Examining the Influence of Intrinsic Motivation and Job Satisfaction on Organizational Citizenship Behaviour at Company XYZ via Structural Equation Modelling

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ARTICLE INFO

Article history
Received
Revised
Accepted

Keywords
Human Resources,
Intrinsic Motivation,
Job Satisfaction,
Mediating Variable,
Organizational Citizenship Behaviour (OCB),
Structural Equational Modelling

ABSTRACT

Having employees with high quality and performance is essential for maximizing a company's profit. Company XYZ, as one of Indonesia's port companies, continually strives to enhance employee performance and quality as part of its mission. Psychological factors significantly impact employee performance, including intrinsic motivation, job satisfaction, and organizational citizenship behaviour (OCB). This research aims to analyse the impact of intrinsic motivation and job satisfaction on the organizational citizenship behaviour of Company XYZ head office employees using Structural Equation Modelling (SEM). The findings reveal that certain theoretical indicators failed to measure the constructs of intrinsic motivation, job satisfaction, and organizational citizenship behaviour accurately in the context of Company XYZ's employees. The results also indicate that intrinsic motivation significantly influences both organizational citizenship behaviour and job satisfaction, with impact values of 0.542 and 0.761, respectively. Additionally, the job satisfaction that employees of Company XYZ head office had, significantly mediates the relationship between their intrinsic motivation to their organizational behaviour. The study concludes that enhancing intrinsic motivation and job satisfaction can effectively promote positive organizational behaviour of the employees, suggesting that Company XYZ should focus on these psychological aspects to boost employee performance and overall organizational success.

1. Introduction

Company XYZ, one of Indonesia's largest port companies, consistently aims to provide top-notch port services. To achieve this, Company XYZ has set a vision and mission that includes fostering highly competent, high-performing, and ethical employees. This mission underscores the importance of employees as one of the company's primary assets. As noted by Bakotic, companies cannot maximize their profits if their employees' performance is subpar [1]. Therefore, specific strategies are necessary to be created to optimize employee performance.

Psychological factors significantly influence employee performance, including intrinsic motivation, Organizational Citizenship Behaviour (OCB), and job satisfaction. Tambe et al, defines OCB as employees' voluntary behaviours that exceed their job descriptions, driven solely by individual choice [2]. Thus, OCB has been shown to contribute to organizational outcomes such as service quality [3], organizational commitment [4], and job satisfaction. In order to measure OCB,

metrics such as absenteeism rates and punctuality are often used. In 2016, company XYZ recorded lateness violation rates of 16% and 28% in the first and second quarters, respectively, indicating a low level of OCB among head office employees.

Given these observations, this research aims to analyse the relationships between intrinsic motivation, job satisfaction, and OCB levels among company XYZ employees. Structural Equation Modelling (SEM) will be employed in this study, as it is well-suited for measuring latent variables that cannot be directly observed. This approach will provide a comprehensive understanding of the interconnections among these psychological factors and their impact on employee performance.

2. Literature Review

2.1 Organizational Citizenship Behaviour (OCB)

Organizational Citizenship Behaviour (OCB) can be defined as employee's contribution "beyond and more than" what supposed to be done in their job description [2]. OCB is described as an individual behaviour which indirectly approved by reward system yet contributes to the effectiveness and the efficiency of organization [5]. There are 5 dimensions used to measure OCB: Altruism is a behaviour in which employee gladly helps their partner regarding their works, Courtesy is a behaviour in which employee prevent themselves from getting any problem, Conscientiousness is related to the employee who work in detail to minimalize any mistake, Civic Virtue is related to the employee who actively involved in organization, and Sportsmanship is related to the employee who always have positive mind in regards to their company [5].

2.2 Job Satisfaction

Job satisfaction is the comfort employees feel from their jobs [6]. Huak et al. describe it as the mental state regarding their work conditions, whether they like or dislike their job [7]. Martin classifies job satisfaction into intrinsic and extrinsic types. Intrinsic satisfaction comes from the job itself, like achieving work goals or having authority [8]. Extrinsic satisfaction involves external factors like salary and organizational policies [9]. The related hypothesis is as follows:

H_1: Job satisfaction significantly affects OCB.

H_2: Job satisfaction significantly mediates the relationship between intrinsic motivation and OCB.

2.3 Intrinsic Motivation

Intrinsic motivation is the internal drive to achieve goals, often called motivational factors (10). Liu notes that achievement and self-compliance, forms of intrinsic motivation, significantly impact job satisfaction [11]. According to Herzberg, as cited by Luthan, intrinsic motivation includes completing tasks on time, receiving positive feedback, gaining recognition, the nature of the job, and having decision-making responsibility [12]. The related hypothesis is as follows:

H_2: Intrinsic motivations significantly affect OCB directly.

H_3: Intrinsic motivations significantly affect job satisfaction directly.

2.4 Structural Equational Modelling (SEM)

SEM is a statistical method for building and testing causal models, consisting of two components: the structural model and the measurement model [13]. The structural model shows relationships between independent (exogenous) and dependent (endogenous) latent variables, while the measurement model depicts the relationship between indicators and their factors [14].

$$\boldsymbol{\eta}_{(m\times 1)} = \boldsymbol{\beta}_{(m\times m)}\boldsymbol{\eta} + \boldsymbol{\gamma}_{(m\times n)}\boldsymbol{\xi}_{(n\times 1)} + \boldsymbol{\zeta}_{(m\times 1)}$$

Where:

$\boldsymbol{\eta}$: Dependent latent variable

$\boldsymbol{\beta}$: Path coefficient for endogenous latent variable & path coefficient for relationship between endogenous and exogenous latent variable

$\boldsymbol{\xi}$: Independent latent variable

$\boldsymbol{\zeta}$: Measurement error in structural model

m : Number of independent latent variable

n : Number of dependent latent variable

Meanwhile the equation for measurement model are as follows.

Dependent latent variable (y)

$$\boldsymbol{y}_{(q\times 1)} = \boldsymbol{\lambda}_{y(q\times m)}\boldsymbol{\eta}_{(m\times 1)} + \boldsymbol{\varepsilon}_{(q\times 1)}$$

Independent latent variable (x)

$$\boldsymbol{x}_{(p\times 1)} = \boldsymbol{\lambda}_{x(p\times n)}\boldsymbol{\xi}_{(n\times 1)} + \boldsymbol{\delta}_{(p\times 1)}$$

Where:

y : Indicators for dependent latent variable

x : Indicators for independent latent variable

λ : Outer loading

η : Latent dependent variable

ξ : Latent independent variable

q : Number of dependent latent variable

p : Number of independent latent variable

ε : Error measurement of dependent latent variable

δ : Error measurement of independent latent variable

2.5 Model Evaluation

Consists of two steps: the outer model evaluation and inner model evaluation.

1) Outer model evaluation

This step identifies the relationship between latent variables and their indicators, evaluated through validity and reliability tests. Convergent validity is determined by outer loading ≥ 0.7 and Average Variance Extracted (AVE)>0.5, indicating variance explained by the latent variable. Discriminant validity, assessed by cross loading scores, confirms validity if an indicator's loading is higher for its construct than others. Reliability is confirmed with composite reliability > 0.7 and Cronbach's alpha > 0.6 [13].

2) Inner model evaluation

Inner model evaluation determines the coefficient of determination, predictive relevance, and path coefficient significance using bootstrap. R^2 indicates prediction accuracy: ≥ 0.75 is very high, ≥ 0.5 is moderate, and ≥ 0.25 is low. $Q^2>0$ shows the model's predictive relevance, confirming that independent variables effectively predict the dependent variable.

3) Hypothesis testing of the significance using SEM

The hypothesis used as follow.

$H_0: \gamma_i = 0$ the i-th of independent variable does not have significance effect on dependent variable

$H_1: \gamma_i \neq 0$ the i-th of independent variable have significance effect on dependent variable

The H_0 will be rejected if T value > $T_{\frac{\alpha}{2}} = 1.96$

Meanwhile, to test the significance among endogenous variable, the hypotheses is as follow.

$H_0: \beta_i = 0$ There is no significance effect among endogenous variable

$H_1: \beta_i \neq 0$ There is no significance effect among endogenous variable

The H_0 will be rejected if T value > $T_{\frac{\alpha}{2}} = 1.96$.

3. Method

3.1. Data Sources

The research data were collected from a survey of 110 permanent employees at PT PELINDO III head office using proportional stratified random sampling. Responses were measured on a 0-100% interval scale, where 0% indicates complete disagreement and 100% indicates full agreement with the statements.

3.2. Variables

The study incorporates latent variables: intrinsic motivation as exogenous and job satisfaction, along with OCB level, as endogenous. It also includes corresponding indicators. Table 1 displays the indicator count.

Table 1. Research's variables

Latent Variable	Notation	Indicator numbers
Intrinsic Motivation	ξ_i	6
Job Satisfaction	η_1	14
Organizational Citizenship Behaviour (OCB)	η_2	15

3.3. Analysis Procedure

The procedures of this research are shown in the flow chart below.

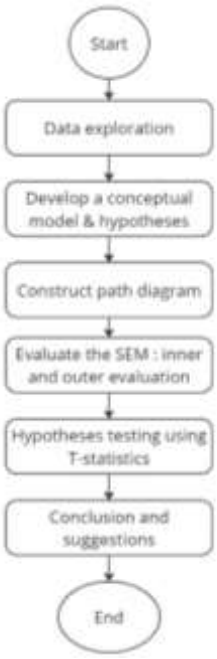

Fig. 1. Research flow.

4. Result and Discussion

4.1 The Characteristics of Respondents

The respondent characteristics examined include age and the percentage of respondents whose agree with the statements for each indicator within each variable.

Fig. 2. The respondent's proportion by age

Respondents' ages range from 24 to 56 years, with the majority (42%) aged 28-31. This is followed by 30% of respondents aged 24-27, as illustrated in Picture 1.

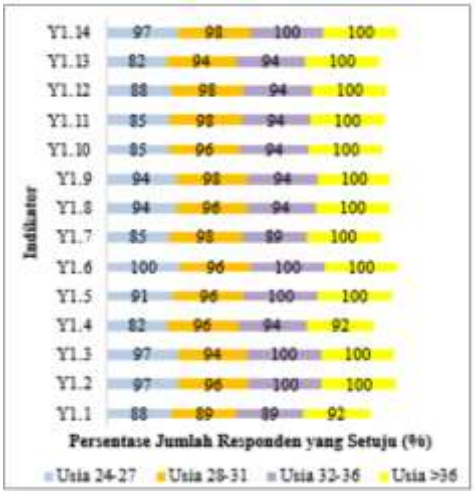

Fig. 3. Percentage of respondents whose agrees with the job satisfaction's indicators according to their age

As shown in Picture 3, nearly all employees, regardless of age, agree with all job satisfaction indicators. However, only 80% of employees agree with the statements about having the opportunity to work independently (Y1.1) and to supervise their colleagues (Y1.4). Furthermore, most employees aged 24-27 agree with statement Y1.13, indicating that not all feel they have promotion opportunities.

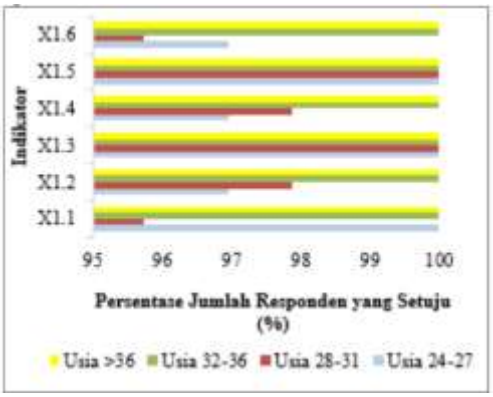

Fig. 4. Percentage of respondents whose agrees with Intrinsic Motivation's indicators according to their age

According to picture 4, Employees aged 32-36 and over 36 tend to agree more with these indicators, suggesting they have greater perseverance and higher work motivation compared to younger respondents.

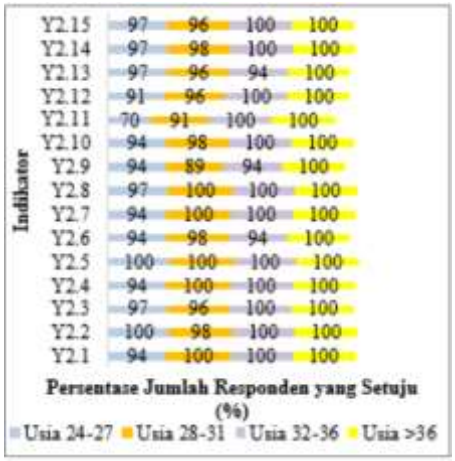

Fig. 5. Percentage of respondents whose agrees with the OCB's indicators according to their age

Picture 5 displays the percentage of respondents agreeing with OCB indicators. It shows that respondents over 36 years old generally agree with all indicators, indicating they exhibit OCB behaviours more frequently than younger respondents. Additionally, respondents aged 24-27 are more likely to consider switching to another company for a better offer and feel their salary does not meet expectations. Only 30% of respondents in this age group agree with the statement, "I will stay with Company XYZ even if offered a more profitable job" (Y2.11).

4.2 The Structural Equation Modelling (SEM) Analysis

This analysis examines the impact of intrinsic motivation on the organizational behaviour of employees at Company XYZ, with job satisfaction acting as a mediating variable. Intrinsic motivation is the exogenous variable (ξ1), while job satisfaction and OCB are endogenous variables (η1, η2). Intrinsic motivation has 6 indicators, job satisfaction has 14, and OCB has 15. All measurement models are reflective (Picture 6 shows the model's path diagram). Since the data used did not follow normal distribution assumptions, thus the partial least square approach were utilized in this research.

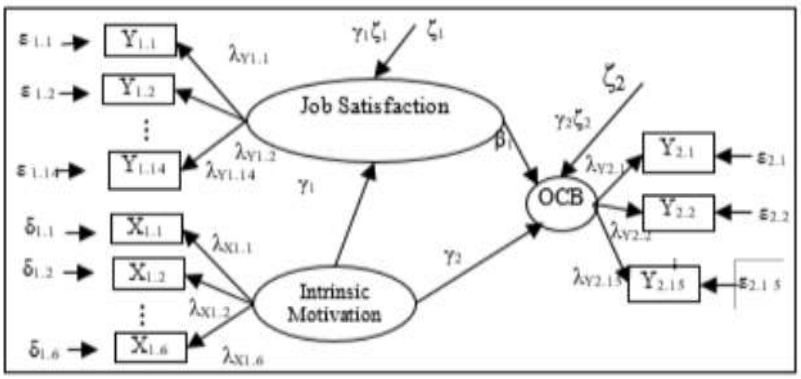

Fig. 6. Path Diagram of The Research

4.3 Model Evaluation

The evaluation consists of outer and inner model evaluation.

1) Outer Model Evaluation

The validity and reliability of the model are evaluated trough this evaluation. Using Outer loading and AVE to estimates the model's convergence validity and using cronbach's alpha to estimates the reliability.

Table 2 Reliability score from the measurement model

	Cronbach's Alpha	Composite Reliability
Job satisfaction	0.922	0.934
Intrinsic Motivation	0.916	0.935
OCB	0.913	0.926

According to Table 3, the Cronbach's value for each variable exceeds 0.6, so as the composite reliability which exceed 0.7, thus the indicators are reliable in measuring the latent variables. Table 3 shows the outer loading and AVE.

Table 3 Outer loading and AVE for Intrinsic Motivation

	Indicator	Outer loading	AVE
• Intrinsic Motivation	X1.1	0.845	0.504
	X1.2	**0.696**	
	X1.3	0.927	
	X1.4	0.841	
	X1.5	0.880	
	X1.6	0.842	

According to the outer loading in Table 3, only X1.2 has a score < 0.7, indicating it is invalid in measuring intrinsic motivation. This suggests employees feel they lack acknowledgment from their supervisors. The AVE score for intrinsic motivation in Table 3 exceeds 0.5, indicating that the constructs explain more than 50% of the variance.

Table 4 Outer loading and AVE for Job Satisfaction

	Indicator	Outer loading	AVE
• Job Satisfaction	**Y1.1**	**0.668**	0.708
	Y1.2	0.819	
	Y1.3	**0.626**	
	Y1.4	**0.642**	
	Y1.5	**0.688**	
	Y1.6	0.716	
	Y1.7	0.778	
	Y1.8	0.701	
	Y1.9	0.745	
	Y1.10	0.770	
	Y1.11	**0.652**	
	Y1.12	0.791	
	Y1.13	**0.614**	
	Y1.14	**0.662**	

Table 4 shows the outer loading and AVE for job satisfaction indicators. Several indicators have outer loading values below 0.7, indicating invalid measurement of job satisfaction for Company XYZ. This suggests deficiencies in intrinsic aspects like lack of independence (Y1.1), opportunities to help (Y1.3) or lead colleagues (Y1.4), and job fit (Y1.5). Extrinsic issues include dissatisfaction with salary (Y1.11), promotion opportunities (Y1.13), and work environment (Y1.14). Furthermore, the AVE score shows value of >0.5, in which that >50% variance of the indicators can be explained by the constructs.

Table 5 Outer loading and AVE for OCB

	Indicator	Outer loading	AVE
OCB	Y2.1	0.821	0.462
	Y2.2	**0.545**	
	Y2.3	**0.673**	
	Y2.4	0.755	
	Y2.5	0.824	
	Y2.6	**0.516**	

	Y2.7	**0.649**
	Y2.8	0.736
	Y2.9	**0.574**
	Y2.10	0.732
	Y2.11	**0.536**
	Y2.12	**0.652**
	Y2.13	**0.535**
	Y2.14	0.803
	Y2.15	0.716

Similarly to the previous variable, Table 5 shows some OCB indicators with outer loading values below 0.7 (bolded), indicating certain OCB behaviours are not practiced by employees. These include covering for colleagues (Y2.2) or helping sick colleagues (Y2.3), staying informed about organizational developments (Y2.6), arriving early (Y2.7), and reminding colleagues of deadlines (Y2.9). Additionally, employee's express dissatisfaction with their salary (Y2.12) and a willingness to switch companies for higher pay (Y2.11). The AVE score for OCB exceeds 0.5, meaning the constructs explain over 50% of the indicator variance.

Table 6 shows discriminant validity, with each indicator's cross loading on its construct higher than on other constructs, indicating the indicators accurately reflect their respective latent variables.

Table 6 Cross loading for indicators

	Indicator	Job Satisfaction (JS)	Intrinsic Motivation (IM)	OCB
IM	X1.1	0.603	**0.845**	0.689
	X1.2	0.467	**0.696**	0.517
	X1.3	0.690	**0.926**	0.749
	X1.4	0.705	**0.841**	0.809
	X1.5	0.675	**0.880**	0.809
	X1.6	0.650	**0.842**	0.740
JS	Y1.1	**0.668**	0.519	0.524
	Y1.2	**0.819**	0.675	0.682
	Y1.3	**0.626**	0.552	0.610
	Y1.4	**0.642**	0.402	0.441
	Y1.5	**0.688**	0.619	0.550
	Y1.6	**0.716**	0.582	0.543
	Y1.7	**0.778**	0.614	0.643
	Y1.8	**0.701**	0.474	0.471
	Y1.9	**0.745**	0.509	0.596
	Y1.10	**0.770**	0.544	0.681
	Y1.11	**0.652**	0.457	0.609
	Y1.12	**0.791**	0.569	0.688
	Y1.13	**0.614**	0.392	0.577
	Y1.14	**0.662**	0.530	0.579
OCB	Y2.1	0.662	0.763	0.821
	Y2.2	0.426	0.504	0.545
	Y2.3	0.513	0.506	0.673
	Y2.4	0.671	0.718	0.755
	Y2.5	0.705	0.744	0.824
	Y2.6	0.415	0.380	0.516
	Y2.7	0.493	0.593	0.649
	Y2.8	0.569	0.677	0.736
	Y2.9	0.432	0.479	0.574
	Y2.10	0.593	0.659	0.732
	Y2.11	0.466	0.328	0.536
	Y2.12	0.600	0.461	0.652

Y2.13	0.529	0.477	0.535
Y2.14	0.674	0.682	0.803
Y2.15	0.638	0.618	0.716

2) Evaluation of Inner Model

The inner model evaluation measures the model's accuracy using R^2 and Q^2. The R^2 is 0.576 for job satisfaction (η1) and 0.822 for OCB (η2). This means intrinsic motivation explains 57.6% of the variance in job satisfaction among Company XYZ employees, with the remaining 42.4% explained by other variables.

The OCB value of 0.822 reveals that 82.2% of its variance is explained by intrinsic motivation, with 17.8% by other factors. Q^2 scores for OCB and job satisfaction exceed 0, indicating accurate prediction by the model. This shows intrinsic motivation effectively explains job satisfaction and OCB among PT PELINDO III head office employees.

4.4 Hypothesis Testing on The Significance of Parameter

The purpose of hypothesis testing in this research is to find out the effect of exogenous variable on endogenous variable.

1) The Hypothesis Testing of Intrinsic Motivation on Job Satisfaction and OCB

Table 7 Estimated Parameter and T-value for Each Construct

Indicator	Parameter Coefficient	T-value	P-values
IM → OCB	0.542	7.197	0.00
IM → JS	0.761	13.294	0.00
IM → OCB	0.424	5.806	0.00

The results in Table 8 show that the T-values for all variables exceed $Z(\alpha$=5%) = 1.96. This indicates that intrinsic motivation significantly affects both OCB (IM → OCB) and job satisfaction (IM → JS) among Company XYZ head office employees. Additionally, job satisfaction has a significant impact on employees' OCB levels (JS → OCB). The structural model equations based on Table 8 are as follows:

$$OCB = 0.542OIM + \varsigma_1$$
$$JS = 0.761OIM + \varsigma_2$$
$$OCB = 0.542JS + \varsigma_3$$

Positive coefficients show intrinsic motivation positively affects both OCB and job satisfaction (JS), and job satisfaction positively correlates with OCB, indicating higher job satisfaction leads to increased OCB levels.

2) The Hypothesis Testing of Job Satisfaction as a Mediating Variable on The Relationship Between Intrinsic Motivation and OCB

First, the significance of intrinsic motivation (ξ_1) on OCB (η_2) is tested without job satisfaction. The T-statistic obtained is 39.306, surpassing $Z(\alpha$=5%) = 1.96, indicating a significant direct effect. Next, the mediating effect is calculated by multiplying the coefficients 0.761 (IM → JS) and 0.424 (JS → OCB), resulting in 0.323.

$$T = \frac{Indirect\ effect}{Standard\ Error} = \frac{0.323}{0.0693} = 4.651$$

With a T-statistic exceeding $Z(\alpha$=5%) = 1.96, it can be concluded, in line with H4 hypothesis, that job satisfaction significantly influences the link between intrinsic motivation and OCB among Company XYZ head office employees. The structural equation with the mediation variable is presented below.

$$OCB = 0.542IM + 0.424JS + \varsigma_4$$

Furthermore, the Variance Accounted (AVE) is known to be 0.626. The AVE falls within the range of 20% to 80%, indicating a partial mediation effect. This suggests that highly motivated employees at Company XYZ are likely to perform their jobs well and feel satisfied with their work. Once satisfied, they are more inclined to exhibit behaviours that align with organizational expectations.

5. Conclusions And Suggestions

5.1 Conclusions

1. The model evaluation found all indicators reliable for measuring intrinsic motivation, job satisfaction, and OCB among PT PELINDO III head office employees. However, some indicators were invalid:
    - Intrinsic motivation: Manager acknowledgment (X1.2).
    - Job satisfaction: Independence (Y1.1), helping (Y1.3), commanding (Y1.4), job-skill fit (Y1.5), promotion (Y1.13), salary (Y1.11), and work environment (Y1.14).
    - OCB: Helping/replacing colleagues when sick (Y2.2, Y2.3), organizational involvement (Y2.6), punctuality (Y2.9), and conflict prevention (Y2.13).
2. Intrinsic motivation significantly and positively affects OCB, indicating highly motivated employees exhibit more OCB behaviour.
3. Hypothesis testing revealed that intrinsic motivation has a positive and significant effect on job satisfaction. Additionally, job satisfaction significantly mediates the relationship between intrinsic motivation and OCB, with a significant effect size of 0.626.

5.2 Suggestions

4. Identifying invalid indicators offers insights for refining policies to boost job satisfaction, OCB, and intrinsic motivation among Company XYZ employees. However, the study's focus on permanent staff suggests broader analysis involving branch office employees for more comprehensive policy application across Company XYZ.

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