

Factors Impacting Employee Turnover Intentions Among the Engineers in the Supermarket Industry

K.P. Boderagama and V.P.T. Jayawardane

Abstract: This study investigates the relationship between Intrinsic Factors, Extrinsic Factors, and Turnover intention among middle-level Engineers in the supermarket industry of Sri Lanka, with a focus on the mediating role of Job Satisfaction. A sample of 80 respondents participated in the research, providing data through a questionnaire survey. Utilizing IBM SPSS analysis, the data revealed a significant and positive relationship between both Intrinsic and Extrinsic Factors and Job Satisfaction. Moreover, Job Satisfaction was found to mediate the relationship between Turnover Intention and both Intrinsic and Extrinsic Factors. Specifically, factors such as Pay, Promotion, Coworkers, Job itself, and Supervision were considered when assessing the influence of Intrinsic and Extrinsic Factors on Job Satisfaction. This study contributes to the understanding of the dynamics between organizational factors, Job Satisfaction, and Turnover Intention of engineers in the context of the supermarket sector, offering insights for both academia and industry practitioners.

Keywords: Intrinsic Factor, Extrinsic Factor, Turnover Intention, Job Satisfaction, Engineer

1. Introduction

Scholars and business entities across various industries have shown a growing interest in the topic of employee retention over the past few decades. In order to maintain competitiveness within the rapidly expanding global economy and effectively adapt to technological advancements, it is imperative for organizations to possess a workforce that possesses robust institutional knowledge. Consequently, the preservation of employees has emerged as a pivotal and indispensable element in the contemporary realm of business [1]. Engineers are widely recognized as a crucial component of an organization, thus emphasizing the significance of factors as a determining factor in the decision to stay or leave. Among the several factors, this research is focused into investigating how Intrinsic Factors (IF) and Extrinsic Factors (EF) affect Job Satisfaction (JS) and how Job Satisfaction mediates the Turnover Intention (TI).

1.1 Identification of Research Problem

The examination of factors influencing an engineer's intention to leave the current company is crucial due to the multidimensional nature of job satisfaction [2]. Research consistently demonstrates that job satisfaction is a significant predictor of an individual's intention to depart from the current organization. The concept of turnover intention encompasses three fundamental

components: thoughts of disengaging from one's current employment, engaging in job search activities, and possessing the intention to depart from the organization [3]. The expenses associated with engineer replacement can range from 90% to 100% of their yearly earnings [4]. A prevalent issue in business is the frequent inability of owners to retain personnel, thereby exerting a detrimental impact on organizational stability, performance and profitability. [5].

The supermarket industry is grappling with a mounting concern regarding engineer turnover intentions, especially among middle and lower management levels. This concern is driven by numerous intertwined issues spanning both organizational and personal facets.

There is an evident disparity in the working conditions, with engineers often burdened by demanding workloads. These challenging conditions are exacerbated by unclear

*Mr. K.P. Boderagama, IMechE (UK), BEng. (Mechanical Eng) (Hons), MBA (Moratuwa), Department of Management of Technology, University of Moratuwa, Email: kasun.boderagama@gmail.com
ORCID ID: <https://orcid.org/0009-0001-2766-0178>
Eng. (Dr.) (Mrs.) V.P.T. Jayawardane, AMIE(SL), AEng, B.Sc Eng (New Zealand), LLB(Hons)(London), LLM(Distinction)(UIWE), MPhil, PhD, Senior Lecturer, Department of Industrial Management, University of Moratuwa.
Email: thesaraj@uom.lk
ORCID ID: <https://orcid.org/0000-0002-0493-114X>*



promotional opportunities and a skewed remuneration system. The situation becomes even more problematic with the continuous business expansions, which bring increased responsibilities without corresponding compensation.

In 2018, the supermarket industry's turnover rate was 4.7%, increasing to 23.6% in 2022. This upward trend suggests that supermarket industry is experiencing challenges in retaining its engineers, leading to costly and disruptive impacts, such as increased expenses in hiring and training new engineers, which rose by 30% in 2023 [6]. To address these issues, supermarkets should consider implementing strategies to improve engineer retention and reduce turnover. Enhancing the work environment, offering competitive compensation and benefits, and investing in professional development and engineer engagement programs are potential strategies. By addressing the causes of high turnover, the company can improve overall stability and save on recruitment and training costs.

This escalating turnover has detrimental consequences, including operational disruption within the supermarket chain, potential knowledge loss due to departing experienced engineers, reduced morale and trust among the remaining workforce, and an increased workload for existing staff members. High turnover can lead to inefficiencies, decreased product quality, and disrupted operations, influencing customer satisfaction and overall business performance.

Dissatisfaction extends further. Many engineers find their roles lacking challenge, leading to professional stagnation. The monotony of tasks, coupled with a feeling of being stuck, severely affects job satisfaction. The supermarket industry's inherent nature, characterized by long hours and erratic schedules, further strains work-life balance, leading many to burnout. This, in conjunction with a perceived lack of clear career progression and insufficient skill development programs, makes long-term commitment to the organization unattractive [7].

Effective leadership also plays a crucial role. Micromanagement and lack of proper supervision can lead to feelings of irritation and increased intentions to leave. A harmful company culture can discourage even the most committed individuals. Lack of recognition or appreciation, particularly when achievements

are disregarded, can have a profoundly discouraging effect.

The broader economic landscape of Sri Lanka, marked by uncertainties, has instilled a sense of job insecurity among engineers. Coupled with internal organizational changes, this insecurity intensifies, further fueling the desire to leave. Internally, poor communication channels, lack of transparency, and strained relationships with superiors and colleagues can alienate engineers, causing feelings of isolation and dissatisfaction [8].

Moreover, the allure of greener pastures in the international job market offers tempting prospects in terms of compensation, growth opportunities, and a potentially better work environment. Personal factors, such as family obligations, the need for relocation, or the pursuit of higher education, also influence turnover decisions. When engineers feel stagnant in their positions for extended periods, job security perceptions diminish, and combined with unrealistic job expectations and excessive workloads, the strain intensifies.

1.2 Significance of the Study

This study aims to provide insights into the correlation and impact of job satisfaction (JS), and turnover intention (TI). This analysis would offer valuable insights to corporate executives and other comparable industrial entities in discerning the correlation and impact of said correlation. Minimizing engineer turnover in the supermarket industry is beneficial for organizational purposes. The findings of the study may shed light on the factors contributing to engineers' contemplation of departure from the organization. The presented data has the potential to initiate organizational modifications aimed at mitigating turnover rates and consequently enhancing profitability.

Based on prior scholarly investigations, it has been established that engineers who experience a sense of satisfaction exhibit heightened levels of productivity, efficiency, and effectiveness in their daily work responsibilities. Consequently, engineers who are content are more inclined to deliver work of superior quality for the entire department. Therefore, the research findings can be utilized to ensure the satisfaction of engineers. This study will provide valuable contributions to the existing body of literature, both globally and locally. This study holds the

potential to serve as a fundamental basis for subsequent research endeavours, thereby rendering it to be of considerable significance.

2. Literature Review

The research on job satisfaction and turnover intention within the supermarket industry is grounded in several well-established theories. Herzberg's Two-Factor theory distinguishes between motivators (intrinsic factors like challenging work and recognition) and hygiene factors (extrinsic factors like pay and working conditions). Job satisfaction is linked to intrinsic factors such as advancement opportunities and recognition, while dissatisfaction arises from extrinsic factors such as supervision quality and pay inadequacy [9]. In the context of engineers, factors like pay, promotion, and supervision align with Herzberg's hygiene factors, whereas the nature of the work itself relates to motivators.

Maslow's Hierarchy of Needs outline human needs from basic physiological requirements to self-actualization. Engineer's desires for fair pay (physiological and safety needs), good coworker relations (social needs), and promotion opportunities (esteem and self-actualization needs) can be analyzed using this framework. Equity Theory posits that engineers compare their input-to-outcome ratios with peers. Perceived inequities can lead to dissatisfaction and increased turnover intentions [10]. This theory is useful for examining pay, promotion, and coworker relationships. Job Characteristics Model (JCM) identifies five core job characteristics (skill variety, task identity, task significance, autonomy, and feedback) that influence job satisfaction. The "work itself" dimension in this study can be examined using the JCM to understand how job design of engineers in supermarket industry impacts satisfaction. Theories like March and Simon's Participation Theory and Mobley's Intermediate Linkage Model describe the process from job dissatisfaction to turnover [11]. These models help trace the progression from dissatisfaction in areas like pay or supervision to turnover intentions among engineers. Job satisfaction refers to an individual's emotional and psychological evaluation of their job. It encompasses various dimensions, including the nature of the job, compensation, promotion opportunities, working conditions, and

relationships with supervisors and coworkers [12].

Job characteristics like feedback and autonomy play a crucial role in motivation. Jobs that challenge engineers, offer learning opportunities, and satisfy their creative needs lead to higher job satisfaction. Policies promoting equal opportunities, family-friendliness, and anti-harassment measures contribute to job satisfaction. Compensation, including wages and benefits, is critical to job satisfaction. Pay serves as a symbol of the employee's value to the organization. While fringe benefits may not be as influential, the flexibility to choose preferred benefits within a package can increase satisfaction. Promotions impact job satisfaction based on the accompanying rewards and the basis of promotion (seniority or performance) [13]. With flattened organizational structures, growth opportunities and skill development are increasingly valued over traditional promotions. Supervisory style significantly influences job satisfaction. Supervisors who show genuine care for employees and allow participation in job related decisions enhance job satisfaction of engineers.

A supportive and cooperative work environment boosts job satisfaction. Conversely, resistance to team collaboration, especially in culturally diverse settings, can lower job satisfaction. Employee turnover, the voluntary or involuntary departure of engineers, incurs significant costs for organizations, including replacement and administrative expenses. High turnover rates can negatively impact productivity and morale. Understanding turnover intentions is crucial for developing retention strategies [14].

There is a consensus that job satisfaction negatively correlates with turnover intention. However, this relationship is influenced by factors such as experience, performance, role overload, and the organizational environment. High job satisfaction predicts lower turnover intentions, while dissatisfaction can lead to increased turnover. Models and frameworks developed to study engineer turnover often incorporate job satisfaction as a significant predictor.

3. Methodology

The study employs quantitative research methodology, which is well-suited for statistical analysis and hypothesis testing using predefined questions. This study uses a

quantitative method, incorporating data-driven observations and close-ended questions. Since an existing theory guides this study, a correlational framework is applied within the quantitative method to estimate correlation ratios and validate the hypotheses. Correlation is a common technique to determine the relationship between variables. The study aims to confirm or challenge the correlation between components rather than proposing a new theory, making the quantitative method the most appropriate choice. The research adopts a correlation design to assess the relationship between job satisfaction (JS) and turnover intention (TI).

Self-developed questionnaires measure the independent variables: Intrinsic Factors (IF) and Extrinsic Factors (EF).

The Minnesota Satisfaction Questionnaire short version is used to measure the mediation variable (JS). The dependent variable, Turnover Intention (TI), is assessed using the Turnover Intention Scale, originally developed by Roodt in 2004 with 14 items on a 5-point Likert scale. Jacobs and Roodt expanded this to 15 items in 2008. A concise version, TIS-6, comprising six items from the 15-item scale, was introduced by Bothma and Roodt in 2013 and is utilized in the current study.

3.1 Method of Analysis

The gathered data is analyzed using SPSS software, a statistical tool commonly employed in management analyses and related applications. This software assesses the reliability of various statistical tests, including the measurement of variable association through Pearson's Product Moment Correlation Coefficient, Multiple Linear Regression Analysis, Mediation Analysis, and collinearity tests.

This framework is shown in Figure 1 and has been developed based on the literature review

3.2 Research Hypothesis

The following research hypotheses were considered:

H1 - Intrinsic factors have a significant effect on turnover intention.

H2 - Extrinsic factors have a significant effect on turnover intention.

H3 - Intrinsic factors have a significant effect on job satisfaction.

H4 - Extrinsic factors have a significant effect on job satisfaction.

H5 - Job satisfaction has a significant effect on turnover intention.

H6 - Job satisfaction significantly mediates the relationship.

H6a - The relationship between intrinsic factors and turnover intention significantly mediates by Job satisfaction.

H6b - The relationship between extrinsic factors and turnover intention significantly mediates by Job satisfaction.

The hypotheses proposed for this study are based on empirical evidence and well-established theories, which indicate that job satisfaction is a critical factor in mediating the relationship between staff turnover intentions and a variety of workplace factors. Intrinsic factors such as promotion, recognition, responsibility, advancement, career development, and engaging work, along with extrinsic factors like supervision, pay, coworkers, job security, organizational environment, and financial stability, significantly influence job satisfaction and turnover intentions.

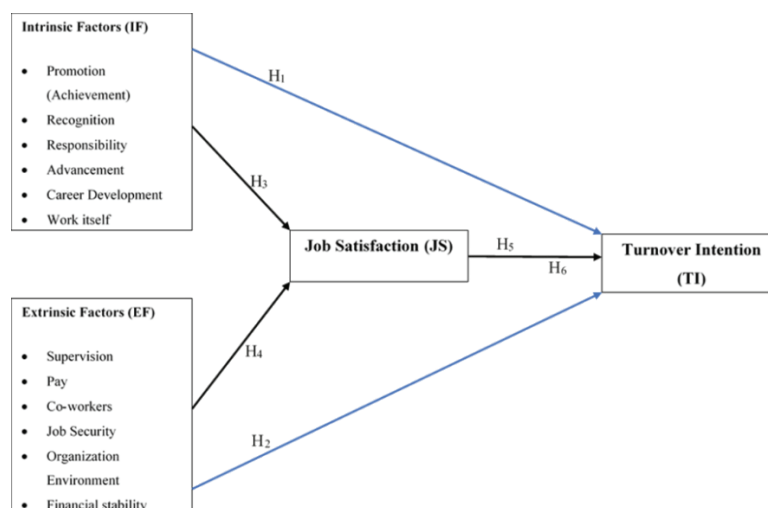


Figure 1 - Conceptual Framework (Author Developed)

According to Herzberg's Two-Factor Theory and Equity Theory, job satisfaction is greatly influenced by both intrinsic and extrinsic factors, which in turn affect turnover intentions. Research from empirical studies suggests that job satisfaction and retention are dependent upon positive work relationships, career advancement opportunities, and fair wages. The Job Characteristics Model and Social Exchange Theory also emphasize that job satisfaction acts as a mediator between these factors and turnover intentions. Consequently, the hypotheses posit that job satisfaction and turnover intentions are significantly influenced by both intrinsic and extrinsic factors and that job satisfaction acts as a mediator between these relationships.

4. Discussion

The research primarily utilized this sample to investigate the influence of IF and EF on TI, considering the mediating role of job satisfaction. All factors were assessed through a self-administered questionnaire employing a Likert scale.

Regression analysis and mediation analysis were employed to test the hypotheses outlined in the research's conceptual framework(i.e.,

hypotheses H1 to H6 in Section 3.2), aiming to uncover the relationships between independent and dependent factors while considering the mediation effect of job satisfaction.

The data analysis was conducted using SPSS version 26.0.

4.1 Descriptive Statistics

As explicitly stated in the preceding section, the analysis focused on 80 respondents. Figure 2 below provides a detailed breakdown of these respondents. Among the 80 respondents, 10 were female and 70 were male.

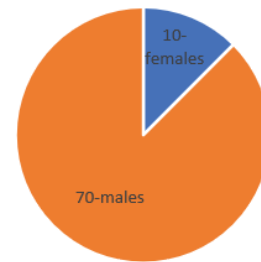


Figure 2 - The Sample Profile Based on the Gender

Table 1 - Descriptive Statistics on the Items of Main Constructs

Items of main constructs	Main Construct	N	Minimum	Maximum	Mean value	Std. Deviation
IF1	IF	80	1.0	5.0	2.12	1.42
IF2		80	1.0	5.0	1.32	1.07
IF3		80	1.0	5.0	2.20	1.42
IF4		80	1.0	5.0	1.51	1.07
IF5		80	1.0	5.0	2.10	1.21
EF1	EF	80	1.0	5.0	2.10	1.32
EF2		80	1.0	5.0	1.52	1.00
EF3		80	1.0	5.0	2.23	1.32
EF4		80	1.0	5.0	1.52	1.21
EF5		80	1.0	5.0	2.00	1.39
PA1	JS	80	1.0	5.0	2.06	1.39
PA 2		80	1.0	5.0	1.52	1.06
PR 1	JS	80	1.0	5.0	2.02	1.30
PR 2		80	1.0	5.0	1.70	1.21
CO 1	JS	80	1.0	5.0	1.85	1.35
SU 1	JS	80	1.0	5.0	2.01	1.33
SU 2		80	1.0	5.0	2.23	1.39
SU 3		80	1.0	5.0	2.41	1.30
JI 1	JS	80	1.0	5.0	1.97	1.30
JI 2		80	1.0	5.0	1.27	1.30
JI 3		80	1.0	5.0	1.65	1.30
JI 4		80	1.0	5.0	1.76	1.30
JI 5		80	1.0	5.0	1.35	1.30
JI 6		80	1.0	5.0	2.03	1.32
JS 1	JS	80	1.0	5.0	2.12	1.42
JS 2		80	1.0	5.0	1.32	1.07
JS 3		80	1.0	5.0	2.20	1.42
JS 4		80	1.0	5.0	1.51	1.07
JS 5		80	1.0	5.0	2.10	1.42
TI 1	TI	80	1.0	5.0	2.06	1.31
TI 2		80	1.0	5.0	2.12	1.30
TI 3		80	1.0	5.0	2.61	1.43
TI 4		80	1.0	5.0	1.98	1.41
TI 5		80	1.0	5.0	1.76	1.30
TI 6		80	1.0	5.0	1.72	1.30
Valid N (listwise)		80				

Descriptive statistics were employed to analyses the main variables, or constructs, along with their respective measuring indicators (items). Table 1 presents the descriptive data for these constructs and their associated items.

IF – Intrinsic Factor, EF - Extrinsic Factor, PA – Pay, PR – Promotion, CO – Co-workers, SU – Supervision, JI – Job-itself, JS – Job Satisfaction, TI – Turnover Intension.

The above descriptive analysis has been performed to summarize and describe the primary characteristics of a dataset, including mean, mode, median, and standard deviation, among others. The analysis has been constructed based on the responses from the sample and the attached questionnaire (Appendix 01).

Consistent with prior research in similar domains, a five-point Likert-Scale measurement was employed, spanning from "1" (strongly disagree) to "5" (strongly agree). Consequently, the mean of each construct falls within the 1 to 5 range, with values from 1 to 1.66 indicating low, 1.66 to 3.33 suggesting medium, and 3.33 to 5.00 representing high levels.

As illustrated in Table 2, respondents exhibit high levels of Job Satisfaction (JS) and medium levels of Teamwork Integration (TI).

Table 2 - Descriptive Statistics on the Main Constructs

Main construct	N	Minimum	Maximum	Mean	Std. Deviation
IF	80	1.0	5.0	1.73	1.05
EF	80	1.0	5.0	1.82	1.17
JS	80	3.0	5.0	3.90	0.43
TI	80	1.0	5.0	2.15	0.23
Valid N (list-wise)	80				

4.2 Normality Test

In the data analysis process, ensuring the normality assumption of the dataset is crucial for the validity of parametric tests. This involves conducting normality tests to determine whether the variables are normally distributed. While numerical methods like the Shapiro-Wilk test and Kolmogorov-Smirnov test are commonly used, they can be sensitive to sample size. Therefore, in this study, assessing normality through z-values of skewness and kurtosis was considered more reliable, as suggested by Jeffrey [15].

Upon conducting both the Kolmogorov-Smirnov test and Shapiro-Wilk test, all p-values were found to be greater than 0.05, indicating that the data for each variable are normally distributed. It was further recommended to evaluate skewness and kurtosis values to ensure they fall within an accepted range.

Table 3 - Test of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
IF	.26	80	.00	.72	80	.00
EF	.24	80	.00	.73	80	.00
JS	.41	80	.00	.59	80	.00
TI	.42	80	.00	.58	80	.00

Based on the results presented in Table 3, all the P- values of the examined variables are below 0.05. Consequently, the null hypothesis is rejected according to both the Kolmogorov-Smirnov (KS) test and Shapiro-Wilk (SW) test. This suggests that none of the variables demonstrate a normal distribution. Therefore, it can be reasonably argued that the variables are not normally or evenly distributed.

Table 4 - Descriptive Statistics

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
IF	80	1.56	.13	1.75	.30
EF	80	1.42	.13	1.14	.30
JS	80	-.53	.13	1.90	.30
TI	80	1.05	.13	1.13	.30
Valid N (listwise)	80				

The researchers have proposed different criteria for assessing normality based on skewness and kurtosis values. Meirinaet al. [16] suggest that skewness and kurtosis values between -2 and +2 are acceptable for assuming normality. On the other hand, Alshetri [17] proposes a more relaxed range, with skewness between -2 and +2, and kurtosis between -7 and +7, as indicative of a practically normal distribution. As seen above, the skewness and kurtosis values for the dataset fall within the acceptable ranges proposed by these authors. Therefore, the researcher concludes that the dataset can be assumed to be sufficiently normally distributed.

A correlation analysis was conducted which presented the results in a tabular format which identifies potential non-linear relationships that may exist by examining the correlation coefficients between pairs of variables. This verified that linearity assumptions are satisfied to implement suitable transformations or nonlinear modelling techniques in the event that nonlinearities are identified.

Table 5 – Correlations between Factors

		IF	EF	JS	TI
IF	Pearson Correlation	1			
EF		.653**	1		
JS		.657**	.662**	1	
TI		-.628**	-.635**	-.653**	1

According to Correlational Analysis shown in Table 5, Intrinsic Factors (IF) and Extrinsic Factors (EF), have a significant and positive correlation with Job Satisfaction (JS). On the other hand, Turnover Intention (TI) has a significant negative correlation with the above variables.

Table 6 - Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance VIF
1	(Constant)	.25	.061		4.01	.00	
	JS	.78	.09	.75	8.32	.00	.07 12.53
	TI	-.10	.02	-.10	-1.15	.00	.12 8.21

a. Dependent Variable: TI

In Table 6, the multicollinearity threshold levels are Tolerance statistics > 0.10 and VIF > 0.10. The findings of the study indicate that all indicators' values fall comfortably within these acceptable limits, with a recorded value of 10.087. Additionally, the mean VIF value should be below 10 to avoid multicollinearity concerns. Consequently, the study concludes that there are no observed issues or problems related to multicollinearity with any of the explanatory variables.

4.3 Reliability of the Sample

Cronbach's Alpha values were utilized to assess the reliability of the sample, indicating its uniformity. For PA, PR, CO, SU, JI, JS, and TI, Cronbach's Alpha was tested across 25 associated variables, while Turnover Intention was assessed through its six components. The Cronbach's Alpha values for both constructs exceeded 0.6, falling within an acceptable range for research purposes. Thus, a minimum Cronbach's Alpha value of 0.6 indicates sufficient reliability, ensuring that the items need not be eliminated from the analysis. The sample's consistency and uniformity were deemed satisfactory for the study.

4.4 Multiple Linear Regression Analysis

Regression analysis delves into how changes in independent variables affect the typical value of the dependent variable while holding other independent variables constant. In this study, the analysis explores the influence of Job

Satisfaction factors on employee turnover intention using the Multiple Linear Regression model. Tables 7, 8, and 9 present the model summary, ANOVA table, and coefficients, respectively, providing insights into the regression analysis outcomes.

Table 7 - Model Summary

Model	R	R Square	Adjusted R Square
1	.562 ^a	.316	.829

a. Predictors: (Constant), IF, EF

b. Dependent Variable: JS

Table 8 - ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	339.892	4	84.973	326.65	.000 ^b
	Residual	68.935	66	.260		
	Total	408.827	70			

a. Dependent Variable: JS

b. Predictors: (Constant), IF, EF

Table 7 indicates a multiple regression coefficient (R) of 0.562 and an R-squared (R²) value of 0.316. This suggests that approximately 31.6% of the variance in the dependent variable, Turnover Intention, is accounted for by these identified independent variables. Additionally, as shown in Table 8, the F statistic of 326.652 (p < 0.001) demonstrates the significant relevance of the regression model, further validating its explanatory power. As seen in Table 9, all the factors (IF, EF) have a positive and significant relationship towards the Job Satisfaction (JS).

Table 9 - Coefficients

Model		Unstandardized Coefficients		t	Sig.	Collinearity Statistics	
		B	Std. Error			Tolerance	VIF
1	(Constant)	.25	.06	4.10	.00		
	IF	.56	.08	6.04	.00	.09	10.01
	EF	.69	.09	8.44	.00	.08	12.52

a. Dependent Variable: JS

b. Predictors: (Constant), IF, EF

4.5 The Mediating Model

McShane [18] defines job satisfaction as a mediator of turnover intention in the conceptual model. This section includes the mediating analysis, with an emphasis on how work satisfaction influences the link between intrinsic and extrinsic components, as well as turnover intention. In the conceptual model presented in Figure 3, job satisfaction (JS) acts as a link between intrinsic factors (IF), extrinsic factors (EF), and turnover intention. The mediating analysis investigates the extent to which job satisfaction explains the link between these variables and turnover intention.

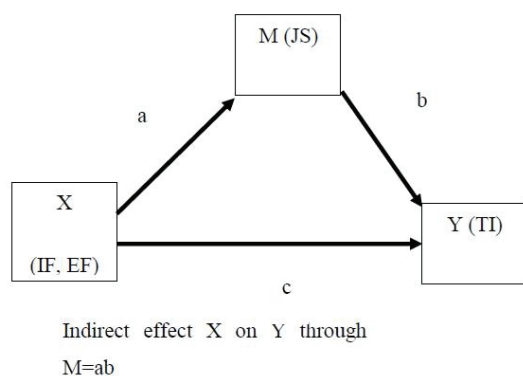


Figure 3 - Direct and Indirect Paths

Direct effects:

Intrinsic Factors (IF) and Turnover Intention (TI): A substantial negative association, demonstrating that higher intrinsic factors result in lower turnover intention.

External factors (EF) and Turnover Intention (TI): A substantial negative association exists, showing that higher extrinsic factors lead to decreased turnover intention.

Indirect effects:

Intrinsic Factors (IF) and Job Satisfaction (JS): A substantial positive association exists, showing that higher intrinsic factors improve job satisfaction.

External factors (EF) and Job Satisfaction (JS): A substantial positive association exists, showing that higher extrinsic factors improve job satisfaction.

Job Satisfaction (JS) vs. Turnover Intention (TI): A substantial negative onnection, demonstrating that greater job satisfaction leads to reduced turnover intention.

Mediating Effects:

Job satisfaction serves as a partial mediator between intrinsic factors and turnover intention.

Extrinsic factors (EF) to Turnover Intention (TI): Job satisfaction serves as a partial mediator between extrinsic factors and turnover intention.

Table 10 reveals that both Intrinsic Factors (IF) and Extrinsic Factors (EF) exhibit significant direct effects towards Turnover Intention (TI), as indicated by their p-values being less than 0.05 and t-values exceeding 1.96. Additionally, the absence of zeros between the lower and upper values further supports their

significance. Moreover, both IF and EF demonstrate significant indirect effects through Job Satisfaction (JS) towards TI, as evidenced by the positivity of both upper and lower values. Consequently, since both the direct and indirect effects are significant, it can be inferred that Job

Satisfaction significantly mediates the relationships between IF and TI, as well as between EF and TI.

Table 10 - Mediation analysis result

Mediation analysis result

Direct effect of IF on TI					
Effect	SE	t	p	LLCI	ULCI
0.67	0.64	10.52	0.00	0.56	0.82
Indirect effect of IF on TI					
Effect	Boot SE	Boot LLCI	Boot ULCI		
JS	0.09	0.19	0.49	0.17	
Direct effect of EF on TI					
Effect	SE	t	p	LLCI	ULCI
0.71	0.06	14.23	0.00	0.62	0.81
Indirect effect of EF on TI:					
Effect	Boot SE	Boot LLCI	Boot ULCI		
JS	0.07	0.02	0.03	0.10	

Where,

TI Turnover Intention IF- Intrinsic Factor EF- Extrinsic Factors

JS -Job Satisfaction.

4.6 Testing Hypothesis

According to the analysis, the following hypotheses were proved:

H1, H2, H3, H4, H5 and H6 (H6a, H6b)

5. Conclusions

The analysis findings indicate a moderate negative correlation between Job Satisfaction and Turnover Intention, with Job Satisfaction exerting a significant effect on Turnover Intentions ($B1 = -0.595$, $p < 0.05$). The linear model utilized predicts 34.7% of engineers' Turnover Intention ($R^2 = 0.347$). Hence, the key findings underscore the significant impact of Job Satisfaction on turnover intentions within the supermarket sector.

Moreover, both Intrinsic and Extrinsic Factors positively influence Job Satisfaction (for IF-JS - ($B=0.56$, $p < 0.05$) and for EF-JS - ($B=0.69$, $p < 0.05$)). Additionally, the findings reveal the role of the Job Satisfaction as a mediator in the relationships between Intrinsic Factors and Turnover Intention, as well as between Extrinsic Factors and Turnover Intention. Furthermore, the findings corroborate with previous research by Carsten & Spector [19], highlighting a significant and negative association between Job Satisfaction and Turnover Intention.

5.1 Interpretation of the Results

The research findings reveal a moderate negative correlation between Job Satisfaction and Turnover Intention of engineers in the supermarket sector. The linear regression model explains 34.7% of the variance in Turnover Intention among respondents in the supermarket sector, with Job Satisfaction serving as a mediating variable and Turnover Intention as the dependent variable. The negative relationship suggests an inverse association between Job Satisfaction and Turnover Intention, implying that higher levels of Job Satisfaction are associated with lower Turnover Intention, and vice versa, among engineers.

Furthermore, Job Satisfaction plays a significant mediating role in the relationships between Intrinsic Factors (IF) and Turnover Intention (TI), as well as between Extrinsic Factors (EF) and Turnover Intention.

5.2 Contribution of the Research

This study aimed to explore the correlation between Intrinsic Factors, Extrinsic Factors, Job Satisfaction, and Turnover Intention among engineers in the supermarket sector. Consequently, the research outcomes provide valuable insights applicable to practical scenarios and managerial decision-making within the private sector. The utilization of established theories in this study enhances and reinforces the findings presented by many former academics such as Das [20].

6. Recommendations

The findings suggest a negative correlation between engineer turnover intention and job satisfaction, indicating that higher job satisfaction is associated with lower turnover intention and vice versa, while accounting for both intrinsic and extrinsic factors. Consequently, it is important to implement new HR policies that are designed to increase job satisfaction, while considering both intrinsic and extrinsic factors. It is advisable to integrate intrinsic and extrinsic motivators to increase job satisfaction levels of engineers, as there is a close correlation between job satisfaction and motivation theories.

Enhancing the intrinsic factors with:

- Programs for Career Development: Establish career development programs

and training for engineers in order to provide promotion and growth within the organization.

- In order to promote a sense of success and appreciation among engineers, it is important to establish regular recognition and reward systems.
- Enhancing job roles of engineers by increasing the variety of tasks, the amount of autonomy, and the opportunities for skill utilization. This will result in work that is more meaningful and satisfying while also enhancing job satisfaction.

Enhancing the extrinsic factors with,

- To ensure that engineers feel financially valued and secure, it is important to provide competitive compensation, which includes competitive salaries and benefits. Creating a supportive work environment in the workplace that encourages engineers to work together, trust and respect one another is an indication of a supportive work environment.
- Benefit Packages: Offer benefit packages to the engineering staff, which should include health insurance, retirement plans, and incentives that are designed to ensure their safety and well-being.

Increase Engagement,

- Promote a Healthy Work-Life Balance: Implement policies that facilitate work-life balance, including paid time off, remote work options, and flexible working hours, to assist engineers in effectively managing their personal and professional lives.
- Offer programs that assist engineers: Implement initiatives that provide assistance to engineers' mental, emotional, and physical well-being, including stress management workshops, wellness programs, and counselling services.

7. Limitations

This study specifically concentrated on assessing the impact of Job Satisfaction on Turnover Intentions among engineers within the supermarket sector, focusing on Intrinsic and Extrinsic Factors. Job Satisfaction encompasses behavioural, cognitive, and

affective components; however, this research did not evaluate the cognitive and affective dimensions. The research findings are applicable primarily to the selected sample and may not be broadly generalizable due to the small sample size. Moreover, the analysis in this study was restricted to linear regression and mediational analysis, limiting the exploration of alternative statistical models or methodologies.

References

1. Becker, F. (2007). Organizational Ecology and Knowledge Networks. *California Management Review*, 49(2), 42-61.
2. Sahadev, S., & Keyoor, P. (2008). Modelling the Consequences of E-service Quality. *Marketing Intelligence & Planning*, 26(6), 605-620. <https://doi.org/10.1108/0263450081090285>
3. Carmeli, A., & Weisberg, J. (2006). Exploring Turnover Intentions among Three Professional Group of Employees. *Human Resource Development International*, 9(2), 191-206. <https://doi.org/10.1080/1367886060061630>.
4. Wynen, J., & Op de Beeck, S. (2014). The Impact of the Financial and Economic Crisis on Turnover Intention in the U.S. Federal Government. *Public Personnel Management*, 43(4565-585). <https://doi.org/10.1177/0091026014537043>
5. Yongbeam, H. (2013). Turnover, Voluntary Turnover, and Organizational Performance: Evidence from Municipal Police Departments. *Public Administration Quarterly*, 37(1), 3-35. Retrieved from <http://paq.spaef.org>.
6. Bhuian, S. N., & Menguc, B. (2022). An Extension and Evaluation of Job Characteristics, Organizational Commitment and Job Satisfaction in an Expatriate, Guest Worker, Sales Setting. *Journal of Personal Selling & Sales Management*, 22(1), 1-12.
7. Romeo, M., Yepes-Baldó, M., Berger, R., GuàrdiaOlmos, J., & Castro, C. (2011). Identification Commitment Inventory (ICI model): Confirmatory Factor Analysis and Construct Validity. *Qual. Quant.* 45, 901-909. doi: 10.1007/s11135-010- 9402- 0.
8. McKenna, E. (2000). *Business Psychology and Organizational Behavior: A Student's Handbook*, (3rd ed.). East Sussex, England: Psychology Press Ltd.
9. Long, C., & Thean, L. (2013). Employees' Turnover Intention: A Leadership Issue? *International Journal of Future Computer and Communication*, 1(3), 229-231. doi:10.7763/IJFCC.2012.V1.60.
10. Eskildsen, J. K. & Dahlgaard, J. J. (2000). A Causal Model for Employee Satisfaction. *Total Quality Management*, 11(8), 1081-1094.
11. Locke, E.A. (1976). What is Job Satisfaction? *Organizational Behavior and Human Performance*. *Journal of Applied Psychology*, 4, 309-336.
12. Grobler, P., & Warnich, S. (2005). *Human Resource Management in South Africa*, (3rd Edn.). London, England: Thomson Learning
13. Fajana, S. (2002). *Human Resource Management: An Introduction*. Nigeria, Lagos: Labofin and company.
14. Fletcher, C., & Williams, R. (2006). Performance Management, Job Satisfaction and Organizational Commitment. *British Journal of Management*, 7(2), 169-179.
15. Jeffrey, P. (2007) Human Resources from an Organizational Behavior Perspective: Some Paradoxes Explained. *The Journal of Economic Perspectives* 21(4), 115 134.
16. Meirina, I., Ferdian, F., Pasaribu, P., & Suyuthie, H. (2019). The Influence of Work Environment Towards Turnover Intention of Employee of 4-Star Hotels in Padang City.
17. Alshitri, K. I. (2013). An Investigation of Factors Affecting Job Satisfaction Among R&D Center Employees in Saudi Arabia. *Journal of Human Resources Management Research*, 2013, 1 - 10.
18. McShane, S. L., & Von Glinow, M. A. (2000). *Organizational Behavior*. Boston: Irwin/McGraw-Hill.
19. Carsten, J. M., & Spector, P. E. (1987). Unemployment, Job Satisfaction, and Employee Turnover: A Meta-Analytic Test of the Muchinsky Model. *Journal of Applied Psychology*, 72(3), 374.
20. Das, D. (2012). Effects of Identity Variables and Job Performance on Employee Intentions to Leave: An Empirical Study in Indian call centers. *International Journal of Management*, 29(1), 368-378. Retrieved from <http://www.theijm.com>.