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A STUDY ON JOB CHARACTERISTIC MODEL (JCM) TOWARDS JOB SATISFACTION AMONG METROLOGY EMPLOYEES IN KLANG VALLEY, MALAYSIA.

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ABSTRACT

This study aims to analyse the relationship between the Job Characteristic Model by Hackman and Oldham (1975) toward job satisfaction among bank employees in Klang Valley, Malaysia. The Job Characteristic Model (JCM) consists of five job dimensions, which are skills variety, task identity, task significance, autonomy, and job feedback are used as independent variables for this study. A few control variables, such as gender, job position, and employment duration, are taken into consideration in this study. Quantitative method is chosen for this research. Job Diagnostic Survey (JDS) by Hackman and Oldham (1974) is used as a research instrument and distributed to the metrology company's employees via Google Form. All surveys were distributed randomly via online platforms such as Facebook Groups, LinkedIn, and direct e-mail. 310 respondents from metrology companies to answer this survey. The result shows that all five dimensions in job design have a positive relationship with job satisfaction.

Keywords: Job Diagnostic Survey, Job Characteristic Model, Job Satisfaction

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1.0 INTRODUCTION

The Job Characteristics Model (JCM) has emerged as a pivotal framework in understanding the dynamics of job satisfaction, particularly within the context of various industries. This model posits that specific job characteristics such as skill variety, task identity, task significance, autonomy, and feedback play a crucial role in influencing an employee's intrinsic motivation and overall job satisfaction. In the context of metrology companies in Klang Valley, Malaysia, the application of the JCM can provide valuable insights into how these job characteristics affect employee satisfaction and performance.

Research shows that several elements affect turnover intentions, such as job satisfaction, commitment to the organization, and compensation. For example, Ahmad's research points out the connection between job features, organizational commitment, and the intention to leave, indicating that a favourable assessment of job content fosters greater commitment and lowers turnover intentions (Ahmad, 2018). This agrees with findings from Alias et al., who stress that job stress and employee engagement are key predictors of turnover intention among manufacturers in Malaysia, suggesting that a nurturing work environment can help reduce turnover risks (Alias et al., 2018).

In the context of the metrology industry, where precision and expertise are paramount, fostering a positive organizational culture and providing adequate support can significantly impact employee retention. Zahari et al. note that employee engagement mediates the relationship between compensation and turnover intention, reinforcing the idea that engaged employees are less likely to consider leaving their organizations (Zahari et al., 2020). Additionally, the work of Kadir et al. highlights that job dissatisfaction and stress are prevalent factors contributing to turnover intentions among employees in Klang Valley, Malaysia, suggesting that organizations must proactively address these issues to retain talent (Kadir et al., 2022).

Research shows that job satisfaction is closely related to a variety of motivational elements and workplace settings. For example, Basalamah and As'Ad stress the role of work motivation and environment in boosting job satisfaction, claiming that employees who are satisfied tend to demonstrate increased morale and performance (Basalamah & As'ad, 2021). In a similar vein, Arokiasamy points out the importance of favourable working conditions and strong relationships with coworkers in promoting job satisfaction, especially in service-oriented industries (Arokiasamy, 2019). These insights highlight the need to explore the specific job attributes that lead to satisfaction among employees in metrology companies.

In conclusion, examining the Job Characteristics Model in the context of employee satisfaction in metrology firms situated in the Klang Valley is both pertinent and timely. By grasping how particular job features affect employee satisfaction, organizations can develop focused strategies to boost motivation, lower turnover rates, and ultimately enhance overall performance. The objective of this study is to investigate the relationship between the Job Characteristics Model (JCM) and job satisfaction among employees in metrology companies located in Klang Valley, Malaysia.

2.0 LITERATURE REVIEW

2.1 Job Characteristics Model (JCM)

The Job Characteristics Model (JCM), developed by Hackman and Oldham, posits that specific job characteristics can significantly influence employee motivation, satisfaction, and performance. This model identifies five core dimensions of jobs: skill variety, task identity, task significance, autonomy, and feedback, which collectively contribute to an employee's psychological state and overall job satisfaction (Gu et al., 2021). Research consistently supports the assertion that these job characteristics are positively correlated with job satisfaction across various contexts and industries.

Multiple studies underscore the significance of feedback as a key determinant of employee satisfaction and engagement. Feedback serves not only as a tool for performance evaluation but also enhances an employee's sense of autonomy, which can significantly influence their overall job satisfaction (Kanwal & Khurram, 2022, Komagata et al.,

2020). The lack of effective feedback mechanisms is frequently cited as a gap in many organizations, negatively affecting job satisfaction (McGuire et al., 2021).

Task significance refers to the degree to which a job has a substantial impact on the lives or work of others, which can enhance an employee's sense of purpose and fulfilment in their role. Numerous studies have demonstrated a positive correlation between task significance and job satisfaction, suggesting that when employees perceive their work as meaningful, their overall job satisfaction increases. Moreover, Kannan et al. (2022) reinforced the importance of task significance by demonstrating that it is one of the core job characteristics that positively influences job satisfaction among employees in a Malaysian bank's anti-money laundering department. Their findings suggest that when employees perceive their tasks as significant, it enhances their intrinsic motivation and satisfaction with their jobs. This is consistent with the JCM, which posits that task significance, along with other job dimensions, contributes to an employee's overall motivational potential.

Research indicates that task identity is a significant predictor of job satisfaction across various sectors. For instance, Traymbak et al. (2017) found that task identity played an essential role in predicting job satisfaction among female employees in the IT workforce. Kannan et al. (2021) further reinforced the positive relationship between task identity and job satisfaction in their study of employees in a Malaysian bank's anti-money laundering department. They found that task identity, along with other job characteristics, significantly influenced employees' job satisfaction, indicating that the ability to see the completion of their work enhances their motivation and satisfaction levels. Additionally, the findings of Zhang et al. (2018) support the notion that task identity is linked to job satisfaction through the development of professional identity. Their research indicated that a strong professional identity, which is often shaped by the nature of the tasks performed, enhances job satisfaction and reduces turnover intentions among employees.

Research consistently supports the notion that skill variety positively influences job satisfaction. For example, Berg and Feij (2003) found that skill variety, along with autonomy and feedback, had additive effects on job satisfaction. Their findings align with meta-analyses indicating that these job characteristics are among the best predictors of job satisfaction. This suggests that when employees are engaged in tasks that require a variety of skills, they are more likely to report higher levels of satisfaction with their jobs. Moreover, the work of Fernández-Salinero et al. (2020) highlights that the use of skills is strongly related to job satisfaction. They argue that providing employees with opportunities to utilize their skills not only enhances their job satisfaction but also aligns with sustainable organizational practices. This suggests that organizations should prioritize job designs that allow for skill utilization to improve employee satisfaction.

Rodríguez et al. (2017) found that job autonomy is a significant determinant of job satisfaction, particularly in lean environments where employees are encouraged to take initiative and make decisions. Their study highlights that perceived job autonomy enhances job satisfaction, aligning with the Job Characteristics Model (JCM), which posits that autonomy is a key job characteristic that fosters a sense of ownership and responsibility among employees. Similarly, Sawang et al. (2020) reported that job autonomy has a positive association with job satisfaction among business owner-managers. Their findings suggest that the ability to make independent decisions contributes to higher job satisfaction levels, reinforcing the notion that autonomy is a crucial factor in job design. This is further supported by Tran et al. (2020), who emphasized that job autonomy serves as an essential mechanism for intrinsic motivation, leading to higher job satisfaction, particularly in supportive workplace environments. Furthermore, the work of Mohite (2024) supports the idea that promoting supportive leadership styles and conditions that enable autonomy can lead to increased job satisfaction. Similarly, Tran et al. (2020) highlighted that job autonomy serves as an essential mechanism for intrinsic motivation. Their research indicates that when employees are given the freedom to make choices regarding their work, they tend to respond positively, exhibiting higher levels of job satisfaction. Mohite (2024) further emphasizes the importance of creating conditions that enable individuals to exercise autonomy, noting that supportive leadership styles contribute to increased job satisfaction. Moreover, Dong et al. (2021) explored the moderating role of job autonomy in the relationship between working hours and job satisfaction.

Their findings suggest that job autonomy can buffer the negative effects of long working hours, further highlighting its importance in promoting job satisfaction.

In summary, the evidence strongly supports the assertion that job characteristic model is positively correlated with job satisfaction. Organizations should prioritize fostering good job design and management practices to enhance employee satisfaction and overall organizational performance.

2.2 JOB DESIGN AND JOB SATISFACTION

The relationship between job design and job satisfaction is a well-established area of research in organizational behaviour. Job design encompasses the processes of organizing tasks, duties, and responsibilities into a productive unit of work. Effective job design can significantly enhance job satisfaction by aligning job characteristics with employee needs and preferences. Ratnasari (2023) emphasized that effective job design can mitigate work stress and enhance job satisfaction. The study found that when jobs are designed to reduce monotony and allow for employee input, satisfaction levels increase. Moreover, Tsuma TSUMA (2015) conducted a study on job design in private universities in Kenya, revealing that job enlargement, enrichment, and rotation significantly affect employee satisfaction levels. The findings indicated that good job design correlates with higher job satisfaction, suggesting that organizations should focus on optimizing job roles to enhance employee experiences. The evidence strongly supports the assertion that effective job design is positively correlated with job satisfaction. By incorporating elements such as autonomy, variety, and meaningful tasks into job roles, organizations can enhance employee satisfaction and engagement. This highlights the critical role of job design in shaping the overall employee experience and organizational success.

3.0 METHODOLOGY

This study involving employee from metrology companies around Klang Valley area. In Malaysia, there are 155 accredited calibration company. 14 company bases in Kuala Lumpur and 88 company based in Selangor. This area was selected because 66% of metrology companies is base in Klang Valley area which their main laboratory place in Kuala Lumpur and Selangor area (Department of Standard Malaysia, 2025). Online questionnaire using Job Diagnostic Survey by Hackman and Oldham (1975) is used to test the independent variable among metrology companies' employee in Klang Valley. Some control variables also use in this study such as age, salary range, working tenure and education level. Independence variable measured are skills variety, task identity, task significant, autonomy, and feedback towards dependent variable which is job satisfaction.

According to Department of Standard Malaysia, one metrology company might have 50-200 employees, subject to the laboratory operations. In average, estimated 100 employees per company. It brings a total of 1488 employees in Klang Valley area. The online questionnaire is distributed randomly to the targeted respondent. According to Krejcie & Morgan (1970), with confident level of 95% and 1488 population size, 306 samples required in this study. 310 respondents complete the questionnaire within 3 months.

For statistical analysis SPSS software used in this study. Descriptive analysis used to measure nominal demographic data. Simple tabulation cross tabulation method is used to analysis demographic variables. Descriptive statistic also uses to measure mean, standard deviation, variance, skewness and kurtosis. Then hypothesis testing using Pearson Correlation to measure the relationship between independent variable and dependent variable.

4.0 FINDINGS AND DISCUSSION

From 310 data collected, we received 156 male respondent or 50.3% and 154 female respondent or 49.7%. almost 50:50 ratios. From those number, 108 respondent or 34.8% is at the age of 20-30 years old. 134 respondent or 43.2% is at 31-40 years old. While 52 respondents at the age of 41-50 and 16 respondents at the age of 51-60 years old. Younger workers, particularly those under 40, have been shown to exhibit a higher likelihood of turnover intention, primarily due to their search for better opportunities and work engagement levels (Naveed et al, 2022).

For education background, 39% or 121 respondents hold a bachelor degree and 33% have diploma while 22.6% have minimum certificate education qualification. It shows that all worker is a skilled worker. Only 14 respondent or 4.5% have master degree and might be a top management level staff. No PhD level respondent recorded. Employees with higher educational attainment might have greater career aspirations and, therefore, exhibit higher turnover intentions as they pursue more fulfilling job roles or better salary options (Kamau et al., 2021). Conversely, those with lower educational backgrounds may be less likely to leave, as they might have fewer employment options available (Cao et al., 2021).

In term of salary, 51% of respondent at the range of RM1500.00 to RM3500.00. 35% have salary of RM3501.00 to RM 5500.00. this might refer to middle position like executive, supervisor or team leader. 6.5 % received a salary of RM5501.00 to RM7500.00, 4.2% for RM7501.00-RM9500 and 2.6% or 8 respondent received more than RM9501.00 salaries per month. For working experience, 33.9% have 6-10 years' experience, 26.8% have 1-5 years of experience, 19.4% have 11-15 years, 15.8 % have more than 16 years' experience and 4.2% has less than 1-year experience.

Pearson correlation test was run to test the hypothesis. the perfect correlation achieved when the variables change the same ratio of -1 to 1. The result table 1 below shows moderate correlation for skills variety and job satisfaction. Low correlation recorded for feedback, autonomy and task identity while task significant has no correlation with job satisfaction. The result shows all positive correlation between independent variable and dependent variables. If one variable increase, the other variable tends to increase as well.

Table 1:
Correlations for Job Characteristic and Job Satisfaction

Variable	N	M	SD	1	2	3	4	5	6
1. Feedback	310	2.81	0.30	1					
2. Autonomy	310	3.21	0.34	.04	1				
3. Task Significant	310	2.90	0.47	-.09	.32	1			
4. Task Identity	310	2.90	0.44	-.06	.30	.77	1		
5. Skills Variety	310	3.02	0.36	.13	.35	.57	.66	1	
6. Job Satisfaction	310	3.03	0.33	.33	.37	.14	.37	.53	1

Skills variety shows positive moderate correlation with job satisfaction. This shows most respondent agree that job which use more skills will make them more satisfied with their job. This finding supported by Berg and Feij (2003) Fernández-Salinero et al. (2020) highlights that the use of skills is strongly related to job satisfaction. Feedback, Autonomy and Task Identity shows low correlation with job satisfaction. This finding supported (Kanwal & Khurram, 2022, Komagata et al., 2020, McGuire et al., 2021). The lack of effective feedback mechanisms is frequently cited as a gap in many organizations, negatively affecting job satisfaction. Feedback, autonomy and task identity is related to each other. The change on one of the variables will affect the other 2 variables. Constructive feedback from employer will affect the autonomy level and task identity. In metrology industry context, task significant show no correlation with job satisfaction. It shows that their job mostly did not have significant impact to other colleagues.

5.0 CONCLUSION

In conclusion, the relationship between the Job Characteristics Model (JCM) and job satisfaction is underscored by several interrelated factors, specifically organizational commitment and employee engagement. The JCM identifies five core job dimensions like skill variety, task identity, task significance, autonomy, and feedback which have been shown to positively influence job satisfaction through their impact on employees' commitment to their organization.

Research indicates that these job characteristics not only enhance job satisfaction but also foster greater organizational commitment, creating a robust link among these constructs (Fatema, 2024). The interplay of job characteristics and organizational commitment suggests that organizations looking to enhance job satisfaction should strategically design jobs that align with these core dimensions while simultaneously focusing on fostering an environment that cultivates organizational commitment.

Additionally, employee engagement plays a crucial role in this dynamic. High levels of engagement resulting from enriched job characteristics can lead to increased job satisfaction, thereby promoting better individual and organizational outcomes (Leuhery, 2023). Research supports the notion that engaged employees are more likely to develop a favorable attitude towards their work, resulting in improved performance and lower turnover intentions (Samosir et al., 2022). Thus, it is evident from the literature and studies that organizations must consider both the structural aspects of job roles as described in JCM and the emotional and social elements of employee commitment and engagement to optimize job satisfaction effectively. This multifaceted approach will not only enhance employee morale but also contribute to sustainable organizational performance.

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