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Analysis of Multiple Intelligence and Intelligence Quotient to Medical Record Officers Performance

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ABSTRACT

Incomplete and inconsistent data recording, as well as low accuracy, were the main factors that reduced the quality of performance in health care facilities. Previous research showed that more than 50% of medical record officers competencies were categorized as low. Competence could impact hospital performance and quality. Competence could be measured by multiple intelligences and intellectual intelligence. It was important to carry out multiple intelligence and intelligence quotient analyses of the performance of medical record officers in recording patient medical data. The aim of the research was to assess the influence of multiple intelligence and intelligence quotient on the performance of officers in recording patient medical data. The method used was analytical observational research with a cross-sectional design. The purposive sampling technique involved 35 respondents. Data analysis was conducted using the Structural Equation Model with Partial Least Square. The influence of multiple intelligences on performance had a path coefficient value of -0.003 with a T-statistic value of 0.018 (< 1.96) and a P-value of 0.986, indicating no significant effect. There was a positive influence of intelligence quotient on performance with a path coefficient value of 0.745, a T-statistic value of 4.998 (> 1.96), and a P-value of 0.000. The strength of the influence of multiple intelligence and intelligence quotient on performance showed an R-square of 55%, which indicated a moderate influence.

1. Introduction

Efforts to improve the performance of medical record officerss in health care facilities are very important because the better the performance of individuals (medical record officerss) will have a positive influence on the performance of their institutions. Achievement of individual performance is stated to be related to the achievement of a series of individual tasks with the support of information technology including (habit, personal innovativeness, and technostress), and task (mobility and time criticality) can affect the individual performance of a medical record officers (Chen & Hsiao, 2021).

Incomplete, inconsistent, and low-accuracy data recording are the main factors in the decline in the quality of performance in health care facility services. Complete and standardized data recording can facilitate the preparation of evidence-based policies, preparation of health care facilities in improving competence, performance, and reducing the administrative workload of hospitals to meet reporting administration. Medical records are one of the written evidence of the service process that contains patient clinical data during the diagnosis and treatment process. Management of medical records in hospitals to support the achievement of orderly administration to achieve hospital performance, namely improving the quality of health services in hospitals.

Based on the research article that has been quoted by (Setiawan, 2019), that the concept of intelligence throughout history has undergone many changes in the minds of experts (Setiawan, 2019). In 1905, the idea of general intelligence was developed using IQ (intelligence quotient) tests to assess a child's ability to understand, reason, and make judgments. Later, in 1983, the idea of multiple intelligences began to emerge, based on the assumption that general intelligence was too limited. The emergence of the idea of multiple intelligences did not immediately receive full support from everyone. Some people think that multiple intelligences have inadequate empirical support and are inconsistent with the findings of cognitive neuroscience. However, a review of 318 academic articles related to neuroscience research showed that multiple intelligences have clear and coherent neural patterns. Furthermore, concluded based on a further review of 417 neuroscience studies related to the correlation between nerves and skill units in seven intelligences. The conclusion obtained found that each intelligence is a cognitive skill unit that has uniqueness and similarities in nerves (Setiawan, 2019).

Based on the research results, (Laura Angelica, 2020) stated that Intellectual Intelligence (IQ), Emotional Intelligence (EQ), and Spiritual Intelligence (SQ) together or simultaneously can have a significant influence on employee performance. Meanwhile, in the theory of multiple intelligences expressed by Howard Gardner, quoted by (Syarifah, 2019) it states that in this theory, intelligence means the ability to solve problems or fashion products, which are assessed in one or more cultural or community settings (Syarifah, 2019). This theory suggests that every person has nine intelligences: linguistic, logical-mathematical, spatial, bodily-kinesthetic, musical, interpersonal, intrapersonal, naturalist, and existential. Intelligence is the potential of oneself to process information from the surrounding environment to be used in making decisions, solving problems, and/or producing valuable products.

Based on the research results of (Hasanah, 2024) it shows that the results of the medical record officers competency analysis on medical record officers performance at the Bima City Health Center showed that 44.7% of respondents had high performance and 55.3% had moderate performance. In (Irmawati et al., 2024) it was shown that medical record officers performance was still in the low category at 50.4%. This condition shows the extent to which the quality of hospital services, especially medical record services, is low (Irmawati et al., 2024). This still does not indicate a discrepancy with the minimum service standards for medical records that have been determined in medical record management (Permenkes, 2008).

Based on this, competence could impact hospital performance and quality. Competence could be measured by multiple intelligences and intellectual intelligence this research is

important to be conducted by conducting further analysis on "analysis of multiple intelligences and intelligence quotient on the performance of medical record officers in recording patient medical data". This aim are: 1) Analysis of the influence of multiple intelligences on performance; 2) Analysis of the influence of intelligence quotient on performance. This method is to modify several theories about intelligence by using the original from previous research theories (Busro, 2018); (Syarifah, 2019); (Laura Angelica et al, 2020). The novelty in this research is developing the influence of intelligence quotient on performance by adding a new variable, namely multiple intelligences.

2. Methods

Contained the research design and a description of the research implementation methods, including population and samples, data collection techniques, instruments, and data analysis techniques. The results presented data characteristics and research findings. The method was presented in a sub-heading. Ethical clearance or informed consent was included according to the subject used

2.1. Research Design

This research was analytical observational because the nature of the research problem was a causal relationship. The research design used a cross-sectional approach, which described the relationship or picture between variables at a certain point in time, without carrying out long-term intervention or follow-up (Adnyana, 2019)

2.2. Population and Sample

The population in this study consisted of all medical record officers who were directly involved in recording patient medical data (doctors, nurses, other medical record officers, administrative staff, medical recorders, and health information personnel), totaling 50 individuals. The research sample was selected using purposive sampling, which was conducted based on the objectives and criteria of the study, resulting in 35 respondents. Respondents were determined based on inclusion criteria, such as: all personnel who had been directly involved in patient medical records, both manual and computerized, had been willing to complete the questionnaire, were in good health, and had agreed to the informed consent for this study. Respondents outside these criteria were not included in the study sample.

2.3. Data Collection Techniques

Psychometric measurements were developed and used in the form of a questionnaire

2.3.1. Research instruments

Using a questionnaire for respondent characteristic variables, multiple intelligence, intelligence quotient and performance. The questionnaire on multiple intelligences consists of interpersonal, intrapersonal, verbal, and kinesthetic intelligences. The intelligence quotient consists of intellectual, emotional, and spiritual intelligences. The performance consists of quality, quantity, and supervision. Closed questions use answer options in the form of a Likert scale of 1 to 5 with categories strongly disagree, disagree, undecided, agree, and strongly agree. Likert scale is used to measure opinions in answer categories which are commonly used in health research by providing a scale where the better the score, the higher the score.

2.3.2. Data Analysis Techniques

Using Multivariate Analysis with Structural Equation Modeling (SEM) through the smartPLS tool (Hair, J. F., et al, 2017) Testing stages through: 1) Measurement model or outer model; 2) Structural model or inner model to test the relationship between latent constructs; 3) Analysis of the strength of influence.

3. Results and Discussion

3.1. Results

The research results contain a brief statement about the research results, the depth of interpretation of the findings. While the discussion contains a discussion that connects and critically compares the research results with theories and previous research results. Description of the results of the research analysis can be accompanied by tables and images. Numbering starts from the letter A.

3.1.1. Outer Model Analysis

Table 1 Outer Loading Values

Indicators of Each Variable	*Outer Loading*	Information
Multiple Intelligences		
Interpersonal	0,907	Valid
Intrapersonal	0,551	Valid
Verbal	0,909	Valid
Kinesthetic	0,819	Valid
Intelligences Quotient		
Intellectual	0,752	Valid
Emotional	0,855	Valid
Spiritual	0,751	Valid
Performance		
Quality	0,855	Valid
Quantity	0,914	Valid
Supervision	0,831	Valid

Based on (Hair, J. F., et al, 2017), the outer loading value on the latent construct with indicators > 0.5 has met convergent validity. Based on table 5.4, it shows that all indicators in each latent construct show a value of more than 0.5. All items used in this study have met convergent validity.

3.1.2. Inner Model Analysis

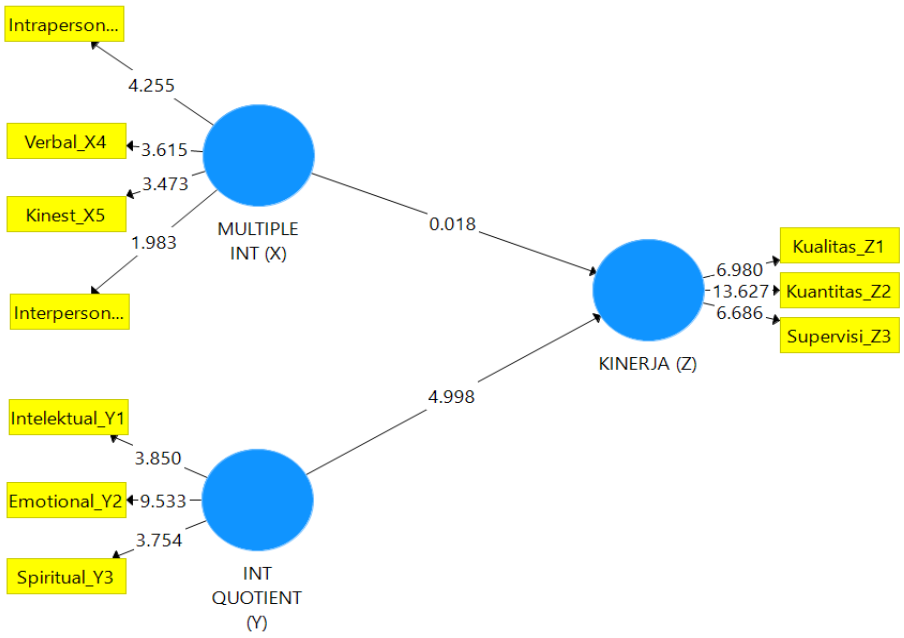

Figure 1 Bootstrapping Results

Based on Figure 1 shows hypothesis testing with the PLS method is done with bootstrapping can be seen from the probability value and T-statistic value. For the probability value, the P-value with Alpha 5% is less than 0.05. The T-table value for alpha 5% is 1.96. So the hypothesis acceptance criteria are endid T-statistic > T-table.

Table 2 *Estimate for Path Coeffisients*

Influence Between Variables	Original Sample	T-Statistik	P-Value	Significance	Conclusion
Intelligences Quotient Performance	0,745	4,998	0,000	Significance	Moderate
Multiple Intelligences performance	-0,003	0,018	0,986	Non- Significance	Weak

0.00-0.29 = Weak; 0.30-0.49 = Low; 0.50-0.69 = Medium; 0.70-0.89 = Strong; 0.90-1.00 = Very strong.

The results show that multiple intelligences (< 1.96), which is 0.018, has no effect on performance, while intelligence quotes (> 1.96), which is 4.998, has an effect on performance with a moderate influence strength

3.1.3. Hypothesis Testing

H1: There is no influence between multiple intelligences on performance with a path coefficient value of -0.003 with a T-statistic value of 0.018 (<1.96) or a P-value of 0.986.

H2: There is a positive influence of intelligence quotient on performance with a pathcoefficient value of 0.745 with a T-statistic value of 4.998 (>1.96) or a P-value of 0.000.

3.2. Discussion

The R-Square value of ≥ 90 is the strongest, 0.75 is strong, 0.50 is moderate, and 0.25 is weak. that the R-square value shows 55% which means that the magnitude of the influence is moderate because it is in the range of the structural coefficient of 0.50-0.69. Based on the research results, it shows that multiple intelligence does not have a significant effect on optimism performance, innovativeness has a positive effect on SIMPUS implementation readiness, this is not in accordance with previous research which states that interpersonal and intrapersonal intelligence are part of multiple intelligence which plays a role in increasing creativity (Lagibu et al., 2018). It also states that interpersonal and intrapersonal intelligence have a positive influence on a person's performance (Okwuduba et al., 2021).

One part of multiple intelligence is logical mathematical intelligence and kinesthetic intelligence, the results of this study are in contrast to the results of Pratama's research (2024), which states that training consisting of elements of providing officers to improve skills where skills are part of kinesthetic intelligence and knowledge training is part of logical mathematical intelligence which has an influence on the performance of medical record officerss, especially in the field of medical records (Pratama Adi Putra et al., 2024). The results of this study are also not in line with the results of Hasanah's research (2024) which also showed that effective communication as a form of verbal intelligence which is one of the mandatory competencies that must be possessed by medical record officerss, especially medical recorders and health information, has a significant influence on performance of P-Value 0.042 (Hasanah et al., 2024).

Based on the research results, it shows that intelligence quotients have an effect on performance, this is in line with Trihandini's research (2005), which states that intellectual intelligence, emotional intelligence and spiritual intelligence simultaneously have an effect on employee performance (Trihandini, 2005). This research is also in line with the research

results of Amelia (2022), which states that emotional intelligence and intellectual intelligence have a positive and significant influence on performance (Amelia & Jer, 2022).

Based on the results of the study, it shows that the performance of medical record officerss at the Menur Health Center and Pucang Sewu Health Center in recording patient medical data is very good. This is proven by the emotional intelligence, namely the ability of officers to analyze, synthesize, interpret tables, graphs/diagrams and the ability to convey understanding that they know is at a mean value above 4 (Trihandini, 2005). In addition, emotional intelligence also plays a role in influencing the performance of officers, including self- awareness, self-management, motivation, social awareness, and relationship management, which are also in the very good value category with a mean above 4 (Trihandini, 2005). Likewise, spiritual intelligence is no less important in influencing a person's performance, which consists of flexibility, resilience, principles of truth, and social norms at a mean value above 4.

The advancement of information technology in the era of globalization demands that all sectors adapt comprehensively and continuously to such changes. In line with this, the healthcare sector must prepare itself to enhance the quality of healthcare professionals capable of competing at a global level. The quality of healthcare personnel must be consistently maintained and improved to enhance the quality of healthcare services provided to the community. Accordingly, the competencies of healthcare workers encompassing knowledge, skills, and professional behavior must be measurable and standardized. Medical record officers, as key sources of health information, require professional management to meet the needs of various domains, including administration, law, finance, research, education, documentation, and public health. The processing of medical record data produces health information through stages that include collecting, integrating, and analyzing primary and secondary healthcare data, as well as presenting and disseminating useful information for planning and decision-making. Therefore, Medical Records and Health Information Services must be managed by individuals who are both competent and authorized in accordance with applicable regulations (Kementerian Kesehatan RI, 2020)

This aligns with research findings indicating that the performance of medical record officers is associated with the Intelligence Quotient, which is largely influenced by strong intellectual abilities encompassing attitudes and skills in numerical, verbal, inductive, and deductive reasoning, as well as memory capacity. Without these fundamental abilities, the processing of medical record data including the collection, integration, analysis, presentation, and dissemination of healthcare information for planning and decision-making becomes challenging to execute. The findings of this study further confirm that the performance of medical record officers can indeed be affected by their intellectual capabilities in terms of IQ.

Similarly, the findings of (Royani, 2019) demonstrate that the competencies of medical record officers must also include professional partnerships, such as maintaining good social relationships with leadership, negotiation skills, problem-solving abilities, and the capacity to develop work plans. This is consistent with the statement of the (Menkes, 2007), which emphasizes that the quality of medical record officers must be improved in accordance with competency standards in reliable health information management at healthcare facilities in Indonesia. This includes enhancing the ability to plan and manage health information management units by utilizing available resources (Competency Standard 6) and fostering teamwork and collaboration in health information management services (Competency Standard 7).

Furthermore, these results are consistent with research showing that EQ plays a crucial role in supporting IQ and, in turn, influencing the performance of medical record officers in carrying out their duties. The study by (Laura Angelica, 2020) identified that EQ is built upon self-awareness, self-management, motivation, social awareness/empathy, and relationship management skills that must be improved to enhance the performance of medical record

officers in the future.

In addition, this study found that SQ also makes a significant contribution and has been proven to shape IQ among medical record officers. SQ is characterized by the ability to be flexible positioning oneself appropriately and being open to others' perspectives; resilience facing and transforming adversity into motivation for self-improvement; adherence to principles of truth upholding life values grounded in ethical correctness; and respect for social norms collaborating effectively while complying with workplace regulations. These findings align with Ministerial Decree (KMK No. HK.01.07/MENKES/1424/2022), which stipulates that medical record officers must possess professional ethics, understand health law, and adhere firmly to principles of truth as outlined in applicable regulations, including maintaining patient medical confidentiality, preventing fraud, practicing honesty, demonstrating accountability, and upholding the integrity of the healthcare code of ethics.

4. Conclusion

Multiple Intelligence was constructed from interpersonal, intrapersonal, logical-mathematical, verbal, and kinesthetic components. In the results of this study, the logical-mathematical component was excluded because it was not reliable, as it had an outer loading value of less than 0.5. The recommendation provided was to enhance sensitivity in interacting with others, and to frequently communicate and socialize with people both within and outside the work unit. Intelligence Quotient was constructed from intellectual, emotional, and spiritual components. The results of the study indicated that all of these components possessed validity and reliability that met the required standards. The suggested improvements included enhancing memory through the routine socialization of important information, new policies, and urgent matters in patient services, as well as conducting periodic training to improve memory skills among officers.

References

Abdekhoda, M., Salih, K. M., Seethamraju, R., Diatha, K. S., Garg, S., Alolayyan, M. N., Alyahya, M. S., Alalawin, A. H., Shoukat, A., Nusairat, F. T., Rosyada, A., Lazuardi, L., Kusrini, Sharifian, R., Askarian, F., Nematolahi, M., Farhadi, P., Bawack, R. E., Kala Kamdjoug, J. R., … Tsai, C. C. C. Y. (2020). Modeling predictors of acceptance and use of electronic medical record system in a resource limited setting: Using modified UTAUT model. *BMC Medical Informatics and Decision Making*, *17*(1), 100182. https://doi.org/10.1016/j.imu.2019.100182

Adnyana, I. M. D. M. (2019). Studi Ekologi. In H. Akbar (Ed.), *Metode Penelitian Epidemiologi*. (pp. 31-52). CV Media Sains Indonesia

Amelia, D., & Jer, A. R. (2022). Pengaruh Kecerdasan Emosional dan Kecerdasan Intelektual terhadap Kinerja Karyawan di PT . Bank Negara Indonesia Kantor Cabang Bengkalis pada Mada Pandemi COVID-19. *SIMBA: Seminar Inovasi Manajemen …*, 354–363. http://prosiding.unipma.ac.id/index.php/SIMBA/article/view/3656

Chen, R. F., & Hsiao, J. L. (2021). Health professionals' perspectives on electronic medical record infusion and individual performance: Model development and questionnaire survey study. *JMIR Medical Informatics*, *9*(11). https://doi.org/10.2196/32180

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). Thousand Oaks. *Sage*, 165.

Hasanah, U., Pratama, R., & Putra, A. (2024). Analisis Kompetensi Petugas Rekam Medis dalam Pencapaian Kinerja di Puskesmas Kota Bima. *Jurnal Rekam Medik Dan Informasi Kesehatan*, *5*(2), 112–119. https://doi.org/10.25047/j-remi.v5i2.4264

Irmawati, Garmelia, E., Golo, Z. A., & Ilyas, A. A. (2024). Analisis Kinerja Unit Rekam Medis Berdasarkan Standar Kompetensi PMIK di Rumah Sakit Wilayah Sulawesi Selatan. *RMIK: Jurnal Rekam Medis dan Informasi Kesehatan, 7*(1), 70–77.

Kementerian Kesehatan RI. (2020). *Buku digital Standar Profesi Perekam Medis dan Informasi Kesehatan*.

KMK No. HK.01.07/MENKES/1424/2022, R. (2022). *Keputusan Menteri Kesehatan Republik Indonesia Tentang Standar Kompetensi Kerja Bidang Rekam Medis Dan Informasi Kesehatan*. *Nomor HK.0*, 1–278.

Lagibu, M., Masaong, A. K., & Haris, I. (2018). Pengaruh kecerdasan interpersonal, kecerdasan intrapersonal, dan kecerdasan sosial terhadap kreativitas guru Sekolah Menengah Pertama Negeri di Kecamatan Paguyaman Kabupaten Boalemo. *JPs: Jurnal Riset Dan Pengembangan Ilmu Pengetahuan*, *03*(1), 95–102. http://ejurnal.pps.ung.ac.id

Laura Angelica, T., Nu Graha, A., & Wilujeng, S. (2020). Pengaruh Kecerdasan Intelektual, Kecerdasan Emosional, Dan Kecerdasan Spiritual Terhadap Kinerja Karyawan Di Transformer Center Kota Batu. *Jurnal Riset Mahasiswa Manajemen*, *6*(1), 1–7. https://doi.org/10.21067/jrmm.v6i1.4469

Menkes. (2007). Keputusan Menteri Kesehatan RI No. 377 Tahun 2007 tentang Standar Profesi Perekam Medis dan Informasi Kesehatan. https://pormiki-malang.org/Definisi-Rekam-Medis

Okwuduba, E. N., Nwosu, K. C., Okigbo, E. C., Samuel, N. N., & Achugbu, C. (2021). Impact of intrapersonal and interpersonal emotional intelligence and self-directed learning on academic performance among pre-university science students. *Heliyon*, *7*(3), e06611. https://doi.org/10.1016/j.heliyon.2021.e06611

PERMENKES RI No 269/MENKES/PER/III/2008. (2008). Permenkes RI 269/MENKES/PER/III/2008. In *Permenkes Ri No 269/Menkes/Per/Iii/2008* (Vol. 2008, p. 7).

Pratama Adi Putra, R., Supinganto, A., Hasanah, U., Halid, M., Kesehatan Kabupaten Lombok Tengah, D., Kunci, K., & Individu, K. (2024). Hubungan Karakteristik Individu dengan Kinerja Petugas Rekam Medis di Puskesmas Wilayah Kota Mataram. *Jurnal Rekam Medik Dan Informasi Kesehatan*, *4*(3), 208–218. https://doi.org/10.25047/j-remi.v5i3.4627

Royani, A. (2019). Lingkungan Kerja Dan Kompentensi Perekam Medis Terhadap Kualitas Sistem Rekam Medis Di Rs Al Islam Bandung. *Jurnal Teras Kesehatan*, *2*(1), 1–13. https://doi.org/10.38215/jutek.v2i1.26

Setiawan, A. R. (2019). Literasi Saintifik Berdasarkan Kecerdasan Majemuk dan Motivasi Belajar. *Media Penelitian Pendidikan : Jurnal Penelitian Dalam Bidang Pendidikan Dan Pengajaran*, *13*(2), 126. https://doi.org/10.26877/mpp.v13i2.4913

Syarifah, S. (2019). Konsep Kecerdasan Majemuk Howard Gardner. *Sustainable: Jurnal Kajian Mutu Pendidikan*, *2*(2), 176–197. https://doi.org/10.32923/kjmp.v2i2.987

Trihandini, R. . F. M. (2005). Analisis Pengaruh Kecerdasan Intelektual , Kecerdasan Emosi dan Kecerdasan Spiritual terhadap Kinerja Karyawan. *Universitas Diponegoro*, 105.