

Analysis the Quality of Hospital Information Systems and Work Coordination on the Performance of Health Workers at Waru Hospital, Pamekasan Regency

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ABSTRACT

Various hospitals that still survive using conventional administrative systems have shown many lost profit opportunities due to weak coordination between departments and lack of fast, precise, accurate and integrated information support. This of course will affect the quality of services provided to stakeholders, especially patients. The purpose of this study was to analyze the influence of the quality of hospital information systems and work coordination on the performance of health workers at Waru Hospital, Pamekasan Regency. The design of this study was a quantitative observational study with a cross-sectional approach with a research focus aimed at analyzing the influence of the quality of hospital information systems and work coordination on the performance of health workers at Waru General Hospital, Pamekasan Regency. The total population of 146 respondents and a sample of 107 respondents were taken using the Simple Random Sampling technique. The findings showed that almost half of the respondents had sufficient category awards, 48 respondents (45%).

Keywords: coordination, performance, quality

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BACKGROUND

In this information era, hospitals are required to improve their performance and competitiveness as a business entity by not reducing their social mission. Hospitals must formulate strategic policies on their internal organization, management and human resources and must be able to quickly and accurately make decisions to improve the quality of health services to the wider community so that they can become responsive, innovative, effective, efficient and of course profitable organizations. owners of capital without neglecting their social mission (Wimmie, 2019).

Various hospitals that still survive using conventional administrative systems have shown many lost profit opportunities due to weak coordination between departments and lack of fast, precise, accurate and integrated information support. This of course will affect the quality of services provided to stakeholders, especially patients. These hospitals generally lag behind in competition with hospitals that use SIMRS (Wimmie, 2019).

The service performance indicator for Waru Hospital in Pamekasan Regency in 2017 - 2019 is Bed The Occupancy Rate (BOR) is 75.5% in 2017, 63.9% in 2018, and 65% in 2019. Average Length Of Stay (ALOS) in 2017 was 2.8 days, in 2018 was 2.88 days, in 2019 was 3.2 days. The 2017 Turn Over Interval (TOI) value was 1.3 days, 2018 was 3.7 days, 2019 was 3.8 days. Bed Turn Over (BTO) in 2017 was 42 times, in 2018 was 36 times, and in 2019 was 38 times. Gross Percentage The Death Rate (GDR) in 2017 was 1.8‰, in 2018 it was 2.19‰, in 2019 it was 2.18‰. The percentage of the Net Death Rate (NDR) in 2017 was 1.62%, in 2018 it was 1.67‰, and in 2019 it was 1.84‰ (RSUD Waru, Pamekasan Regency, 2020). The ideal BOR parameter value is 60-85%, the TOI value is in the range of 1-3 days, the AVLOS value is between 6-9 days, the BTO value is used 40-50 times, the GDR value.

The latest data that the researchers obtained from the Waru Hospital in Pamekasan Regency was that the number of outpatient visits in 2021 was 6238 visits, while there were 2871 inpatient visits. The number of beds was 100 beds, the number of patients who died was 48 people, the number of patients who died >48 hours were treated for 22 people, the number of years treated was 366 (RSUD Waru, Pamekasan Regency, 2021).

Preliminary study conducted by researchers on 10 respondents at Waru Hospital, Pamekasan Regency, it was found that in the conventional administration system, recording of treatment costs in the financial section was collected in stages starting from the ward, the ward could not make cost calculations because it was waiting for information on drug prices given to patients from dispensaries, wards are also waiting for information on cost records from the laboratory, if there is a guarantee that money paid to the cashier must also wait for the validity of the data, and so on so that patients who will make payments at the end of treatment have to wait for quite a long time. Not to mention there is an element of subjectivity in the calculations carried out by each ward/room because there are hospitals that give authority to the head of the room to estimate the patient's ability level and how many treatments or medicines are not billed to the patient. The condition of giving deductions in each of these rooms will clearly have unfavorable consequences, where hospital revenues will decrease and incentives for medical services will be cut unilaterally which will eventually lead to a double standard of care. So that the performance of health workers also becomes ineffective.

Gusnetti (2014) states that there are two factors that influence employee performance, namely individual factors and organizational factors. Individual factors consist of abilities and skills as well as motivation. Hospital employees including doctors, nurses, midwives, nutritionists, pharmacists, and laboratory assistants are a profession where work is based on their abilities and skills or individual factors (Laksana, 2020). Therefore, individual factors are not the focus of this study. Furthermore, organizational factors are reviewed from the work environment which includes resources, leadership, compensation, organizational environment

and organizational strategy. Meanwhile, the Hospital Management Information System (SIMRS) is an information communication technology system that processes and integrates all service process flows at the Hospital in the form of coordination networks, reporting and administrative procedures to obtain precise and accurate information, and is part of the Health Information System. (Ministry of Health of the Republic of Indonesia, 2014).

The Hospital Management Information System (SIMRS) is a computer-based system capable of processing data quickly and accurately, as well as producing an integrated set of information to be provided to all levels of management in the hospital that can support hospital management decision making. The hospital management information system is an arrangement related to data collection, data processing, information presentation, data analysis, and inference of information and delivery of information needed for hospital activities (Sabarguna, 2015).

The function of SIMRS is to manage and organize the information needed by health workers to assist and improve performance effectively and efficiently (Sheldon, 2011). The purpose of SIMRS in general is to provide accurate, real time information for decision making at all levels of administration in planning, monitoring, controlling, and evaluating (evaluation) in hospitals. According to DeLone & McLean (2013), the quality of management information systems can be measured based on three dimensions, namely system quality (ease of use, ease of learning, speed of access, system reliability, flexibility, usability of system features and functions, and security), information quality (accuracy, completeness, form, timeliness, relevance), and service quality (response speed, technical ability, empathy).

As stated in the Regulation of the Minister of Health of the Republic of Indonesia Number 82 of 2013, in article 2 that the SIMRS Arrangements aim to improve efficiency, effectiveness, professionalism, performance, and access and hospital services. In the next article, namely article 3 paragraph 1 confirms that every hospital is required to organize SIMRS. From this description, it can be concluded that the importance of implementing SIMRS in supporting overall hospital performance. (PERMENKES RI, 2014).

Based on research conducted by Antasari and Sukartha (2015) with the title the influence of information system implementation on employee performance, it proves that the effectiveness of accounting information systems and the use of information technology has a positive and significant effect on individual performance. Meanwhile, according to Irfiani (2015) it shows that the use of Information Systems has a positive and significant effect on employee performance. In addition, according to Ningrum and Susilo (2017) proved that the quality of management information systems, physical work environment, and non-physical work environment, both partially and simultaneously have a positive and significant effect on employee performance.

Based on the above conditions, the authors are interested in researching the analysis of the quality of hospital information systems and work coordination on the performance of health workers at Waru Hospital, Pamekasan Regency.

METHODS

Cross-sectional approach, namely a study to study the dynamics of the correlation between risk factors and effects, by way of approach, observation or data collection at one time (*point time approach*), that is, each subject the study was only observed once and measurements were made of the character status or subject variables at the time of examination. This does not mean that all research subjects are observed at the same time (Soekidjo, 2012). This study will analyze the influence of the quality of hospital information systems and work coordination on the performance of health workers at Waru Hospital, Pamekasan Regency. Amount population a number of 146 respondents and samples as many as 107 respondents were taken with technique *Simple Random Sampling*. Data analysis using *Linear Regression* test.

RESULTS

Table 1. Results of *linear regression* analysis analysis of the quality of hospital information systems and work coordination on the performance of health workers at Waru Hospital, Pamekasan Regency which was held on 15 February 2023 - 16 March 2023 with a total of 107 respondents.

No	Variable	Sig	B	R ²	Sig
1	(Constant)	0.002	1,546		
2	Information System Quality	0.000	1,845	0.843	0.000
3	Work Coordination	0.003	1,925		

Partial

The Influence of Information System Quality on Performance

Based on the results of the *Linear Regression analysis* , it shows that *the p-value* is $0.000 < 0.05$, so H1 is accepted, so it can be concluded that partially there is an influence on the quality of the hospital information system on the performance of health workers at Waru Hospital, Pamekasan Regency.

Effect of Work Coordination on Performance

Based on the results of the *Linear Regression analysis* , it shows that *the p-value* is $0.003 < 0.05$, so H0 is rejected and H1 is accepted, so it can be concluded that partially there is an effect of work coordination on the performance of health workers at Waru Hospital, Pamekasan Regency.

Simultaneous

Based on the results of the *Multiple Linear Regression analysis*, it shows that with a *p-value* of $0.000 < 0.05$, H1 is accepted, so it can be concluded that simultaneously there is an influence on the quality of hospital information systems and work coordination on the performance of health workers at Waru Hospital, Pamekasan Regency, with an influence size of 84.3%.

DISCUSSION

The Influence of the Quality of Hospital Information Systems on the Performance of Health Officers in Waru Hospital, Pamekasan Regency

Gusnetti (2014) states that there are two factors that influence employee performance, namely individual factors and organizational factors. Individual factors consist of abilities and skills as well as motivation. Hospital employees including doctors, nurses, midwives, nutritionists, pharmacists, and laboratory assistants are a profession where work is based on their abilities and skills or individual factors (Laksana, 2020). Therefore, individual factors are not the focus of this study. Furthermore, organizational factors are reviewed from the work environment which includes resources, leadership, compensation, organizational environment and organizational strategy. Meanwhile, the Hospital Management Information System (SIMRS) is an information communication technology system that processes and integrates all service process flows at the Hospital in the form of coordination networks, reporting and administrative procedures to obtain precise and accurate information, and is part of the Health Information System. (Ministry of Health of the Republic of Indonesia, 2014).

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The Influence of Work Coordination on the Performance of Health Workers in Waru Hospital, Pamekasan Regency

Coordination is a process of mutual agreement that binds various activities or elements (as seen in the process) of government that differ in the dimensions of time, place, components, functions and interests between the governed governments, so that on the one hand all activities on both sides are directed towards government goals. determined together and on the other hand the success of one party is not undermined by the success of the other party.

Coordination is the unification and alignment of all activities, according to Athoillah quoted by Jayanti: The existence of good coordination can avoid the possibility of unfair competition or confusion in actions. With good coordination, all departments and personnel can work together towards one goal that has been set (Jayanti, 2013).

Coordination within an organization is fundamental to enable successful management to be achieved. Why is that, because the coordination is related harmoniously. Implementation and organic functions of the management, so that the objectives that have been set are achieved satisfactorily. That means, that management goals can be achieved effectively and efficiently (Susila, 2013).

Coordination is needed, so that tasks can be carried out and the resources used can be effective and efficient. Coordination in achieving this synergy also has an element of communication in achieving it, this is explained by Handyaningrat quoted by Jayanti (2013) namely work relations or coordination is a form of administrative communication that helps achieve coordination. Therefore, the end result of communication (work relations) is that the organization moves as a unified unit to carry out all organizational tasks, to achieve its goals (Jayanti, 2013).

In the puskesmas organization, coordination is needed from each sector between leaders to doctors, doctors to nurses, nurses to nurse assistants and vice versa. And as a professional health worker , someone will be required to be able to provide good health services. However, there are many health workers who pay little attention to this, such as the arrival and departure of officers who are not on time and seem to be in a hurry in carrying out services, causing the officers' services to be poor (Andini, 2013).

The role of health workers in providing health services is very important, especially as health service implementing personnel, so it is only natural that the ability and performance of health workers is one of the determinants of success in health services. Health workers should be able to have a rational attitude as well as have a high service spirit, be creative, innovative, disciplined, knowledgeable and skilled and be able to uphold the professional ethics of the health workforce (Adhithia, 2013).

The quality of puskesmas services can be seen from the performance and ability of the puskesmas health workers. The ability of a health worker is a person's ability to do something with certain expertise in a health center or organization that is expected to be able to carry out their responsibilities in order to achieve a goal. The ability of health workers is one of the elements in maturity related to abilities or skills that can be obtained from education, training and experience, every health worker must have certain abilities and skills to help communities, groups and individuals (Thoha 2008).

Every health worker must understand the tasks assigned to him. It is the result of both quality and quantity work that can be achieved by a health worker in carrying out his duties in accordance with the responsibilities given to him. Where performance is influenced by abilities or skills and motivation (Ilham, 2015).

Coordination is also called cooperation, but actually it is more than just cooperation, because coordination also contains synchronization. While cooperation is a collective activity of two or more people to achieve a common goal. Thus, cooperation can occur without coordination, whereas in coordination there must be cooperative efforts. To achieve collective goals, good coordination is needed, so that the cooperation that is carried out can produce the same goal and between those who do cooperation can achieve the desired goals. Coordination can occur when there are two or more people or agencies working together, besides that coordination is also created because actors working together influence each other.

A clear division of roles requires good leadership support with clear communication and good cooperation between sectors to help achieve good coordination. Therefore, the role of the leadership is needed in communicating various kinds of things to parties inside and outside the institutional system, so as to create the right organization in health services. An organization is a system of cooperation and proposes that the main role of the leader is to facilitate communication and encourage subordinates to try more hard.

The Influence of the Quality of Hospital Information Systems and Work Coordination on the Performance of Health Workers in Waru Hospital, Pamekasan Regency

In this information age, hospitals are required to improve their performance and competitiveness as a business entity by not reducing their social mission. Hospitals must formulate strategic policies on their internal organization, management and human resources and must be able to quickly and accurately make decisions to improve the quality of health services to the wider community so that they can become responsive, innovative, effective, efficient and of course profitable organizations. owners of capital without neglecting their social mission (Wimmie, 2019).

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Performance is a description of the level of achievement of the implementation of an activity/program in realizing the goals, objectives, mission and vision of the organization contained in the strategic planning of an organization (Mahsun, 2015). Widodo (2016) added that performance is carrying out an activity and perfecting it in accordance with his responsibilities with the expected results. Meanwhile, Anwar (2015) says that performance is the result of work in quality and quantity of a person in carrying out their functions in accordance with the responsibilities given to them. Fahmi (2017) states that organizational performance is the effectiveness of the organization as a whole to meet the stated needs of each relevant group through systemic efforts and continuously improve the ability of the organization to achieve its needs effectively.

Based on existing theory, it can be concluded that organizational performance is the level of achievement of the implementation of an organization's tasks in an effort to realize the goals, objectives, mission and vision of the organization. It can be seen that the elements contained in organizational performance consist of results or evaluation of job functions, factors that influence employee performance such as motivation, skills, role perceptions, and so on. Achievement of organizational goals and a certain period of time (Sasa, 2016).

Keith Davis in Anwar's book (2015) states that the factors that influence performance are ability factors and motivational factors. Psychological abilities, consisting of potential abilities (IQ) and reality abilities (knowledge + skills), which means leaders who have an IQ above the average with adequate education for their positions and are skilled at doing their daily work. Motivation (motivation) is defined as an attitude of leadership towards work situations in the organizational environment.

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Based on the results of the study, it was found that in the conventional administrative system, the recording of treatment costs in the financial section was collected in stages starting from the ward, the ward had not been able to make cost calculations because it was waiting for drug price information given to patients from the pharmacy, the ward was also waiting for information on cost records from the laboratory, if there is a guarantee that money paid to the cashier must also wait for the validity of the data, and so on so that patients who will make payments at the end of treatment have to wait for quite a long time. Not to mention there is an element of subjectivity in the calculations carried out by each ward/room because there are hospitals that give authority to the head of the room to estimate the level himself. the patient's ability and how many treatments or medicines are not billed to the patient. The condition of giving deductions in each of these rooms will clearly have unfavorable consequences, where hospital revenues will decrease and incentives for medical services will be cut unilaterally which will eventually lead to a double standard of care . So that the performance of health workers also becomes ineffective.

Their respective authorities and responsibilities in order to achieve organizational goals legally, not violating the law, and in accordance with morals and ethics . Performance is the appearance of the work of personnel both in quality and quantity in an organization. The good performance of an employee will be beneficial for himself later.

CONCLUSION

1. There is an effect of the quality of the hospital information system on the performance of health workers at Waru Hospital, Pamekasan Regency.
2. There is an effect of work coordination on the performance of health workers in Waru Hospital, Pamekasan Regency.
3. There is an influence on the quality of hospital information systems and work coordination on the performance of health workers at Waru Hospital, Pamekasan Regency.

REFERENCES

- Alimul Hidayat AA. (2010). *Paradigm Health Research Methods Quantitative*, Jakarta: Heath Books.
- Anwar Imam. (2015). *Application Multivariate Analysis With Programs*. Edition Seventh. Semarang: Diponegoro University Publishing Agency.
- Arikunto, Suharsimi. (2013). *Research Procedure a Approach Practice*. Jakarta : Rhineka Create.
- Asep Sudarmanto. (2013). *HR Performance and Competency Development: Theory, Measurement Dimensions, and Implementation in Organizations*. Yogyakarta: Student Libraries.
- Bass Naveed, Asvir. (2012). Effect of Transformational Leadership on Employees' Job Satisfaction and Organizational Commitment in Banking Sector of Lahore (Pakistan). *International Journal of Business and Social Science*, 2(18), 261-267.
- Beni Indarto. (2014). *Performance And Development HR Competence Theory, Dimensions and Implementation In Organization*, Yogyakarta: Library Student.
- Blackhard M. Jae. (2013). *Organizational Commitment Revised In New Public Management (Motivation, Organizational, Culture, Sector, And Managerial Level*. *Public Performance & Management Review*. Vol. 24, No. 2. Hal 177-194.
- Cartono. (2016). The Influence of Organizational Culture and Work Environment on Nurse Performance at “Dr. Yep” Yogyakarta With Work Motivation and Satisfaction as Mediating Variables. *Journal of Economics and Business*. Vol 2. No 3. Pgs 159-174.
- Copelment Fandy and Diana, Anastasia. (2011). *Total Quality Management (TQM)*. Yogyakarta: ANDI.
- Drucker. (2013). Does Transactional Transformational Leadership Paradigm Transcend Organizational And National Boundaries?. *Journal of American Psychologists*. 52:130-139.
- Goodbye Richard. M. (2016). *Organizational Effectiveness*. (Translation). Jakarta: Erlangga.
- Handri. (2012). *Hanbook Of Leadership*. New York: The Free Press.
- Hariani, Wenny., et al. (2011). The Effect of Competence, Training and Motivation on Employee Performance at Pt. Pertamina (Persero) Refinery Unit Ii Dumai *Journal Economics*. Vol. 1.No. 1. Pgs 115-124.
- Hasibuan, Malayu. (2012). *Human Resource Management*. Jakarta: PT Bumi Aksara.
- Ilyas. (2016). *organizational behavior*. Yogyakarta: ANDI.
- Jijanto. (2013). *Analysis of Factors Associated with Employee Work Coordination at Jatinegara Hospital*.
- Kreitner Philip Dan Armstrong. (2015). *Principles Management*. Volume 1 Edition Eighth, Translated by Damos Sihombing, MBA. Jakarta: Publisher Erlangga.
- Mangkunegara. (2013). *Corporate Human Resource Management*. Bandung: PT. Rosdakarya youth.
- Mansum Indra. (2015). Analysis of Competency-Based Employee Performance Assessment in Civil Service Police Unit, Karawang Regency. *Journal Management* Vol. 10, No. 1. Pg: 1047-1054.
- Mininjaya. (2014). Teachers: Emotional Intelligence, Job Satisfaction, And Organizational Commitment, Vol 24, Iss 4. Pp 256 – 269.
- Ministry of Health of the Republic of Indonesia. (2012). *Indonesia Health Profile 2008*. Jakarta.
- Ngalim Purwanto, Latrini, Made. Y. (2010). Influence Satisfaction Work On Public Sector Employee Performance, With In-Role Performance And Innovative Performance As Variable Mediation. *Udayana University Accounting E-Journal*. pp 627-638.
- Notoatmodjo. (2010). *Health Research Methodology*. Jakarta : PT. Rineka Cipta.

- Nursalam. (2013). *Health Research Methodology*. Jakarta : Gramedia.
- Rendra. (2014). The Effect of Position, Organizational Culture, and Role Conflict on the Relationship between Job Satisfaction and Organizational Commitment: An Empirical Study in a Public Accounting Firm. *Journal of Indonesian Accounting Research*. Vol. 5, No. 3. Pages 341- 364.
- Rivai et al. (2013). *Appropriate Performance Appraisal System for Assessing Employee Performance and Improving Company Competitiveness, Second Edition*. Jakarta: Raja Grafindo Persada.
- Rivai, Veithzal and Sagala, Ella Jauvani. (2014). *Human Resource Management for Companies from Theory to Practice*. Jakarta: Raja Grafindo Persada.
- Robbins, Dan Judge. (2016). *Organizational behavior*. Jakarta : Salemba Empat.
- Sasa Ike Kusdyah. (2016). *Human Resource Management*. Yogyakarta: Publisher Andi.
- Sugiyono. (2014). *Business Research Methods (Approach Quantitative, Qualitative, and R&D)*. Bandung: Alfabeta.
- Terry Gitosudarmo, et al. (2015). *Organizational behavior: first edition*. Yogyakarta: BPF.
- Timpe and Gerge. (2012). Increasing Employee Productivity Job Satisfaction, And Organizational Commitment. *Hospital And Health Services Ad*. Vol. 41 No. 2. Pgs 160-175.
- Widodo Susilo Toto, et al. (2016). Analysis The Influence of Leadership Style To Satisfaction Work, Commitment Organization and Employee Performance (Study Empirical in the Ministry of Religion of Kendal Regency and the Ministry of Religion of Semarang City). *Journal Studies Management & Organization*. Volume 3, Number 2. Pg. 69-81.
- Wijoyo D. (2012). *Management Human Resources : Bureaucratic and Management Reform _ Civil Servant*. Bandung; PT Refika Aditama.
- Yudelowitz. (2016). "Transformational Leadership And Organizational Culture," *Public Administration Quarterly*, 17:1, 112-121.