



The role of HR information system in boosting the performance of employee

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ABSTRACT

The massive development of information and communication technology requires companies to be able to adapt and implement the HR information system as a medium in developing work systems in companies. This research has purpose to identify and further analyze regarding the role of HR information system in improving employee performance both directly and indirectly which is through competence and work discipline. This research applied quantitative method with causality approach by taking sample of 200 respondents through snowball sampling technique. According to the research results and the analysis of data, it can be said that HR information system has capacity to increase the performance of employees at PT XL Axiata both directly and indirectly (through) competence and work discipline as mediating variables. Apart from having an influence towards the employee performance, based on these results it is also stated that HR information system could improve the competence and work discipline of employees at PT XL Axiata.

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INTRODUCTION

The development of information and communication technology is growing rapidly in all parts of the world. This could be view by the use of internet for daily life which continues to increase from year to year. At the beginning of 2022, global internet users have been increased by 4% or reached 4.95 billion users compared to 2022 which only reached 4.66 billion users (Indonesians Digital Report, 2022). In Indonesia alone, the number of internet users has also continued to rise sharply and reach 212.9 million users in early 2023 compared to earlier of 2022 which only reached 204.7 million users (Indonesian Digital Report, 2022; Kompas, 2023). With the increase in internet users, companies are require to continue to adjust in order to facing this massive competition, including PT. XL Axiata which engaged in telecommunications and internet service providers in Indonesia.

By referring to the statistic report of Indonesian Industry Focus Telecommunication, Customers of PT XL Axiata only reached 56.77 million subscribers in 2021, major loss when it compared to PT Telkomsel which reached 169.2 million subscribers and PT Indosat Ooredoo which

sealed 60.3 million subscribers in the same year (Andriarsi, 2021). In early 2022, PT Telkomsel also succeeded in defeating PT XL Axiata in bidding the 2.1 GHz frequency which owned by PT Indosat Ooredoo that lead to confirmation that PT Telkomsel is topping the chart by becoming the number one telecommunication company in Indonesia (Setyowati, 2022).

Another phenomenon which authors found was the decline in profits generated by PT XL Axiata throughout 2022. Referring to the company's financial statements, PT XL Axiata recorded the decline occurred which is up to 14.11% in Q1 2022 and continued to decline until it reached decline in profits of 1.01 trillion rupiah in Q3 2022 and decrease in profit of 1.1 trillion rupiah in Q4 2022 (Abigail, 2022a, 2022b; Madjid, 2023). The existence of these phenomena is certainly related to the performance of employees of PT XL Axiata itself.

Employee performance could be describes as comparison between the results of work of the employee and work standards set by the company for both in terms of quality and quantity of work for individuals or groups in conducting basic tasks and functions that are guided by norms, standard operating procedures which set up by the company (Dessler, 2018; Mangkunegara, 2017). In response to the employee performance, in the last 3 years, the employee performance of PT XL Axiata has fluctuated with successive averages of 83.81%, 100% and 78.62%. Based on this fluctuating performance of employees in the last 3 years which is tend to decrease last year, so the improvement in Employee performances should be done immediately by PT XL Axiata Jakarta.

Based on pre-survey results whom conducted by the author, there are 3 (three) main factors that are suspected to have influenced to the performance of employees of PT XL Axiata Jakarta namely competence, work discipline and the implementation of HR information system. According to Wibowo (2016), competence is described as person's ability to performed job based on the skills, capabilities and also knowledge as well as attitude at work which form of responsibility to accomplish all tasks which assigned to them. Several previous research had been stating that the competence of employee played biggest part improve the performance of employee (Hartati, 2020; Mardiyah & Purba, 2019; Parashakti et al., 2020; Sulantara et al., 2020). However, Supiyanto's research (2015) found that competency neither has influence on employee performance..

Apart from competence, work discipline is also thought to have an influence in affecting the performance of employees of PT XL Axiata Jakarta. Work discipline could be identified as behavior which shown by employees to control and strengthen their morale against company rules (Bugdol, 2018). The concept of work discipline will also encourage the success in career by improving the quality and quantity of an employee's work in sustainable manner (Figari, 2011; Keller et al., 2014). Hasanah & Lo (2020), and Suprpti et al. (2020) through their research stated that employees who have high level of discipline will feel satisfaction with work and foster morale, thus having an impact on significantly increasing their own performance. However, these results are in contrast to research by Bawelle & Sepang (2016) which declared that employee performance did not affected by work discipline.

The last factor that Is thought having an impact to the employee performance of PT XL Axiata is the implementation of HR information system. Quoted from Johnson et al. (2016), HR information system is an information system used by companies to obtain, analyze and distribute human resource information within company to support managerial processes in decision making. Furthermore, this HR information system is not only beneficial for the HR function, but also beneficial for company stakeholders in increasing sustainable competitive advantage (Parry & Tyson, 2008; Suharti & Sulisty, 2018). DeLone & McLean (2016) on their research revealed that a good HR information system which have good quality systems and information that can affecting its users to increase their effectiveness and performance. Furthermore, a clear and relevant HR information system are shaped by good information quality, good system quality and system structure which can lift the performance of employee and make it easier for companies to potray the needs of their employees (Davaranah & Mohamed, 2013; Jonni & Husein, 2019; Kurniasih et

al., 2013). Meanwhile, HR information system which not supported by good information quality and user readiness will have none impact on improving the performance of employee (Lindawati & Salamah, 2011).

With the existence of these phenomenon and several research gaps which have been conducted priorly, then the authors decided to make the HR information system as an independent variable in this study, as well as being a novelty in this study because there is only few research which discusses about the correlation between HR information systems and compensation, work discipline which in the end impact brought an impact towards the employee performance. Competence and work discipline were chosen as mediating variables because the authors wanted to know and analyze further relates to the influence of HR information system at PT XL Axiata Jakarta in influencing these two variables. The research approachment used is causality in order to reveal the causal relation from these research variables based on phenomena occurred and research gaps that have been conveyed in an effort to achieve the desired purpose of the research. Through this research, the authors hope to assist the management of PT XL Axiata Jakarta in making strategic decisions related to research variables in improving employee work in general which expected to improve company performance in the future.

RESEARCH METHOD

Quantitative method chosen as research design with causality approach to describe the connection between variables studied (Hair et al., 2018; Sugiyono, 2019). The context of this research was conducted to determine the influence of HR information system on competence and work discipline and its impact to the performance of employees of PT XL Axiata Jakarta. This research performed towards 200 respondents who were employees of PT XL Axiata Jakarta through snowball sampling as sampling technique. The selection of sample would be based on the theory from Hair et al. (2018), namely 5 x the number of indicators in which there are 39 research indicators, so that minimum of 195 samples need to be gathered which rounded up by the authors into 200 respondents.

Data collection method was carried out by observation, online interviews and questionnaires which were distributed via Google form to research respondents who were then evaluate using SEM-PLS with assist of SmartPLS v.3.8 through outer model and inner model tests in order to seek validation from research instruments and research hypotheses. The observations were made through regular direct observations at PT XL Axiata Jakarta office related to the use of HR information system in the existing management system at the company. After knowing the phenomena and problems that occur through observation, the author conducts online interviews (pre-research) with several employees of PT XL Axiata Jakarta to strengthen the initial findings and problems that have been found. After conducting online interviews, then the authors created questionnaire which in form of Google form for the target sample or respondents in this study who were employees of PT XL Axiata Jakarta. The list of questionnaire in this study can be seen through Table 1.

Table 1. List of questionnaire in this research

Items	Questionnaire list	Items	Questionnaire list
	HR Information System (X)		Work Discipline (Y2)
HIS1	The system is convenient to use	WD1	I try to come to work earlier than the allotted time
HIS2	The system is effective to support the needs of employees at work	WD2	I have break according to the appointed time
HIS3	The data information in the system is always up to date	WD3	I didn't leave the office earlier than the appointed time
HIS4	The data information which contained in	WD4	I always try to wear neat clothes while

	the system is clear and accurate		working according to applicable regulations
HIS5	The system can be used for employee needs	WD5	I behave politely in the work environment of the company
HIS6	The intensity of use is very good	WD6	I understand the rules that apply in the office which obeyed by all employees
HIS7	I am satisfied with the use of the system	WD7	I always try to maintain my attitude and behavior while working
HIS8	I had pleasant experience when using the system	WD8	I work according to the job description which is my responsibility at work
HIS9	The system can increase work performance and productivity	WD9	I am responsible for the work that has been completed
HIS10	The system can increase the effectiveness of task implementation	WD10	I followed all the norms that apply to every employee
		WD11	I realize the importance of maintaining and implementing an employee code of ethics
Competence (Y1)		Employee Performance (Y3)	
CO1	I always work with oriented to the accomplishes the tasks	EP1	I am able to understand well about the task given
CO2	I have the will to achieve work targets	EP2	I am able to perform my work with satisfactory results
CO3	I have high initiative in carrying out tasks	EP3	I am able to complete my work based on target given
CO4	I am able to work with the team	EP4	I am able to complete tasks within the allotted time
CO5	I have confidence in my ability to complete tasks	EP5	I am able to maximize my available time for doing other activities
CO6	I am able to keep my emotions well in performing my duty	EP6	I can maximize the use of organization resources (human, money, technology, raw materials)
CO7	I have knowledge about my job	EP7	I am able to carry out tasks according to the scope of work
CO8	I am able to pass on the knowledge I have to colleagues	EP8	I am able to finish my work without any help of my superior/coworkers
CO9	I have the skills in accordance with the field of work		
CO10	I am able to think analytically and conceptually related to tasks/work/duty		

RESULTS AND DISCUSSIONS

Based on the questionnaire distribution results, the characteristics of these 200 respondents were mostly female (58.12%), aged between 31-40 years (43.71%), had bachelor degree (50.63%) and had been worked between 5 -10 years (51.38%). This could be viewed that the majority of respondents are women who have higher education and adequate work experience, so it is necessary to implement an HR information system (HRIS) in every line of business in PT XL Axiata in order to support the activities and mobility of these employees in improving their performance.

Evaluate the validity and reliability in this study through the outer model measurement with confirmatory factor analysis techniques through convergent and discriminant validity testing, as well as composite reliability testing (Ghozali, 2014; Hair et al., 2018). According to the convergent validity test results, it is obtained that the outer loading > 0.7, so it can be concluded that it meets the specified rules and requirements.

Discriminant validity testing using cross loading and AVE shows that the correlation value of the construct with the indicator is greater than the correlation value with other constructs and has an AVE value greater than 0.5, then in the other words it said that it meets the requirements of discriminant validity.

Through composite reliability test, it is found that all variables have Cronbach's alpha value > 0.7 with composite reliability value > 0.6 , so it said that those Variables meets the requirements of reliability test. By Referring to the convergent and discriminant validity test results, as well as composite reliability test, it can be concluded that all research instruments are declared valid and reliable, so the research model can be further investigated to examine the connection between variables through inner model.

Table 2. Summary of Measurement Model Results

Variable and items	Loading	AVE	Cronbach's alpha	Composite reliability	X	Y1	Y2	Y3
HR Information System								
HIS1	0.726	0.556	0.926	0.911	0.726	0.598	0.644	0.631
HIS2	0.716				0.716	0.631	0.570	0.670
HIS3	0.735				0.735	0.657	0.626	0.668
HIS4	0.743				0.743	0.620	0.625	0.670
HIS5	0.782				0.782	0.686	0.610	0.677
HIS6	0.765				0.765	0.664	0.644	0.704
HIS7	0.737				0.737	0.625	0.598	0.655
HIS8	0.765				0.765	0.674	0.645	0.685
HIS9	0.744				0.744	0.646	0.605	0.685
HIS10	0.737				0.737	0.664	0.590	0.627
Competence								
CO1	0.748	0.571	0.930	0.916	0.687	0.748	0.617	0.673
CO2	0.772				0.675	0.772	0.622	0.664
CO3	0.718				0.585	0.718	0.626	0.669
CO4	0.734				0.660	0.734	0.636	0.665
CO5	0.788				0.668	0.788	0.625	0.709
CO6	0.744				0.649	0.744	0.651	0.652
CO7	0.770				0.708	0.770	0.650	0.691
CO8	0.795				0.654	0.795	0.609	0.667
CO9	0.774				0.684	0.774	0.664	0.678
CO10	0.711				0.578	0.711	0.615	0.583
Work Discipline								
WD1	0.843	0.601	0.943	0.933	0.681	0.698	0.843	0.671
WD2	0.739				0.600	0.604	0.739	0.616
WD3	0.759				0.667	0.649	0.759	0.703
WD4	0.775				0.663	0.635	0.775	0.680
WD5	0.769				0.639	0.664	0.769	0.639
WD6	0.784				0.660	0.664	0.784	0.695
WD7	0.741				0.585	0.607	0.741	0.621
WD8	0.800				0.615	0.660	0.800	0.673
WD9	0.770				0.641	0.631	0.770	0.639
WD10	0.768				0.615	0.633	0.768	0.662
WD11	0.777				0.668	0.675	0.777	0.667
Employee Performance								
EP1	0.788	0.583	0.926	0.910	0.668	0.699	0.692	0.788
EP2	0.732				0.696	0.643	0.609	0.732
EP3	0.744				0.634	0.644	0.636	0.744
EP4	0.784				0.696	0.683	0.629	0.784
EP5	0.753				0.658	0.694	0.664	0.753

EP6	0.799	0.693	0.688	0,643	0,799
EP7	0.734	0.708	0.659	0,640	0,734
EP8	0.760	0.711	0.674	0,662	0,760
EP9	0.773	0.685	0.666	0,682	0,773

Inner model in this research is carried out by R² examination, Q² test, GoF model validation, and bootstrapping model estimation (Ghozali, 2014; Hair et al., 2018). Based on the results from R² test, it said that competency, work discipline and employee performance are 0.752, 0.680, 0.859 the value is higher than 0.67, so it can be concluded that HR information system can strongly predicted the competence, work discipline and employee performance at PT. XL Axiata. Next, from the Q² test results, the value 0.424, 0.402, 0.494 was obtained, which was higher than 0.35, therefore it could be said that the model had very good predictive relevance. Furthermore, through the GoF test model it was obtained the value of 0.665 which was greater than 0.36, so it can be assumed that the combination performance of the outer and inner models seems good and fulfilled the criteria.

Table 3. Summary of Structural Model Results

Constructs	R Square	R Square Adjusted	SSO	SSE	Q ² (=1-SSE/SSO)
HR Information System			2000.000	2000.000	
Competence	0.753	0.752	2000.000	1152.656	0.424
Work Discipline	0.682	0.681	2200.000	1315.150	0.402
Employee Performance	0.861	0.859	1800.000	911.28	0.494
GoF	$\sqrt{AVE \times R^2} = 0.665$				

By quoting to hypothesis test results which completed through bootstrapping, then it can be concluded that:

1. HR information system brought significant positive effect in boosting the employee competence of PT XL Axiata. This is proven by the coefficient value 0.868, p-value > 0.05 and t-statistics > 1.96.
2. HR information system has significantly positive impact in lifting work discipline of PT XL Axiata’s employees. This is evidenced by the coefficient value 0.826, p-value > 0.05 and t-statistics > 1.96.
3. HR information system brought significant positive effect in improving the employee performance of PT XL Axiata. This is proven by the coefficient value 0.431, p-value > 0.05 and t-statistics > 1.96.
4. Competence has significantly positive effect in improving the performance of employees of PT XL Axiata. This is evidenced by the coefficient value 0.303, p-value > 0.05 and t-statistics > 1.96.
5. Work discipline brought significant positive effect on improving the employee performance at PT XL Axiata. This is evidenced by the coefficient value 0.244, p-value > 0.05 and t-statistics > 1.96.
6. Competence and work discipline have a role in partially mediating the influence of the HR information system on the performance of employees of PT XL Axiata. This is proven by the value of indirect effect coefficient which smaller than its direct effect, p-value > 0.05 and t-statistics > 1.96.

Table 4. Significance test results

Path	Original Sample	T Statistics	P Values	Results
HRIS -> Competence	0.868	20.912	0.000	H ₁ Supported
HRIS -> Work Discipline	0.826	16.003	0.000	H ₂ Supported
HRIS -> Employee Performance	0.431	3.222	0.001	H ₃ Supported
Competence -> Employee Performance	0.303	2.324	0.021	H ₄ Supported

Work Discipline -> Employee Performance	0.244	2.504	0.013	H ₅ Supported
HRIS -> Competence -> Employee Performance	0.263	2.287	0.023	H _{6a} Supported
HRIS -> Work Discipline -> Employee Performance	0.201	2.414	0.016	H _{6b} Supported

The test results shows that HR information system has significantly positive effect in boosting the competence of employees of PT XL Axiata. These results confirmed the research from Lasmaya (2016) who found that HRIS brought direct effect in improving employee's competence. This is show by the use of the right HR information system technology it will manages human resources easier where the use of technology will create several advantages such as ease of verification, trust in the reliable of technology, ease of controlling data, increased work speed and ease of understanding performance. Those are points which can increase the competence of employees, besides by the implementation of HRIS that is in accordance with the needs of employees which could help the company to develop the competence of their employees, so that the employee performance will get better results.

By the test results it shows that HR information system brought significant positive effect in lifting the employee discipline at PT XL Axiata. These results is in line with the research from Lasmaya (2016), Panjaitan (2019), and Sholikah et al. (2022) who also found that HR information system has direct effect which can improve work discipline of an employee in the organization. This indicates that the application of HR information system in a company has a huge impact not only for the company itself but also for its users as well. That big impact could be felt if the users can make good use of it so it will make it easier for them to work and manage work schedules in a more structured manner in accordance with existing rules.

Based on test results it is indicates that HR information system has significantly positive effect on improving the performance of employees at PT XL Axiata. These results confirmed the research from Davarpanah & Mohamed (2013), Jonni & Husein (2019), Kurniasih et al. (2013), Lasmaya (2016), Panjaitan (2019), and Sholikah et al. (2022) who found that HR information system can significantly increase the performance of employee. This proving that clear and relevant HR information system which supported by good information quality, system quality and system structure can boost the performance of employee and found to be effective to illustrates the needs of their employees. Furthermore, the implementation of good HR information system within the company can make it easier for employees and top management to carry out their duties so the employee's data records relates to employee and company needs will be straight more detailed, have an impact to increasing the employee performance and support top management in making the right decisions for the progress of the company.

From the test results it is shows that competence brought significant positive effect on improving the performance of employees at PT XL Axiata. These results is in line with the research by Hartati (2020), Mardiyah & Purba (2019), Parashakti et al. (2020), and Sulantara et al. (2020) yang menemukan bahwa kompetensi mampu meningkatkan kinerja karyawan. Hal ini who found that competence can enhance the performance of employee. This indicates that employees who have strong competence in perform their duties related to work, understand the problems occurred at work, mastering the work-related knowledge are the one who capable to think analytically in conducting the tasks, understand situations/think conceptually in performing the tasks, seek the latest information in carrying out the tasks, technical ability in performing the tasks, having innovation in carrying out good job which can improve their own performance in an organization.

The test results indicates that work discipline brought significant positive effect on improving the performance of employees at PT XL Axiata. These results were confirmed the research by Hasanah & Lo (2020), Hidayati & Putri (2022), Lasmaya (2016), Panjaitan (2019), Sholikah et al. (2022), and Suprapti et al. (2020) who found that work discipline has an impact in enhancing the employee performance. This is shows that discipline is the key to individual success, because through discipline, a person can use all abilities/talents which possessed on him. In other

words, work discipline is one of the most important aspects in organization in order to improve the performance and productivity of employees as well as organization. With good discipline, it will foster and create good character for employee themselves which then later create positive actions at work and become good example for other colleagues.

From the test results indicates that competence and work discipline plays an important role in mediating the influence of HR information system on the performance of employees at PT XL Axiata. These results were confirmed the research which conducted by Farahdiba & Nawangsari (2020) who declared that HRIS and work discipline which uttered by Panjaitan (2019), and Sholikah et al. (2022) are capable to intervene the influence of HR information system towards the employee performance. This is shows that the implementation of HR information system need to aligned with the goals of organization and should be adjusted to increase the competence and work discipline of employees, so that employees and organizations can get benefit from it..

CONCLUSION

Elicited from the research results and data analysis above, it can be decided that HR information system has capacity in improving the performance of employees of PT XL Axiata both directly and indirectly (through) competence and work discipline as mediating variables. Apart from having an effect on employee performance, according to these results, it can also be said that HR information system is capable to increases the competence and discipline of employees at PT XL Axiata.

This research contributes to the field of human resources, particularly in order to improve employee performance through the role of the application of information and communication technology that relates to current industrial developments, so that companies can start implementing HR information systems in each line of business in improving individual aspects within the company, such as competence and work discipline. With this research, the authors have several suggestions for PT XL Axiata's management such as to provide training on the use of HR information system by updating some of the features on it, therefore it would helps to lift the competence which employee have in order to continue to be improved. The management of PT XL Axiata are required to make some of improvements in the existing HR information system that is adjusted to the job desk and job specifications which carried by the employees, then the use of HR information system would be more directed according to the goals of the existing units at PT XL Axiata.

This research has several limitations, namely this research only examined one research object, which is the employee of PT XL Axiata Jakarta. Moreover, this research also only bounded to the influence which occurred between HR information system and competence, work discipline and employee performance, so that in the future, it is hope that the next researchers can conduct the similar research which also coverage the start-up companies, manufacturing and non-manufacturing businesses which Taking into account to the factors of system quality, information quality, the convenient to use, system speed as part of the HRIS.

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