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Understanding Job Satisfaction in the Industrial Sector: Insights from Penang's Industrial Employees

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Abstract

This study analyzes the factors contributing to job satisfaction among industrial employees in Penang, focusing on work-life balance, compensation and benefits, job security, career advancement opportunities, and job autonomy. Feedback from 300 employees was collected using structured questionnaires. Using Partial Least Squares Structural Equation Modeling (PLS-SEM), the relationships between independent variables and job satisfaction were tested. Work-life balance significantly influenced job satisfaction ($p=0.036$). Job autonomy, compensation and benefits, job security, and career development opportunities were significant factors in total variance explained by the job satisfaction model. Non-financial aspects of work-life balance, such as the work environment, were more significant in determining job satisfaction. This study contributes to the literature by examining job satisfaction in Penang's manufacturing industries, portraying a unique perspective from Malaysia. In this sector, work-life balance emerged as a primary predictor of job satisfaction, surpassing compensation and job security, particularly among low- and middle-income households—a trend observed in OECD countries. These findings pave the way for industrial sectors to invest in work-life balance policies to enhance job satisfaction and retention while providing flexible schedules and wellness programs.

Keywords: *Employee Well-being, Employee Retention, Industrial Employees, Job Satisfaction, Work-Life Balance.*

Introduction

Background

An organization's behavior depends significantly on employees' satisfaction with their job and working environment. Job satisfaction reflects how much employees enjoy their roles and impacts their motivation, commitment, and performance. Career

satisfaction directly influences the efficiency of daily tasks, employee retention, and their overall attitude (Mardanov, 2020; Viseu et al., 2020). This is especially crucial in the industrial sector, which entails physically demanding work and challenging conditions. Penang's diverse industrial landscape offers a unique

context for examining these dynamics, with its variety of industries shaping employee experiences and organizational behaviors (Phillips, 2021; Ng and Salamzadeh, 2020).

Penang's Industrial Sector

Penang, a prominent region in Malaysia, is known for its robust industrial sector that drives the local economy through diverse manufacturing activities, including electronics, automotive, and biotechnology (Phillips, 2021). This vibrant industrial base attracts both international and local enterprises, fostering a competitive workplace atmosphere. However, employees in this sector often face physical strain, safety risks, and job insecurity, driven by rapid technological advancements (Sinclair et al., 2020; Ng and Salamzadeh, 2020). While sectors such as biotechnology and electronics offer employment opportunities, they also present significant challenges. In this context, job satisfaction is critical, as it influences employees' well-being, productivity, and retention—factors essential for the sector's sustained growth (Ali and Anwar, 2021). Understanding these dynamics helps employers enhance engagement and performance, contributing to both organizational and regional economic development. *Research Focus*

This study focuses on industrial employees in Penang by investigating the relationship between five factors (job autonomy, work-life balance, compensation and benefits, job security, and career advancement opportunities) that affect the resulting job satisfaction. Greater job autonomy is associated with higher satisfaction as revealed by Pichault and McKeown (2019). Work-life balance is greatly recognized in terms of total well-being and job satisfaction (Rahman, et al., 2020). Various types of rewards and compensation, such as an increase in basic salary can impact employees' perception of the organization (Tirta and Erika, 2020). In this context, job security can be considered as an essential determinant of satisfaction during economic discord (Aman-Ullah et al., 2022). Skill improvement helps long-term satisfaction and provides motivation for career advancement (Davidescu et al., 2020). This necessitates an understanding of the very aspects that drive strategies for greater job satisfaction and organizational performance (Ali and Anwar, 2021).

Research Problem

Although This study investigates how five factors—job autonomy, work-life balance, compensation and benefits, job security, and career advancement opportunities—affect job satisfaction among industrial employees in Penang. Job autonomy is linked to higher satisfaction, as noted by Pichault and McKeown (2019), while work-life balance significantly contributes to overall well-being and satisfaction (Rahman et al., 2020). Compensation and benefits, including salary increments, shape employees' perceptions of their organizations (Tirta and Erika, 2020). Additionally, job security plays a vital role in maintaining satisfaction during economic instability (Aman-Ullah et al., 2022), and opportunities for skill improvement foster long-term motivation and satisfaction (Davidescu et al., 2020). This study aims to provide a deeper understanding of these factors, offering insights to enhance job satisfaction and organizational performance (Ali and Anwar, 2021).

Gap

Simple correlation analysis or single variable impact-based research may not be a good option for a brief understanding of how other factors interact with job satisfaction, especially in the context of complex environments such as the industrial sector in Penang (Rahman 2018; Viseu et al., 2023). Advanced tools like Partial

Least Squares (PLS) Structural Equation Modeling will be used to facilitate the analysis of multiple variables and their interrelations in a single step; thereby increasing accuracy and depth of insights. Hence, the current study that involves the utilization of a large analytical framework on job satisfaction among industrial workers in Penang will address these gaps to better inform both social science literature and studies related to human resource management (Lee et al., 2020; Ng and Salamzadeh, 2022).

Theoretical Contributions

In the latest research from the Asian Journal of Applied Research (AJAR), Samuel Enoch has endeavored to investigate job autonomy such as how it blends with work-life balance, compensation, job security, and career advancement in affecting the overall job satisfaction among industrial workers in Penang by using PLS structural equation modeling. Traditional studies may miss these complex interrelationships as they only involve simple (linear) models (Ahakwa et al., 2021). This study contributes to a greater understanding of using PLS, which bridges the gap and paves the way for further research in organizational behavior through latent multiple variables. Finally, studying Penang's industrial sector will provide a geographically and culturally nuanced view of job satisfaction (Rahman et al., 2018; Megawaty et al., 2022).

Practical Implications

Apart from its theoretical contributions, this study also benefits practitioners in the Indonesian industrial society by identifying the main factor affecting job satisfaction. These understandings share commonsense and practical insight alternatives to improve employee satisfaction and retain them in an organization. For instance, promotion and job autonomy can lead to higher motivation and better performance. Additionally, work-life balance or compensation has practical implications for policies related to flexible work arrangements or competitive benefits (Aruldoss et al., 2021). Moreover, when employees focus on both job security and career development, they can maintain healthy growth in the workplace, resulting in happy employees. Consequently, the practical implications of this study are to help organizations focus on strategies to enhance job satisfaction that will lead to the overall success of an organization (Ali and Anwar, 2021; Sinclair et al., 2021).

Literature Review

Job Satisfaction

Job satisfaction is an occupational response that indicates how content employees are with their work and its environment, shaped by intrinsic factors such as the nature of the job and the challenges associated with it, as well as by extrinsic incentives (Chung et al., 2020; Amin, 2021). Employee engagement is important to organizational outputs in terms of productivity, retention, and performance (Nanjundeswaraswamy, 2019; Hanaysha and Alzoubi, 2022). Theories such as Herzberg's Two-Factor Theory and the Job Characteristics Model (link satisfaction to factors such as skill variety) offer insight into job satisfaction as they consider hygiene factors such as a good wage and motivators like recognition (Rehman et al., 2019; Wang et al., 2019; Lee, 2020; Kamani, 2020).

Based on the manufacturing activities in Penang's industrial sector, job autonomy, and work-life balance are crucial factors that can affect job satisfaction (Ng and Salamzadeh, 2020). This is crucial, especially since employees often work long hours in the workplace

(Pichault and McKeown, 2019; Hanaysha and Alzoubi, 2022). This study integrates these factors into Penang's industrial workforce framework, enhancing job satisfaction and organizational effectiveness (Ali and Anwar, 2021; Davidescu et al., 2020).

Employees with higher job satisfaction are happier, which further increases their productivity and engagement, ultimately helping the company succeed (Hanaysha and Majid, 2018; Dousin et al., 2019). In addition, building job satisfaction can provide a competitive advantage by attracting and retaining top talent, while also improving the organization's image and position in the market. As a result, increasing job satisfaction is vital for business longevity in fiercely competitive markets.

Theoretical Models

The two important models to understand job satisfaction are Herzberg's Two-Factor Theory and Job Characteristics Model. 1950s's Herzberg's theory identifies motivators (such as achievement and recognition) and hygiene factors (such as salary and working conditions), highlighting that while the presence of hygiene factors does not increase satisfaction, their absence leads to dissatisfaction (Rehman et al., 2019). This is very important in industry sectors, where job satisfaction and low turnover are important metrics to consider (Amin, 2021).

The Job Characteristics Model, developed by Hackman and Oldham, identifies five core characteristics: skill variety, task identity, task significance, autonomy, and feedback as key determinants impacting job satisfaction (Lee, 2021; Kamani, 2019). An individualized approach to autonomy in structured contexts, combined with encouraging feedback, can help reduce the monotony of tasks and increase overall satisfaction (Pichault and McKeown, 2019; Hanaysha and Alzoubi, 2022).

Apart from the traditional models, modern theories such as the Self-Determination Theory (SDT) and the Job Demands-Resources (JD-R) Model are helpful in providing a deeper level of understanding. This concept is frequently adopted as it addresses the value of self-direction or autonomy, proficiency or competence, and connection with others (relatedness) in stimulating motivation and pleasure (Hosseini et al., 2022), which is specifically applicable to industrial roles where monotony is often ignored. In line with the JD-R Model that moderates job demands through resources, recent research has shown that job resources might have a buffering role in mitigating the adverse effects of demanding work conditions (Radic et al., 2020). This research demonstrates that a comprehensive view of job satisfaction dynamics in industrial settings can be obtained by integrating both classical and modern theories.

Factors Influencing Job Satisfaction

The knowledge of the various components that contribute to satisfaction can be highly beneficial for companies interested in improving their employee's well-being and productivity. The combination of intrinsic and extrinsic factors contributes to job satisfaction. In the labor-intensive industry, factors affecting the overall satisfaction of employees include job autonomy, work-life balance, compensation, job security, and career advancements.

Job Autonomy

Job autonomy refers to the degree of control employees have over how they perform their tasks (Pichault and McKeown, 2019). Empowering employees is an essential component of job satisfaction where employees take control of their work, which results in a higher level of engagement and motivation (Hanaysha

and Alzoubi, 2022). This is crucial in the industrial sector, where work tends to be more repetitive and highly structured. Even a small degree of autonomy reduces job monotony and increases job satisfaction, ultimately benefiting employees (Lee, 2020).

Since then, there has been a continuous stream of empirical studies supporting this proposition that job autonomy leads to higher satisfaction (Thompson et al., 1991). Autonomy is important so that employees can structure their work efficiently, which increases job satisfaction (Wang et al., 2019). Morsink et al. (2022) indicated that autonomy increases intrinsic motivation, especially in environments where employees can be innovative. In manufacturing and production, even small increases in autonomy can enhance worker satisfaction as independence is gained, which can also lead to productivity benefits (Pichault and McKeown, 2019). This demonstrates why autonomy ranks highly amongst job design dimensions that improve satisfaction and performance. Therefore, the following hypothesis is proposed:

Hypothesis 1: Job autonomy has a significant positive correlation with job satisfaction among industrial employees.

Work-Life Balance

According to Rahman et al. (2020), work-life balance is described as the equilibrium between work-related responsibilities and personal social life, so that one area does not unduly influence the other. It is particularly important for job satisfaction, as it allows employees to cope with time and energy, leading to improved well-being through the mutual interaction of various factors in this model (Davidescu et al., 2020). In a high-demand environment, poor work-life balance has predisposed to burnout as well as job dissatisfaction (Kurniawaty et al., 2019). As a result, work-life balance is an organizational struggle that significantly affects not only employee morale but also performance.

In high demand contexts such as the industrial sector where overtime and rostering are prevalent in working schedules, work-life balance is especially important (Sinclair et al., 2020). Satisfied employees who experience a better work-life balance tend to have lower stress levels (Akinwale and George, 2020). For example, Dousin et al. (2019) mentioned that the degree of job satisfaction and turnover in these high-stress environments improved appreciably where workers used other measures such as flexible hours and family support. In the industrial sectors, it is important to have work-life balance policies, as this leads to an inclusive working environment which in turn improves retention and productivity (Rodríguez-Sánchez et al., 2020). In response, the following hypothesis is proposed:

Hypothesis 2: Work-life balance has a significant positive correlation with job satisfaction among industrial employees.

Compensation and Benefit Packages

Compensation and benefit packages have been identified as key components in determining job satisfaction (Tirta and Enrika, 2020), covering areas such as salary, bonuses, health insurance, and paid leave. Right compensation positively impacts job satisfaction, while inadequate rewards lead to dissatisfaction, higher turnover, and reduced productivity (Ali and Anwar, 2021; Paais and Pattiruhu, 2020). Thus, companies have to create a remuneration model that is compatible with employee demands and at the same time falls within industry norms.

Research also shows that both financial and non-financial rewards have a material effect on job satisfaction. In this regard, while

higher base salary might be necessary, health insurance and career development opportunities are also valuable benefits (Judge et al., 2020). Examples include the relationship between satisfaction in comprehensive benefits packages (Stamolampros et al., 2019), and non-monetary reward such as flexible working hours to fulfill intrinsic needs of employees (Chiat and Panatik, 2019). This is especially true in the industrial sector, where work can be physically demanding and where both financial and non-financial rewards are critical. That said, it is difficult to ensure that competitive wages are balanced with benefits that can be tailored to an industrial setting such as safety incentives (Bhargava et al., 2021). Hence, the following hypothesis is developed:

Hypothesis 3: Compensation and benefits packages have a significant positive correlation with job satisfaction among industrial employees.

Job Security

Job security is the perception of job stability and significantly contributes to satisfaction of work that affects patient well-being, financial stability, and vocational contentment (Aman-Ullah et al., 2022). Job security involves the direct effect on stress, satisfaction, and organizational commitment. Conversely, increasing job insecurity, which signifies greater instability, can lead to uncertainty, ultimately lowering morale and increasing turnover, thereby affecting the overall durability of the workforce (Ng and Salamzadeh, 2020).

Job satisfaction, morale, productivity, and retention all greatly increase when employees believe they have job security. When employees feel safe, it reflects in their work, meeting employer expectations and enhancing performance. This, in turn, influences leadership to focus on reducing turnover and fostering stability within the workforce (Nalukwago et al., 2021; Novinsky et al., 2020; Vo-Thanh et al., 2020). High continuity of employment is crucial, especially in an industry with numerous economic fluctuations. Seasonal variations in demand can create market instability, which is why regular work is essential for maintaining positive morale among workers and ensuring workforce stability (Bhargava et al., 2021). This relates to job security as industrial organizations need to keep their experienced and knowledgeable employees to survive. Therefore, the following hypothesis is proposed:

Hypothesis 4: Job security has a significant positive correlation with job satisfaction among industrial employees.

Career Advancement Opportunities

From another angle, career advancement opportunities refer to the opportunity for career growth, which involves promotion, skill acquisition, and learning new tasks on the job (Irabor and Okolie, 2019). This improves employees' job satisfaction due to their intrinsic desire for growth and recognition. Having a clear career progression strategy can enhance their satisfaction and commitment to the organization (Davidescu et al., 2020). Inversely, this will lead to dissatisfactions and high turnover intentions among them (Altinay et al., 2019).

The current research also suggests promotion as well as training and skill development as predictors of job satisfaction. Employees who feel they have good prospects for progression within their roles often report higher satisfaction (Ampofo, 2020). Career progression and skill enhancement are important in more specialized roles within an industrial sector, but companies must balance these aspects against operational demands, which often

limits opportunities for upward mobility (Irabor and Okolie, 2019). In other words, cross-training and development can improve employees' satisfaction and reduce turnover. In accordance, the following hypothesis is proposed:

Hypothesis 5: Career advancement opportunities have a significant positive correlation with job satisfaction among industrial employees.

Research Gaps and Critique

A lot of research has explored job satisfaction but there is still a certain deficiency, especially in the industrial sector of Penang, Malaysia. However, literature tends to examine individual factors of compensation or work-life balance as different subfields without considering them jointly (Megawaty et al., 2022; Tirta and Enrika, 2020). Furthermore, the great diversity of economic activities in Penang has resulted in fewer studies focused on its industrial sector. Most published findings are based on extrapolated data from studies conducted elsewhere, neglecting the region's unique economic and cultural context (Ali and Anwar, 2023). Thus, it can be used to identify the problems of how these features are influencing job satisfaction in this frame. The latter demands more comprehensive studies using advanced techniques such as the PLS structural equation modeling to have a better understanding on job satisfaction within the mixed industrial context in Penang (Rahman et al., 2018; Viseu et al., 2023).

Current research demonstrates several methodological problems focusing on basic correlation or regression analyzes, which does not reflect the complex nature of job satisfaction (Sinclair et al., 2020). Most methods ignore the influence of interaction effects (such as how job security moderates the relationship between compensation and OCB), which may lead to misguided conclusions (Ng and Salamzadeh, 2020). Moreover, very few studies delve into Penang's own contextual background (economic volatility and cultural diversity), which is crucial in determining the level of job satisfaction among workers (Phillips, 2021; Bhargava et al., 2021). Filling these gaps in the literature necessitates empirically based, methodologically sound, and contextually grounded research to identify more effective ways to enhance job satisfaction among Penang's industrial workers.

Summary and Implications for the Current Study

A job survey, released in November by Infosys BPO and Australia's Federation University, identified key synergies that companies can leverage to enhance employee satisfaction namely, managerial autonomy, work-life balance, salary, job security, and career development opportunities. The importance of these factors is particularly relevant in the industrial sector, which often presents distinct challenges at work (Hanaysha and Alzoubi, 2022; Davidescu et al., 2020). Theoretical models like Herzberg's Two-Factor Theory and the Job Characteristics Model attempt to illustrate how these factors relate to each other and contribute to overall job satisfaction. Thus, this study seeks to investigate these links by applying PLS techniques that aim at obtaining a more insightful understanding of job satisfaction in Penang's industrial sector.

In this case, the study addresses various gaps, as no empirical research has combined multiple factors in the context of Penang's industrial sector. Ng and Salamzadeh (2020) and Phillips (2021) have never studied individual factors in isolation, as this approach represents the importance of their interactions. The current study, therefore, provides a comprehensive account of job satisfaction by

partaking in a multifactorial approach to present an integrated PLS model, tailored specifically in enabling readers to better understand how religion and culture intertwines with economic dynamics among the Penang's industrial workers.

Nevertheless, the study is not constrained exclusively to Penang but can apply to various other areas and sectors that provide insights into job satisfaction (Akinwale and George, 2020; Vo-Thanh et al., 2020). There are other cultural and economic differences between contexts that may also influence how these factors are weighed. Better job satisfaction also relates to productivity and retention, providing global business with useful guidance on how to be an employer of choice. Further research is needed to make cross-sectoral comparisons in order to identify strategies for optimizing job satisfaction and performance across the world.

Proposed Conceptual Framework

This model provides the framework to understand the relationship between five main dependent variables: work-life balance, compensation and benefit packages, job security, career advancement opportunities, and job autonomy. It also includes a dependent variable - job satisfaction (Figure 1). This literature-based model proposes factors regarded as fundamental predictors of job satisfaction, specifically in the industry sector. The model highlights the idea that job satisfaction is a multi-dimensional factor that reflects an employee's total attitude towards job performance, which results from distinct yet interconnected components working together (Rahman et al., 2020; Pichault and McKeown, 2019).

The relationship between work-life balance and job satisfaction emphasizes the need to strike a balance in work-life, especially in highly demanding industrial sectors (Akinwale and George, 2020). At the same time, compensation and benefit packages, including monetary (financial) and non-monetary rewards can affect the resulting job satisfaction (Tirta and Erika, 2020). Job security also becomes equally important when economies hit a downfall, as stable employment helps mitigate the uncertainties and instability caused by such crises (Vo-Thanh et al., 2020). Career advancement opportunities and job autonomy also contribute to increased satisfaction among employees (Kurniawaty et al., 2019; Hanaysha and Alzoubi, 2022). This framework considers a multi-faceted approach to the study of job satisfaction and provides the foundation for empirical testing using PLS structural equation modeling.

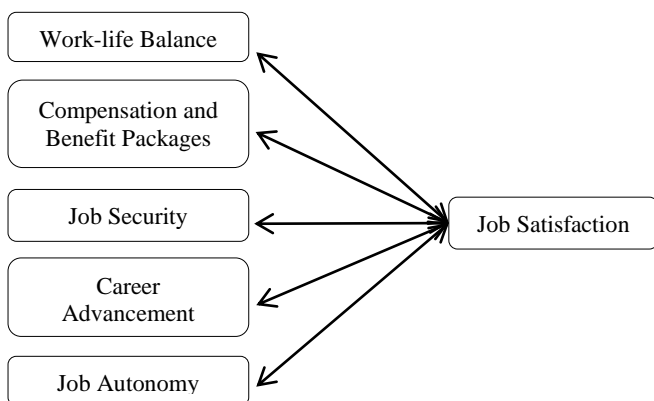


Figure 1: Proposed Conceptual Framework (Sources: Author Own Work)

Methodology

Research Design

The current study provides a cross-sectional, descriptive, and explanatory research design, which aims at examining the factors that affect job satisfaction among industrial employees in Penang. The cross-sectional design allows for data collection at a single point in time, providing a detailed view of the relationships between the independent variables: work-life balance, compensation and benefits, job security, career advancement opportunities, job autonomy as well as the dependent variable, job satisfaction (Rahman et al., 2020). It is effective in capturing the present state of job satisfaction that keeps changing in the industrial sector. The descriptive part illustrates the variables and their relationship systematically, while on the other hand, the explanatory section elaborates how those factors impact job satisfaction (Phillips, 2021).

The study's design aligns well with its goals, as it allows for a comprehensive analysis of several explanatory variables influencing job satisfaction. This is particularly relevant in the industrial sector, where the multi-faceted relationships between job satisfaction influence both employee well-being and organizational performance (Ng and Salamzadeh, 2020). Furthermore, the cross-sectional design allows data to be gathered very quickly from a large sample, providing valuable insights into job satisfaction in Penang's industry sector and supporting both theoretical understandings and practical human resource strategies (Megawaty et al., 2022).

Population and Sampling

The study is limited to industrial employees from the manufacturing sector in Penang, Malaysia. The as-mentioned population was selected due to the importance of this industrial sector for local economies and work-related challenges, including arduous, abusive working conditions, and job insecurity (Phillips, 2021). In addition, the study aims to investigate how factors such as work-life balance, compensation, job security, career advancement, and job autonomy affect job satisfaction in order to contribute insights for enhancing job satisfaction and retention among Penang's industrial workforce (Ng and Salamzadeh, 2020).

The researcher adopted the stratified random sampling technique as a representative sample of the vast industrial workforce. By stratifying based on job role, experience, and industry type, participants were randomly selected from each subgroup. This approach helps avoid sampling bias and allows the findings to be generalized to the broader industrial sector of Penang (Megawaty et al., 2022).

Given the size and diversity of Penang's industrial workforce, along with restricted access to company sites due to factors beyond our control and time constraints, the current study opted for a sample size of 300 respondents to generalize the results with a 95% confidence level and a $\pm 5\%$ margin of error (Rahman et al., 2020). This is an adequate sample size to ensure the quality of data collection for future analysis, resulting in a statistically significant and robust PLS structural equation model. The selected sample size is also suitable for subgroup analysis, permitting a more fine-grained examination of how disparities in job satisfaction can vary amongst different sectors of the industrial workforce (Phillips, 2021).

Data Collection Method

This study data source was collected via a structured questionnaire, which was distributed to industrial employees at different sectors in Penang. The structure of the questionnaire was designed to collect response on independent variables (work-life balance, compensation and benefit packages, job security, career advancement opportunities, and job autonomy) so that their relationship with the dependent variable, job satisfaction, could be analyzed (Rahman et al., 2020). The involved respondents were required to answer both open and closed-ended questions. A questionnaire was selected as the primary data collection method as it yields reliable and quantitative data that gives a sufficient statistical value to any survey studies, especially when dealing with

large volume of data management that involves large sample size (Phillips, 2021). With the anonymity of responses, participants were encouraged to respond and reply honestly and without bias to collect accurate data (Ng and Salamzadeh, 2020).

Instrumentation

The research questionnaires were divided into three sections. The first section consists of 73 Likert scale questions designed to collect data from over 600 participants. Part 2 consists of a 25-questions survey focused on work-life balance, compensation and benefits, job security, career development, and autonomy. Section 3 consists of 5 questions, which address the dependent variable, job satisfaction. Table 1 shows the self-administered questionnaires deployed for data gathering in this research.

Table I: Research Questionnaires (Sources: Author Own Work)

Section	Part / Variables	Items / Questions
1	Demographic Profile	Gender Age Group Marital Status Income Range Job Position Working Experience
2	Work-life Balance Adapted from (Akinwale and George, 2020)	I can successfully manage both my work responsibilities and personal life. My work schedule provides enough time for me to participate in personal activities and spend time with family and friends. I am satisfied with the flexibility my workplace offers to meet my personal needs and commitments. Conflicts between my work and personal life are infrequent. My organization offers sufficient support to help employees maintain a healthy work-life balance.
	Compensation and Benefit Packages Adapted from (Chiat and Panatik, 2019)	My salary is competitive when compared to similar roles within the industry. I am content with the annual bonuses or performance-based incentives provided by my company. The benefits package offered by my company (e.g., health insurance, retirement plan, paid time off) adequately meets my needs. The company's policies regarding promotions and salary increases are fair and transparent. The non-monetary benefits (e.g., flexible work hours, training opportunities, employee assistance programs) provided by my company positively impact my job satisfaction.
	Job Security Adapted from (Vo-Thanh et al., 2020)	I feel confident about the stability and long-term security of my job. My company is known for retaining employees, even during difficult economic periods. The management of my company communicates transparently about the organization's future and any potential risks to job security. I believe that my job performance plays a crucial role in ensuring my job security. The company has clear guidelines for retaining employees during times of organizational change or restructuring.

	<p>Career Advancement Opportunities</p> <p>Adapted from (Irabor and Okolie, 2019)</p>	<p>My company offers abundant opportunities for career growth and development.</p> <p>I am satisfied with the training and development programs available to improve my skills and knowledge.</p> <p>The promotion process in my company is transparent and merit based.</p> <p>I believe that my current role provides a clear pathway for career advancement within the organization.</p> <p>My organization actively encourages and supports employees in pursuing further education and professional development opportunities.</p>
	<p>Job Autonomy</p> <p>Adapted from (Hanaysha and Alzoubi, 2022)</p>	<p>I have the autonomy to decide how I carry out my tasks at work.</p> <p>My job enables me to use my initiative and creativity to address challenges.</p> <p>I have enough control over my work schedule and the prioritization of my tasks.</p> <p>My organization appreciates employee input and encourages individual contributions to decision-making.</p> <p>I can work independently without excessive oversight or interference from my supervisors.</p>
3	<p>Job Satisfaction</p> <p>Adapted from (Hanaysha and Alzoubi, 2022)</p>	<p>Overall, I am content with my job.</p> <p>I find my work to be fulfilling and enjoyable.</p> <p>I gain a sense of accomplishment from the tasks I perform.</p> <p>I am satisfied with the work environment and the support my organization provides.</p> <p>I am pleased with the recognition and appreciation I receive for my efforts.</p>

Descriptive statistics was employed to present the data, while PLS-SEM was used to examine the relationships between the independent variables (work-life balance, compensation, job security, career advancement, and job autonomy) and the dependent variable, job satisfaction. The descriptive statistics summarized the demographic profile of the respondents and provided some context to the trends suggested by the data, which guided more sophisticated analyses (Rahman et al., 2020). The hypothesized relationships within the theoretical framework were then tested using PLS-SEM, allowing for an in-depth examination of the causal pathways between variables (Phillips, 2021).

For multivariate statistics, a combination of PLS-SEM was performed using SmartPLS (version 4.1.0.8) for theory testing and SPSS (version 22) was used for descriptive statistics. SPSS was used for simple data screening and statistical analyses and SmartPLS is suitable to assess both measurement-models (measurement and covariance models) and structural models in exploratory studies, which involve multiple constructs (Ng and Salamzadeh, 2020; Megawaty et al., 2022).

PLS-SEM was selected because of its functionality to handle complex models and its ability to maximize the explained variance in the dependent variable, job satisfaction. Unlike covariance-based SEM, PLS-SEM does not require the assumption that the data comes from a normally distributed population (Phillips, 2021). The primary application of this study is in predictive modeling and theory development, aiming to relate the multidimensional determinants of job satisfaction within the Penang's industrial sector (Ng and Salamzadeh, 2020).

Findings and Discussion

Table I displays the results of how the key independent variables (work-life balance, compensation and benefit packages, job security, career advancement opportunities, and job autonomy) are related to the dependent variable, job satisfaction. As seen in Table I, it can be said that employees experienced a high level of general job autonomy (mean score $M = 3.9146$), as indicated by the descriptive statistics results for the independent variables. Nevertheless, job security has a minimum mean score ($M = 3.7185$), indicating that industrial employees in Penang may be worried about the certainty of their jobs.

As shown in Table III, the construct reliability and validity tests showed that most constructs had reliability above acceptable values, as indicated by the composite reliability ($\rho_c > 0.7$). However, some constructs like CAO reflected a lower average variance extracted ($AVE = 0.405$), implying that not all items in the construct were capturing the same amount of latent variable clusters. Moreover, discriminant validity results (Table IV) confirmed that the constructs were distinct but revealed some serious overlaps between the relationship of as-involved variables.

Table V shows the R-square result, indicating that the independent variables accounted for only 8% variance in job satisfaction ($R^2 = 0.080$). This means there are other unexplained factors that influenced job satisfaction among industrial employees. Table VII shows the path coefficient results, supporting Hypothesis 2, which indicates that work-life balance had a positive and statistically significant correlation with job satisfaction ($p = 0.036$). None of the other hypotheses were supported by the data where $p > 0.05$ for job autonomy, compensation and benefit packages, job security, and career advancement opportunities.

Table II: Summary of Descriptive Statistics (Sources: Author Own Work)

Variable	Min	Max	Mean	Standard Deviation
Work-life Balance (WLB)	1.40	5.00	3.7924	0.78675
Compensation and Benefit Packages (CBP)	1.20	5.00	3.8274	0.76798
Job Security (JBS)	1.00	5.00	3.7185	0.83009
Career Advancement Opportunities (CAO)	1.00	5.00	3.8943	0.68150
Job Autonomy (JA)	1.80	5.00	3.9146	0.72410
Job Satisfaction (JS)	1.60	5.00	3.9185	0.78173

Table III: Construct Reliability and Validity (Sources: Author Own Work)

Variable	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
CAO	0.746	0.519	0.742	0.405
CBP	0.840	0.860	0.885	0.606
JA	0.798	1.054	0.800	0.466
JBS	0.865	0.912	0.862	0.565
JS	0.862	0.881	0.900	0.644
WLB	0.842	0.868	0.885	0.606

Table IV: Discriminant Validity Results (Fornell-Larcker Criterion) (Sources: Author Own Work)

Variable	CAO	CBP	JA	JBS	JS	WLB
CAO	0.636					
CBP	0.603	0.778				
JA	0.727	0.664	0.682			
JBS	0.565	0.585	0.723	0.751		
JS	0.183	0.193	0.223	0.210	0.802	
WLB	0.590	0.796	0.675	0.659	0.271	0.779

Table V: R-square Result (Sources: Author Own Work)

Variable	R-square	R-square adjusted
JS	0.080	0.065

Table VI: F-Square (Matrix) (Sources: Author Own Work)

Variable	CAO	CBP	JA	JBS	JS	WLB
CAO					0.000	
CBP					0.003	
JA					0.002	
JBS					0.000	
JS						
WLB					0.024	

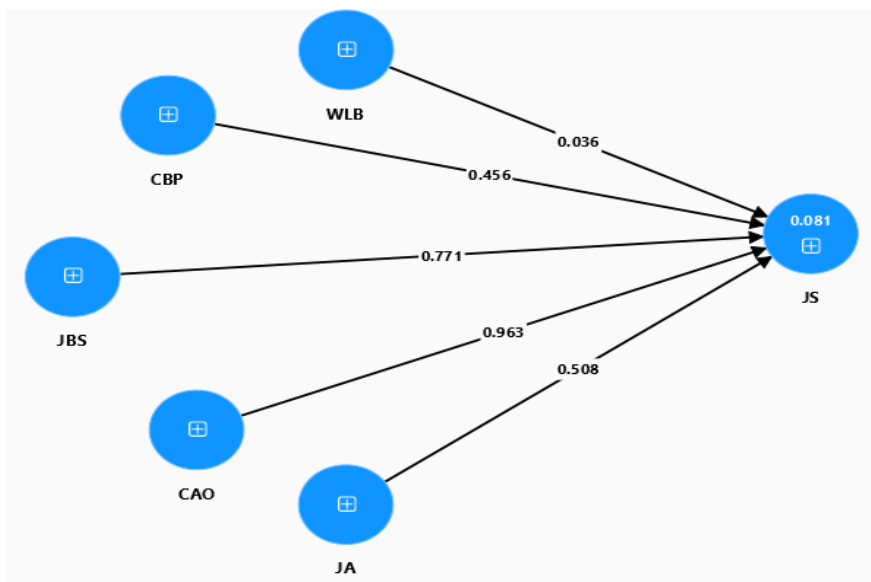


Figure 2: Structural Model Evaluation (Sources: Author Own Work)

Table VII: Path Coefficient Results (Mean, STDEV, T-values, and p-values) (Sources: Author Own Work)

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	p-values
CAO > JS	0.008	-0.016	0.168	0.047	0.963
CBP > JS	-0.103	-0.060	0.138	0.745	0.456
JA > JS	0.072	0.056	0.109	0.662	0.508
JBS > JS	0.030	0.049	0.102	0.291	0.771
WLB > JS	0.283	0.269	0.135	2.095	0.036

Table VIII: Hypothesis Testing Results (Sources: Author Own Work)

Hypotheses	p-value	Decision
H1 - Job autonomy has a significant positive correlation with job satisfaction among industrial employees.	0.508	Rejected
H2 - Work-life balance has a significant positive correlation with job satisfaction among industrial employees.	0.036	Accepted
H3 - Compensation and benefits packages have a significant positive correlation with job satisfaction among industrial employees.	0.456	Rejected
H4 - Job security has a significant positive correlation with job satisfaction among industrial employees.	0.771	Rejected
H5 - Career advancement opportunities have a significant positive correlation with job satisfaction among industrial employees.	0.963	Rejected

The significant impact of work-life balance on job satisfaction among industrial employees in Penang is clearly demonstrated by this study. This supports existing studies on the development of intervention that meets the needs to maintain a work-life balance in high-demand sectors such as the industrial sector (Akinwale and George, 2020; Dousin et al., 2019). Unsurprisingly, employees will be happier with their jobs if they are paid and recognized more for the person that they are (or have been) at work. This is in contrast to some literature showing that employees may trade-off between certain benefits like autonomy or financial rewards depending on the job, suggesting in highly structured industrial settings, employees tend to seek job stability and clear guidelines (Bhargava et al., 2021; Chiat and Panatik, 2019).

Furthermore, Irabor and Okolie (2019) posited that career advancement opportunities did not significantly relate to job satisfaction, implying that employees may see career progression as a long-term objective. Therefore, they may pay more attention to their daily circumstances, including work-life balance and job security. On the other hand, the non-significant effect of compensation and benefits reveals the industry-specific nature (Chiat and Panatik, 2019), where monthly salaries are quite standardized which in turn affects the resulting job satisfaction. This could be varied in organizations such as technology or finance sectors, where autonomy is more valued (Vo-Thanh et al., 2020).

Non-significant results found in this study could be related to some cultural and sector-specific reasons, where the industrial workers in Penang may value job stability and the overall-wellbeing than autonomy and personal career development (Ng and Salamzadeh, 2020). Further research should investigate how cultural, economic, and other sector-specific context factors affect the resulting job-satisfaction.

In theory, this study adds to the knowledge of job satisfaction in factory industry by illuminating work-life balance as a major factor for consideration, while also challenging established theories related to autonomy and compensation (Rahman et al., 2020; Hanaysha and Alzoubi, 2022). The practical implications from these findings were that flexible work hours, employee assistance programs, and good pay transparency should be included by

industrial organizations to improve employees' job satisfaction and retention (Dousin et al., 2019; Ng and Salamzadeh, 2020).

Penang industrialist employers should have adopted these strategies a long time ago to improve job satisfaction, turnover rate, and productivity of employees. These observations serve as a playbook for HR professionals, outlining the tools to be used and the appropriate timing for addressing fundamental issues related to the shop floor workforce. This approach can result in stable employee engagement, ultimately leading to organizational excellence.

Conclusion

The objective of this study is to investigate the relationships between work-life balance, compensation, job security, career advancement, job autonomy, and job satisfaction among industrial employees in Penang. The findings from this study revealed that the work-life balance had a significant and positive influence on job satisfaction while compensation, job security, and career advancement did not have significant effects on the resulting job satisfaction. These findings underscore the relevance of addressing non-financial motives, particularly in industrial environments, where demands are high, and flexibility is often limited. While contradictory certain theories of autonomy and compensation, the results highlighted that overly demanding and unsupportive work environments tend to decrease employees' job satisfaction. This study also extended the scope of previous research by exploring multiple antecedents to job satisfaction by applying PLS-SEM, which advancing theoretical understandings and providing empirical data that can inform human resource management practices. The results of this study should be interpreted within the context of this multifaceted approach and considered for further studies related to factors influencing employee well-being and performance in industrial environments.

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