A Herzberg-Anchored Turnover Intention Measure for the Local Malaysian Cleaning Workforce: A Full Field-Study Protocol in Johor

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ABSTRACT

The cleaning industry, which is managed by city councils in Malaysia, is essential to public infrastructure but faces challenges such as workforce instability, high employee turnover, and concerns about workers' likelihood of leaving the "3D" (dirty, dangerous, and difficult) job. In Johor Bahru, these challenges are compounded by the high physical labour demands, low wages, social stigma about the profession, lack of opportunity for career advancement, and direct competition with Singapore's more lucrative labour market. This study represents a field study approach to validate a measure of turnover intention that is based on Herzberg's principles for local cleaning workers in Johor Bahru, Malaysia. Based on Herzberg's Two-Factor (Motivation-Hygiene) Theory, the objective is to study the factors affecting turnover intentions and whether turnover intention results from dissatisfaction. The sample size was calculated using Cochran's formula (n = 196), Krejcie & Morgan's table (S = 265) and G*Power 3.1 (n = 146) and this study suggest that about 200 respondents will be selected in this study with purposive sampling using contractor distribution. The data will be gathered using a revised questionnaire with a 5-point Likert scale. The relationships between variables will be assessed by Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS 4.0 in two stages. This method is consistent with the United Nations Sustainable Development Goals (SDG 8: Decent Work, SDG 10: Reduced Inequalities, and SDG 11: Sustainable Cities) and is useful for achieving practical human resource management strategies and for setting workforce retention targets for city council contractors in Southeast Asia.

Keywords: Field Validation; Full Field Study; Cronbach's Alpha; Turnover Intention; Questionnaire Items; 3D Industry; Herzberg Theory; PLS-SEM; Malaysian Cleaning Workforce

INTRODUCTION AND RESEARCH BACKGROUND

The council cleaning industry in Malaysia is a vital component of government service delivery, but it still faces manpower and worker turnover challenges and concerns regarding employees' intentions to leave (Ryan et al., 2011). These challenges are important because local cleaners provide essential public services, and the continuity and quality of the services are threatened if a stable workforce is not maintained. Based on the '3D' occupational spectrum, local cleaners deal with the pressures of low pay, heavy physical workloads, social stigma, and limited opportunities for career development. In Johor, these pressures come from the financial constraints that the industry faces, the physical nature of cleaning work, and competition with the much higher-paying job market in Singapore (Rizzo & Glasson, 2011).

Johor Bahru is selected as the study setting because its position near Singapore makes it relevant for examining how regional labor-market competition and wage differences may affect local cleaning workers' decisions to remain in or leave the sector. The study also addresses a gap in location-specific evidence: findings from other areas may not reflect the labor-market conditions and employment experiences of cleaners working in Johor Bahru. Furthermore, an examination of occupational stigma and pay, workload, and career promotion can help to understand how social perceptions and workplace conditions may impact turnover intention in this context. While turnover models have been widely studied for business enterprises, the research on low-wage, stigmatized frontline workers in Southeast Asia has been limited (Nisa & Utama, 2025), and these issues are particularly relevant for public cleaning.

The target population will be active local cleaning employees working for contractors in Johor Bahru. A purposive sample of about 200 cleaners will be recruited to ensure that participants have experience of the work and employment conditions in the study. This full field study will assess the proposed measure and its psychometric properties among this population, and its findings will be interpreted in relation to the participating workforce rather than generalized statistically to all cleaners in Malaysia.

LITERATURE REVIEW

Previous studies on Herzberg's Two-Factor Theory have investigated motivational and hygiene factors in relation to job satisfaction and performance, but to date have not determined which factor group has a strong effect on turnover intentions. Hygiene factors like salary and working conditions can limit dissatisfaction. Motivators like recognition and advancement can increase satisfaction (Hee et al., 2019). However, Wong and Heng (2009) found that Herzberg's pattern did not fully hold among Malaysian university faculty, in which motivators contributed more to dissatisfaction than to satisfaction. A review of the literature also shows that few studies directly link Herzberg's framework with turnover intention in Malaysia, and identifies only one study in Johor at the time (Chiat & Panatik, 2019). This gap is especially relevant to cleaning work, as the dirty, dangerous, and difficult image of 3D work has been documented as a barrier for local workers in Malaysia (Najib et al., 2019; Ahmad, 2018). Work-life balance, working conditions, career promotion, and occupational stigma can therefore be used to analyze the impact of these differences in experience on turnover intention for cleaners in Johor Bahru.

THEORETICAL FRAMEWORK & CONCEPTUAL HYPOTHESES

Herzberg's Dual-Factor Theory (Motivation-Hygiene Theory) is supported by leadership and occupational stigma. Herzberg states that job satisfaction and job dissatisfaction are two different concepts. Hygiene factors (compensation, workload, and working conditions) help prevent dissatisfaction, whereas motivators (e.g., career progression and a job's inherent quality) contribute to positive job satisfaction (Das & Chakraborty, 2018). A review of research on Herzberg's theory and turnover intention reports that Malaysian studies are limited and identifies one study in Johor. However, the available information does not establish that it examined cleaning workers. Applying the framework to cleaning personnel in Johor Bahru, therefore, addresses the limited Malaysian- and Johor-specific research on this theory that the review identifies (Chiat & Panatik, 2019).

Hypotheses Development

The research framework focuses on the relationship between turnover intention and local cleaning personnel:

H1: Compensation dissatisfaction will positively influence the turnover intention of local cleaning personnel.

H2: High workload demands will positively influence turnover intention.

H3: Career promotion opportunities will negatively influence turnover intention.

H4: Occupational stigma will positively influence turnover intention.

Sampling Strategy & Sample Size Methodologies

The target population comprises active cleaning employees working under contractors registered with Johor Bahru City Council. Participants will be selected using purposive sampling. To carry out a thorough field test at a higher minimum requirement ($n > 30$), this study assessed the sample size using three statistical techniques:

Table 1 Sampling Strategy and Sample Size Methodologies

Methodology / Formula	Calculated Sample Size	Operational Decision for Field Test
(Cochran, 1977) Formulae $e = 0.05$, $Z = 1.96$	$n = 196$ respondents	Primary baseline requirement for population generalization.
(Krejcie & Morgan, 1970) Table	$S = 265$ respondents	Upper bound threshold to account for potential non-response.

G*Power 3.1 Analysis (Faul et al., 2009) $f^2 = 0.15$, $\alpha = 0.05$, Power = 0.80	n = 146 minimum	Minimum threshold required for PLS-SEM 6-predictor structural model.

Based on these methodologies, a target of n ≈ 200 respondents will be selected using purposive sampling from the contractor workforce distribution. A power analysis should confirm whether this sample size reaches adequate statistical power, conventionally 80 percent (Memon et al., 2020).

Research Questionnaire & Measurement Scales

The measurement instrument has been updated to reflect the latest validated items, the original authors, and the relevant literature. All substantive measurement constructs (B to F) use a 5-point Likert scale ranging from 1 ('Strongly Disagree') to 5 ('Strongly Agree').

The questionnaire adapted from this study (Gelencsér et al., 2024) is suitable for the context of cleaning work, according to the authors' own assessment. It also refers to the empirical data on employee turnover and retention from Gelencsér et al. and job withdrawal and occupational stigma from Miao & Guo (Gelencsér et al., 2024; Miao & Guo, 2024). These 2024 studies are highly relevant because the themes of retention and stigma closely align with these research topics. However, because of their divergent workforces and work environments, the reliability and validity of the adapted instrument are crucial to the Johor Bahru sample. The questionnaire will be distributed online and will provide a stable, efficient way to share items and collect responses. This digital approach is similar to Gelencsér et al.'s retention study. Nevertheless, data on web surveys suggest that questionnaire length and item placement can affect participation rates and response quality, so the questionnaire needs to be clear and concise (Galešić & Bošnjak, 2009; Gelencsér et al., 2024). The five-point Likert scale will be preferred over the seven- or ten-point scales as it simplifies the selection of responses but still provides meaningful differentiation. The study has found that five-point scales are quicker and easier to complete than seven-point scales without sacrificing accuracy, and result in better-quality data than seven or eleven agree-disagree categories (Dalmoro & Vieira, 2014; Revilla et al., 2013). Thus, the study will evaluate the reliability and validity of the scale based on the responses of the study sample.

Table 2 Comprehensive Measurement Questionnaire Items and Sources

CODE	QUESTIONNAIRE ITEM WORDING	AUTHORS / SOURCES
SECTION A: RESPONDENT'S INFORMATION		
Demographics	Gender, Age, Length of Service, Job Level, Education Level	Standard Demographic Scale (Elmaghraby et al., 2025)
SECTION B: COMPENSATION		
C1	I am not satisfied with the benefits I received	(Gelencsér, 2024)
C2	The benefit package we have is equitable	(Gelencsér, 2024)
C3	There are benefits we do not have which we should have	(Gelencsér, 2024)
C4	The benefit we received are as good as most other organisations offer	(Gelencsér, 2024)
C5	There are a few rewards for those who work here	(Gelencsér, 2024)
C6	I don't feel my efforts are rewarded the way they should be	(Gelencsér, 2024)
SECTION C: WORKLOAD		
WL1	Many of rules and procedures make doing a good job difficult	(Gelencsér, 2024)
WL2	Many efforts to do a good job are seldom blocked by red tape	(Gelencsér, 2024)
WL3	I have too much to do at work	(Gelencsér, 2024)
WL4	I have too much paperwork	(Gelencsér, 2024)
WL5	There is too much bickering and fighting at work	(Gelencsér, 2024)
WL6	I find I have to work harder at my job than I should because of the incompetence of people I work with	(Gelencsér, 2024)

SECTION D: CAREER PROMOTION		
CP1	There is really too little chance for promotion on my job	(Gelencsér, 2024)
CP2	Those who do well on the job stand a fair chance of being promoted	(Gelencsér, 2024)
CP3	People get ahead as fast here as they do in other places	(Gelencsér, 2024)
CP4	I am satisfied with my chances for promotion	(Gelencsér, 2024)
SECTION E: OCCUPATIONAL STIGMA		
OS1	Most people would not want to associate themselves with a job like mine	(Miao & Guo, 2024)
OS2	Few people would be proud to have my job	(Miao & Guo, 2024)
OS3	Most people would consider my occupation disgusting or degrading	(Miao & Guo, 2024)
OS4	People in my occupation are devalued by others	(Miao & Guo, 2024)
OS5	People may treat me with less respect because of my occupation	(Miao & Guo, 2024)
SECTION F: TURNOVER INTENTION		
TI1	I plan to stay in this company to develop my career for a long time	(Gelencsér, 2024)
TI2	I may not have a good future if I stay with this organization	(Gelencsér, 2024)
TI3	I often think of quitting my present job	(Gelencsér, 2024)
TI4	I am seriously thinking about quitting my job	(Gelencsér, 2024)
TI5	I may leave this company and work for another company in the next year	(Gelencsér, 2024)
TI6	As soon as I can find a better job, I'll leave my workplace	(Gelencsér, 2024)

Pls-Sem Data Analysis Strategy

Data collected during the field test will be analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) in SmartPLS 4.0. The analytical evaluation follows a strict two-stage process (Ringle et al., 2018):

Stage 1: Measurement Model Assessment (Outer Model)

To evaluate the psychometric attributes of the measurement model, the study will consider indicator reliability, which requires that the average loadings for each item are at least 0.708, and items with values between 0.40 and 0.708 will only be considered valid if content validity and composite reliability are maintained. At the same time, internal consistency must be satisfied for all latent constructs. Cronbach's alpha ($\alpha \geq 0.70$) and Composite Reliability ($CR \geq 0.70$) must be satisfied. In addition, Average Variance Extracted (AVE) must be at least 0.50 to ensure that the latent construct accounts for more than 50% of the variance. Finally, discriminant validity is checked with the Heterotrait-Monotrait Ratio of Correlations for conceptually different constructs, and HTMT < 0.90 for closely related constructs.

Stage 2: Structural Model Assessment (Inner Model)

For the structural model analysis, collinearity evaluation requires that the Variance Inflation Factor (VIF) be < 3.0 to ensure that the predictor variables are not multicollinear. Following this, the path coefficients and significance, specifically the T-statistics and p-values for hypotheses H1 through H4, will be evaluated using 5,000 bootstrap samples. Finally, the explanatory and predictive power of the model will be determined by the Coefficient of Determination (R^2), Effect Size (f^2), and PLSpredict, ensuring that $Q^2predict > 0$.

Expected Contributions & Implementation Timeline

This protocol is of practical relevance in light of government efforts to improve wages and working conditions, including the Prime Minister's recent announcement on the minimum wage for Budget 2027, made on 9 October 2026 (Tee, 2026). These results could assist public contractors and the city council in translating wage policy

into better workforce outcomes by examining compensation, workloads, career promotion, and occupational stigma in ways that help workers remain in their jobs. This study could also inform contractor monitoring of compliance with the applicable minimum wage and timely payment, which should be treated as baseline requirements, and of employment terms, adequate protective equipment, and training that should also be provided. These should be verified against the current official guidance before implementation. The study also contributes to various Sustainable Development Goals. Fair compensation, safety, and career development in relation to SDG 8, Decent Work and Economic Growth (Zanten & Tulder, 2021), and the social devaluation of cleaning work are related to SDG 10 (Vuuren et al., 2022). Additionally, reducing inequalities and improving the stability and quality of essential public services are linked to SDG 11, Sustainable Cities and Communities (Vuuren et al., 2022).

In practice, councils and contractors could use the study's findings to identify retention risks, make targeted improvements, and monitor how these improvements contribute to workforce stability and service continuity. If the study could establish a baseline and track a set of measurable indicators to build on progress in the cleaning industry, reduce turnover, and enhance service quality, it could provide a basis for sustainable development. Key benchmarks are full compliance with employment standards and employment terms such as payment and documentation of these terms for all workers at full employment level; routine provision and use of personal protective equipment; regular safety and skills training; and annual monitoring of turnover, absenteeism, workplace injury and employee perceptions of fairness and respect. These should not be taken as national performance targets but rather as reference points and should be compared with the best available sector data for the countries in question. However, if this study were implemented, it would provide the city councils and its contractors with a real-world strategy for job growth, cost-effective operations, and high-quality services.

CONCLUSION

This research paper contributes a broader perspective on the motivation of public cleaners to remain in their roles through organizational hygiene and motivation factors such as compensation, workload, career promotion, and the social value of their work, which is affected by occupational stigma. It fills an important gap in the literature on the frontline work of low-paid 3D employees in Southeast Asia. The research framework provides the city councils and public contractors with practical guidance to translate national wage policy into better retention. The following are the key actions that need to be taken from the beginning: full compliance with wage policy, regular payments and employment terms, PPE (personal protective equipment), and skills training to reduce turnover and ensure the delivery of quality public service in the future. The research is an upcoming field study, so the results will depend on how well it is executed. This study can extend this model to other public areas in Malaysia and assess the predictability of stated turnover intentions relative to actual long-term workforce retention outcomes.

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Conflict Of Interest

The authors declare no conflicts of interest.

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