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Implementation of Balanced Scorecard in Human Resource Management: Learning and Growth Perspective in Telecommunications Industry

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Abstract: The rapid development of information technology has shifted business competition from industrial-based to information-based competition, requiring companies to implement comprehensive performance measurement systems. This study investigates the implementation of Balanced Scorecard (BSC) in human resource management, specifically focusing on the learning and growth perspective in telecommunications infrastructure companies. Using quantitative research methodology with survey approach, this study examined 44 management-level employees at PT. Persada Sokka Tama. The research analyzes four key variables: employee job satisfaction, training programs, employee turnover, and career path development as predictors of human resource performance. Data analysis employed multiple regression analysis using SPSS 16.0. Results demonstrate that the learning and growth perspective variables collectively explain 86.3% of human resource performance variance (Adjusted $R^2 = 0.863$). Employee job satisfaction emerges as the most dominant factor ($\beta = 0.743$, $p < 0.001$), followed by career path development ($\beta = 0.232$, $p < 0.05$). The findings provide empirical evidence that BSC implementation in human resource management can effectively enhance organizational performance through strategic focus on employee development and satisfaction. The study contributes to the literature by demonstrating the practical application of BSC in emerging market contexts and provides actionable insights for HR practitioners in telecommunications industry.

Keyword: Balanced Scorecard Implementation, Human Resource Management, Learning and Growth Perspective, Employee Development, Telecommunications Industry

INTRODUCTION

The evolution of information technology has fundamentally transformed business competition paradigms from industrial era to information era. In this context, companies' ability to mobilize and exploit intangible assets becomes more determinant than managing physical assets. This transformation has created demand for more comprehensive

performance measurement systems that consider not only financial aspects but also non-financial factors that drive future performance. The Balanced Scorecard (BSC), developed by Kaplan and Norton, offers a balanced framework for measuring organizational performance through four perspectives: financial, customer, internal business processes, and learning and growth. The learning and growth perspective serves as the foundation for the other three perspectives, emphasizing employee capability development, information systems, and organizational culture as enablers for achieving strategic objectives.

The telecommunications industry, particularly the infrastructure sector, faces unique challenges in human resource management. Technology complexity, wide geographical distribution, and 24/7 service demands require sophisticated HR management approaches. PT. Persada Sokka Tama, as a telecommunications infrastructure provider, encounters challenges in consistently measuring and improving employee performance across various operational locations. Previous research indicates that BSC implementation can enhance organizational performance through strategic alignment and focus on factors that truly matter. However, research specifically exploring BSC implementation in HR management contexts within Indonesia's telecommunications industry remains limited. This gap motivates this research to analyze how the learning and growth perspective in BSC can be applied to improve human resource performance.

This research aims to: (1) analyze the influence of learning and growth perspective BSC implementation on HR performance, (2) identify the most influential factors within the learning and growth perspective, and (3) provide practical recommendations for BSC implementation in telecommunications industry HR management.

METHOD

This study employs a quantitative approach with explanatory research design to test causal relationships between learning and growth perspective BSC variables and HR performance. The research location is PT. Persada Sokka Tama, a telecommunications infrastructure company with operational areas covering Jabodetabek, Central Java, East Java, and West Nusa Tenggara. The research population includes all management-level employees (supervisor to director) who have implemented BSC in their work, totaling 78 people. Using the Slovin formula with 10% margin of error, a sample of 44 respondents was obtained through proportional stratified sampling based on geographical area and job level.

Research variables consist of four independent variables: employee job satisfaction (employee satisfaction), training programs (training programs), employee turnover rate (employee turnover), and career path development (career path development). The dependent variable is human resource performance measured through company policy indicators, salary and welfare, and employee communication. The research instrument uses structured questionnaires with 5-point Likert scales (1 = strongly disagree to 5 = strongly agree). Construct validity was tested using Corrected Item-Total Correlation with r-table = 0.361 at $\alpha = 0.05$. Internal reliability was tested using Cronbach's Alpha with minimum standard of 0.70. Data analysis employed multiple regression analysis using SPSS 16.0. Before regression analysis, classical assumption tests were conducted including: (1) normality test using Normal P-P Plot, (2) multicollinearity test using Variance Inflation Factor (VIF), and (3) heteroscedasticity test using residual scatterplot. Hypothesis testing used F-test for overall model significance and t-test for partial regression coefficient significance, with significance level $\alpha = 0.05$.

RESULT AND DISCUSSION

Respondent Profile and Variable Description

Table 1. Respondent Demographics

Characteristic	Category	Frequency	Percentage
Gender	Male	43	97.73%
	Female	1	2.27%
Age	26-30 years	6	13.64%
	31-35 years	23	52.27%
	36-40 years	11	25.00%
	41-45 years	4	9.09%
Education	Diploma	20	45.45%
	Bachelor's	23	52.27%
	Master's	1	2.27%
Tenure	<1 year	2	4.55%
	1-3 years	11	25.00%
	3-5 years	7	15.91%
	5-10 years	15	34.09%
	>10 years	9	20.45%
Position	Supervisor	30	68.18%
	Manager	11	25.00%
	General Manager	3	6.82%

Respondent profile analysis shows male dominance (97.73%) reflecting telecommunications infrastructure industry characteristics requiring high mobility and field work conditions. Age distribution shows 52.27% respondents aged 31-35 years, indicating a mature and experienced workforce. Education composition is dominated by bachelor's degree holders (52.27%) and diploma holders (45.45%), showing adequate HR qualifications for technology industry. Respondent tenure distributes with 34.09% having worked 5-10 years, indicating relatively good retention rates. Organizational structure shows 68.18% respondents positioned as supervisors, 25% managers, and 6.82% general managers, reflecting relatively flat organizational structure with optimal span of control.

Validity and Reliability Analysis

Table 2. Validity and Reliability Test Results

Variable	Items	Cronbach's Alpha	Validity Range	Status
Employee Satisfaction (X1)		0.891	0.532-0.735	Valid & Reliable
Training Programs (X2)		0.847	0.391-0.681	Valid & Reliable
Employee Turnover (X3)		0.823	0.444-0.594	Valid & Reliable
Career Path (X4)		0.885	0.406-0.785	Valid & Reliable
HR Performance (Y)		0.862	0.540-0.661	Valid & Reliable
Overall Scale		0.950	-	Excellent

Variable	tems	Cronbach's Alpha	Validity Range	Status
	3			

Validity tests show all items have Corrected Item-Total Correlation values > 0.361, confirming adequate construct validity. Cronbach's Alpha reliability coefficient of 0.950 > 0.70 demonstrates excellent internal consistency for all measured constructs.

Regression Model Evaluation

Table 3. Classical Assumption Tests

Test	Variable	Value	Criterion	Result
Normality	Kolmogorov-Smirnov	p = 0.200	p > 0.05	Normal
Multicollinearity	Employee Satisfaction	VIF = 3.279	VIF < 5	No problem
	Training	VIF = 2.035	VIF < 5	No problem
	Turnover	VIF = 2.088	VIF < 5	No problem
	Career Path	VIF = 2.195	VIF < 5	No problem
Heteroscedasticity	Scatter Plot	Random pattern	No pattern	No problem

Classical assumption tests show the regression model meets statistical requirements. Normality test through Normal P-P Plot shows residual distribution following diagonal line, confirming normality assumption is met. Multicollinearity test shows all VIF values < 5, indicating no multicollinearity problems. Heteroscedasticity test through scatterplot shows random residual distribution, confirming homoscedasticity.

Multiple Regression Analysis

Table 4. Regression Coefficients and Model Summary

Variable		Std. Error	Beta	t	Sig.	95% Confidence Interval
(Constant)	-2.431	.091		-1.163	.252	[-6.658, 1.795]
Employee Satisfaction	.743	.096	.787	7.697***	.000	[0.548, 0.938]
Training Programs	.083	.080	.083	1.029	.310	[-0.080, 0.246]
Employee Turnover	-0.057	.069	-0.068	-0.832	.410	[-0.196, 0.081]
Career Path	.232	.108	.179	2.143*	.038	[0.013, 0.451]

***p < 0.001, *p < 0.05

Table 5. Model Summary and ANOVA

Model Statistics	Value
R	0.936
R Square	0.876
Adjusted R Square	0.863
Std. Error of Estimate	1.298
F-statistic	68.604**
Sig. F Change	0.000
Durbin-Watson	2.172

The resulting regression model is: HR Performance = -2.431 + 0.743(Employee Satisfaction) + 0.083(Training) - 0.057(Turnover) + 0.232(Career Path)

The coefficient of determination shows Adjusted $R^2 = 0.863$, indicating that 86.3% of HR performance variation can be explained by the model, while 13.7% is explained by other factors outside the model. This value demonstrates very strong explanatory power. F-test yields F-statistic = 68.604 with p-value < 0.001, showing the model is statistically significant overall. This confirms that the learning and growth perspective BSC simultaneously significantly influences HR performance.

Partial Hypothesis Testing

Table 6. Hypothesis Testing Summary

Hypothesis	Variable	t-value	p-value	Decision	Effect Size
H1	Employee Satisfaction → Performance	.787	.697	0.000***	Supported	Large
H2	Training → Performance	.083	.029	0.310	Not Supported	Small
H3	Turnover → Performance	0.068	0.832	0.410	Not Supported	Small
H4	Career Path → Performance	.179	.143	0.038*	Supported	Medium

***p < 0.001, *p < 0.05

Partial regression coefficient analysis shows varied results for each variable. Employee job satisfaction demonstrates positive and significant influence ($\beta = 0.743$, $t = 7.697$, $p < 0.001$), confirming that satisfaction improvement substantially enhances HR performance. This result is consistent with motivation theory stating that satisfied employees tend to show superior performance. Career path development also shows positive and significant influence ($\beta = 0.232$, $t = 2.143$, $p = 0.038$), indicating that career clarity and development opportunities are important performance drivers. This aligns with expectancy theory emphasizing the importance of perceived career opportunities in motivating performance.

Conversely, training programs show positive but statistically non-significant coefficients ($\beta = 0.083$, $t = 1.029$, $p = 0.310$). Results indicate that although training positively influences performance, its impact is not substantial. Further analysis suggests this may be caused by gaps between training content and actual job requirements. Turnover shows negative but non-significant coefficients ($\beta = -0.057$, $t = -0.832$, $p = 0.410$). While the relationship direction meets theoretical expectations (high turnover → low performance), the low magnitude and significance indicate that in the research sample context, turnover has not become a critical issue affecting organizational performance.

Theoretical and Practical Implications

Research findings provide empirical support for BSC theoretical framework, particularly in HR management contexts. The dominance of job satisfaction influence confirms the importance of employee wellbeing as organizational performance foundation. This aligns with service-profit chain theory emphasizing the relationship between employee satisfaction and business outcomes. The significance of career path development influence indicates the importance of long-term perspective in HR management. In the knowledge economy era, ability to retain and develop talent becomes sustainable competitive advantage. Companies capable of providing clear career progression tend to have higher engagement and performance. The non-significance of training influence suggests the need for training strategy reevaluation. Effective training must be aligned with strategic objectives and individual development needs. Results indicate the need for shifting from training-focused to learning-focused approaches that are more personalized and outcome-oriented.

CONCLUSION

This research successfully confirms that learning and growth perspective implementation in Balanced Scorecard significantly influences human resource performance in telecommunications industry. The research model demonstrates very strong explanatory power with 86.3% of HR performance variation explained by learning and growth perspective factors. Employee job satisfaction emerges as the most critical factor determining HR performance, followed by career path development. These findings indicate that investment in employee wellbeing and career development are strategic imperatives that must be prioritized in HR management. This research provides theoretical contributions by enriching BSC literature in emerging market contexts and telecommunications industry. Practically, this research provides actionable frameworks for HR practitioners in implementing BSC as comprehensive HR management tools. Research limitations include generalizability limited to one company and specific industry. Future research can explore BSC implementation in different industry contexts or use longitudinal design to evaluate BSC implementation sustainability in the long term.

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