Original Article

Analysing the Effect of Human Resources Quality and Information Technology Utilization towards Employees' Motivation and Performance

Nanin Marliana [a], Zainal Ilmi [a,*] and Irwansyah [a]

[a] Department of Economics, Faculty of Economics and Business, Universitas Mulawarman, Kota Samarinda, 75119 Kalimantan Timur, Indonesia; naninmarliana@gmail.com (N.M); irwansyah@feb.unmul.ac.id (I.I)
* Correspondence: zainal.ilmi@feb.unmul.ac.id (N.M)

Abstract: This study analyses the effect of the quality of human resources and the use of information technology on motivation and the effect of the quality of human resources, utilisation of information technology and motivation on employee performance. This study was conducted with a quantitative approach. This study's population were BPJS Ketenagakerjaan Samarinda Branch employees, with a sample of 36 people determined through the saturated sampling method. Data was collected through the distribution of questionnaires. The data were analysed by the Structural Equation Modeling - Partial Least Square and assisted by SmartPLS 3. The results show that the quality of human resources has a positive and significant effect on motivation, the quality of human resources has a positive and significant effect on employee performance, and motivation has a positive effect and significant on employee performance, the use of information technology has a positive and significant effect on motivation, and the use of information technology has a positive but not significant effect on employee performance.

Keywords: human resources quality; information technology utilisation; employee motivation; employee performance

1. Introduction

The implementation of SJSN in Indonesia has grown yearly, ranging from participation for formal sector workers during the New Order era to universal insurance covering health, pensions, and work benefits (Tao et al., 2020). This evolution aims to increase the reach of social security to a broader range of workers and improve the existing system, especially for those who receive the benefits. The basis for the SJSN revolution is the ratification of Law No. 24 of 2011, where the implementation of social security in Indonesia is divided into two administrative bodies, namely BPJS Health (ASKES) and BPJS Employment (JAMSOSTEK). This study will discuss further related to social security in the field of employment organised by BPJS Ketenagakerjaan. BPJS Ketenagakerjaan is a public legal entity directly responsible to the president in protecting workers from overcoming socio-economic risks due to work relationships, such as work accidents, death, old age, retirement and job loss.

The transformation of BPJS Ketenagakerjaan requires adaptation adjustments in a short time. It brings changes in work methods and models, laws and regulations, additional program benefits, and changes in the technology system used to implement employee performance appraisal policies. This transformation, of course, experiences obstacles in its implementation so that it will affect the achievement of the expected performance, such as the achievement of employee targets that cannot be optimal, the application of technology used, especially in terms of online services which are still often problematic, the lack of motivation of employees and not optimal support for good management motivation in terms of training and awards received by employees. Therefore, seeing the importance of the existing business processes in BPJS Employment and the increasingly complex future challenges in terms of supporting government programs to provide excellent and quality services to BPJS Employment participants and work partners, it is deemed necessary to improve employee performance on an ongoing basis, especially in terms of quality of human resources, utilisation of information technology and increased motivation.

2. Literature Review

2.1. Quality of Human Resources

Human resources are critical in moving a business organisation towards profitability. Therefore it must be managed professionally to create a balance between the organisation's demands, the needs of employees and the organisation's progress. Makulova et al. (2015) argue that the quality of human resources is a person's capability to carry out work based on life experience, knowledge and skills he has. Mulyati et al. (2022) said indicators of human resources that have good quality include:

1. Knowledge
2. Understanding
3. Skill
4. Value
5. Attitude
6. Interest

2.2. Utilisation of Information Technology

Information technology is a person's choice in using or not an existing information technology to reveal positive contributions to its users. Technology can process, compile, store and change data to obtain useful or high-quality information in various ways (Nurjaya et al., 2021). Widjaja et al. (2021) explain the dimensions of the use of information technology are:

1. Network speed connectivity (wired/wireless)
2. Connectivity coverage (coverage area) of applications on business processes
3. Employee trust in using technology to be more productive
4. Minimise job risk.

2.3. Motivation

According to the company's operational standards, motivation is an essential aspect for an employee to carry out the work. The main motivation of each employee is to realise his self-concept, live according to the role he likes, treat the preferred way of acting and get rewarded in a preferred way, depicting one's appreciation for his skills (Munggaran et al., 2015). According to Firdaus (2022), the dimensions of work motivation based on McCLelland's theory are having a sense of responsibility and enthusiasm, consistent attitude, courage to take risks, desire to give the best, good relations between others, leadership abilities and also the ability to work together.

2.4. Performance

Companies or organisations will need efficient and effective employee performance because they can support advancing the company or organisation. Wirawan (2010) explain that performance has an extension in the form of "work energy kinetics", or English, called performance. Performance is the result obtained from indicators or functions of a job at a time. According to Setiawan et al. (2022), there are five indicators of employee performance, namely:

1. The quality of work shows the suitability and quality of work on the work standard.
2. Speed indicates that the task is completed on time and achieved in line with the target.
3. Initiative characterises ideas given to support the achievement of goals and can use spare time.
4. Ability to demonstrate completion of work as expected and complete it well.
5. Communication relates to the ability to communicate well with leaders and co-workers.

3. Materials and Methods

Sugiyono (2017) states that population is an area of speculation which includes subjects with characteristics and attributes that the analyst decides to understand and draw conclusions from. The population of this research is all employees at BPJS Ketenagakerjaan, Samarinda Branch, totalling 36 people. In their work, they are supported by computerised facilities to justify the answers. The sample is part of the characteristics and number of the population. The sample is determined through saturated sampling, where the entire population is used as a sample. This research's data sources are primary and secondary data, and the resulting data will be analysed using the smartPLS 3.0 analysis tool. This research consists of variables of quality of human resources, utilisation of information technology, motivation and performance. The following is the research model:
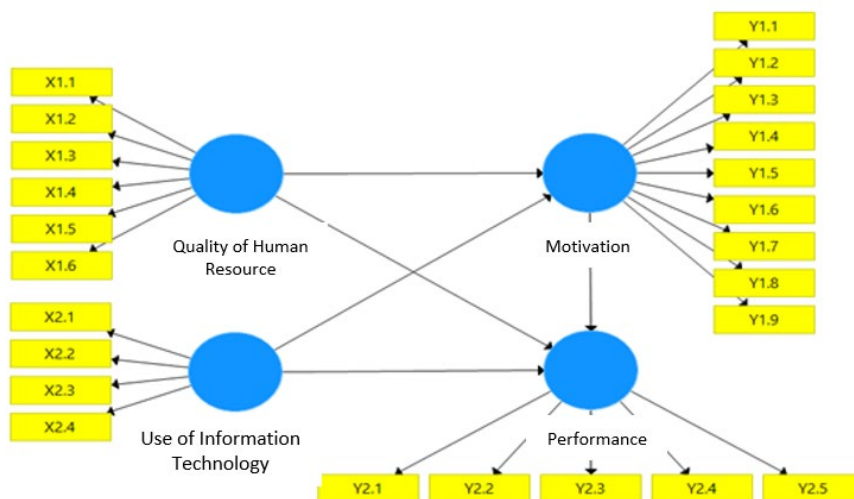

Figure 1. Research Framework

The proposed hypotheses are as follows:

H1: Quality of human resources has a positive and significant effect on the motivation of BPJS Ketenagakerjaan Samarinda Branch.

H2: Use of information technology has a positive and significant effect on the motivation of the BPJS Ketenagakerjaan Samarinda Branch.

H3: Motivation has a positive and significant effect on the performance of BPJS Ketenagakerjaan in the Samarinda Branch.

H4: Quality of human resources has a positive and significant effect on the performance of the BPJS Ketenagakerjaan Samarinda Branch.

H5: Use of information technology has a positive and significant effect on the performance of BPJS Ketenagakerjaan in the Samarinda Branch.

4. Results and Discussion

4.1. Convergent Validity

Convergent validity measures the correlation value between constructs and latent variables. An indicator can be ideal or reliable if the loading factor value is 0.70, which means the indicator is valid, but if the loading factor value of 0.5 is still acceptable. The following are the results of SmartPLS data processing in the details of the outer loading table:

Table 1. Outer Loading

Item	Performance (Y_2)	Quality of Human Resources (X_1)	Motivation (Y_1)	Use of Information Technology (X_2)
$X_{1.1}$		0.903		
$X_{1.2}$		0.909		
$X_{1.3}$		0.866		
$X_{1.4}$		-0.118		
$X_{1.5}$		0.017		
$X_{1.6}$		-0.065		

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Item		
X$_{2.1}$		0.882
X$_{2.2}$		0.851
X$_{2.3}$		0.896
X$_{2.4}$		0.024
Y$_{1.1}$	0.847	
Y$_{1.2}$	0.865	
Y$_{1.3}$	0.856	
Y$_{1.4}$	0.840	
Y$_{1.5}$	0.648	
Y$_{1.6}$	-0.016	
Y$_{1.7}$	-0.057	
Y$_{1.8}$	-0.238	
Y$_{1.9}$	-0.161	
Y$_{2.1}$	0.849	
Y$_{2.2}$	0.872	
Y$_{2.3}$	0.898	
Y$_{2.4}$	0.901	
Y$_{2.5}$	-0.059	

Table 1 shows that if there is a loading factor whose value is below 0.50, it must be removed, then the total value of the loading factor <0.50 consists of X1.4, X1.5, X1.6, X2.4, Y1.6, Y1.7, Y1.8, Y1.9 and Y2.5 so it must be recalculated.
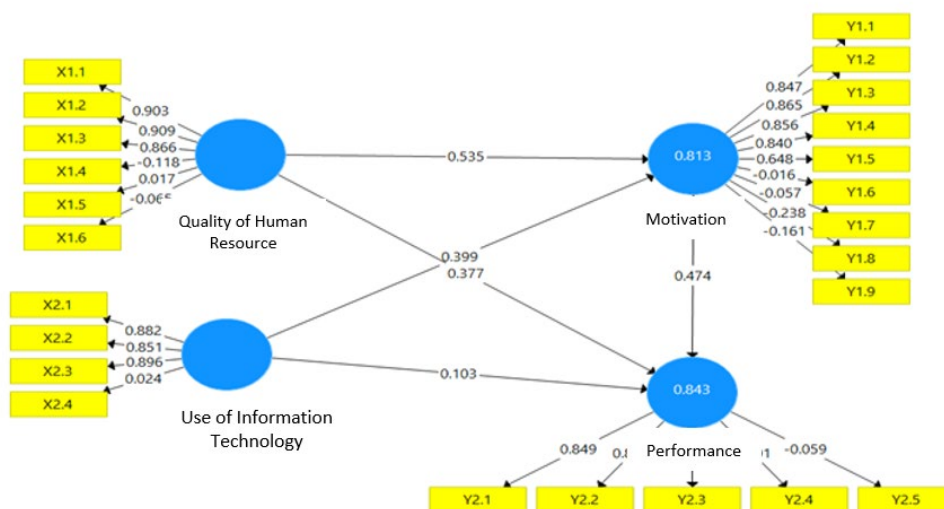

Figure 2. Result of Outer Loading

Table 2. Result of Outer Loading Recalculation

Item	Performance (Y$_2$)	Quality of Human Resources (X$_1$)	Motivation (Y$_1$)	Use of Information Technology (X$_2$)
X$_{1.1}$		0.904		
X$_{1.2}$		0.909		
X$_{1.3}$		0.866		
X$_{2.1}$				0.886
X$_{2.2}$				0.849
X$_{2.3}$				0.896
Y$_{1.1}$			0.858	
Y$_{1.2}$			0.856	
Y$_{1.3}$			0.870	

$Y_{1.4}$		0.838
$Y_{1.5}$		0.646
$Y_{2.1}$	0.849	
$Y_{2.2}$	0.875	
$Y_{2.3}$	0.896	
$Y_{2.4}$	0.901	

Table 2 shows all the outer loading values obtained are above 0.50. Thus, it is stated that the condition of convergent validity has been fulfilled.
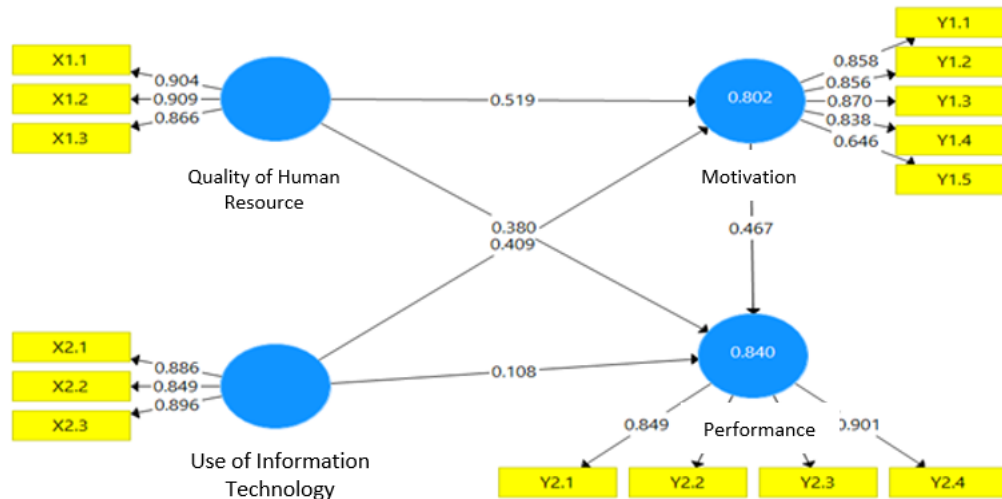

Figure 3. Result of Outer Loading Recalculation

4.2. Discriminant Validity

In order to identify the validity of the indicator, the method is to observe the value of the square root of the AVE (extracted mean variance). The recommended value is 0.5. The SmartPLS output for the extracted average variance can be clearly observed through the following details in Table 3:

Table 3. Result of Square Root of AVE (Average Variance Extracted)

Variable(s)	Square Root of AVE			
Performance (Y2)	0.880			
Quality of human resources (X1)	0.879	0.893		
Motivation (Y1)	0.800	0.870	0.878	
Use of Information Technology (X2)	0.833	0.858	0.855	0.877

4.3. Composite Reliability

The reliability calculation results can be obtained by acquiring composite reliability values from the indicator block that performs construct measurements. Where the acquisition of composite reliability shows the maximum value if the value is > 0.70, as detailed in Table 4 below:

Table 4. Composite Reliability

Variable(s)	Composite Reliability	Decision
performance (Y_2)	0.932	Reliable
quality of human resources (X_1)	0.922	Reliable
motivation (Y_1)	0.909	Reliable
Use of Information Technology (X_2)	0.909	Reliable

4.4. Cronbach's Alpha

Cronbach's alpha calculation aims to measure the lower limit of the reliability value of a construct. In this case, the alpha value must be > 0.7, although the value of 0.6 is still acceptable. Cronbach's alpha value for each variable will be explained in detail in Table 5.

Table 5. Cronbach's Alpha

Variable(s)	Cronbach's Alpha	Decision
Performance (Y_2)	0.903	Reliable
Quality of human resources (X_1)	0.873	Reliable
Motivation (Y_1)	0.873	Reliable
Use of Information Technology (X_2)	0.850	Reliable

Table 5 captures that Cronbach's alpha of all variables has a value above 0.70. It shows that each variable has met Cronbach's alpha, so it can be concluded that all variables have a good level of reliability.

4.5. Hypothesis testing

After the model has passed the validity and reliability measurement model test and the structural model test to test the relationship between latent constructs, the next process is hypothesis testing. Based on the subchapters of research problem formulation, hypotheses, and the results of the structural model analysis or the inner model between the latent constructs of the research model, to answer the research problem formulation and prove the hypothesis, it can be seen from table 6 below:

Table 6. Result of hypothesis testing

Path Analysis	Original Sample (O)	T Statistic (O/STDEV)	P Values
Quality of human resources --> Performance	0.380	2.079	0.038
Quality of human resources --> Motivation	0.519	3.026	0.003
Motivation --> Performance	0.467	2.160	0.031
Use of Information Technology --> Performance	0.108	0.558	0.577
Use of Information Technology --> Motivation	0.409	2.218	0.027

Table 6 captures the result of hypothesis testing. This study found that quality of human resources and use of information technology have a significant positive effect on motivation. Also, Quality of human resources has a significant positive effect on performance. Besides that, use of information technology does not influence the employee performance.
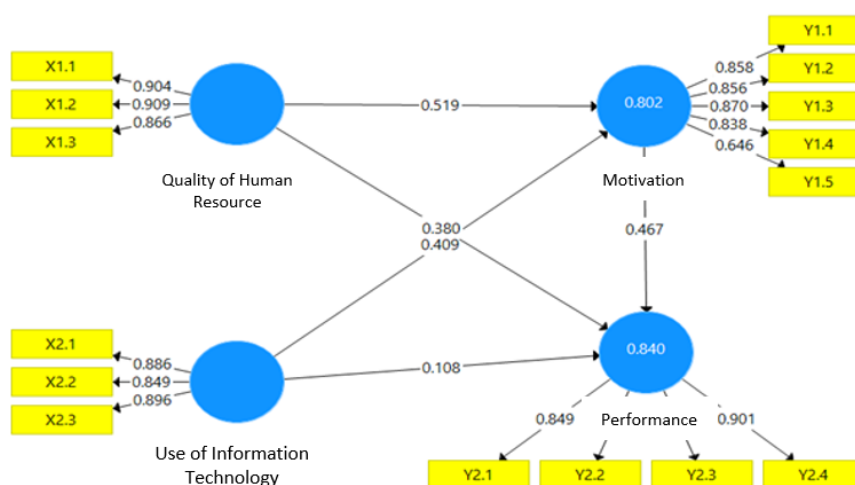

Figure 4. Result of hypothesis testing (PLS Algorithm)

5. Discussions

5.1. The influence of the quality of human resources on motivation

The discussion of the quality of human resources on motivation is to provide answers to the formulation of problems and hypotheses that describe the quality of human resources that have a positive and significant effect on motivation. It aligns with the research of Sastra et al. (2019) and Zulfina et al. (2020). The description of employee characteristics, which is dominated by employee tenure between 10 - 20 years, gives employees a lot of experience and a good understanding of BPJS Ketenagakerjaan so that the support for these employee characteristics can motivate themselves and their colleagues.

5.2. The effect of the use of information technology on motivation

The discussion of the use of information technology on motivation answers the formulation of problems and hypotheses that describe the use of information technology to have a positive and significant effect on employee motivation. These results align with the research of Munggaran et al. (2015). The application of information technology can result in positive changes in work habits so that employees will be motivated by perceived usefulness and ease of use. The characteristics of the employees of BPJS Ketenagakerjaan in Samarinda Branch, who are dominated by productive age between 25-35 years, make them highly motivated in utilising information technology. In addition, good internet network speed connectivity in the office also makes employees motivated to use it.

5.3. The effect of motivation on performance

The discussion of motivation on performance is to provide answers to the formulation of problems and hypotheses that describe motivation as having a positive and significant effect on performance. It is supported by the consistent attitude and ability of BPJS Ketenagakerjaan Samarinda Branch employees in working such as discipline to time, focus on targets and having creativity in completing the work. Leadership motivation is needed to encourage employees to have high performance and job satisfaction.

5.4. The influence of the quality of human resources on employee performance

The discussion related to the quality of human resources on employee performance is to provide answers to the formulation of problems and hypotheses that describe the quality of human resources and have a positive and significant effect on employee performance, which means that the higher the level of quality of human resources at BPJS Ketenagakerjaan, Samarinda Branch, the performance of its employees will increase. Supported by the good level of understanding and knowledge of employees about BPJS Employment business processes, it is very helpful in completing their work.

5.5. The effect of the use of information technology on employee performance

The discussion of the use of information technology on employee performance answers the formulation of problems and hypotheses that describe the use of information technology to have a positive but insignificant effect on employee performance. It means that the use of information technology has not been able to improve the performance of BPJS Ketenagakerjaan employees in the Samarinda Branch optimally because, based on the results of the analysis of employee performance, it is more dominated by the ability of employees to complete their work. There are still obstacles in using information technology, so employees have been unable to optimise its use.

6. Conclusions

In conclusion, this study has indicated that the quality of human resources has a positive and significant effect on the motivation of BPJS Ketenagakerjaan Samarinda Branch. The use of information technology has a positive and significant effect on the motivation of the BPJS Ketenagakerjaan Samarinda Branch. Motivation has a positive and significant effect on the performance of BPJS Ketenagakerjaan in the Samarinda Branch. The quality of human resources has a positive and significant effect on the performance of BPJS Ketenagakerjaan employees in the Samarinda Branch. The use of information technology does not have a positive and significant effect on the performance of BPJS Ketenagakerjaan employees in the Samarinda Branch.

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