

Factors Influencing Retention Cognitions among Knowledge Workers: A Data-driven Analysis

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Abstract: This research paper aims to explore the factors that influence the retention cognitions of knowledge workers, considering their high level of mobility and the associated costs. The study collected data from 306 full-time knowledge workers representing diverse demographic groups. Surprisingly, the results indicate that job satisfaction and organizational commitment are not the sole predictors of the knowledge workers' longevity in the organisation. It was also noticed that a competitive compensation alone too does not guarantee workforce loyalty. There are factors other than compensation which helps build long-term organisational commitment among the knowledge workforce. In the present study, factor analysis resulted in identification of seven underlying dimensions of retention cognitions, which included individualism, challenge, and personal development. On the basis of retention cognitions, nine distinct clusters of knowledge workers were obtained from the cluster analysis. The implications of these findings are discussed, providing valuable insights into effective strategies for knowledge worker retention.

Key Words: Knowledge workers, employee retention, factor analysis, retention cognition, job satisfaction, organisational commitment.

1. INTRODUCTION:

Knowledge workers, characterised by their expertise and specialised skills, play a crucial role in today's knowledge-based economy (Drucker, 2008). These individuals possess unique knowledge, often in areas such as technology, research, consulting, or creative fields (Davenport, 2005). However, one notable characteristic of knowledge workers is their high level of mobility (Mládková, Zouharová, & Nový, 2015). They have the flexibility and demand to move between organisations, seeking better opportunities or aligning with their career aspirations (Wright, et al., 2018).

The mobility of knowledge workers presents challenges for organisations (Ferreira, et al., 2022). The turnover of these key resources comes at a significant cost, both in financial terms, such as recruitment and training expenses, as well as non-financial aspects, such as the loss of intellectual capital, disruptions in workflow, and reduced morale among remaining employees (Fallatah, 2019). Therefore, understanding the factors that underpin the retention cognitions of knowledge workers is essential for organisations to mitigate turnover and retain valuable talent (Nelson, & McCann, 2010).

2. LITERATURE REVIEW:

2.1 Characteristics of Knowledge Workers

Knowledge workers are a distinct group of employees who possess specialised expertise, skills, and knowledge in their respective fields (Iazzolino, & Laise, 2018; Mohamed, 2019). They are often highly educated and rely heavily on their intellectual capabilities to perform their work effectively (Matimulane, 2022). These workers are typically engaged in

tasks that involve problem-solving, innovation, analysis, research, and creative thinking. Examples of knowledge workers include scientists, engineers, researchers, consultants, designers, and IT professionals (De Sordi, et al., 2021).

The characteristics of knowledge workers make them valuable assets to organisations operating in knowledge-intensive sectors (Kianto, et al., 2019). Their ability to generate new ideas, develop intellectual property, and drive innovation contributes significantly to an organisation's competitive advantage (Butt, et al., 2019). However, their high mobility poses challenges for organisations as they may seek opportunities that align better with their career goals, resulting in turnover and talent loss (Wright, et al., 2018).

2.2 Mobility and Cost of Labour Turnover

The mobility of knowledge workers refers to their propensity to change employers or work arrangements more frequently compared to other types of workers. Knowledge workers often have high-demand skills that are in short supply, giving them greater flexibility in choosing employment options (Bose, 2018). They may be enticed by competitive job offers, career advancement prospects, or the desire for more challenging projects (Heng, & Jiashun, 2018).

The cost of labour turnover for organisations with knowledge workers is substantial (Ghosh, et al., 2019; Óskarsdóttir, & Oddsson, 2017). Financial costs include recruitment expenses, training and onboarding of new employees, and potential productivity losses during the transition period. Non-financial costs encompass the loss of organisational knowledge, the disruption of team dynamics, and reduced morale among remaining employees. Organisations need to understand the factors influencing knowledge worker retention to minimize these costs and maintain continuity in operations (Shujahat, et al., 2021).

2.3 Retention Cognitions of Knowledge Workers

Retention cognitions refer to the thoughts, beliefs, and perceptions that influence an employee's intention to stay or leave an organisation (Mahmood, & Aslam, 2016). In the context of knowledge workers, understanding their retention cognitions is crucial for organisations seeking to retain these valuable assets (Sutherland, & Jordaan, 2004). While job satisfaction and organisational commitment are commonly examined in relation to retention, their relevance to knowledge workers' length of service decisions has been subject to debate (Nkuta, 2018).

Research has indicated that knowledge workers' retention cognitions may extend beyond traditional factors such as job satisfaction and organisational commitment. Factors such as autonomy, work-life balance, opportunities for personal and professional growth, recognition, and the alignment of organisational values with personal values have been found to be influential in knowledge workers' decisions to remain in or leave an organisation (Ferreira, et al., 2022).

2.4 Research Gap: Previous Research on Job Satisfaction and Organisational Commitment

Previous studies have explored the relationship between job satisfaction, organisational commitment, and knowledge worker retention (Rajabpour, & Chartab Moghadam, 2019; Razzaq, et al., 2019; Sahibzada, Cai, Latif, & Sahibzada, 2020; Yusof, & Rahman, 2019). Job satisfaction refers to the degree of contentment an employee experiences in their job, encompassing factors such as work environment, compensation, job design, and work-life balance. Organisational commitment represents an employee's emotional attachment, identification, and loyalty to the organisation (Jones, 2018).

While job satisfaction and organisational commitment have been recognized as important factors in employee retention, the findings regarding their impact on knowledge worker retention have been mixed. Some studies suggest a weak or negligible relationship between these variables and knowledge workers' intention to stay or leave (Churintr, 2010; Steil, et al., 2022). This indicates the need to investigate other dimensions of retention cognitions that may better explain the length of service decisions of knowledge workers. By addressing the gaps in the literature, this study aims to provide a deeper understanding of the factors influencing knowledge worker retention and contribute to the development of effective retention strategies tailored to this unique workforce.

3. OBJECTIVES:

The primary objectives of this research are:

- A. To investigate the factors influencing retention cognitions among knowledge workers.
- B. To identify the underlying dimensions of retention cognitions that drive knowledge workers' length of service decisions.
- C. To reveal distinct clusters of knowledge workers based on their retention cognitions.
- D. To discuss the implications of the findings for organisations seeking effective strategies to retain knowledge workers and mitigate turnover costs.

4. RESEARCH METHODOLOGY:

4.1 Participants and Sample Selection

The target population consisted of knowledge workers employed in various industries and organisations. To ensure a representative sample, a combination of random sampling and purposive sampling techniques was employed (Martínez-Mesa et al., 2016). The sample size was determined based on considerations of statistical power and practical feasibility (Memon, et al., 2020). A total of 306 knowledge workers in full-time employment were selected to participate in the study.

4.2 Data Collection Procedure

The data collection procedure involved the use of self-report measures, specifically designed to assess key variables related to retention cognitions among knowledge workers. The questionnaire underwent a rigorous review by experts in the field to ensure clarity and content validity. Pilot testing was conducted with a small group of knowledge workers to identify any potential issues with the questionnaire and make necessary refinements.

The final questionnaire was administered electronically to the participants, and instructions about how to fill the questionnaire were also shared simultaneously. The confidentiality and anonymity of their responses was assured to them. The data collection period spanned four weeks to allow participants sufficient time to respond.

4.3 Measurement Instruments

The measurement instruments used in the study included validated scales to assess key variables of interest.

- a) Job Satisfaction: Job satisfaction was measured using the Job Satisfaction Survey (JSS), suggested by Spector (1985).
- b) Organisational Commitment: Organisational commitment was measured using the Organisational Commitment Questionnaire (OCQ), given by Mowday, et al. (1979).
- c) Retention Cognitions: Retention cognitions were assessed using a self-developed scale, with a Cronbach alpha coefficient= 0.85, which confirmed the reliability of the scale (Deniz, & Alsaffar, 2013). The scale consisted of items that capture various dimensions of retention cognitions, such as individualism, need for challenge, focus on personal development, and alignment of personal values with organisational values. Participants rated their agreement or disagreement with each item on a 5-point Likert scale.

4.4 Data Analysis Techniques

Descriptive statistics were computed to summarize the demographic characteristics of the sample population, including age, gender distribution, educational background, and industry sectors. Measures such as mean, standard deviations, frequencies, and percentages were utilized to present the descriptive findings.

To investigate the relationship between job satisfaction, organisational commitment, and proposed length of service, correlation analysis was conducted, aimed to determine the strength and direction of the associations between these variables.

Factor analysis was performed using SPSS 29, to identify the underlying dimensions of retention cognitions, reducing the data into interpretable factors that explain the common variance among the retention cognition items. The extraction method, factor rotation, and criteria for factor retention were determined based on established guidelines in the literature.

Cluster analysis was conducted to identify distinct clusters of knowledge workers based on their retention cognitions. This analysis aimed to identify subgroups of participants who exhibited similar patterns of retention-related beliefs and motivations.

5. FINDINGS / RESULTS :

5.1 Participant Characteristics

The sample population consisted of 306 full-time knowledge employees. The sample was taken from a diverse range of demographic groupings. Table 1 provides a summary of the participant characteristics, including age, gender distribution, educational background, and industry sectors.

Table 1. Participant Characteristics

Demographic Variable	Mean	Standard Deviation	Frequency	Percentage
Age	35.4	6.2		
Gender				
Male			180	58.8%
Female			126	41.2%
Educational Background				
Undergraduate degree			140	45.8%
Post graduate degree			122	39.9%
Professional Certification			44	14.3%
Industry Sectors				
Technology			90	29.4%
Healthcare			72	23.5%
Finance			64	20.9%
Manufacturing			50	16.3%
Others			30	9.8%

The participants include 58.8% male and 41.2% female participants. The age distribution reflects an average age of 35.4 years (SD = 6.2), representing a mix of early-career and mid-career professionals. The educational background reveals that 45.8% of participants hold undergraduate degrees, 39.9% have postgraduate degrees, and 14.3% possess professional certifications. Regarding industry sectors, the sample includes participants from technology (29.4%), healthcare (23.5%), finance (20.9%), manufacturing (16.3%), and other sectors (9.8%).

6. DISCUSSION / ANALYSIS:

6.1 Relationship Between Job Satisfaction, Organisational Commitment, and Proposed Length of Service

Correlation analysis was performed to examine the relationships between job satisfaction, organisational commitment, and knowledge workers' proposed length of service. Table 2 presents the correlation coefficients and significance levels.

Table 2. Correlation Matrix

Variables	Job Satisfaction	Organisational Commitment	Proposed Length of Service
Job Satisfaction	1.00	0.18	0.04
Organisational Commitment		1.00	0.12
Proposed Length of Service			1.00

The correlation analysis revealed that job satisfaction had a positive but weak correlation with organisational commitment ($r = 0.18$, $p < 0.05$). However, there was no significant correlation between job satisfaction and proposed length of service ($r = 0.04$, $p > 0.05$), nor between organisational commitment and proposed length of service ($r = 0.12$, $p > 0.05$).

These findings suggest that while job satisfaction and organisational commitment are positively related, they do not significantly predict knowledge workers' proposed length of service within the organisation.

6.2 Dimensions of Retention Cognitions

Factor analysis was conducted using SPSS 29, to identify the underlying dimensions of retention cognitions among knowledge workers. Table 3 presents the factor loadings and communalities of the retained factors.

Table 3: Factor Loadings and Communalities

Retention Cognitions Dimensions	Factor Loadings	Communalities
Dimension 1: Individualism	0.82	0.74
Dimension 2: Need for Challenge	0.67	0.58
Dimension 3: Focus on Personal Development	0.73	0.65
Dimension 4: Alignment with Organisational Values	0.56	0.41
Dimension 5: Work-Life Balance	0.45	0.30
Dimension 6: Compensation and Benefits	0.36	0.26
Dimension 7: Career Growth Opportunities	0.61	0.51

The factor analysis revealed seven underlying dimensions of retention cognitions among knowledge workers. These dimensions include:

Individualism: Knowledge workers prioritize their individual goals and values (factor loading = 0.82).

Need for Challenge: Knowledge workers seek challenging and stimulating work experiences (factor loading = 0.67).

Focus on Personal Development: Knowledge workers emphasize personal growth and skill enhancement (factor loading = 0.73).

Alignment with Organisational Values: Knowledge workers value alignment between their personal values and organisational values (factor loading = 0.56).

Work-Life Balance: Knowledge workers consider the balance between work and personal life important (factor loading = 0.45).

Compensation and Benefits: Knowledge workers value fair compensation and benefits (factor loading = 0.36).

Career Growth Opportunities: Knowledge workers prioritize opportunities for career advancement and growth (factor loading = 0.61).

The communalities represent the proportion of variance in each retention cognition dimension that is accounted for by the retained factors. The communalities range from 0.26 to 0.74, indicating that the retained factors explain a substantial portion of the variance in the retention cognitions dimensions.

6.3 Clusters of Knowledge Workers Based on Retention Cognitions

Cluster analysis was conducted to identify distinct clusters of knowledge workers based on their retention cognitions. Table 4 presents the cluster profiles and characteristics.

Table 4. Cluster Profiles

Cluster	Dimension 1	Dimension 2	Dimension 3	Dimension 4	Dimension 5	Dimension 6	Dimension 7
Cluster 1	High	High	High	Low	Low	Low	High
Cluster 2	Low	Low	Low	High	Low	High	Low
Cluster 3	High	High	Low	Low	High	Low	Low
Cluster 4	Low	High	High	High	Low	High	High
Cluster 5	High	Low	Low	Low	High	Low	Low
Cluster 6	Low	Low	High	High	High	Low	High
Cluster 7	Low	High	Low	Low	High	High	Low
Cluster 8	High	Low	High	Low	Low	High	Low
Cluster 9	Low	High	Low	High	High	Low	High

The cluster analysis identified nine distinct clusters of knowledge workers based on their retention cognitions. Each cluster represents a unique profile of retention-related beliefs and motivations. The characteristics of each cluster across the retention cognition dimensions are described as follows:

Cluster 1: High scores on Individualism, Need for Challenge, Focus on Personal Development, and Compensation and Benefits, but low scores on Alignment with Organisational Values, Work-Life Balance, and Career Growth Opportunities.

Cluster 2: Low scores on all dimensions except Alignment with Organisational Values and Career Growth Opportunities.

Cluster 3: High scores on Individualism, Need for Challenge, and Work-Life Balance, but low scores on Focus on Personal Development and Alignment with Organisational Values.

Cluster 4: High scores on Dimension 2, Dimension 3, Dimension 4, Dimension 6, and Dimension 7, indicating a high emphasis on Need for Challenge, Focus on Personal Development, Alignment with Organisational Values, Compensation and Benefits, and Career Growth Opportunities.

Cluster 5: High scores on Individualism, Work-Life Balance, and Career Growth Opportunities, but low scores on Need for Challenge and Alignment with Organisational Values.

Cluster 6: High scores on Dimension 3, Dimension 4, Dimension 5, and Dimension 6, indicating a focus on Focus on Personal Development, Alignment with Organisational Values, Work-Life Balance, and Compensation and Benefits.

Cluster 7: High scores on Dimension 2, Dimension 4, and Dimension 5, indicating a strong Need for Challenge, Alignment with Organisational Values, and Work-Life Balance.

Cluster 8: High scores on Dimension 3, Dimension 6, and Dimension 7, indicating a focus on Focus on Personal Development, Compensation and Benefits, and Career Growth Opportunities.

Cluster 9: High scores on Dimension 2, Dimension 9, and Dimension 6, indicating a strong Need for Challenge, Alignment with Organisational Values, and Compensation and Benefits.

These clusters represent different profiles of knowledge workers with varying priorities and motivations related to retention. Cluster 1 consists of individuals who value personal goals and challenges but may prioritize individual needs over organisational alignment. Cluster 2 focuses on alignment with organisational values and career growth opportunities. Cluster 3 places importance on individualism, work-life balance, and personal development. Cluster 4 emphasizes the need for challenge, personal growth, and career advancement, along with alignment and compensation. Cluster 5 prioritizes individualism, work-life balance, and career growth. Cluster 6 emphasizes personal development, alignment, work-life balance, and compensation. Cluster 7 highlights the need for challenge, alignment, and work-life balance. Cluster 8 focuses on personal development, compensation, and career growth. Cluster 9 emphasizes the need for challenge, alignment, and compensation.

8. CONCLUSION :

The findings from this study shed light on the factors influencing the retention cognitions of knowledge workers. The discussion will present a comprehensive analysis of the results, their implications, and their alignment with existing literature.

8.1 Job Satisfaction, Organisational Commitment, and Proposed Length of Service

The correlation analysis revealed that job satisfaction and organisational commitment were positively correlated. This finding aligns with previous research indicating that employees who are satisfied with their jobs tend to exhibit higher levels of commitment to their organisations. However, neither job satisfaction nor organisational commitment significantly predicted knowledge workers' proposed length of service.

The lack of a significant relationship between job satisfaction and proposed length of service contradicts some prior studies that have found job satisfaction to be a significant predictor of employee retention. It is possible that other factors, such as the specific nature of knowledge work or individual differences, play a more prominent role in influencing knowledge workers' intentions to stay with an organisation.

Similarly, the non-significant relationship between organisational commitment and proposed length of service suggests that commitment alone may not be sufficient to retain knowledge workers. While organisational commitment reflects an employee's attachment and loyalty to the organisation, additional factors related to individual motivations and career aspirations may influence their decisions regarding length of service.

These findings highlight the need for organisations to go beyond traditional approaches focused solely on job satisfaction and organisational commitment when designing retention strategies for knowledge workers.

8.2 Dimensions of Retention Cognitions

The factor analysis revealed seven underlying dimensions of retention cognitions among knowledge workers: individualism, need for challenge, focus on personal development, alignment with organisational values, work-life balance, compensation and benefits, and career growth opportunities. These dimensions represent distinct factors that contribute to knowledge workers' perceptions and attitudes regarding their retention within the organisation.

The dimension of individualism suggests that knowledge workers value autonomy, personal goals, and the opportunity to pursue their own interests. This finding aligns with the characteristics of knowledge work, which often involves independent decision-making and a focus on individual expertise. The need for challenge dimension indicates that knowledge workers seek intellectually stimulating and challenging work environments. The focus on personal development dimension emphasizes knowledge workers' desire for continuous learning, skill enhancement, and career advancement. The alignment with organisational values dimension suggests that knowledge workers value a sense of congruence between their personal values and the values espoused by the organisation. The work-life balance dimension

underscores the importance of achieving a healthy balance between work and personal life for knowledge workers. The compensation and benefits dimension reflects the significance of fair and competitive compensation packages in retaining knowledge workers. Finally, the career growth opportunities dimension indicates that knowledge workers value opportunities for advancement, challenging assignments, and career progression within the organisation.

These identified dimensions offer valuable insights for organisations aiming to enhance the retention of knowledge workers. By understanding the specific factors that drive retention cognitions, organisations can tailor their retention strategies to address the unique needs and preferences of knowledge workers.

8.3 Clusters of Knowledge Workers Based on Retention Cognitions

On the basis of their retention cognitions, the results of the cluster analysis provided nine separate clusters of knowledge workers. Each cluster represents a unique profile of knowledge workers with specific combinations of the retention cognition dimensions.

Understanding these clusters allows organisations to tailor their retention strategies based on the specific profiles of knowledge workers they employ. By recognizing the unique preferences and motivations of different clusters, organisations can implement targeted initiatives that address the specific needs of each group, thereby increasing retention rates and fostering a more engaged and satisfied workforce.

Overall, the findings of this study provide valuable insights into the factors influencing the retention cognitions of knowledge workers. The dimensions of retention cognitions and the identified clusters offer guidance for organisations seeking to develop effective strategies for attracting and retaining knowledge workers.

9. Contributions of the Study

The key contributions of this research are as follows:

- **Identification of Retention Cognition Dimensions:** The identified seven distinct dimensions of retention cognitions among knowledge workers offer a comprehensive framework for understanding the multifaceted nature of knowledge worker retention.
- **Cluster Analysis of Knowledge Workers:** As per the results of the cluster analysis, nine distinct clusters of knowledge workers were formed depending on their retention cognitions. This provides a nuanced understanding of the diverse profiles and motivations of knowledge workers, enabling organisations to tailor their retention strategies to different groups.
- **Examination of Job Satisfaction and Organisational Commitment:** The study explored the relationship between job satisfaction, organisational commitment, and proposed length of service. The findings revealed that while job satisfaction and organisational commitment were positively correlated, they did not significantly predict knowledge workers' intentions to stay with the organisation in the long term. This highlights the need for organisations to consider additional factors beyond traditional measures of employee satisfaction and commitment when addressing knowledge worker retention.

10. LIMITATIONS:

While this study contributes valuable insights, it is important to acknowledge its limitations:

- **Sample Size and Generalisability:** The study sample size may limit the generalisability of the findings to larger populations or specific industries.
- **Cross-Sectional Design:** Longitudinal studies could offer a deeper understanding of the dynamics of knowledge worker retention and how retention cognitions may change over time.

- Self-Report Measures: The data collected relied on self-report measures, which are subject to response biases and individual perceptions. Future research could incorporate objective measures or multiple sources of data to enhance the validity of the findings.

11. RECOMMENDATIONS:

This study opens avenues for further research in the field of knowledge worker retention. Some potential areas for future investigation include:

- Longitudinal Studies could be conducted to examine the changes in knowledge workers' retention cognitions and the impact of retention strategies over time would provide a more dynamic understanding of the factors influencing knowledge worker retention.
- Comparative Studies across different industries, organisational sizes, and cultural contexts could reveal variations in retention cognitions and inform the development of context-specific retention strategies.
- Qualitative Approaches complemented with the quantitative findings, viz. personal interviews, focus group discussions, etc., would offer richer insights into the underlying motivations and experiences of knowledge workers regarding retention.
- Replicating the study with larger and more diverse samples would enhance the external validity and generalisability of the findings.

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