment of achievements would foster a sense of belonging and reduce turnover risk. Findings by Alias et al. (2019) also mentioned that employees in technology industry desire recognition by their supervisors/managers, which makes them feel valued in the organisation; hence making them more willing to stay longer in the organization. Therefore, ensuring consistency in recognition and tailoring support to meet individual needs can help technology organizations strengthen their retention strategies.

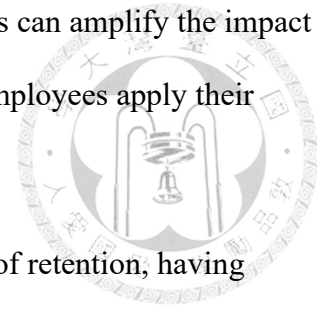
5.4 Strategies in Improving Employee Retention

This study provides actionable insights for improving employee retention by addressing career progression, skill development and support & recognition. These factors are crucial in fostering loyalty, reducing expensive turnover cost (Luftman & Kempaiah, 2007) and enhancing organizational performance (Hosen et al., 2023).

Career progression significantly influences retention, emphasizing the need for transparent and structured growth opportunities. The study found that mid-level managers often feel neglected in career development frameworks. Organizations should implement individualized career mapping to align employees' goals with organizational objectives and provide clarity on their future prospects. Transparent promotion criteria and tailored leadership development programs can further motivate employees and prepare them for strategic roles, creating a pipeline of skilled talent.

Skill development is another key factor, particularly in industries requiring continuous innovation. While employees value training opportunities, many programs lack alignment with individual career aspirations. Tailored training plans that differentiate between the needs of junior and senior employees, along with access to external certifications

and workshops, can address this gap. Structured mentorship programs can amplify the impact of training by providing consistent guidance and support, ensuring employees apply their skills effectively.



Support & Recognition emerged as the strongest predictors of retention, having highest degree of correlation and regression coefficient among other factors. Consistent acknowledgment of employee contributions, both for significant achievements and day-to-day efforts, fosters loyalty and satisfaction. Managers and supervisors play a pivotal role by providing constructive feedback and advocating for team development. A robust and equitable recognition system ensures fairness and inclusivity, strengthening employee motivation and morale.

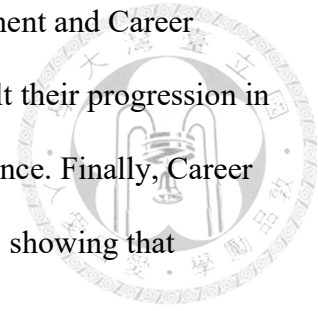
Table 9

Inter-relationships Between Independent Variables

	Career Progression	Skill Development	Support & Recognition
Career Progression	1		
Skill Development	0.742	1	
Support & Recognition	0.739	0.806	1

The inter-relationships among the independent variables from the correlation matrix shown in Table 9. For instance, Skill Development and Support & Recognition with 0.806, showed the two factors were closely linked, suggesting that organizations that invest in training often provide robust recognition mechanisms. Respondents who receive skill-building opportunities may also feel better supported and recognized, highlighting the dual

impact of training programs and recognition systems. Skill Development and Career Progression have 0.742 in correlation, suggesting that respondents felt their progression in career is closely related to skill development in their working experience. Finally, Career Progression and Support & Recognition attained 0.739 in correlation, showing that respondents also felt the two factors positively affect each other.



This shows the interdependence among factors, as evidenced by the high correlations between Career Progression, Skill Development and Support & Recognition. This indicates that improvements in an area, such as Skill Development, may create a ripple effect, enhancing perceptions of Career Progression and fostering stronger Support & Recognition practices. For instance, a well-designed training program can simultaneously improve skill-building and reinforce a culture of support, indirectly boosting retention. This is in line with the suggestion from Binushika & Karandakatiya (2020), technology organizations can provide learning and development programs such as skill training and certification to increase employees' career progression, which will improve the retention of talents.

In conclusion, a holistic retention strategy must integrate these factors. It is important that organization should not focus on a single factor only, such as by solely improving training opportunity, this does not improve retention (Terera & Ngirande, 2014). Regular career discussions, flexible work policies, and competitive compensation structures align employee needs with organizational goals. By fostering a supportive and growth-oriented work culture, organizations can enhance retention, build employee trust, and position themselves as industry leaders.

A proposed framework for technology companies, shows in Table 10, aims to

ultimately improve talent retention rate. The framework focuses on the factors of CDA, emphasizing on the areas that were identified in this study. Measurement metrics include promotion rates, employee participation in training programs, employee satisfaction surveys, turnover rates, and utilization of well-being programs. These metrics will enable technology companies in Singapore to monitor the effectiveness of the framework, ensuring continuous improvement and alignment with organizational goals.

Table 10*Proposed Framework for Talent Retention*

Career Progression and Growth Opportunities	Skill Development and Learning Opportunities	Organizational Support & Recognition
1. Clarity of Career Path ➤ Develop and communicate clear career paths for all roles ➤ Provide employees with roadmaps for promotion, indicating skills and requirement	1. Dedicated Training Programs ➤ Offer regular courses and certifications in relevant skills ➤ Develop programs for both technical (job-specific) and soft skills (e.g., leadership, communication)	1. Enhancing Employee Recognition ➤ Implement structured recognition program for outstanding contribution ➤ Celebrate team and individual achievements regularly
2. Regular Performance Reviews ➤ Conduct annual performance evaluation ➤ Tie performance reviews to tangible career progression opportunities	2. Learning Budget for Individuals ➤ Allocate a personal learning and development budget for every employee ➤ Encourage employees to identify areas for personal growth	2. Work-Life Balance and Emotional Support ➤ Encourage employees to take breaks and vacations to avoid burnout ➤ Train managers to provide emotional support
3. Review of Promotion Policy ➤ Prioritize internal candidates for higher level positions when possible ➤ Transparent and equitable promotion process	3. Skill Gap Analysis ➤ Conduct periodic assessments to identify skill gaps ➤ Provide opportunities for job rotation to gain diverse experiences	3. Promoting Feedback Culture ➤ Provide channels for employees to feedback to management ➤ Use feedback to implement changes that improve employee satisfaction

6. Conclusion and Recommendation

6.1 Conclusion

The findings of this study provide a comprehensive understanding of the factors influencing employee retention within the technology sector of Singapore, emphasizing the importance of career development, skill enhancement and organizational support & recognition. By integrating quantitative analysis and qualitative insights, the study discovers the level of significance and impact towards retention and highlights the interconnected roles of these factors in fostering employee loyalty.

The results from questionnaire underscore that while all three factors significantly impact retention, organizational support & recognition emerged as the most critical, followed closely by skill development and career progression. While from the expert interview, the findings highlight the importance to offering specific recommendations for actionable retention strategies tailored to the unique challenges of the technology industry. The study also identifies gaps, such as the need for personalized career paths and structured mentorship programs, particularly for mid-level managers. This research makes important contributions by linking retention strategies to specific organizational practices, bridging theoretical concepts with practical implementation. However, it is important to acknowledge the study's limitations, such as its reliance on self-reported survey data and a sample predominantly drawn from mid-level roles. These factors may influence the generalizability of the findings.

Lastly, another key finding from this study emphasizes the importance of considering the inter-relationship of the various factors in CDA when formulating retention strategies for employees of technology organizations. For example, when efforts were made to improve the skill development and learning opportunities for employees to enhance their

skillsets. Employees would be better qualified for career progression, this results in improvement of two areas in CDA, creating a ripple effect in improving the rate of talent retention.



In conclusion, addressing employee retention requires a multifaceted approach that prioritizes transparency in career development, targeted skill enhancement programs, and consistent recognition practices. By adopting these strategies, technology organizations can strengthen employee engagement, reduce turnover and achieve sustainable growth in a competitive technology industry. Future studies can build upon these findings by exploring additional retention drivers, adopting longitudinal methods and broadening the scope to include diverse organizational contexts.

6.2 Limitation and Considerations

While surveys can capture broad patterns and relationships, it may not fully explain the complexities of personal factors or emotions influencing employee retention. And predefined answers such as Likert scales, may limit participants' ability to express unique opinions or experiences. Additionally, self-reported survey data may be subject to response bias. Participants might have provided socially desirable answers or exaggerated their experiences, potentially affecting the reliability of the results. Steps were taken to minimize this bias, such as ensuring anonymity and confidentiality, the possibility of inaccuracies cannot be eliminated.

Another consideration is sample size. The current sample size is adequate for statistical analysis conducted; it might not fully represent the diversity of the technology industry in Singapore. The inclusion of participants primarily from mid-level managerial roles and large corporations could limit the generalizability of the findings to other

organizational levels or smaller firms. Expanding the sample size and diversifying the participant pool could improve the applicability of the results.

The demographic profile of respondents was established in the pilot survey and stood representative of the overall target population. And the participants of the final survey were recruited through snowball sampling by pilot survey respondents, in ensuring its relevance to the final survey. The absence of demographic data collection in the final survey may be deemed as unreliable source of data collection and representation from the respondents.

6.3 Recommendation for Future Studies

Future studies can expand on the factors influencing employee retention by integrating additional variables beyond those explored in this study. While the current study focused on career development, skill enhancement and organizational support, variables such as compensation satisfaction, organizational culture, work-life balance and job security warrant closer examination. For example, compensation satisfaction has been consistently linked to employee commitment and motivation in prior studies (Nawab, 2011). Similarly, work-life balance and organizational culture significantly influence employees' decisions to remain in their roles, as highlighted by Tymon et al. (2011). Including these variables in future models could enhance their explanatory power and provide a more holistic understanding of what drives retention. Additionally, examining the interplay between these factors and career development opportunities might reveal new insights into how organizations can optimize their retention strategies.

To support this expansion, future studies should consider longitudinal designs to capture changes in employee priorities over time. Longitudinal data would allow researchers

to observe how retention drivers evolve as employees progress through different career stages or as organizational conditions shift. Moreover, cross-sector analysis comparing retention factors in industries beyond technology, such as healthcare, education, and finance. This could further enrich the understanding of sector-specific influences on employee decisions.

Additionally, expanding the sample size and diversity across industries could enhance the generalizability of findings. Studies focusing on different organizational contexts, such as startups, large corporations or public sector entities, could reveal how retention strategies vary depending on organizational structure and culture. Cross-cultural studies could also provide valuable insights into how cultural differences affect employee expectations and retention.

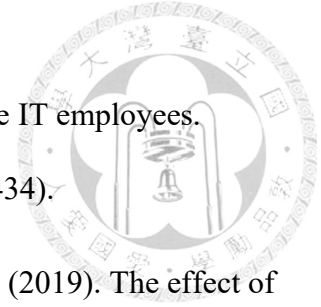
The inclusion of demographic profile questions to be included in both pilot and final surveys to avoid unnecessary confusion and enable more comprehensive analysis of characteristics and their potential impact on the collected results.

Finally, exploring other qualitative methods, such as in-depth interviews or focus groups with a larger participants pool, could offer richer insights into the complex dynamics of retention. As mentioned by Creswell & Poth (2018), focus groups can facilitate dynamic discussions where participants can build on each other's ideas, potentially revealing collective perceptions or shared organizational issues. Such methods are particularly valuable in exploring factors like organizational culture, leadership styles and personal motivations, which often play a significant role in employee retention but are challenging to quantify (Mandhanya, 2015). For example, robust qualitative studies can help understand how employees interpret recognition practices or how they perceive the fairness of promotion processes, insights that may vary widely across different roles, teams, or organizational

contexts. These findings can be integrated with quantitative data to test new hypotheses or refine existing models, creating a more holistic understanding of retention dynamics.

Future studies can develop more robust and actionable strategies for addressing retention issues across diverse settings. This mixed-methods approach ensures that interventions are not only statistically sound but also grounded in the lived experiences and expectations of employees, making them more effective and sustainable (Tashakkori & Teddlie, 2003).

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Appendix A – Survey Questionnaire



Demographic and Background Information Section

1. How many years of working experience in the technology industry?
 - Less than 1 year
 - 1-2 years
 - 3-6 years
 - 7-10 years
 - More than 10 years
2. What is your current job role?
 - Technical role
 - Managerial role
 - Hybrid role (Technical and Managerial)
3. How long have you been with the current organization?
 - Less than 1 year
 - 1-2 years
 - 3-6 years
 - 7-10 years
 - More than 10 years
4. What type of organization do you work for?
 - Startup
 - Small to Medium Enterprise (SME)
 - Large Corporation
 - Public Sector/Government
5. How many employees are there in your organization?
 - Less than 50 employees
 - 50-200 employees
 - 201-500 employees
 - 501-1000 employees
 - More than 1000 employees

Main Questions Section

Career Progression and Growth Opportunities

1. My organization provides a clear and well-defined career progression plan.
2. Leadership development programs are available to prepare employees for future roles.
3. My progression path is reviewed and updated regularly by my manager.
4. I feel that the availability of career progression plans enhances the value of skill development opportunities.

5. Support from my manager makes it easier to achieve the career progression outlined in the organization.

Skill Development and Training

6. The organization provides sufficient training programs to develop my skills.
7. I am encouraged to participate in external workshops and certifications.
8. Having clear career progression plans motivates me to participate in skill development programs.
9. I feel my current organization promotes continuous learning and development.
10. Mentorship opportunities provided by the organization improve my ability to make use of training programs.

Support & Recognition

11. I receive regular feedback from my manager about my performance and development.
12. Mentorship opportunities are provided to help guide my career growth.
13. Support from my manager enhances the value of feedback I receive on my career development goals.
14. I feel that management supports my career development goals.
15. Recognition for my contributions strengthens my motivation to utilize career advancement opportunities.

Retention and Overall Satisfaction

16. I am motivated to stay in this company due to career development opportunities.
17. The combination of career development opportunities and organizational support strongly influences my decision to stay.
18. I am satisfied with the efforts the organization puts into my career development.
19. Skill development and recognition together play a key role in my decision to remain in this organization.
20. Overall, the organization's career development efforts positively impact my loyalty to the company.

Appendix B – Summary of Composite Score Results

This table summarizes the composite scores for key constructs analyzed in this study.

	Career Progression	Skill Development	Support & Recognition	Retention
Mean	3.658	3.554	3.602	3.840
Standard Error	0.067	0.084	0.075	0.078
Median	3.6	3.6	3.6	3.8
Mode	4	3	3.4	5
Standard Deviation	0.679	0.855	0.766	0.793
Sample Variance	0.461	0.730	0.586	0.629
Kurtosis	-0.566	-1.112	-0.869	-1.152
Skewness	0.051	0.054	0.033	-0.033
Range	3	3.2	2.8	2.8
Minimum	2	1.8	2.2	2.2
Maximum	5	5	5	5
Sum	380.4	369.6	374.6	399.4
Count	104	104	104	104

Notes:

- Composite scores are calculated as the average of survey responses for each category on a 5-point Likert scale, providing a consolidated view of employee perceptions.
- Standard deviation indicates the variability of responses within each category.
- Minimum and maximum values reflect the range of responses observed across participants.

Appendix C – Correlation Matrix

	Career_Progression_Composite	Skill_Development_Composite	Support_Recognition_Composite	Retention_Composite
Career_Progression_Composite	1			
Skill_Development_Composite	0.742130907	1		
Support_Recognition_Composite	0.738648281	0.806302676	1	
Retention_Composite	0.774884864	0.83391916	0.870783471	1

Notes: Red represents stronger correlation and green represents weaker correlation.

doi:10.6342/NTU202500372

Appendix D – Transcript of Expert Interview

1) Career Development and Advancement

a. How important are career development opportunities to you in your current role?

Answer:

Career development opportunities are extremely important to me; I see myself as quite a career minded person. After 15 years in the industry, I've realized that ongoing growth, whether through leadership roles or skill development, keeps me engaged and motivated. In my current role, career development helps me see a future within the organization. It ensures myself to remain competitive in a rapidly changing field, while also giving me a sense of purpose and progression.

b. Can you describe any career development initiatives provided by your organization? How effective do you find them?

Answer:

My organization offers several career development initiatives, such as mentorship programs, leadership training workshops, and funding for professional certifications. While these initiatives are commendable, their effectiveness can vary. For instance, the leadership workshops are excellent for skill-building and networking, but the mentorship program is less impactful as it lacks structure and regular engagement. I would appreciate more tailored career paths and regular progress discussions to align these initiatives better with my individual career goals.

c. Do you feel that your organization offers clear career pathways for progression? Why or why not?

Answer:

To some extent, my organization offers career pathways, but they aren't always clear or transparent. While there are frameworks in place for promotions and leadership roles, the criteria often feel subjective, and communication about the requirements for advancement can be inconsistent. This lack of clarity sometimes makes it difficult to plan my long-term career trajectory within the organization. Some employees even mentioned that they often rely on informal networks to understand their career prospects rather than structured guidance.

I have seen opportunities for promotions and participation in leadership development programs. Personally, I was promoted to my current mid-level managerial role after demonstrating consistent performance and completing a leadership training program. However, I've observed that opportunities can be unevenly distributed, and some employees struggle to get noticed despite their contributions. Leadership roles often favour those who have strong networking skills within the organization.

2) Skill Development and Learning Opportunities

a. What type of training or skill development programs does your organization offer? How have they impacted your career?

Answer:

The organization offers a range of skill development programs, including technical certifications, soft skills training, and leadership workshops. I've personally benefited from the technical training to stay updated on emerging technologies and the leadership workshops, which helped me transition from a technical role to a managerial position. These programs have been impactful, but I believe the organization could do more to customize training to individual career goals.

b. Do you believe your current role provides sufficient opportunities for professional growth and learning? Please elaborate.

Answer:

Yes and no. While my role does offer some learning opportunities, such as exposure to cross-functional teams and new challenges, I feel that the growth is mostly self-directed. There's a lack of structured guidance or tailored programs for mid-level managers like myself. Having a more formalized plan for skill-building or leadership progression would make the growth opportunities more meaningful. For example, hands-on experience in strategic decision-making or exposure to global roles would better prepare me for senior leadership positions.

3) Organizational Support and Recognition

a. How does your organization support employees in achieving their career goals? Can you share specific examples?

Answer:

The organization supports employees through mentorship programs and regular performance evaluations. For example, my manager encouraged me to apply for leadership training, which was instrumental in my promotion. However, more personalized career mapping discussions would further help align individual goals with organizational opportunities. And the level of support often depends on individual managers and their commitment to employee development.

b. Do you feel that your efforts and contributions are adequately recognized? How does this affect your intention to stay?

Answer:

Recognition is inconsistent. While I've received recognition for major projects, smaller day-to-day contributions often go unnoticed. This lack of consistent acknowledgment can be demotivating and occasionally makes me question my value to the organization. And I have seen several colleagues choose to leave the company after being unrecognized for years, despite placing massive effort, time and dedication in their positions. I think when recognition is frequent and meaningful, it significantly boosts motivation and strengthens the intention to stay.

doi:10.6342/NTU202500372



4) Retention and Challenges

a. What factors might influence your decision to stay or leave your current organization?

Answer:

My decision to stay would depend on continued growth opportunities, fair compensation, and consistent recognition of my contributions. Conversely, a lack of clarity in career progression or inadequate support for my career goals could push me to consider opportunities elsewhere. Other than career progression opportunities, factors involving work-life balance as I want to dedicate time for my family, especially when my kids are still in their young age. Fair compensation also influences my decision to stay or leave. If these needs are unmet, I may consider exploring external opportunities.

b. In your opinion, how could your organization improve its approach to career development and advancement to retain employees?

Answer:

The organization could improve by providing more transparent career pathways, aligning training programs with individual career goals, and implementing structured mentorship programs. Regular career discussions with employees to track their goals and progress would also help ensure they feel supported in their journey. In my opinion, I think there can be a different approach to cater to the needs between junior employees and the more senior ones.

For junior employees, clear career mapping, combined with foundational training and mentorship, would help them navigate their early career stages and remain motivated. Meanwhile, senior employees would benefit from advanced leadership programs, cross-functional exposure, and opportunities to take on strategic roles. Transparent communication about growth opportunities at all levels would foster trust, ensuring both junior and senior employees feel valued and supported in their professional development.

c. In your opinion, is there any difference in the retention approach between public and private sectors?

Answer:

Yes, there is a noticeable difference. In the public sector, retention strategies often focus on stability, benefits, and job security, which appeal to employees seeking long-term stability. In contrast, private sector retention relies more on dynamic career opportunities, competitive compensation, and performance-based incentives. While both approaches have their strengths, the private sector requires more innovation to meet the fast-evolving needs of its workforce.