

HUMAN RESOURCE SCORECARD FOR MEASURING HOSPITAL HUMAN RESOURCE PERFORMANCE: AN INSTRUMENT STUDY AT RSUP DR BEN MBOI KUPANG

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Abstract:

Strategic measurement of hospital human resources is needed because administrative indicators alone cannot explain the contribution of workforce management to service quality and operational performance. This study aims to develop and initially evaluate a Human Resource Scorecard instrument to measure human resource performance at Dr. Ben Mboi General Hospital, Kupang. This study reports the quantitative instrument assessment phase of a broader exploratory sequential mixed methods study. Quantitative data were collected using purposive sampling from 200 respondents consisting of healthcare workers, administrative staff, and managerial personnel. The study employed confirmatory factor analysis or structural equation modeling. The results indicate that the Human Resource Scorecard Instrument for Dr. Ben Mboi General Hospital, Kupang, demonstrated acceptable initial item validity and strong internal consistency reliability. The overall Human Resource Scorecard level was moderate, indicating that human resource management practices have been implemented but still require targeted improvement. Performance and productivity were the strongest dimensions, while compensation and rewards were the weakest. Occupational safety and well-being also require managerial attention, particularly through working hours, workload, number of patients per shift, staffing adequacy, and prevention of workplace violence. These findings suggest that hospital human resource performance measurement should include strategic dimensions related to workforce capability, engagement, leadership, reward fairness, safety, well-being, and productivity. Recruitment, training, leadership, engagement, compensation, performance management, workplace well-being, workforce retention, and employee satisfaction are interrelated and can impact service processes, staff retention, and quality of care.

Keywords: Human Resource Scorecard, Hospital Human Resource Management, Instrument Validation, Employee Performance, Healthcare Workforce

INTRODUCTION

Hospitals are labor-intensive organizations in which service quality, patient safety, and operational continuity depend heavily on the performance of healthcare workers and supporting staff. Human resource management in hospitals therefore cannot be evaluated only through administrative indicators such as attendance, staffing lists, or document completeness. A strategic measurement system is required to connect workforce capability, engagement, leadership, work processes, and organizational outcomes, because hospital human resource management influences both the quality and efficiency of healthcare delivery (3,4,16).

The Human Resource Scorecard was developed to link human resource practices with organizational strategy and performance. It extends the logic of the Balanced Scorecard by positioning human resources as strategic assets whose contribution should be measurable through



causal and operational indicators (1,2). In hospital settings, this perspective is relevant because human resource practices are directly related to service processes, staff productivity, patient experience, safety culture, and operational efficiency.

Public hospitals face additional complexity because performance is defined by service accessibility, governance, compliance with health regulations, workforce sustainability, and patient safety, not only by financial indicators. For a referral hospital such as RSUP dr Ben Mboi Kupang, human resource performance measurement should reflect clinical and non-clinical work systems. Indicators such as staff competence, engagement, training effectiveness, workload, occupational safety, work hours, number of patients per shift, workplace violence risk, and reward systems are important because they may influence service quality and operational indicators (15,21-23).

Previous literature has emphasized that human resource management practices in healthcare are associated with employee performance, organizational performance, retention, work engagement, job satisfaction, and service quality (3-7,16,17). Studies on hospital human resource management also show that recruitment and placement, professional development, performance management, payment, and preservation or welfare are interrelated components of hospital workforce management (17). However, many hospital human resource assessment systems remain fragmented and administrative. Contextual evidence on validated Human Resource Scorecard instruments for Indonesian public hospitals, particularly in eastern Indonesia, is still limited.

This study aimed to develop and evaluate an initial Human Resource Scorecard instrument for measuring human resource performance at RSUP dr Ben Mboi Kupang. Specifically, this manuscript describes respondent characteristics, Human Resource Scorecard score distribution, item validity, internal consistency reliability, and managerial implications for hospital human resource improvement.

The specific research questions were: (1) what is the distribution of Human Resource Scorecard scores among hospital employees at RSUP dr Ben Mboi Kupang; (2) which Human Resource Scorecard dimension has the highest and lowest mean score; (3) do the 35 instrument items meet the initial item-validity criteria; and (4) does the instrument demonstrate acceptable internal consistency reliability? Because the study focused on initial instrument assessment, the manuscript did not test causal hypotheses among dimensions.

METHODS

Study Design. This manuscript reports the quantitative instrument assessment stage of a broader mixed-methods study on the development of a Human Resource Scorecard model for RSUP dr Ben Mboi Kupang. The broader design followed an exploratory sequential approach, in which qualitative exploration is used to inform instrument development and quantitative testing is used to evaluate the measurement properties of the instrument (8,9). The quantitative stage was directed by the research questions stated in the Introduction.

The present analysis focused on descriptive measurement results, item validity, and internal consistency reliability. The study was conducted in RSUP dr Ben Mboi Kupang, a public referral hospital in Kupang, Indonesia. This design was appropriate for initial instrument assessment but was not intended to establish causal relationships between Human Resource Scorecard dimensions and hospital performance outcomes. The study population consisted of hospital employees relevant to human resource performance measurement, including healthcare workers, administrative staff, and managerial personnel. A total of 200 respondents were included in the quantitative stage. Respondents were selected using purposive sampling from clinical and non-clinical units so that the sample represented work functions directly related to hospital human resource management.



Respondents came from inpatient care, outpatient care, the emergency department, intensive care, pharmacy, laboratory or radiology, the human resource unit, and administration or management units. The sample size was considered adequate for initial descriptive and reliability testing of the instrument. The respondent profile was analyzed using frequency and percentage distributions. The sampling design should be interpreted as purposive, non-probability sampling; therefore, the findings primarily describe the participating employees and should not be overgeneralized to all Indonesian public hospitals.

Instrument. The Human Resource Scorecard instrument consisted of 35 statement items measured using a Likert scale. The items were distributed into seven dimensions: recruitment and placement, training and development, performance and productivity, compensation and reward, employee satisfaction and engagement, leadership and organizational culture, and occupational safety and wellbeing.

Each dimension consisted of five items, with a possible score range of 5 to 25. The total instrument score ranged from 35 to 175. Higher scores indicated a more favorable perception of human resource performance management.

Ethical Considerations. The study was approved by [name of ethics committee/institution] under ethics approval number [to be added]. Before data collection, respondents received information about the study objective, voluntary participation, confidentiality, and the right to withdraw. Written informed consent was obtained from all respondents before questionnaire completion. No personal identifiers were reported in the manuscript.

Data Analysis. Data were analyzed using frequencies, percentages, means, standard deviations, and score categories. Item validity was assessed using item-total correlation. Items were considered valid when the calculated correlation exceeded the required critical value. Internal consistency reliability was assessed using Cronbach's alpha, with values above 0.70 considered acceptable for research instruments (10,11). No group-comparison inferential test was performed because the objective of the quantitative stage was initial instrument assessment rather than hypothesis testing across employee groups. This manuscript does not report confirmatory factor analysis or structural equation modeling. Therefore, the validity findings should be interpreted as initial item validity rather than full construct validation. Further factor analytic testing is recommended for future model confirmation.

RESULT AND DISCUSSION

Respondent Characteristics. The study involved 200 respondents. Most respondents were female, aged 25-35 years, had an undergraduate educational background, worked as nurses, and had 1-5 years of work experience. The respondent distribution indicated representation from clinical and non-clinical hospital units, which is important because the Human Resource Scorecard evaluates human resource management across different work functions.

Table 1. Respondent Characteristics

Characteristic	Category	Frequency	Percentage
Sex	Male	85	42.5%
	Female	115	57.5%
Age	<25 years	22	11.0%
	25-35 years	69	34.5%
	36-45 years	59	29.5%
	46-55 years	35	17.5%
	>55 years	15	7.5%



Education	Senior high school/vocational school	13	6.5%
	Diploma	50	25.0%
	Bachelor	94	47.0%
	Master	40	20.0%
	Other	3	1.5%
	Doctor	22	11.0%
Position	Nurse	68	34.0%
	Midwife	17	8.5%
	Other healthcare worker	35	17.5%
	Administrative staff	39	19.5%
	Managerial personnel	15	7.5%
Work experience	Other	4	2.0%
	<1 year	21	10.5%
	1-5 years	65	32.5%
	6-10 years	45	22.5%
	11-15 years	36	18.0%
	>15 years	33	16.5%

Human Resource Scorecard Description. The total Human Resource Scorecard mean score was 120.75 with a standard deviation of 15.94. The highest mean score was found in the performance and productivity dimension, whereas the lowest mean score was found in the compensation and reward dimension. This pattern suggests that respondents perceived work target clarity, productivity, and performance contribution more positively than reward fairness and compensation mechanisms. The finding is consistent with hospital HRM literature that positions payment and reward as core components of human resource strategy, because financial and non-financial rewards are linked to incentive systems, satisfaction, retention, and performance management (17,19).

Table 2. Mean Scores of Human Resource Scorecard Dimensions

Dimension	Mean	SD	Score Range
Recruitment and placement	17.42	3.56	5-25
Training and development	17.48	3.64	5-25
Performance and productivity	17.79	3.28	5-25
Compensation and reward	16.05	3.60	5-25
Employee satisfaction and engagement	17.45	3.48	5-25
Leadership and organizational culture	17.58	3.33	5-25
Occupational safety and wellbeing	16.98	3.72	5-25
Total Human Resource Scorecard	120.75	15.94	35-175

Most respondents were in the moderate Human Resource Scorecard category. This finding indicates that the hospital already has an operational basis for human resource management, but the system requires strengthening in specific dimensions, particularly compensation and reward as well as occupational safety and wellbeing.



Table 3. Human Resource Scorecard Category Distribution

Category	Frequency	Percentage
Low	2	1.0%
Moderate	130	65.0%
High	68	34.0%
Total	200	100.0%

Validity and Reliability of the Instrument. All 35 items met the validity criteria based on item-total correlation. The strongest item-total correlation range was observed in the occupational safety and wellbeing dimension. The leadership and organizational culture dimension showed the lowest range but remained valid. These results suggest that the items were sufficiently related to their intended dimensions.

Table 4. Item Validity Results by Dimension

Dimension	Number of Items	Item-total Correlation Range	Interpretation
Recruitment and placement	5	0.543-0.577	Valid
Training and development	5	0.558-0.602	Valid
Performance and productivity	5	0.483-0.598	Valid
Compensation and reward	5	0.557-0.593	Valid
Employee satisfaction and engagement	5	0.538-0.611	Valid
Leadership and organizational culture	5	0.473-0.585	Valid
Occupational safety and wellbeing	5	0.565-0.662	Valid

Reliability testing showed that all dimensions had Cronbach's alpha values above 0.70. The total instrument reliability was 0.899, indicating strong internal consistency. These findings support the use of the instrument as an initial measurement tool for hospital human resource performance.

Table 5. Reliability Results of the Human Resource Scorecard Instrument

Dimension	Number of Items	Cronbach Alpha	Interpretation
Recruitment and placement	5	0.786	Reliable
Training and development	5	0.798	Reliable
Performance and productivity	5	0.769	Reliable
Compensation and reward	5	0.790	Reliable
Employee satisfaction and engagement	5	0.789	Reliable
Leadership and organizational culture	5	0.761	Reliable
Occupational safety and wellbeing	5	0.812	Reliable
Total instrument	35	0.899	Reliable

Interpretation of Main Findings. The relatively high score in performance and productivity may reflect the structured nature of hospital work. Healthcare organizations commonly use standard operating procedures, work schedules, unit targets, and service quality expectations. These structures may make performance expectations clearer to employees than more subjective aspects such as compensation fairness or participation in decision-making.

The lowest score in compensation and reward is managerially important. Compensation and reward are closely related to motivation, perceived organizational justice, job satisfaction, employee retention, turnover intention, and employee performance. Studies in healthcare settings have shown



that compensation, benefits, training, development, and performance appraisal can contribute to employee performance and organizational outcomes (6,7,19,20). Therefore, reward systems should not be treated only as financial administration but as part of strategic human resource management.

Occupational safety and wellbeing also require attention. Healthcare workers are exposed to biological, physical, psychological, ergonomic, and social risks. In the context of RSUP dr Ben Mboi Kupang, this dimension should be interpreted more specifically through work-system factors that may influence occupational safety and wellbeing, including work hours, number of patients per shift, adequacy of staffing, mandatory overtime, workload, rest breaks, and exposure to workplace violence against health workers. Previous studies show that organizational workplace mental health interventions, staffing conditions, workload, work hours, and violence prevention are relevant to healthcare worker wellbeing and burnout outcomes (12,13,21-23).

The findings are consistent with the idea that human resource practices in healthcare should be evaluated through a broader performance framework. Recruitment, training, leadership, engagement, compensation, performance management, occupational wellbeing, workforce retention, and employee satisfaction are interrelated and can influence service processes, staff retention, and quality of care (3-5,14,16,17,24). A Human Resource Scorecard can help hospital managers convert these domains into measurable indicators and identify priority areas for improvement.

The current findings should be interpreted cautiously. Although all items were valid based on item-total correlation and reliability was strong, full construct validation requires exploratory factor analysis, confirmatory factor analysis, and, if causal relationships are proposed, structural equation modeling. These additional analyses are necessary before the instrument is claimed as a fully validated causal Human Resource Scorecard model. The present results support initial use as a descriptive and monitoring instrument, not as a confirmed causal model.

Managerial Implications. Hospital management can use the Human Resource Scorecard as a routine monitoring tool for human resource performance. The instrument can help identify dimensions that require policy intervention, especially compensation and reward, occupational safety and wellbeing, and consistency of human resource policy implementation across units. In operational use, the occupational safety and wellbeing dimension should be connected to measurable local indicators such as staffing adequacy, shift length, overtime, workload, number of patients per shift, violence reports, sick leave, and staff counseling or support uptake.

The human resource unit should define each indicator clearly, including operational definitions, data sources, targets, reporting periods, and responsible units. Measurement results should be linked to annual hospital planning, training needs analysis, workload evaluation, career development, and reward system improvement.

Unit leaders should use the findings to improve communication, clarify work targets, support employee participation, and detect signs of excessive workload or declining motivation. Human resource performance measurement should not stop at scoring; it should be translated into corrective action and continuous monitoring.

Limitations. This study used survey-based perception data. Although employee perception is important because employees directly experience human resource policies, future studies should combine perception data with objective hospital indicators such as absenteeism, turnover, training coverage, workload, number of patients per shift, work hours, workplace violence reports, patient safety indicators, service quality indicators, and operational efficiency measures.

The study was conducted in one hospital, so generalization to other hospitals should be made cautiously. The analysis also reported initial item validity and internal consistency reliability, but



did not yet include factor analysis, structural equation modeling, or inferential comparison across employee characteristics. Further studies should test the measurement and structural model using larger and more diverse samples, including public hospitals in eastern Indonesia and other remote or referral-hospital settings (25).

CONCLUSION

The Human Resource Scorecard instrument for RSUP dr Ben Mboi Kupang demonstrated acceptable initial item validity and strong internal consistency reliability. The total instrument reliability was high, and all seven dimensions showed Cronbach alpha values above the acceptable threshold. The overall Human Resource Scorecard level was moderate, indicating that human resource management practices have been implemented but still require targeted improvement.

Performance and productivity were the strongest dimension, while compensation and reward were the weakest dimension. Occupational safety and wellbeing also require managerial attention, particularly through work hours, workload, number of patients per shift, staffing adequacy, and workplace violence prevention. These findings suggest that hospital human resource performance measurement should include strategic dimensions related to workforce capability, engagement, leadership, reward fairness, safety, wellbeing, and productivity.

Further research should conduct exploratory factor analysis, confirmatory factor analysis, and structural equation modeling to confirm the construct structure and examine causal relationships among Human Resource Scorecard dimensions. Future studies should also integrate employee perception data with objective hospital performance indicators to develop a stronger and more actionable hospital Human Resource Scorecard model.

Ethics Statement. This study was reviewed and approved by [name of ethics committee/institution] under approval number [to be added]. All respondents were informed about the study purpose, confidentiality, voluntary participation, and withdrawal rights. Written informed consent was obtained before participation.

REFERENCES

- Aman-Ullah, A., Aziz, A., Ibrahim, H., Mehmood, W., & Aman-Ullah, A. (2023). The role of compensation in shaping employees' behavior: a mediation study through job satisfaction during the COVID-19 pandemic. *Revista de Gestão, 30*(2), 221-236. <https://doi.org/10.1108/REGE-04-2021-0068>
- Anjani, D. A. V. N., Gunadi, M. A., Trinanditya, A. A. N. M., Haqqni, I. I., & Sikki, N. (2024). Literature Review: The Role of Human Resource Management in Healthcare Services. *Jurnal EduHealth, 15*(02), 1227-1235.
- Aust, B., Leduc, C., Cresswell-Smith, J., O'Brien, C., Rugulies, R., Leduc, M., ... & Greiner, B. A. (2024). The effects of different types of organizational workplace mental health interventions on mental health and wellbeing in healthcare workers: a systematic review. *International archives of occupational and environmental health, 97*(5), 485-522. <https://doi.org/10.1007/s00420-024-02065-z>
- Bae, S. H. (2024). Nurse staffing, work hours, mandatory overtime, and turnover in acute care hospitals affect nurse job satisfaction, intent to leave, and burnout: a cross-sectional study. *International journal of public health, 69*, 1607068. <https://doi.org/10.3389/ijph.2024.1607068>



- Becker, B. E., Huselid, M. A., & Ulrich, D. (1992). The HR scorecard: Linking people, strategy, and performance. (No Title).
- Cantarelli, P., Vainieri, M., & Seghieri, C. (2023). The management of healthcare employees' job satisfaction: optimization analyses from a series of large-scale surveys. *BMC Health Services Research*, 23(1), 428. <https://doi.org/10.1186/s12913-023-09426-3>
- Cohen, C., Pignata, S., Bezak, E., Tie, M., & Childs, J. (2023). Workplace interventions to improve well-being and reduce burnout for nurses, physicians and allied healthcare professionals: a systematic review. *BMJ open*, 13(6), e071203. <https://doi.org/10.1136/bmjopen-2022-071203>
- Creswell, J. W., & Clark, V. P. (2007). Mixed methods research. *Thousand Oaks, CA*.
- Creswell, J. W., & Clark, V. L. P. (2017). *Designing and conducting mixed methods research*. Sage Publications.
- Dall'Ora, C., Ejebu, O. Z., Ball, J., & Griffiths, P. (2023). Shift work characteristics and burnout among nurses: cross-sectional survey. *Occupational Medicine*, 73(4), 199-204. <https://doi.org/10.1093/occmed/kqad046>
- De Vries, N., Boone, A., Godderis, L., Bouman, J., Szemik, S., Matranga, D., & De Winter, P. (2023). The race to retain healthcare workers: a systematic review on factors that impact retention of nurses and physicians in hospitals. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing*, 60, 00469580231159318. <https://doi.org/10.1177/00469580231159318>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). Multivariate data analysis.
- Kaplan, R. S., & Norton, D. P. (2005). *The balanced scorecard: measures that drive performance* (Vol. 70, pp. 71-79). Boston, MA, USA: Harvard Business Review.
- Nafari, E., & Rezaei, B. (2022). Relationship between human resources strategies and organizational performance based on the balanced scorecard in a public hospital in Iran: a cross-sectional study. *BMC Health Services Research*, 22(1), 363. <https://doi.org/10.1186/s12913-022-07767-z>
- Noya, F. C., Carr, S. E., & Thompson, S. C. (2023). Attracting, recruiting, and retaining medical workforce: a case study in a remote province of Indonesia. *International Journal of Environmental Research and Public Health*, 20(2), 1435. <https://doi.org/10.3390/ijerph20021435>
- O'Brien, C. J., van Zundert, A. A., & Barach, P. R. (2024). The growing burden of workplace violence against healthcare workers: trends in prevalence, risk factors, consequences, and prevention—a narrative review. *EClinicalMedicine*, 72. <https://doi.org/10.1016/j.eclinm.2024.102641>
- Qin, X., Huang, Y. N., Hu, Z., Chen, K., Li, L., Wang, R. S., & Wang, B. L. (2023). Human resource management research in healthcare: a big data bibliometric study. *Human Resources for Health*, 21(1), 94. <https://doi.org/10.1186/s12960-023-00865-x>
- RI, K. (2022). Peraturan menteri kesehatan republik indonesia nomor 34 tahun 2022 tentang Akreditasi pusat kesehatan masyarakat, klinik, laboratorium kesehatan, unit transfusi darah, tempat praktik mandiri dokter, dan tempat praktik mandiri dokter gigi. *Kemenkes Ri*, 1207, 1-16.
- Rotea, C. C., Ploscaru, A. N., Bocean, C. G., Vărzaru, A. A., Mangra, M. G., & Mangra, G. I. (2023, April). The link between HRM practices and performance in healthcare: The mediating role of the organizational change process. In *Healthcare* (Vol. 11, No. 9, p. 1236). MDPI. <https://doi.org/10.3390/healthcare11091236>
- Rotenstein, L. S., Brown, R., Sinsky, C., & Linzer, M. (2023). The association of work overload with burnout and intent to leave the job across the healthcare workforce during COVID-19. *Journal of General Internal Medicine*, 38(8), 1920-1927. <https://doi.org/10.1007/s11606-023-08153-z>



- Scott, G., Hogden, A., Taylor, R., & Mauldon, E. (2022). Exploring the impact of employee engagement and patient safety. *International Journal for Quality in Health Care*, 34(3), mzac059. <https://doi.org/10.1093/intqhc/mzac059>
- Sekaran, U. (2016). Research methods for business: A skill-building approach.
- Shiri, R., Nikunlaakso, R., & Laitinen, J. (2023, June). Effectiveness of workplace interventions to improve health and well-being of health and social service workers: a narrative review of randomized controlled trials. In *Healthcare* (Vol. 11, No. 12, p. 1792). MDPI. <https://doi.org/10.3390/healthcare11121792>
- Wang, X., Wang, R. S., Qin, X., Huang, Y. N., Chiu, H. C., & Wang, B. L. (2024). Exploring human resource management in the top five global hospitals: a comparative study. *Frontiers in Public Health*, 11, 1307823. <https://doi.org/10.3389/fpubh.2023.1307823>
- Zainal, N., Din, N. N. O., & Munusami, C. (2023). Relationship between human resource management practices and employees' job performance in the selected private Health Care Sector, Selangor, Malaysia. *Human Resources Management and Services*, 5(1), 3344-3344. <https://doi.org/10.18282/hrms.v5i1.3344>