



## Performance Indicators KPIs in Employee Performance Evaluation

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### ABSTRACT

A current application of several studies drawn from the body of existing research is the Key Performance Indicator (KPI), which this article adds to. Scholarly publications from journals, books, and various other references that serve as sources of literature are used to exemplify the qualitative technique used in this article in order to produce a result. The authors present the implementation details for their research outcomes and recommendations in this scientific work while highlighting how human resource science spans multiple industries via its reliance on scientific literature publications. Other researchers must be able to carry out the findings of this scientific paper in the future due to the performance management gap that has not been fully explored in relation to the current Key Performance Indicators.

**Keywords:** Performance Management, Key Performance Indicator, Employee Performance Evaluation

## INTRODUCTION

In today's business world the application of Key Performance Indicators (KPIs) has become increasingly widespread since organizations understand the importance of performance measurement for decision making. Performance Indicators (De Jesus & Buenas, 2023) offers the guidance framework. Key Performance Indicators are a crucial instrument for gauging an organization's performance and achievement of its goals and objectives. Managers and other stakeholders may track developments and make wise choices thanks to these indicators, which provide insightful information about many facets of an organization's operations. The evaluation of system performance becomes essential through an appropriate selection of performance indicator criteria, as it ensures that the chosen metrics accurately reflect efficiency, effectiveness, and overall success in achieving organizational goals (Vosoughi et al., 2020).

Selecting KPIs that can successfully monitor changes over time and properly represent the intended outcomes is crucial (Rabbani et al., 2016). Because there may be a large number of operational indications to take into account, this selection procedure might be difficult. Choosing which particular KPIs to use from this group of performance indicators is crucial. A number of questions must be answered in order to choose KPIs in an efficient manner (Parmenter, 2015). Among the performance metrics include budgeting (Parmenter, 2015), quality applied (Heckl & Moormann, 2010), and others. According to Heckl and Moormann (2010), metrics are elements that are used to assess an organization's performance using performance indicators.

KPIs provide an organized framework for measuring and monitoring the output, effect, and advancement of those participating in the research ecosystem. KPIs are essential for directing and tracking young researchers' academic paths at the PhD scholar level by giving them specific, quantifiable objectives to meet during their studies. KPIs enable PhD researchers to remain on course, improve their abilities, and make valuable contributions to their areas of study by concentrating on research output, advancement toward project milestones, and professional growth.

In a similar vein, KPIs provide a crucial tool for assessing post-doctoral scholars' research output, teamwork, and influence. KPIs encourage post-doctoral scholars to surpass their work and contribute significantly to the body of knowledge by establishing performance metrics pertaining to publication output, obtaining outside financing, and multidisciplinary

partnerships. Additionally, as post-doctoral researchers often start their own independent research careers, KPIs should also include elements like skill development, team building, and mentoring. Furthermore, KPIs are essential for evaluating research mentors' efficacy and their contributions to the development and success of their research teams at the level of the research supervisor. KPIs allow research supervisors to improve their tactics, foster a supportive research environment, and provide specialized assistance to their team members by concentrating on indicators pertaining to mentees' research production, research impact, collaborative efforts, and mentoring efficacy.

KPIs let businesses evaluate how well they are performing in regard to strategic objectives (Del-Río-Ortega et al., 2014) and are crucial in achieving organizational goals (Popova & Sharpanykh, 2010). Specifically, (1) performance indicators offer a means of determining whether the plan is strategic and pursued work (2) KPIs can give organizations trustworthy data to use as a foundation for executing their growth strategies, , and (3) their performance indicators, specifically, can enhance and boost operational efficiency, productivity, and profitability. It should come as no surprise that KPI concerns are becoming more and more significant in light of these possible advantages. The growing interest in this subject demonstrates its use in a variety of business contexts, such as public transportation systems (Mourtzis et al., 2016 & Mnif et al., 2015).

Therefore, in today's cutthroat business climate, choosing relevant and effective Key Performance Indicators (KPIs) is becoming more and more crucial (Popova & Sharpanykh, 2010). Because it encompasses a number of elements, including company strategy, business goals, reporting, analysis, measurement, and KPI modeling, describing KPIs is a laborious effort (Lettrache et al., 2016). As a result, businesses usually depend on managers and staff to choose and track KPIs appropriately. It can be challenging to communicate and comprehend information pertaining to the resulting research if there is a lack of standardized terminology and a structured framework for data elements can create difficulties in comparison and analysis works or even identify mutually beneficial works and their relationships (Vegas et al., 2009). The Key Performance Indicator (KPI) application that will be discussed in this scientific article is one that has previously been used in a number of studies that were drawn from the body of existing research.

## **THEORETICAL REVIEW**

### ***Key Performance Indicator (KPI)***

Key Performance Indicators (KPIs) are quantifiable goals that become more valuable when executed well, according to Velimirović et al. (2011). An analogy. KPIs are helpful metrics that may be both financial and non-financial for businesses. to demonstrate the success of your business. One of the prerequisites. Ultimately, standard operating procedures derived from the organization of previous activities in an efficient and successful system are necessary for the construction of a performance measurement system.

Metrics used in key performance indicators, per Parmenter (2015). Provide the organization with financial or other resources to aid in decision-making. Analyze results in relation to business objectives.

According to Peral, Mate, & Marco (2017), KPIs drive improvements at both strategic and operational levels by providing an analytical framework for decision-making while enhancing awareness and engagement across various fields. Their significance lies in delivering timely and precise information that compares current performance with the targets essential for meeting business needs and objectives. As a result, KPIs play a vital role in ensuring that corporate goals and requirements are achieved.

### ***Management of Performance***

Performance management is defined as "open communication between managers and employees regarding goal setting and feedback from managers to employees is a basic principle of leadership," Schwartz (1999).

Performance management, according to Armstrong and Baron (2004), is the process of controlling performance in relation to objectives, standards, and attribute criteria so that teams, people, and organizations may get improved outcomes.

According to Nursam (2017) performance management represents a leadership strategy within performance-based resource management which demands organizations to create shared vision and unified strategic plans for achieving their objectives.

According to research from (Susanto, Sawitri, & Susita, 2023); (Setyawati et al., 2023); (Sawitri et al., 2023); (Susanto, Hidayat, et al., 2022); (Susanto, Sawitri, Ali, et al., 2022), superior employees typically have high scores when evaluating their work using key performance indicator assessments, while subordinate employees have low scores.

## METHODOLOGY

In order to produce a result, this scientific article employs a qualitative approach, which is shown by scientific articles from books, journals, and other sources that constitute literary sources.

## RESULTS

This article uses research data as literary content showcasing Del-Río-Ortega et al. (2013) who studied the PPINOT meta-model implementation while developing the PPINOT Tool Suite for diverse application cases. Across every management field and scientific discipline Key Performance Indicators (KPIs) serve as vital assessment instruments for performance evaluation.

According to studies by Anand and Groover (2015), the outcomes are important performance indicators and fall into four primary groups: resource optimization, warehouse optimization, information technology optimization, and traffic optimization. These indicators were created especially for the retail industry. To connect this construction's performance with the business's financial success, a theoretical framework is put out.

According to the findings of the first study and further research by Maté et al. (2016), there are often insufficient ideas that explain the small but significant distinctions between performance and performance indicators.

Second, there is a lack of integration between data analysis and modeling methodologies, which would connect the two processes. We provide a method that explicitly chooses KPIs and Key Outcome Indicators (KRI) to solve these problems. Our strategy comprises of (i) a novel modeling language that makes use of key indicators, such as KPIs, KRIs, and measurements; and (ii) data mining-based analytical approaches that make it feasible by providing data information on model elements. specialists in this domain to verify specific KPIs and (iii) iterative procedures that direct the identification and characterization of indicators. We used a real-world water supply case study to test our methodology.

Research by (Mourtzis et al., 2016) with the findings of study Out of 170 KPIs that were found following extensive literature research and methodically categorized into four groups, certain relevant KPIs are chosen and recommended to PSS designers based on the assessment phase utilizing context sensitivity analysis (CSA) methods. Design, manufacturing, customer, and environment are the primary categories. KPIs supporting the continuance of planned PSS offers are grouped sequentially from the gathered and categorized KPIs. To reduce needless

work, lean principles are chosen using CSA and presented to designers at every stage of the design process during the lean design support phase. Contextual awareness is made feasible by the phases of the PSS lifecycle that the designer covers, as well as the input obtained from manufacturers, store specialists, and various consumer types (end users or buyers of commercial items). To enable CSA, lean rules and ontological data models for KPIs are suggested.

Employee training and development empower management to unlock each employee's potential, enabling them to handle various tasks, responsibilities, and greater challenges. This is crucial as organizations face dynamic trends and must adapt to stringent regulations and global competition to survive. At PT ITIC, Tbk, the KPI method to performance evaluation serves as both an analytical tool and a means of determining training requirements (Training Need Assessment). The goal of the TNA process that PT ITIC, Tbk's management has developed and implemented is to gather a variety of information on the requirements and circumstances that workers face while doing their jobs.

According to (Mangkunegara, 2017), training needs analysis aids any firm in resolving a variety of issues related to its endeavors to enhance employee productivity. As a result, employee KPI values derived from a tool for analyzing performance as well as individual competencies. may be utilized to conduct training needs analysis, or TNA. This note is meant for all firms to guarantee that training programs are carried out in accordance with the goals and objectives, and it may be used as a reference and even a benchmark for training needs assessments. Thus, employee KPI values from A tool for analyzing performance as well as individual competencies may be utilized to undertake training needs analysis, or TNA. This notes the framework suits all organizations for establishing training analysis activities as a common benchmark which helps program designers create training content that matches business objectives and performance objectives. Procedures for training needs analysis employ Employee KPI measurements from performance analysis tools combined with individual competency analysis results. This document provides standards for training needs assessment across all businesses to help those who develop or execute training programs achieve goal alignment.

Multiple academics argue that businesses that employ Human Capital Management establish their central foundation on value creation. Through key performance indicators management tracks employee engagement trends (citizenship organization) toward business objective fulfillment. This indicates that each activity will be reviewed and performed in order to

provide the groundwork for skill development and to guide the management of human resources as a business asset. According to research reports by Yuli Prastiani and Murtiningsih (2019), Sasongko (2022), and Joko Sabtohadhi (2023), Situation in three English-language studies confirms a professional duty for management to offer training and job enlargement and enrichment as workforce improvement measures for better workplace outcomes. Such interventions lead to greater professional competence toward company advancement.

Every employee will have the chance to advance their careers by improving existing abilities and developing new ones via training, KPIs for monitoring goals and job outcomes, and enhancing these activities.

The findings of KPI modeling solutions and code creation using the MDA technique are presented in a study by Letrache et al. (2016). We do this by generating MDX code and providing an OIM meta model extension for designing KPIs. Decision makers may set and publish their KPIs in real time by integrating the offer into end-user apps. The findings of further research by Domínguez et al. (2019) indicate we will primarily concentrate on this area of KPI management, as the majority of the literature is on KPI definition. Our work is to provide substantial advantages, such as enhancing comprehension of KPI management or assisting users in selecting solutions that best suit the requirements of brands.

KPIs are linked to production changes in relation to Industry 4.0 in studies from a structural framework (Joppen et al., 2019). We highlight how these developments are reflected in today's standard KPIs and highlight the advantages of additional IT-related KPIs. Recent research published by (Al Dakheel et al., 2020) revealed that the development of building intelligence platforms required quantitative measurement standards to advance energy efficiency together with technology. The research defined nine performance metrics for smart buildings as representative measures. The findings present current limitations in existing research and identify future analytical directions.

According to research findings from later studies (Vosoughi et al., 2020), the expert committee recommended 21 indicators for further study, of which 12 and 9 indicators were deemed acceptable out of 45 basic health indicators and 17 education indicators. According to the priority findings, the most significant indicator—a ratio of health preventive and corrective activities with a weight of 0.146—is given precedence. A number of important indicators have been put out in light of the study's goals and findings to assist managers and

industrial hygiene specialists in assessing the automotive sector's performance. The findings of regression model research were used to student enrollment data in the following study by Abdulhadi et al. (2022) in order to forecast precise KPIs that could be utilized and modified for every higher education system.

Prediction engines through KPI generation utilize Support Vector Regression (SVR) together with K-Nearest Neighbor (KNN) and linear regression techniques that include lasso and elastic networks. Information about institution registration dates and graduation periods is accessible through the Palestinian Ministry of Higher Education (MoHE). The regression procedure was evaluated through R-squared measurement, while mean absolute error and mean square error, and root mean square error data provided additional assessment metrics. The experimental data showed split partitioning where training received 40% while separation received 60%.

The developed system, according to De Jesus & Buenas (2023) is operational and fully operational and compliant with Certified Software Quality Specialist certification standards. The system promises to function as an essential instrument which enables organizations and advisory groups and communities to evaluate strategic options while maintaining service quality through user-driven requirements satisfaction.

**Table 1:** *Summary of Review Result*

S. No.	Area Of Focus	Outcome	Reference
1	PPINOT Tool Suite	This research investigates the implementation of the PPINOT meta-model, which forms the core base for the PPINOT Tool Suite. This tool serves as a universal framework that stakeholders can use to manage Key Performance Indicators across different operational scenarios throughout multiple domains.	Del-Río-Ortega et al. (2013)
2	Retail Industry Performance	This research categorizes KPIs into four primary groups: resource optimization, warehouse optimization, information technology optimization, and traffic optimization. The industry-specific KPIs serve to connect performance indicators with financial success routes using a theoretical framework structure.	Anand & Groover (2015)
3	KPI and Performance Indicators	The research illustrates the difficulties in distinguishing performance endpoints from their measurement indicators while demonstrating the non-integrated state of modeling techniques relative to data analytical methods. The new approach includes a methodology that combines a modeling language with analytical data mining tools and iteration steps for Key Performance Indicator and Key Outcome Indicator selection. The approach verifies its effectiveness using observations from a genuine water supply system.	Maté et al. (2016)



4	Product-Service Systems (PSS)	Extensive literature research identified 170 KPIs, which were systematically categorized into four groups: design, manufacturing, customer, and environment. Through Context Sensitivity Analysis (CSA), designers receive recommended KPIs that fit their specific situations. The research established lean principles and ontological data modeling approaches to enhance PSS lifecycle context awareness.	Mourtzis et al. (2016)
5	Employee Training & Development	The company prioritizes workforce training and development because these components both reveal personnel potential and enable better management of varied responsibilities. PT ITIC Tbk utilizes KPI-based Training Needs Analysis (TNA) to evaluate performance while determining necessary training to support organizational objectives together with applicable regulations.	Mangkunegara (2017)
6	Human Capital Management	An examination reveals that organizations with Human Capital Management (HCM) strategies track their employee engagement and performance using Key Performance Indicators (KPIs). The system uses training together with job enlargement and job enrichment methods to develop employees and advance their careers while improving their work abilities.	Prastiani & Murtiningsih (2019), Sasongko (2022), Sabtohadhi (2023)
7	KPI Modeling & Code Generation	The study implements Model-Driven Architecture (MDA) to develop KPI modeling processes that automatically generate code. Using OIM metadata, the extension extends the OIM meta-model for designing KPIs while facilitating MDX code generation, which enables instant KPI management capabilities integrated with end-user applications.	Letrache et al. (2016)
8	KPI Management & Decision Making	This research improves KPI management through enhanced understanding while also helping users determine suitable KPIs that align with business requirements. The research fills existing literature voids by focusing on decision-support tools and customized KPI selection approaches to measure brand performance.	Domínguez et al. (2019)
9	Industry 4.0 & KPI Evolution	The research sheds light on standard KPI framework modification within Industry 4.0 transformation contexts. This transforms KPI patterns to incorporate IT-specific metrics that address technological advancements which shape contemporary industrial practices.	Joppen et al. (2019)
10	Smart Building Performance	The study designs nine key performance metrics for building intelligence improvement which focuses on energy conservation and advanced design principles. This study exposes literature gaps which provide direction for quantitative evaluation projects aimed at smart buildings.	Al Dakheel et al. (2020)
11	Health & Education KPI Analysis	A panel of experts began evaluating 21 indicators for further research which resulted in selecting 12 health and 9 education indicators from 45 organized health and 17 organized education metrics. With an impact weight of 0.146, the preventive and corrective health activities ratio emerges as the leading performance indicator. Industrial hygiene specialists together with managers use the introduced KPIs as assessment tools to monitor automotive sector performance.	Vosoughi et al. (2020)
12	Higher Education KPIs	Using regression models, this research determines future student enrollment Key Performance Indicators for higher education. The approach employs both Support Vector	Abdulhadi et al. (2022)

		Regression (SVR) and K-Nearest Neighbor (KNN) and linear regression techniques, including Lasso and Elastic Networks. The Palestinian Ministry of Higher Education (MoHE) supplied enrollment statistics and graduation data for analysis using R-squared alongside mean absolute error together with mean square error (MSE) and root mean square error (RMSE).	
13	Software Quality Management	The research tests an operational framework for Certified Software Quality Specialists through functional and usability assessments. The system supports organizations and advisory groups as well as communities to produce strategic decisions and sustain excellent service delivery by conducting KPI assessments.	De Jesus & Buenas (2023)

## DISCUSSION

Key performance indicators have already been used in research in a number of different fields from different sciences to support performance management; this scientific article only focuses on the area of human resources in management that is evaluated within the organization.

Several of the aforementioned papers are the responses of researchers who conducted this investigation after realizing that performance management in particular had not been connected to the body of existing knowledge.

This creates a gap that will eventually be filled by more study from other scholars. The key performance indicators that are now in use have been adopted.

## CONCLUSION

Building on the contribution of this scientific article, which aims to provide application or implementation, particularly in the field of human resource science across various industries, the findings and discussions above can be summarized as follows. The research highlights the importance of applying key concepts from human resource science to different sectors, ensuring the use of relevant literature to inform practices and decision-making processes. It is imperative that future researchers build on the findings of this scientific work in order to address the performance management gap that has not been fully explored in relation to the current KPIs. Although it is still not ideal for the academics who are writing it, the findings of this article may really benefit businesses and management across a range of sectors.

## REFERENCES

- Abdelhadi, A., Zainudin, S., & Sani, N. S. (2022). A regression model to predict key performance indicators in higher education enrollments. *International Journal of Advanced Computer Science and Applications*, 13(1), 454–460. <https://doi.org/10.14569/IJACSA.2022.0130156>
- Al Dakheel, J., Del Pero, C., Aste, N., & Leonforte, F. (2020). Smart buildings features and key performance indicators: A review. *Sustainable Cities and Society*, 61, 102328. <https://doi.org/10.1016/j.scs.2020.102328>
- Amstrong, M., & Baron, A. (2004). Performance management. Yogyakarta: Tugu Publisher.
- Anand, N., & Grover, N. (2015). Measuring retail supply chain performance: Theoretical model using key performance indicators (KPIs). *Benchmarking*, 22(1), 135–166. <https://doi.org/10.1108/BIJ-05-2012-0034>
- De Jesus, N. M., & Buenas, L. J. E. (2023). Descriptive analytics and interactive visualizations for performance monitoring of extension services programs, projects, and activities. *International Journal of Advanced Computer Science and Applications*, 14(1), 660–668. <https://doi.org/10.14569/IJACSA.2023.0140173>
- Del-Río-Ortega, A., Resinas, M., Cabanillas, C., & Ruiz-Cortés, A. (2013). On the definition and design-time analysis of process performance indicators. *Information Systems*, 38(4), 470–490. <https://doi.org/10.1016/j.is.2012.11.004>
- Domínguez, E., Pérez, B., Rubio, Á. L., & Zapata, M. A. (2019). A taxonomy for key performance indicators management. *Computer Standards and Interfaces*, 64, 24–40. <https://doi.org/10.1016/j.csi.2018.12.001>
- Heckl, D., & Moormann, J. (2010). Process performance management. *Handbook on Business Process Management 2: Strategic Alignment, Governance, People and Culture*, 115–135.
- Joppen, R., von Enzberg, S., Gundlach, J., Kühn, A., & Dumitrescu, R. (2019). Key performance indicators in the production of the future. *Procedia CIRP*, 81(March), 759–764. <https://doi.org/10.1016/j.procir.2019.03.190>
- Letrache, K., El Beggar, O., & Ramdani, M. (2016). Modeling and creating KPIs in MDA approach. *Colloquium in Information Science and Technology, CIST*, 0, 222–227. <https://doi.org/10.1109/CIST.2016.7805046>
- Murtiningsih, R. S. (2019). The Impact of Compensation, Training & Development, and Organizational Culture on Job Satisfaction and employee Retention. *Indonesian Management and Accounting Research*, 19(1), 33–50. <https://doi.org/10.25105/imar.v19i1.6969>
- Mangkunegara, A. P. (2017). Manajemen Sumber Daya Manusia. Remaja Rosda Karya.
- Maté, A., Trujillo, J., & Mylopoulos, J. (2016). Key performance indicator elicitation and selection through conceptual modelling. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 9974 LNCS, 73–80. [https://doi.org/10.1007/978-3-319-46397-1\\_6](https://doi.org/10.1007/978-3-319-46397-1_6)
- Mnif, S., Galoui, S., Elkosantini, S., Darmoul, S., & Ben Said, L. (2015). Ontology based

- performance evaluation of public transport systems. *2015 4th IEEE International Conference on Advanced Logistics and Transport, IEEE ICALT 2015*, 205–210. <https://doi.org/10.1109/ICAdLT.2015.7136622>
- Mourtzis, D., Fotia, S., & Vlachou, E. (2016). PSS design evaluation via kpis and lean design assistance supported by context sensitivity tools. *Procedia CIRP*, 56, 496–501. <https://doi.org/10.1016/j.procir.2016.10.097>
- Nursam, N. (2017). Manajemen Kinerja. *Journal of Islamic Education Management*, 2(2), 167–175. <https://doi.org/10.24256/kelola.v2i2.438>
- Parmenter, D. (2015). *Key performance indicators: developing, implementing, and using winning KPIs*. John Wiley & Sons.
- Popova, V., & Sharpanskykh, A. (2010). Modeling organizational performance indicators. *Information Systems*, 35(4), 505–527. <https://doi.org/10.1016/j.is.2009.12.001>
- Sabuhari, R., Sudiro, A., Irawanto, D. W., & Rahayu, M. (2020). The effects of human resource flexibility, employee competency, organizational culture adaptation and job satisfaction on employee performance. *Management Science Letters*, 10(8), 1777–1786. <https://doi.org/10.5267/j.msl.2020.1.001>
- Sasongko, S. R. (2022). Determinasi Kinerja Karyawan: Kompensasi, Pelatihan Dan Pengembangan (Suatu Kajian Studi Manajemen Sumberdaya Manusia). *Jurnal Ilmu Manajemen Terapan*, 3(6), 635–645. <https://www.dinastirev.org/JIMT/article/view/891%0Ahttps://www.dinastirev.org/JIMT/article/download/891/662>
- Sawitri, N. N., Susanto, P. C., & Suroso, S. (2023). Business Opportunity Human Resource Information System for a Human Resource Department to Create Career Path and Performance Evaluation. *East Asian Journal of Multidisciplinary Research (EAJMR)*, 2(4), 1505–1516. <https://doi.org/10.55927/eajmr.v2i4.3757>
- Schwartz, A. E. (1999). *Performance management*. Barron's Educational Series.
- Setyawati, A., Pahala, Y., & Susanto, P. C. (2022). Loading and unloading labor performance as a mediation of variables of work motivation , work competence and work behavior that impacts well- being loading and unloading labor. *Journal of Economics, Management, Entrepreneur, and Business*, 2(2), 146–161.
- Sugiyono. (2018). *Metode penelitian kuantitatif, kualitatif, dan metode penelitian kombinasi (Mixed Method)*. Alfabeta.
- Susanto, P. C., Hidayat, W. W., Widyastuti, T., Transportasi, I., Jakarta, U. B., Keuangan, I., Asia, I., Author, C., & Candra, P. (2023). Analysis of resilience and competence on employee performance through intervening key performance indicator variables. *Indonesian Journal of Business Analytics (IJBA)*, 3(3), 899–910. <https://doi.org/10.55927/ijba.v3i3.4274>
- Susanto, P. C., Sawitri, N. N., Ali, H., & Suroso, S. (2023). Performance management as a mediation of variable of competence and coaching skills that impacts organization sustainability. *Formosa Journal of Multidisciplinary Research (FJMR)*, 2(4), 719–728. <https://doi.org/10.55927/fjmr.v2i4.3792>
- Susanto, P. C., Sawitri, N. N., & Susita, D. (2023). Job satisfaction and employee turnover : analysis recruitment , career development , organizational culture. *Dinasti*

*International Journal Of Digital Business Management*, 4(3), 619–629.  
<https://doi.org/10.31933/dijdbm.v4i2>

- Vegas, S., Juristo, N., & Basili, V. R. (2009). Maturing software engineering knowledge through classifications: A case study on unit testing techniques. *IEEE Transactions on Software Engineering*, 35(4), 551–565.
- Velimirović, D., Velimirović, M., & Stanković, R. (2011). Role and importance of key performance indicators measurement. *Serbian Journal of Management*, 6(1), 63–72.
- Vosoughi, S., Chalak, M. H., Yarahmadi, R., & Abolaghasemi, J. (2020). Identification, selection and prioritization of key performance indicators. 35–49.
- Yuli Prastiani, Joko Sabtohadhi, P. H. S. (2023). The influence of training and job placement on regional revenue agency employee performance in ast kutai district. *Jurnal scientia*, 12(3), 17–23.