

# An investigation of the effects of job rotation, skill variation, and organizational support on employees' performance at private universities in Medan City, using work motivation as a mediating variable.

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## Abstract

*The effect of job rotation, skill variation, and organizational support on performance is investigated in this research, with work motivation serving as a mediating factor. This study's sample included 140 employees who were subject to job rotation at private universities in Medan City. The AMOS version 20.0 was utilized, along with analytical techniques such as path analysis and the Sobel test. Job rotation, skill variation, and organizational support were discovered to have a positive and significant effect on work motivation. Job rotation, skill variation, and organizational support have all been proven to help improve performance. Work motivation has a significant influence on employees' performance. The effect of job rotation, skill variation, and organizational support on employees' performance is partly mediated by how motivated they are at work.*

**Keywords:** Job Rotation, Skill Variation, Organizational Support, Work Motivation, Performance.

## Introduction

The success of an organization is impacted by employees' performance or the work accomplished by employees in line with their assigned obligations. Employees are a key company resource because they possess the skills, vigor, and originality necessary for the organization to fulfill its goals. Therefore, they must be managed as effectively as possible and provided with assistance and employment placements based on their capabilities and skills.

In order to enhance the performance of the employees, organizations must consider their employees' diverse interests and requirements. According to Muljani (2002), the need to satisfy these varied demands is seen as a motivating factor for doing anything, including employment. Professional workers cannot avoid the reality that they are unique individuals with interests, aspirations, and expectations of their workplace. The desire to meet this requirement will impact each individual's work motivation to do all activities necessary to achieve goals better than others.

For reputable organizations, growth and development will be centered on the formation of high-quality human resources. Therefore, private universities in the city of Medan must continue to enhance their organizational management. In their efforts to improve the performance of their employees, they are confronted with challenges, particularly their employees' lack of understanding of their various job tasks. This will delay the completion of the project or programs.

The poor work motivation of workers at private institutions in the city of Medan is shown by their habitual tardiness when it comes to the workplace. The decreased work motivation of these individuals has unquestionably contributed to their declining performance. In order to prevent this, the universities have created a finger print attendance system, with the expectation that this would increase employees' work

motivation. In addition, to enhance employees' performance, the institutions have created a system of job rotation. Employees' job rotation is thought to result in the acquisition of new skills and knowledge, as well as the prevention of employees' job saturation (Ortega, 2001). This is what the university expects of its employees. It will be possible to decrease saturation and supply extra skills and knowledge via employees' job rotation. Rotation is accomplished by transferring personnel from one field to another with a similar degree of responsibility and remuneration.

Developing and enhancing capabilities is essential for organizational dynamics and productivity. Therefore, a variety of skills are required of employees. In the context of human resource management, skill variation refers to a person's unique capital, which includes technical skills, acquired skills, and work skills. In order to prevent some of the negative psychological impacts, skill variety is required. Work and job status provide employees with relaxation and reduce stress, causing tension and conformity among professional practitioners. Thus, job variety is required as a spectrum of human capital competencies that permits goal-oriented activities at both the technical and contextual levels by organization members. In addition, employees' work processes may be supported by the provision of suitable organizational support through training, realistic work standards, and equipment and technology (Mathis & Jackson, 2001). The management of the institution has also recognized the significance of this organization's assistance. To support the work of employees, the university often conducts training and offers work facilities in line with the necessary technology (such as the supply of computer facilities and internet networks). However, due to the hurdles encountered, not all employees have a solid grasp of computer and internet use.

This study is corroborated by a number of prior studies, including that of Saravani and Abbasi (2013), who discovered that job rotation had no direct effect on work performance. The effect of job rotation on work performance is mediated by job satisfaction and skill variation. Lipu, Alam, and Umar (2013) discovered that job satisfaction, organizational support, leadership style, and motivation had a significant and positive effect on employees' performance.

According to Martikasari (2012), there is a substantial relationship between the work rotation system and other performance-affecting aspects, including motivation, welfare, work environment, teamwork, leadership, characteristics, and number of visitors. In addition, Juwita, Setiawan, and Sudiro (2012) study demonstrates that job rotation and organizational communication contribute indirectly to employees' performance through work satisfaction. This study differs from prior studies due to the inclusion of skill variation and job rotation factors that are mediated by work motivation.

The formulation of the issue in this study, based on the context indicated above, is that employees' comprehension of their particular job tasks remains inadequate. This causes the task to be performed late. The second issue is that employees often arrive late for work and leave earlier than the allowed hour. Job rotation, which is believed to still lack a positive impact on enhancing work motivation and employees' performance, tends to instill in employees a lack of confidence since they are seen as incapable of functioning. Then there is the skill variation of employees, which is even less obvious due to the poor capability of employees to do a range of occupations and the absence of organizations' maximal support for giving education and training to employees who are subject to job rotation.

This research aims to develop a model that can characterize the impacts of job rotation, skill variation, and organizational support using a never-before-studied conceptual framework. The merits of this study are that it serves as a reference and source of information for future research on the same topic, particularly characteristics linked to work rotation, skill variation, organizational support, work motivation, and employees' performance. This may be considered when making decisions to further enhance job motivation and employees' performance, resulting in improved employees' performance in the future.

Based on previous studies presented by the author, the following is the hypothesis for this study:

H1: Job rotation has a positive and significant effect on employees' work motivation at private universities, in Medan City.

H2: Skill variation has a positive and significant effect on employees' work motivation at private universities, in Medan City.

H3: Organizational support has a positive and significant effect on employees' work motivation at private universities, in Medan City.

H4: Job rotation has a positive and significant effect on employees' performance at private universities, in Medan City.

H5: Skill variation has a positive and significant effect on employees' performance at private universities, in Medan City.

H6: Organizational support has a positive and significant effect on employees' performance at private universities, in Medan City.

H7: Work motivation has a positive and significant effect on employees' performance at private universities, in Medan City

H8: Work motivation mediates the effect of job rotation on employees' performance at private universities, in Medan City

H9: Work motivation mediates the effect of skill variation on employees' performance at private universities, in Medan City

H10: Work motivation mediates the effect of organizational support on employees' performance at private universities, in Medan City

### Research methods

This study's population consisted only staff of private universities, comprising 361 individuals. According to Hair (2009), for the determination of the sample size in a SEM, 100 to 200 respondents multiplied by 5 to 10 indicators are required. In this research, there are 23 indicators,  $23 \times 6 = 138$ , plus two more samples in case of data outliers, for a total of 140 samples. The sampling technique employs a non-probability sampling method with a purposive sampling approach, with the limit that only personnel subject to work rotation may be sampled. This research collected data via the distribution of questionnaires to staff who were subject to job rotation. The scale utilized for measuring is the Likert Scale. The validity and reliability tests of a research instrument are administered to all respondents who have the same characteristics as employees subject to job rotation. The indices used to test the feasibility of the model are as follows:

**Table 1. Model Feasibility Test Index**

Goodness Of Fit Index	Cut-off Value
$\chi^2$ C-square Statistics	df, $\alpha = 5\%$
Probability	$\geq 0,05$
CMIN/DF	$\leq 2,00$
GFI	$\geq 0,90$
AGFI	$\geq 0,90$
TLI	$\geq 0,95$
CFI	$\geq 0,95$
RMSEA	$\leq 0,08$

Sumber: Ghozali (2013)

### Data analysis technique

Path analysis using SEM and Amos 20.0 are used for data analytical techniques. Performance (Z), work motivation (Y), rotation ( $X_1$ ), skill variation ( $X_2$ ), and organizational support ( $X_3$ ) are the variables that will be examined in this study.

### Hypothesis testing

The significance of the correlation between variables was determined using the Critical Ratio (CR) value, which corresponded to the  $t_{test}$  and probability value in the regression. If the CR value is greater than 2.58 and the P value is less than 0.05, the relationship is significant (Ferdinand, 2014).

### Mediation Test

In this study, there is one intervening variable, namely work motivation. Mediation hypothesis testing can be done with the Sobel test procedure (Sobel Test).

According to Hair et al. (2010; in Solimun, 2011), if (a) and (b) are significant and (c') is not significant, then work motivation is said to be a perfect mediating variable (full mediation).

If (a) and (b) are significant and (c') is also significant where the coefficient of (c') is smaller (down) than (c), then work motivation is said to be a partial mediation variable.

If (a) and (b) are significant and (c') is also significant, where the coefficient (c') is almost the same as (c), then work motivation is said to be not a mediating variable.

If one (a) or (b) or both are not significant, then it is said not to be a mediating variable.

## Results

### Confirmatory Factor Analysis

Following are the indicator values derived from the CFA test results:

**Table 2. CFA Test Results**

		<b>Variable Indicator</b>	<b>Estimate</b>	<b>Cut of Value</b>	<b>Conclusion</b>
X1.1	<---	Work Rotation	,752	0.60	Valid
X1.2	<---	Work Rotation	,726	0.60	Valid
X1.3	<---	Work Rotation	,759	0.60	Valid
X1.4	<---	Work Rotation	,759	0.60	Valid
X2.1	<---	Skill Variation	,779	0.60	Valid
X2.2	<---	Skill Variation	,740	0.60	Valid
X2.3	<---	Skill Variation	,793	0.60	Valid
X2.4	<---	Skill Variation	,771	0.60	Valid
X3.1	<---	Organizational support	,739	0.60	Valid
X3.2	<---	Organizational support	,747	0.60	Valid
X3.3	<---	Organizational support	,753	0.60	Valid
X3.4	<---	Organizational support	,754	0.60	Valid
Y1	<---	Work motivation	,698	0.60	Valid
Y2	<---	Work motivation	,807	0.60	Valid
Y3	<---	Work motivation	,765	0.60	Valid
Y4	<---	Work motivation	,752	0.60	Valid
Z1	<---	Performance	,724	0.60	Valid
Z2	<---	Performance	,748	0.60	Valid
Z3	<---	Performance	,754	0.60	Valid
Z4	<---	Performance	,740	0.60	Valid
Z5	<---	Performance	,793	0.60	Valid
Z6	<---	Performance	,773	0.60	Valid
Y5	<---	Work motivation	,752	0.60	Valid

Table 1 displays valid indications for each variable, as indicated by a value larger than 0.60. Therefore, this model merits testing in the subsequent phase.

### Model Fit Test

#### Full Model Before Modification

The model appropriateness test was performed to determine the extent to which the construct met the goodness of fit (GOF) criteria. The following is a figure of the model's appropriateness test prior to its modification:

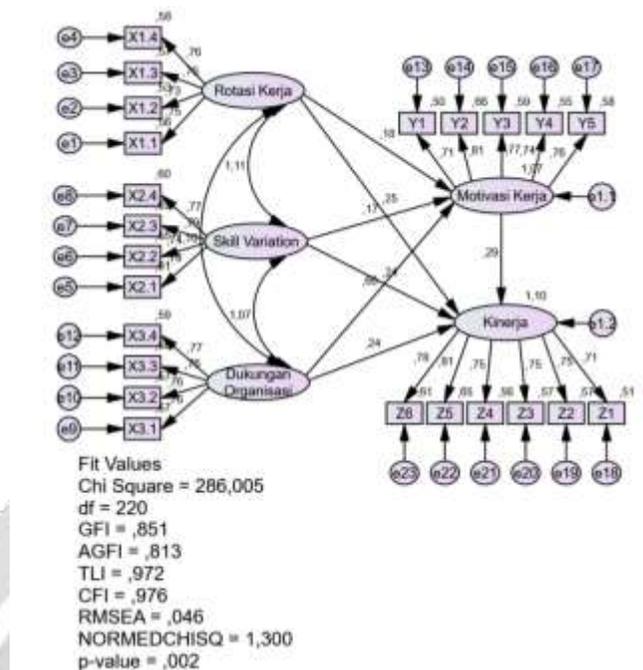


Figure 1. Full Model Before Modification

In Figure 1, it can be seen that the constructs used to form the research model have not met the GOF criteria. Such as the value of GFI ( $0.851 < 0.90$ ), AGFI ( $0.813 < 0.90$ ) and the p-value is still below 0.05.

**Full Model After Modification**

To conform to the GOF requirements, the model was modified by linking the error terms suggested by the system. Here is a figure of the updated complete model:

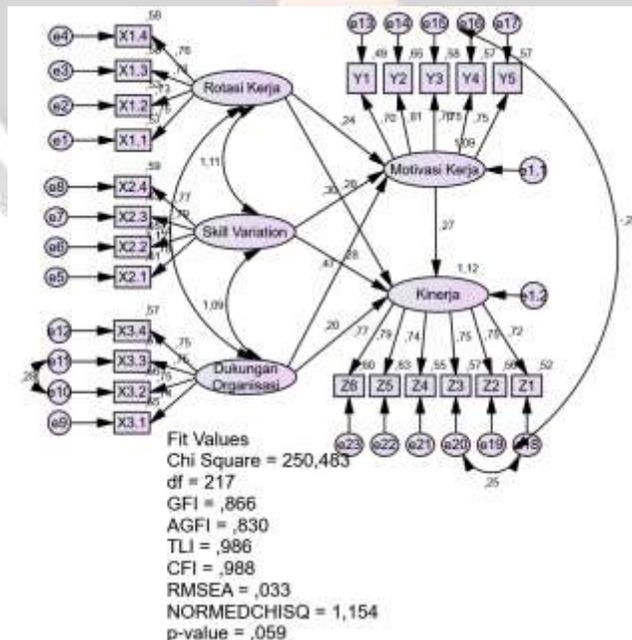


Figure 2 Full Model After Modification

In Figure 2, it can be seen that the construct is much better at meeting the GOF criteria, such as the chi-square, TLI, CFI, RMSEA, and CMIN/DF values, which have met the required criteria and are further emphasized with a p-value of 0.059, which is greater than 0.05, indicating that the model formed is very significant. It is except for the GFI and AGFI values, which are still marginal but close to good.

## Discussion

According to Ferdinand (2014), if the probability value (P) is less than 0.05, it is considered significant, and if the Critical Ratio (CR) value is greater than 2.58, the hypothesis is accepted. The effect of the independent variable on the dependent variable is shown in Table 3.

**Table 3. Hypothesis Test Results**

			Std. Estimate	Estimate	SE	CR	P
Work motivation	<---	Work Rotation	,238	,213	0.060	3,567	***
Work motivation	<---	SkillVariation	,302	,238	,086	2,759	,006
Work motivation	<---	Support Organization	,474	,421	,106	3,984	***
Performance	<---	Work motivation	,266	,295	0.099	2,965	,003
Performance	<---	Support Organization	,199	,195	,089	2,699	0.028
Performance	<---	Work Rotation	,283	,280	0.051	5,442	***
Performance	<---	SkillVariation	,276	,241	,065	3,724	***

This research hypothesis has been tested as shown in Table 3.

### *The effect of job rotation on work motivation*

Table 3 shows that job rotation has a significant effect on work motivation with a standardized estimate value of 0.238 (23.8%), a critical ratio value of 3.567, and a probability value (\*\*\* or 0.000). This shows that job rotation at private universities in Medan City has a positive and significant effect on how motivated employees are to do their jobs.

### *The effect of skill variation on work motivation*

Table 3 demonstrates that skill variation has a significant effect on work motivation with a standardized estimate value of 0.302 (30.2%), a critical ratio value of 2.759, and a probability value of 0.006. This proves that the skill variation has a positive and significant effect on employees' work motivation at private universities in Medan City.

### *The effect of organizational support on work motivation*

Table 3 shows that organizational support has a significant effect on work motivation with a standardized estimate value of 0.474 (47.4%), a critical ratio value of 3.984, and a probability value (\*\*\* or 0.0001). This proves that organizational support has a positive and significant effect on employees' work motivation at private universities in Medan City.

### *The effect of work rotation on performance*

Table 3 shows that job rotation has a significant effect on performance with a standardized estimate value of 0.283 (28.3%), a critical ratio value of 5.442 and a probability value (\*\*\* or 0.0001). This proves that job rotation has a positive and significant effect on employees' performance at private universities in Medan City.

### *The effect of skill variation on performance*

Table 3 demonstrates that skill variation has a significant effect on performance with a standardized estimate value of 0.275 (27.6%), a critical ratio value of 3.724, and a probability value (\*\*\* or 0.0001). This proves that skill variation has a positive and significant effect on employees' performance at private universities in Medan City.

### *The effect of organizational support on performance*

Table 3 shows that organizational support has a significant effect on performance with a standardized estimate value of 0.199 (19.9%), the critical ratio value of 2.699, and a probability value of 0.028. This proves that organizational support has a positive and significant effect on employees' performance at private universities in Medan City.

### *The effect of work motivation on performance*

Table 3 shows that work motivation has a significant effect on performance with a standardized estimate value of

0.266 (26.6%), a critical ratio value of 2.965, and a probability value of 0.003. This proves that work motivation has a positive and significant effect on employees' performance at private universities in Medan City.

*Work motivation mediate influence work rotation to performance*

The findings of the following Sobel test reveal the mediating effect of work motivation on the relationship between job rotation and performance.

Input:	Test statistic:	Std. Error:	p-value:
a 0.238	Sobel test: 2.2245682	0.02845856	0.02611024
b 0.266	Aroian test: 2.17763844	0.02907186	0.02943297
$\beta_a$ 0.060	Goodman test: 2.274669	0.02783174	0.02292579
$\beta_b$ 0.099	Reset all	Calculate	

**Figure 3 Sobel Test Results**

Table 3 and Figure 3 show that the significance of the -a (0.0001), -b (0.003), -c (0.0001), and -c' (0.026) pathways was found to be significant. This means that work motivation partially mediates the effect of job rotation on employees' performance at private universities in Medan City. Work motivation not only has a direct effect on improving employees' performance at private universities in Medan City, but it can also be an intermediary between job rotation and employees' performance at private universities in Medan City.

*Work motivation mediate influence skill variation to performance*

The findings of the subsequent Sobel test reveal the mediating effect of work motivation on the relationship between skill variation and performance.

Input:	Test statistic:	Std. Error:	p-value:
a 0.302	Sobel test: 2.13389347	0.03764574	0.0328515
b 0.266	Aroian test: 2.0813285	0.0385965	0.03740385
$\beta_a$ 0.086	Goodman test: 2.19065347	0.03667034	0.02847688
$\beta_b$ 0.099	Reset all	Calculate	

**Figure 4 Sobel Test Results**

The -a (0.006), -b (0.003), -c (0.0001), and -c' (0.033) pathways are all significant, as seen in Table 3 and Figure 4. This demonstrates that work motivation partially mediates the effect of skill variation on employees' performance at private universities in Medan. Work motivation not only has a direct effect on employees' performance at private universities in Medan City, but it may also serve as a mediator between skill variation and performance.

*Work motivation mediate the influence of organizational support to performance*

To determine the mediation effect of work motivation on the relationship between organizational support and performance, the following Sobel test findings may be analyzed:

Input:	Test statistic:	Std. Error:	p-value:
a 0.474	Sobel test: 2.30309566	0.05474545	0.02127346
b 0.266	Aroian test: 2.28191467	0.05574216	0.02370268
$\beta_a$ 0.106	Goodman test: 2.34661104	0.05373025	0.01894502
$\beta_b$ 0.099	Reset all	Calculate	

**Figure 5 Sobel Test Results**

The significance of the -a (0.0001), -b (0.003), -c (0.028), and -c' (0.0213) pathways was determined to be significant based on Table 3 and Figure 5. This demonstrates that work motivation partially mediates the relationship between organizational support and employees' performance at private institutions in Medan. Work motivation not only has a direct effect on employees' performance at private universities in Medan City, but it may also operate as a mediator between organizational support and performance.

## Conclusion & Suggestions

### Conclusions

This research produces several theoretical implications, namely as follows:

- Rotation has a positive and significant effect on employees' work motivation at private universities in Medan City.
- Skill variation has a significant effect on employees' work motivation at private universities in the city of Medan.
- Organizational support has a positive and significant effect on employees' work motivation at private universities in Medan City.
- Rotation has a positive and significant effect on employees' performance at private universities in Medan City.
- Skill variation has a significant effect on employees' performance at private universities in the city of Medan.
- Organizational support has a positive and significant effect on employees' performance at private universities in Medan City.
- Work motivation has a positive and significant effect on employees' performance at private universities in Medan City.
- Work motivation partially mediates the effect of rotation on employees' performance at private universities in Medan City.
- Work motivation partially mediates the effect of skill variation on employees' performance at private universities in Medan City.
- Work motivation partially mediates the effect of organizational support on employees' performance at private universities in Medan City.

### Suggestion

Contributions or suggestions that researchers can submit to the leadership of the universities are as follows:

- To improve employees' performance at universities, the leadership must first increase work motivation, organizational support, and employee rotation. Because these three variables have been proven to theoretically and practically affect employees' performance.
- To increase employee motivation, efforts that can be made include: providing an appropriate workload for all employees, especially employees subject to rotation; giving promotions; having superiors who continue to motivate their subordinates; and providing appropriate incentives for employees who work overtime. Through these efforts, it is expected that employees' work motivation can be increased again so that it can have a positive and significant influence on employees' performance at universities in the future.
- To increase organizational support, efforts that can be made include: fair distribution of workload for each employee; superiors providing full support for employee work problems; providing promotions for outstanding employees; and co-workers able to provide comfort for other employees at work.
- The next suggestion that researchers can put forward regarding efforts to increase rotation is that the rotation method still needs to be improved, both in terms of employees who are subject to rotation and in terms of their placement. The rotation must also be on target so that the rotation that is applied does not cause a lack of confidence, reduce employee motivation, or cause other new problems.

### References

- Ferdinand, Augusty. (2014). *Metode Penelitian Manajemen*. Semarang: Badan Penerbit Universitas Diponegoro.
- Hair, J, Anderson, R, Tatham, R. Black, W. (2009). *Multivariate Data Analysis*, 6th ed, Pentice-Hall, Englewood Cliffs, New Jersey, Prentice Hall.
- Juwita, Kristin. Setiawan, Margono & Sudiro, Achmad. (2012). *Analisis Rotasi Pekerjaan, Komunikasi Organisasi Dan Pengaruhnya Terhadap Kinerja Melalui Kepuasan Kerja Karyawan (Studi Pada Rumah Sakit Islam Malang)*. Fakultas Ekonomi dan Bisnis. Universitas Brawijaya. Diakses: Maret 2013.

- Lipu, Andi Tonra. Alam, Syamsu & Umar, Fauziah. (2013). *Kepuasan Kerja, Dukungan Organisasi, Gaya Kepemimpinan, Motivasi Kerja Terhadap Kinerja Karyawan Pada PT. Bank Mega. Program Magister Manajemen* Fakultas Ekonomi Universitas Hasanuddin.
- Martikasari, Sabtuti. (2012). *Pengaruh Sistem Rotasi Kerja Terhadap Peningkatan Kinerja Pustakawan Di UPT Perpustakaan Universitas Diponegoro*. Fakultas Ilmu Budaya, Universitas Diponegoro. Semarang.
- Mathis, Robert L. & Jackson, John H. (2001). *Manajemen Sumber Daya Manusia*, Buku I . Salemba Empat. Jakarta.
- Muljani, Ninuk. (2002). *Kompensasi sebagai Motivator untuk Meningkatkan Kinerja Pegawai*. Jurnal Manajemen & Kewirausahaan, Vol. 4, No.2.
- Ortega, Jaime. (2001). *Job Rotation as a Learning Mechanism*. Management Science. Vol. 47 No. 10.
- Rivai, Veithzal. (2008). *Manajemen Sumber Daya Manusia Untuk Perusahaan Dari Teori ke Praktek*. PT Raja Grafindo Perkasa, Jakarta.
- Robbins, P. Stephen. (2006). *Perilaku Organisasi*. Edisi 10. PT. Indeks Kelompok Gramedia.
- Saravani, Shahin Rasouli & Abbasi, Badri. (2013). *Investigating The Influence of Job Rotation on Performance By Considering Skill Variation And Job Satisfaction of Bank Employees*. Tehnički vjesnik 20, 3(2013), 473-478. ISSN 1330-3651(Print), ISSN 1848-6339 (Online) UDC/UDK 331.101.262:[331.586:331.101.6.
- Solimun, (2011). *Analisis Variabel Moderasi dan Mediasi*. Program Studi Statistika FMIPA Universitas Brawijaya. Malang.

