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Digital Governance in Human Resources Development (HRD) Portal with Soft Systems Methodology Approach, Study of BUMN Holding Survey Services

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Abstract

The rapid development of technology has significantly impacted various aspects of human life, including in the world of work and the development of human resources (HR). Digital governance is the development of the concept of E-Government, which focuses more on user participation in its application. Implementing digital governance is a human capital application transforming how companies manage their human resources. For more than three decades, SBU Marine Services used a time-based payroll system. However, since 2021, the company switched to a competency-based approach. This change has led to an income gap between long-standing contract employees and new joiners. In addition, the salary data collection system still uses spreadsheets, which have several potential governance issues, such as transparency of the payroll system, information on employee training and grading data, etc. This study uses the soft systems methodology (SSM) approach to analyze digital governance using the HRD Portal application in SBU Marine Services. The results showed no policy governing contract employee governance in SBU Marine Services, so the HRD Portal is needed. This research recommends creating an HRD Portal SOP policy to measure and monitor employee performance more effectively and efficiently. The contribution of this study, with the HRD Portal SOP policy, can change the payroll system from a time-based system to a competency-based system, overcome the social gap in contract employee income, and increase transparency and fairness in human capital management at SBU Marine Services.

Keywords: E-Government; Digital Governance; Human Capital; HRD Portal; SOEs.

Introduction

Massive technological developments and advances have had an impact on various human lives. For example, the use of website-based technology is currently revolutionizing the world of work and learning (Li 2013; Rosa 2020). Likewise, the impact of technological developments on Human Resources (HR) has been widely discussed in various literature (Ardichvili 2022; Brown et al. 2022). In this case, technological developments in the HR field are not only limited to developing resources, but have also transformed human capital management (Farr, Fairchild, and Cassidy 2013; Johnson and Gueutal 2011; Stone et al. 2015; Zehir, Karaboğa, and Başar 2020) (Johnson & Gueutal, 2011).

These various technological developments have been adopted to help improve the knowledge, skills and abilities of employees or workers through training and development (Huang et al. 2020) which is part of digital governance. Digital governance is a development of the E-Government concept which focuses more on community participation in its implementation (Khan and Krishnan 2021; Melin and Wihlborg 2018).

The use of digital media becomes a bridge between society and programs and activities carried out by the government, so that aspects of information disclosure for users are also needed (Sobri, Lionardo, and Putra 2023) with digital standards in determining the nature and measurement of the effectiveness of digital service delivery. In practical terms, digital standards are created so that an organization implements implementation details, so that digital governance can be carried out consistently and effectively (Welchman 2015). With digital standards, identifying the authority of each actor in the organization can save time and resources. For example, identifying standards in digital information services which consist of

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standards for the time required for service, standard costs that must be incurred, standards for what information can be provided, and so on. With digital standards, service recipient satisfaction will increase and minimize any disputes or complaints that may occur.

Standards in digital governance are also needed to establish and maintain the environment in accordance with the criteria. Establishing an environment that meets standards consists of 4 stages (Figure 1). The first stage is the define stage where at this stage digital standards have been established and documented. The second stage is the disseminate stage, where digital standards have been disseminated effectively to all digital stakeholders. The next stage is implementation where all digital standards have been implemented without exception. The last is the measurement stage where compliance with digital standards will be measured and sustainability managed. The stages of creating an environment that meets digital standards can be seen in the image below. This indicator not only helps in classifying decision makers, but also helps in understanding who should decide on matters relating to strategy, policies and standards in implementing Digital Governance (Welchman 2015).
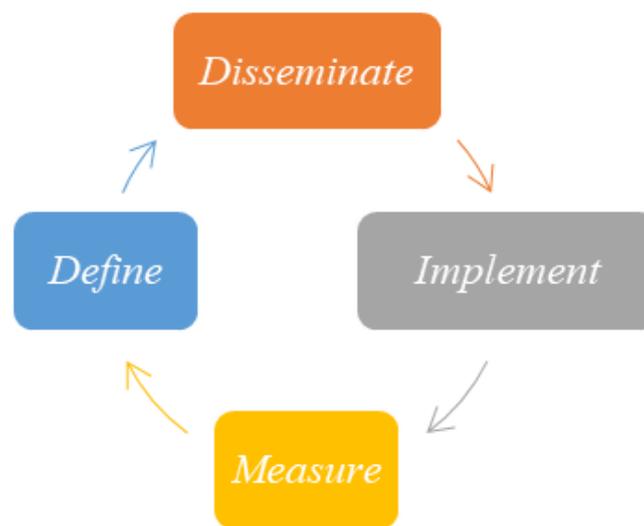

Figure 1. Stages of Establishing an Environment that Meets Digital Standards
Source: Welchman (2015)

This article discusses the governance of PT Bureau Klasifikasi Indonesia (Persero) (hereinafter BKI) as a BUMN Survey Services Holding, which has implemented website-based technology in carrying out human resource management through the Human Resources Development (HRD) Portal. BKI is the only national classification body assigned by the government of the Republic of Indonesia in accordance with the Decree of the Minister of Sea Transportation No.Th.1/17/2 dated 26 September 1964 concerning the obligation for Indonesian-flagged ships to have ship certification issued by PT. BKI.

In 1982 PT. BKI developed the commercial business sector which became known as the Commercial Department. The Commercial Department is supported by two Strategic Business Units (SBU), namely the Energy & Industry SBU and the Marine Services SBU. In 2023, SBU Marine Services will have 82 contract employees or what is usually called a Specific Time Work Agreement (PKWT) handling 342 projects.

For approximately 36 years, the HRD management system at SBU Marine Services still uses a time-based system. A time-based system is a payroll system that is calculated based on the amount of time employees spend working. However, since 2021 the HRD governance system has changed to competency base. Competency base is an employee salary system based on the abilities or skills possessed by the relevant employees (Islam and Yusuf 2023). However,

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in fact this system change caused social inequality between PKWT employee personnel at SBU Marine Services. This gap is related to employee salary income, namely between the salaries of employees who have been contracted for a long period of time and the salaries of employees who have competence but have not been working at SBU Marine Services for a long time. The salary data collection system, such as nominal employee salary data, employee grade, salary rewards, and so on, still uses manual data processing applications or spreadsheets at SBU Marine Services. Employees generally have limited access to data when processing this data, so the salary distribution system at SBU Marine Services is still not transparent. This study aims to analyze digital governance in the use of the HRD Portal application at SBU Marine Services.

Method

This research method uses SSM as an organized approach to handle perceptions about (social) problem situations that are action-oriented, which organizes complex, messy, ill-structured, ill-defined, or unstructured situations so that corrective action can be taken (P Checkland 1990; P Checkland and Poulter 2020; P Checkland and Scholes 1999; Peter Checkland 2000; Checkland and Poulter 2006). This method is suitable for overcoming the complexity of problematic situations encountered in this research, where field conditions are never static and also contain many perceptions that interact with each other (Budiarso et al. 2021, 2022; Suryaatmaja et al. 2020). Each individual involved, whether as a policy actor, implementer, or party who receives benefits from the policy (target group) has a different perspective (Permatasari, Hardjosoekarto, and Solomon 2020). To provide more context and understand how SSM supports exploratory learning and problem solving, real cases will be used.
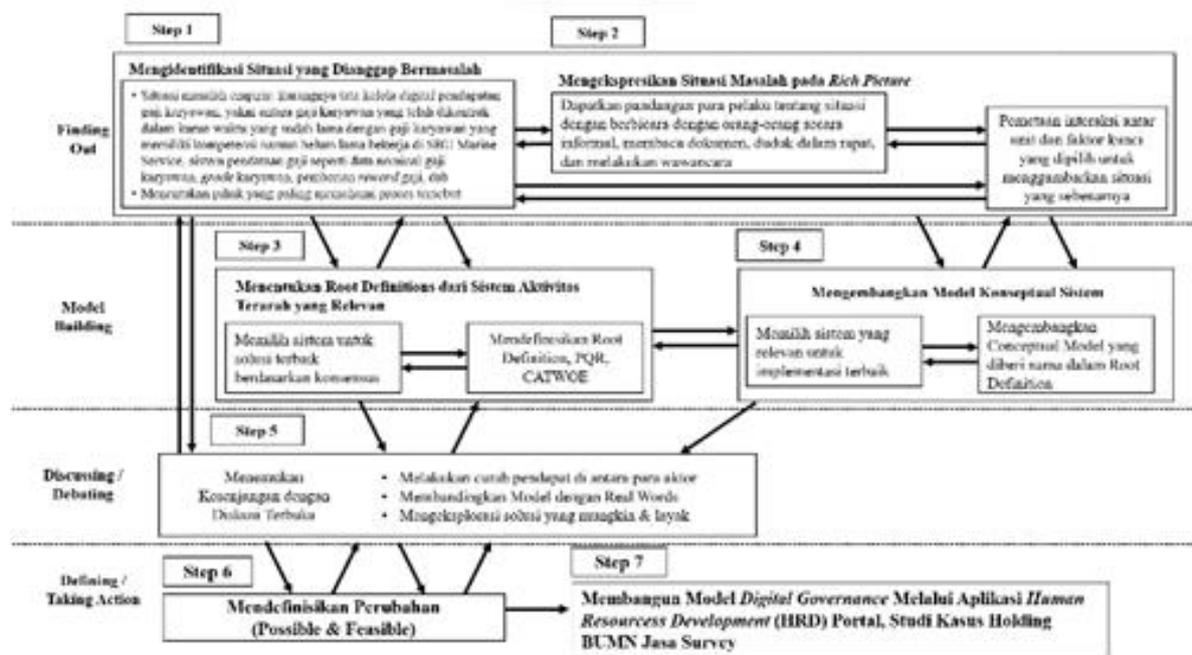

Figure 2. Seven Stages of SSM
Source: Author, 2023; adopted Checkland & Poulter, 2006, 2020; Devi et al., 2023

Figure 2 shows the implementation of the seven stages of SSM including; (1) Identifying the problem and understanding the situation that occurs (the problem situation unstructured), (2) Expressing the problem situation, (3) Preparing the root definition of the

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relevant system (root definition of relevant systems), (4) Creating a conceptual model (Conceptual models) of human activity systems, (5) Comparing conceptual models with what happens in the real world (comparison of models and real world), (6) Systematically desirable and culturally feasible, and (7) Implementing the conceptual system that has been designed to then monitor the results (Take/action to improve the problem situation).

The data and information in this research were collected from three data sources, as done by Budiarso et al. (2022), namely: documentation, in-depth interviews, and direct observation. The research was conducted from January to September 2023 at the SBU Marine Services head office. Interviews were conducted with eight informants from the Business Support Sector, with a composition of four informants coming from the Development & IT sub-sector, three informants from the business control sub-sector, and one other informant coming from the administration sub-sector

Interviews were conducted in a structured and open manner, so that informants felt comfortable and open in providing appropriate answers or informed consent (Knott et al, 2021). Meanwhile, literature reviews are used to extract information and data from various credible sources such as journals, books, previous research results, websites, and other forms of documentation.

Result and Discussion

In order to better understand how the SSM context solves problems, the discussion in this research organizes four (4) stages of analysis based on digital governance standards from Welchman (2015).

First Stage: Define

The Problem Situation Unstructured

Problems surrounding the payroll system, ranging from transparency issues to social inequality issues arising from the implementation of a competency base system, require companies to continue to improve their human resource management.

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Table 1. Salary Gap Data

STATUS PEGAWAI	JABATAN	TOTAL GAJI		GAJI GRADE POINT	
PKWT REGULER	Staff Development & IT	Rp	10.700.000	Rp	6.800.000
PKWT PROYEK	Staff Development & IT	Rp	9.640.000	Rp	7.000.000
PKWT PROYEK	Staff Development & IT	Rp	5.456.186	Rp	6.860.000
Outsourcing	Staff Development & IT	Rp	5.951.798	Rp	6.620.000
PKWT PROYEK	Staff Marketing	Rp	5.256.186	Rp	6.500.000
PKWT PROYEK	Staff Marketing	Rp	6.339.423	Rp	6.840.000
Outsourcing	Staff Marketing	Rp	5.951.798	Rp	6.660.000
Outsourcing	Staff Marketing	Rp	6.972.707	Rp	6.560.000
Outsourcing	Staff Marketing	Rp	15.006.798	Rp	6.780.000
PKWT REGULER	Staff Keuangan	Rp	6.439.423	Rp	6.560.000
PKWT REGULER	Staff Keuangan	Rp	6.439.423	Rp	7.180.000
PKWT PROYEK	Staff Keuangan	Rp	5.256.186	Rp	6.540.000
PKWT PROYEK	Staff Busisiness Control	Rp	5.740.000	Rp	6.920.000
Outsourcing	Staff Busisiness Control	Rp	5.741.798	Rp	6.560.000
Outsourcing	Staff Busisiness Control	Rp	5.951.798	Rp	6.560.000
PKWT REGULER	Staff Administrasi	Rp	5.456.186	Rp	6.560.000
PKWT REGULER	Staff Administrasi	Rp	6.441.798	Rp	6.500.000
PKWT PROYEK	Staff Administrasi	Rp	6.439.423	Rp	6.500.000
PKWT PROYEK	Staff Administrasi	Rp	5.456.186	Rp	6.000.000
Outsourcing	Driver Operasional	Rp	-		
Outsourcing	Driver Operasional	Rp	-		
Outsourcing	Driver Operasional	Rp	-		
Outsourcing	Driver VP SBU Marine Services	Rp	-		

Source: BKI, 2023

Table 1 shows the social disparities that occur among PKWT employees. Based on the results of an interview with one of the sources from the Development & IT sub-sector, it was explained that according to him this problem occurred because currently SBU Marine Services does not yet have management governance regarding salaries based on clear competency base and time based. As part of a state-owned company, this problem is the responsibility of SBU Marine Services in carrying out supervision, evaluation and carrying out strategies to strengthen the team's business or what is known as the Strategic Business Unit (SBU) for the welfare of its employees. By considering the principle of transparency in this problem, it is necessary to consider human resource management strategies to minimize the occurrence of unequal social gaps in the competency base and time base systems in the Marine Services SBU.

Problem Situation Expressed

At this stage, the researcher compiles a picture of the problem which is presented in a rich picture (RP) structure. RP visualization in the SSM method is used to illustrate problems systematically through images ((Bell & Morse, 2012, 2013; Berg & Pooley, 2013a; Fougner & Habib, 2008; Horan, 2000; Kish, Bunch, & Xu, 2016;) Therefore, this RP is used to combine visual data and verbal data from the results of interviews with related sources so that combining data in the form of this RP can be used to help increase the validity and investigation of research (Bell & Morse, 2013).

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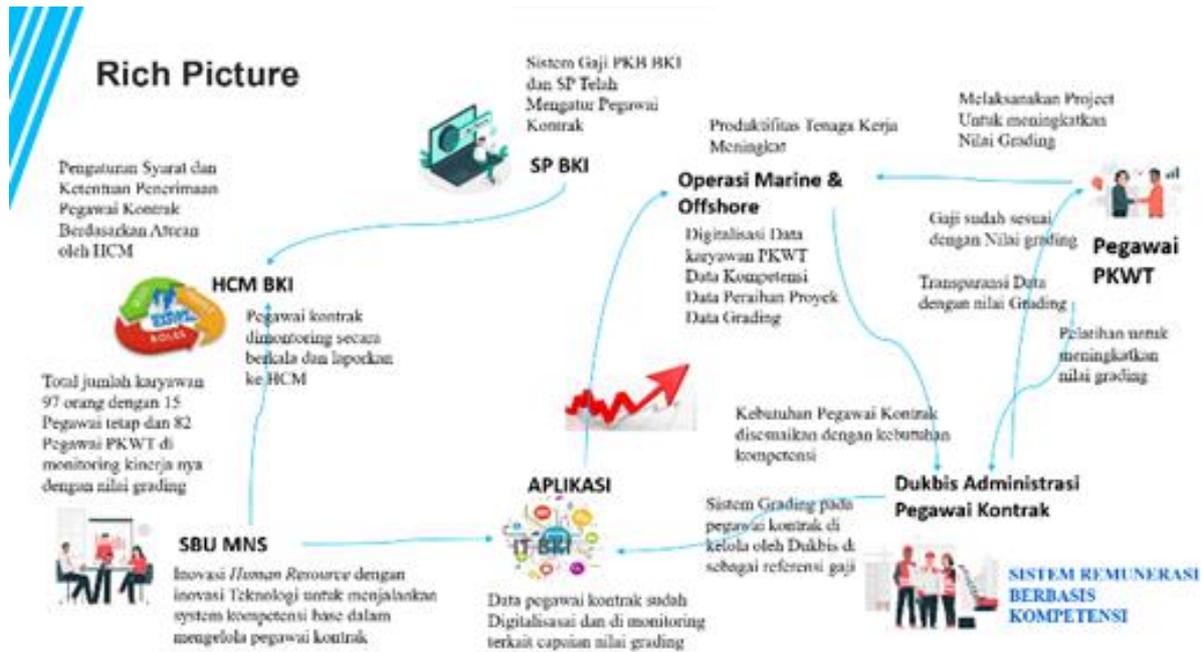
Figure 3. Rich Picture
Source: Author, 2023

Based on the results of the RP that the researcher wrote, the problem obtained was the need for a Standard Operating Procedure (SOP) for good human resource management, and also the need for the adoption of digital technology innovation to increase transparency and principles of fairness in the management of PKWT employees at SBU Marine Services.

Second Stage: Disseminate

Root Definition of Relevant Systems

Root Definition (RD) explains the important components of a directed activity system, with a focus on the problem, solution, and reasons for carrying out the activity (Checkland, P. and Poulter, J. in Reynolds, M. and Holwell, 2020; Checkland, P. and Poulter, J. in Reynolds, M. and Holwell, 2020; Checkland & Poulter, 2006). In this case, the directed activity system is centered on developing SOPs for measuring and monitoring PKWT employee performance digitally (Grading System) as an implementation of Human Resources Technology Innovation. To carry out RD analysis, Checkland & Poulter (2006) explain the need for the PQR formula. Determining P with Q to help achieve R and how this PQR answers the questions: What, How, and Why.

The preparation of PQR in this research is: There are no SOPs related to measurable (Grading System) and monitored PKWT employee performance on a digital basis (P), Preparation of digital-based PKWT Employee Performance SOPs (Grading System) (Q), and To provide PKWT Employee Performance SOPs which is measurable (Grading System) and monitored based on Digital (R).

The Resilient Quotient (RQ) in this problem is how the Standard Operating Procedure (SOP) provides rules for measurable PKWT employee performance (Grading System) and can be monitored on a digital basis as a form of implementation of Human Resources Technology Innovation. RD at this stage is a procedure that BKI does not yet have regarding measurable

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contract employee performance rules (grading system) in the form of grading and can be monitored which is a form of implementation of human resources technology innovation.

In summary, the Root Definition outlines the problem (lack of SOPs), the proposed solution (creating SOPs to measure performance), and the reason for this activity (implementing HR technology innovation). In carrying out RD analysis, researchers also prepared CATWOE. CATWOE is an acronym for Client, actors, transformation, worldview, owner, and environment which is used to identify important elements in solving problems (Checkland & Poulter, 2006). Attached in table 2 is the CATWOE element in this problem.

Table 1. CATWOE

CATWOE	Digital HRD Capabilities
Customer (penerima manfaat ataupun akibat dari sistem atau proses transformasi)	SBU Marine Services, Human Capital Management (HCM)BKI dan Serikat Pekerja (SP) BKI
Actor (orang-orang yang melakukan proses transformasi)	SBU Marine Services (Seluruh Pegawai SBU Marine Services)
Transformation (konversi dari input ke output)	Dari BELUM menjadi ADA dengan SOP aturan pegawai kontrak yang terukur dan dapat dimonitoring kinerjanyan yang merupkan wujud dalam implementasi Inovasi Digital Human Rreousce dalam Mewujudkan Good Governance Perusahaan .
Weltanschauung/World view (prespektif atau cara pandang yang membuat transformasi menjadi berarti)	Hukum formal dalam formulasi kebijakan-kebijakan tentang pegawai kontrak yang terukur dan dapat dimonitoring kinerjanyan yang merupkan wujud dalam implementasi Inovasi Digital Human Resource dalam dalam Mewujudkan Good Governance Perusahaan
Owner (orang/ kelompok yang bertanggung jawab yang dapat menghentikan transformasi)	SBU Marine Services (Dukbis)
Environment (lingkungan di luar sistem yang diberikan)	Human Capital Management (HCM)BKI dan Serikat Pekerja (SP) BKI

Source: Author, 2023

First, the beneficiaries or consequences of the transformation system or process in this matter are SBU Marine Services, Human Capital Management (HCM) BKI and the BKI Workers Union (SP). Second, the party carrying out the transformation process or in this case taking part in preparing employee performance standard SOPs is SBU Marine Services (All SBU Marine Services Employees). Third, is the conversion from input to output in this transformation process. From 'not yet' to 'existing' with SOP rules for PKWT employees that are measurable and their performance can be monitored, which is a form of implementation of Digital Human Resource Innovation in Realizing Company Good Governance.

Fourth, perspective or perspective that makes transformation meaningful. In this case, it is formal law in the formulation of policies regarding PKWT employees whose performance can be measured and can be monitored, which is a form of implementation of Digital Human Resources Innovation in realizing Company Good Governance. Fifth, the responsible party who can stop the transformation is SBU Marine Services. Sixth, the environment outside the given system. In this case, it is BKI Human Capital Management and the BKI Workers Union. These external factors may influence or be influenced by the transformation process, and their perspectives and interests need to be considered.

In summary, the Root Definition outlines the main components of a purposeful activity system, including the actors, the transformation process, the beneficiaries, the legal framework, the responsible entities, and the external environment. This system aims to implement Digital Human Resources Innovation to set measurable performance standards for PKWT employees

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and digital monitoring, which ultimately contributes to good Corporate Governance at SBU Marine Services.

Third Stage: Implementation

Conceptual Models for Human Activity System

This conceptual model outlines the steps in the process of creating and implementing the SOP for the PKWT employee Grading System at SBU Marine Services. SOPs in this case are used so that the steps or decisions that have been taken can run effectively and efficiently. The conceptual model for PKWT Employee Performance SOPs is as shown in Figure 4.
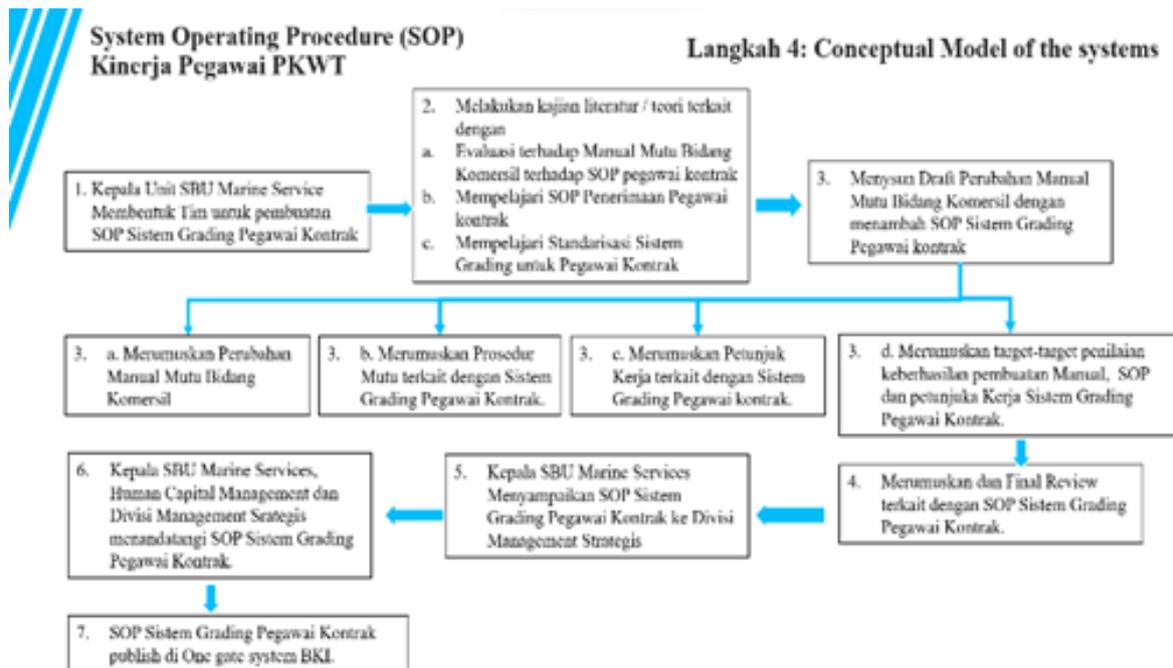

Figure 4. Conceptual Model
Source: Author, 2023

The initiator in preparing this SOP was the Head of SBU Marine Services who formed a team to prepare the SOP for the PKWT Employee Grading System to conduct a literature review and theoretical study. The team conducted a comprehensive review of relevant literature and theories, including (a) Evaluation of the Commercial Quality Manual regarding PKWT employee SOPs. (b) Study of the PKWT Employee Recruitment SOP, and (c) Investigation of the Standardization of the PKWT Employee Assessment System.

Next, in preparing changes to the Quality Manual, the Team continued preparing changes to the Commercial Quality Manual by including the SOP for the PKWT Employee Appraisal System. This includes (a) Formulating changes to the Commercial Quality Manual, (b) Defining quality procedures related to the PKWT Employee Appraisal System, (c) Creating work instructions related to the PKWT Employee Appraisal System, and (d) Setting performance appraisal targets for development of Manuals, SOPs and work instructions for the PKWT Employee Appraisal System.

Final Review of SOP, the Team conducted a final review of the PKWT Employee Grading System SOP to ensure its accuracy and completeness. Submission to the Strategic Management Division, Head of SBU Marine Services submits the PKWT Employee Appraisal System SOP to the Strategic Management Division for evaluation and approval. Signing and

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Approval, Head of SBU Marine Services, Human Capital Management, and Strategic Management Division signed and approved the SOP for the PKWT Employee Appraisal System. Publication, SOPs for the PKWT Employee Appraisal System that have been approved are published on BKI's One Gate System, so that they can be accessed by relevant stakeholders. This conceptual model describes the sequential steps involved in the development and implementation of the PKWT Employee Appraisal System SOP, emphasizing the importance of the research, review, and approval process before publication for wider use within the organization.

Comparison of Model and Real World

At this stage, the conceptual model that has been created will be compared with situations that exist in the real world. In this case, further questions are needed regarding the existing situation in order to get input on the conceptual model (Checkland, 2000). A comparison of the conceptual model with the real world can be seen in attached table 2. On the preparation of the SOP for the PKWT Employee Grading System as a derivative of Service Memorandum Number 024/MNOM/VIII/23. From the Service Memorandum, SBU Marine Services implemented an Improvement Program (IP) assignment system to the grading system SOP Preparation Team consisting of the Chair, Expert Staff, and Team Members to improve the Contractor Employee Grading System SOP.

Refinement of the SOP is carried out in detail, including the objectives of the assignment, the basis or reason for the assignment, the final target of the assignment, the personnel and work units involved, targets and completion time. After making a comparison between the conceptual model and the real world, from formulating additional SOPs, formulating procedures, to formulating competency-based work instructions through a grading system, a good PKWT Employee Grading System SOP was formed. This SOP was also formed with the aim of increasing transparency and fairness among employees so that good governance is achieved. By implementing the SOP formulation regarding the employee grading system, it is hoped that its implementation can produce output in the form of increasing the welfare of PKWT employees with the salary received being in line with the amount of training, competency and projects completed.

Fourth Stage: Measurement Stage

Systematically Desirable and Culturally Feasible

Checkland (2000) explains that a change must meet two criteria, namely desirable in principle or what is desired in accordance with the principles and also feasible to implement or worthy of being implemented. To face change, management is needed that is well planned and structured. With mature and planned management, management will help solve problems that may occur in a change so that later the change can be useful for improving performance, and can have a long-term influence (Calder, 2013).

Regarding this problem, the PKWT Employee Grading System SOP requires several recommendations, namely the need to change the payroll system from a time-based system to a competency-based system. It is hoped that changes to the system will be able to help increase the productivity of PKWT employees at SBU Marine Services through their participation in training programs to increase employee grade.

Then, due to the problems that have occurred regarding the salary gap, in this case technological innovation is needed that can be used to fulfill the principles of justice and the

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principle of transparency between PKWT employees. In this way, it is hoped that good governance principles can be realized within the SBU Marine Services environment.

Take/Action to Improve the Problem Situation

This stage is the final stage in the SSM method so it is hoped that it can produce appropriate solutions that can be implemented in the real world (Checkland, 2000). Based on the principles of justice and the principles of transparency that want to be implemented, for all human resource management governance problems that occur at SBU Marine Services, technology adoption is formed through the realization of the Human Resources Development Portal application. The data information services available in this HRD Portal can be accessed by anyone and anywhere by all SBU Marine Services employees. It is hoped that with the innovation of this HRD Portal application, it can uphold the principles of justice, transparency and the realization of good governance within the SBU environment. Marine Services.

Based on the results of an interview with one of the informants from the Business Control sub-section, it was explained that through the HRD Portal application, complete certification or competency data and employee personal salary data can be seen easily and can be accessed at any time. Furthermore, based on the results of interviews by the Administration sub-section, he also explained that this application is very helpful for companies if they want to work on a project and require certain qualifications, so companies can easily see data about employees who meet the qualifications. That way, all human resource management can be carried out in an organized manner.

Conclusion

This study describes the impact of technological developments in human resource management at SBU Marine Services PT BKI in an effort to overcome problems that arise in connection with changes to the payroll system, and the lack of SOPs that regulate the performance of PKWT employees. Based on analysis using the Soft Systems Methodology (SSM) approach, it can be concluded that technological developments, especially the use of the HRD Portal application, have great potential to increase transparency, fairness and efficiency in HR management at SBU Marine Services.

Changing the payroll system from a time-based system to a competency-based system is a positive step to improve the performance of PKWT employees, but it needs to be accompanied by policies that can minimize employee salary gaps. Then, the lack of SOPs that regulate the performance of PKWT employees is the main problem that needs to be addressed. Developing SOPs that measure and monitor employee performance digitally is a necessary step to improve good corporate governance. Planned and structured management is very important in facing change, especially in the context of technology adoption.

Using the SSM approach helps in designing the right solution and ensuring that the change meets the principles of justice and employee welfare through the HRD Portal application. The HRD Portal application is expected to help SBU Marine Services achieve better HR management goals, including transparency, fairness and the implementation of good corporate governance.

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References

Ardichvili, Alexandre. 2022. "The Impact of Artificial Intelligence on Expertise Development: Implications for HRD." *Advances in Developing Human Resources* 24(2): 78–98.

Brown, Sally et al. 2022. "Web-Based Technology and the Changing Landscape of HRD." *Advances in Developing Human Resources* 17(3): 247–50.

Budiarso, U.S. Putro, Y. Sunitiyoso, and R. Fitriati. 2022. "Constructing the Collaborative Working Relationships in One of the Big Four Firms." *Systemic Practice and Action Research* 35(5).

Budiarso, U. Sarjono Putro, Y. Sunitiyoso, and R. Fitriati. 2021. "How Do Design Parameters of Firm Governance Affect Collaboration Process Dimensions in Professional Service Firm?" *Heliyon* 7(11).

Checkland, P. 1990. *Soft Systems Methodology in Action*. Chichester, UK: Wiley.

Checkland, P, and J Poulter. 2020. "'Soft Systems Methodology', in Reynolds, M. and Holwell, S. (Eds), Systems Approaches to Making Change: A Practical Guide." In London: Springer-Verlag London Ltd.

Checkland, P, and J Scholes. 1999. *Soft Systems Methodology in Action*. Hoboken: John Wiley & Sons.

Checkland, Peter. 2000. "Soft Systems Methodology: A Thirty Year Retrospective." *Systems research and behavioral science* 17(S1): S11–58.

Checkland, and Poulter. 2006. 15 Philosophy of Management *Learning for Action: A Short Definitive Account of Short Systems Methodology and Its Use for Practitioners, Teachers and Student*.

Farr, James L, Joshua Fairchild, and Scott E Cassidy. 2013. "Technology and Performance Appraisal." *The psychology of workplace technology*: 77–98.

Huang, Liang et al. 2020. "Brand Image and Customer Loyalty: Transmitting Roles of Cognitive and Affective Brand Trust." *Social Behavior and Personality: an international journal* 48(5): 1–12.

Islam, Universitas, and Syekh Yusuf. 2023. "Universitas Islam Syekh Yusuf Tangerang, Indonesia;" 5(3): 201–11.

Johnson, Richard D, and Hal G Gueutal. 2011. "TRANSFORMING HR."

Khan, Anupriya, and Satish Krishnan. 2021. "Citizen Engagement in Co-Creation of e-Government Services: A Process Theory View from a Meta-Synthesis Approach." *Internet Research* 31(4): 1318–75.

Li, Jessica. 2013. "Web-Based Technology and the Changing Landscape of HRD." *Human Resource Development International* 16(3): 247–50.

Melin, Ulf, and Elin Wihlborg. 2018. "Balanced and Integrated E-Government Implementation–Exploring the Crossroad of Public Policy-Making and Information Systems Project Management Processes." *Transforming Government: People, Process and Policy* 12(2): 191–208.

Permatasari, Yolanda Indah, Sudarsono Hardjosoekarto, and Roy Valiant Salomo. 2020. "Institutional Transformation of Public Private Partnership to Ensure Low Transaction Costs: Case Study of Infrastructure Provision at the Ministry of Public Works and

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==

Housing of the Republic of Indonesia." *Systemic Practice and Action Research* 33(2): 149–65.

Rosa, Ade Tutty Rokhayati. 2020. "Teacher Development Potential (Creativity and Innovation) Education Management in Engineering Training, Coaching and Writing Works through Scientific Knowledge Intensive Knowledge Based on Web Research in the Industrial Revolution and Society." *International Journal of Higher Education* 9(4): 161–68.

Sobri, M, Andries Lionardo, and Raniasa Putra. 2023. "The Use of the Adaptive Governance Model in the Implementation of Information Disclosure in the Government of South Sumatra." *International Journal of Science and Society* 5(4): 219–32.

Stone, Dianna L, Diana L Deadrick, Kimberly M Lukaszewski, and Richard Johnson. 2015. "The Influence of Technology on the Future of Human Resource Management." *Human resource management review* 25(2): 216–31.

Suryaatmaja, Kevin, Dermawan Wibisono, Achmad Ghazali, and Rachma Fitriati. 2020. "Uncovering the Failure of Agile Framework Implementation Using SSM-Based Action Research." *Palgrave Communications* 6(1).

Welchman, Lisa. 2015. *Managing Chaos Digital Governance By Design*. Rosenfeld Media.

Zehir, Cemal, Tuğba Karaboğa, and Doğan Başar. 2020. "The Transformation of Human Resource Management and Its Impact on Overall Business Performance: Big Data Analytics and AI Technologies in Strategic HRM." *Digital Business Strategies in Blockchain Ecosystems: Transformational Design and Future of Global Business*: 265–79.

Ardichvili, Alexandre. 2022. "The Impact of Artificial Intelligence on Expertise Development: Implications for HRD." *Advances in Developing Human Resources* 24(2): 78–98.

Brown, Sally et al. 2022. "Web-Based Technology and the Changing Landscape of HRD." *Advances in Developing Human Resources* 17(3): 247–50.

Budiarso, U.S. Putro, Y. Sunitiyoso, and R. Fitriati. 2022. "Constructing the Collaborative Working Relationships in One of the Big Four Firms." *Systemic Practice and Action Research* 35(5).

Budiarso, U. Sarjono Putro, Y. Sunitiyoso, and R. Fitriati. 2021. "How Do Design Parameters of Firm Governance Affect Collaboration Process Dimensions in Professional Service Firm?" *Heliyon* 7(11).

Checkland, P. 1990. *Soft Systems Methodology in Action*. Chichester, UK: Wiley.

Checkland, P, and J Poulter. 2020. "'Soft Systems Methodology', in Reynolds, M. and Holwell, S. (Eds), Systems Approaches to Making Change: A Practical Guide." In London: Springer-Verlag London Ltd.

Checkland, P, and J Scholes. 1999. *Soft Systems Methodology in Action*. Hoboken: John Wiley & Sons.

Checkland, Peter. 2000. "Soft Systems Methodology: A Thirty Year Retrospective." *Systems research and behavioral science* 17(S1): S11–58.

Checkland, and Poulter. 2006. 15 Philosophy of Management *Learning for Action: A Short Definitive Account of Short Systems Methodology and Its Use for Practitioners, Teachers and Student*.

Farr, James L, Joshua Fairchild, and Scott E Cassidy. 2013. "Technology and Performance

==

Appraisal." *The psychology of workplace technology*: 77–98.

Huang, Liang et al. 2020. "Brand Image and Customer Loyalty: Transmitting Roles of Cognitive and Affective Brand Trust." *Social Behavior and Personality: an international journal* 48(5): 1–12.

Islam, Universitas, and Syekh Yusuf. 2023. "Universitas Islam Syekh Yusuf Tangerang, Indonesia;" 5(3): 201–11.

Johnson, Richard D, and Hal G Gueutal. 2011. "TRANSFORMING HR."

Khan, Anupriya, and Satish Krishnan. 2021. "Citizen Engagement in Co-Creation of e-Government Services: A Process Theory View from a Meta-Synthesis Approach." *Internet Research* 31(4): 1318–75.

Li, Jessica. 2013. "Web-Based Technology and the Changing Landscape of HRD." *Human Resource Development International* 16(3): 247–50.

Melin, Ulf, and Elin Wihlborg. 2018. "Balanced and Integrated E-Government Implementation–Exploring the Crossroad of Public Policy-Making and Information Systems Project Management Processes." *Transforming Government: People, Process and Policy* 12(2): 191–208.

Permatasari, Yolanda Indah, Sudarsono Hardjosoekarto, and Roy Valiant Salomo. 2020. "Institutional Transformation of Public Private Partnership to Ensure Low Transaction Costs: Case Study of Infrastructure Provision at the Ministry of Public Works and Housing of the Republic of Indonesia." *Systemic Practice and Action Research* 33(2): 149–65.

Rosa, Ade Tutty Rokhayati. 2020. "Teacher Development Potential (Creativity and Innovation) Education Management in Engineering Training, Coaching and Writing Works through Scientific Knowledge Intensive Knowledge Based on Web Research in the Industrial Revolution and Society." *International Journal of Higher Education* 9(4): 161–68.

Sobri, M, Andries Lionardo, and Raniasa Putra. 2023. "The Use of the Adaptive Governance Model in the Implementation of Information Disclosure in the Government of South Sumatra." *International Journal of Science and Society* 5(4): 219–32.

Stone, Dianna L, Diana L Deadrick, Kimberly M Lukaszewski, and Richard Johnson. 2015. "The Influence of Technology on the Future of Human Resource Management." *Human resource management review* 25(2): 216–31.

Suryaatmaja, Kevin, Dermawan Wibisono, Achmad Ghazali, and Rachma Fitriati. 2020. "Uncovering the Failure of Agile Framework Implementation Using SSM-Based Action Research." *Palgrave Communications* 6(1).

Welchman, Lisa. 2015. *Managing Chaos Digital Governance By Design*. Rosenfeld Media.

Zehir, Cemal, Tuğba Karaboğa, and Doğan Başar. 2020. "The Transformation of Human Resource Management and Its Impact on Overall Business Performance: Big Data Analytics and AI Technologies in Strategic HRM." *Digital Business Strategies in Blockchain Ecosystems: Transformational Design and Future of Global Business*: 265–79.

Ardichvili, Alexandre. 2022. "The Impact of Artificial Intelligence on Expertise Development: Implications for HRD." *Advances in Developing Human Resources* 24(2): 78–98.

Brown, Sally et al. 2022. "Web-Based Technology and the Changing Landscape of HRD."

===

Advances in Developing Human Resources 17(3): 247–50.

Budiarso, U.S. Putro, Y. Sunitiyoso, and R. Fitriati. 2022. "Constructing the Collaborative Working Relationships in One of the Big Four Firms." *Systemic Practice and Action Research* 35(5).

Budiarso, U. Sarjono Putro, Y. Sunitiyoso, and R. Fitriati. 2021. "How Do Design Parameters of Firm Governance Affect Collaboration Process Dimensions in Professional Service Firm?" *Heliyon* 7(11).

Checkland, P. 1990. *Soft Systems Methodology in Action*. Chichester, UK: Wiley.

Checkland, P, and J Poulter. 2020. "'Soft Systems Methodology', in Reynolds, M. and Holwell, S. (Eds), Systems Approaches to Making Change: A Practical Guide." In London: Springer-Verlag London Ltd.

Checkland, P, and J Scholes. 1999. *Soft Systems Methodology in Action*. Hoboken: John Wiley & Sons.

Checkland, Peter. 2000. "Soft Systems Methodology: A Thirty Year Retrospective." *Systems research and behavioral science* 17(S1): S11–58.

Checkland, and Poulter. 2006. 15 Philosophy of Management *Learning for Action: A Short Definitive Account of Short Systems Methodology and Its Use for Practitioners, Teachers and Student*.

Farr, James L, Joshua Fairchild, and Scott E Cassidy. 2013. "Technology and Performance Appraisal." *The psychology of workplace technology*: 77–98.

Huang, Liang et al. 2020. "Brand Image and Customer Loyalty: Transmitting Roles of Cognitive and Affective Brand Trust." *Social Behavior and Personality: an international journal* 48(5): 1–12.

Islam, Universitas, and Syekh Yusuf. 2023. "Universitas Islam Syekh Yusuf Tangerang, Indonesia;" 5(3): 201–11.

Johnson, Richard D, and Hal G Gueutal. 2011. "TRANSFORMING HR."

Khan, Anupriya, and Satish Krishnan. 2021. "Citizen Engagement in Co-Creation of e-Government Services: A Process Theory View from a Meta-Synthesis Approach." *Internet Research* 31(4): 1318–75.

Li, Jessica. 2013. "Web-Based Technology and the Changing Landscape of HRD." *Human Resource Development International* 16(3): 247–50.

Melin, Ulf, and Elin Wihlborg. 2018. "Balanced and Integrated E-Government Implementation–Exploring the Crossroad of Public Policy-Making and Information Systems Project Management Processes." *Transforming Government: People, Process and Policy* 12(2): 191–208.

Permatasari, Yolanda Indah, Sudarsono Hardjosoekarto, and Roy Valiant Salomo. 2020. "Institutional Transformation of Public Private Partnership to Ensure Low Transaction Costs: Case Study of Infrastructure Provision at the Ministry of Public Works and Housing of the Republic of Indonesia." *Systemic Practice and Action Research* 33(2): 149–65.

Rosa, Ade Tutty Rokhayati. 2020. "Teacher Development Potential (Creativity and Innovation) Education Management in Engineering Training, Coaching and Writing Works through Scientific Knowledge Intensive Knowledge Based on Web Research in the Industrial

==

Revolution and Society." *International Journal of Higher Education* 9(4): 161–68.

Sobri, M, Andries Lionardo, and Raniasa Putra. 2023. "The Use of the Adaptive Governance Model in the Implementation of Information Disclosure in the Government of South Sumatra." *International Journal of Science and Society* 5(4): 219–32.

Stone, Dianna L, Diana L Deadrick, Kimberly M Lukaszewski, and Richard Johnson. 2015. "The Influence of Technology on the Future of Human Resource Management." *Human resource management review* 25(2): 216–31.

Suryaatmaja, Kevin, Dermawan Wibisono, Achmad Ghazali, and Rachma Fitriati. 2020. "Uncovering the Failure of Agile Framework Implementation Using SSM-Based Action Research." *Palgrave Communications* 6(1).

Welchman, Lisa. 2015. *Managing Chaos Digital Governance By Design*. Rosenfeld Media.

Zehir, Cemal, Tuğba Karaboğa, and Doğan Başar. 2020. "The Transformation of Human Resource Management and Its Impact on Overall Business Performance: Big Data Analytics and AI Technologies in Strategic HRM." *Digital Business Strategies in Blockchain Ecosystems: Transformational Design and Future of Global Business*: 265–79.

Ardichvili, Alexandre. 2022. "The Impact of Artificial Intelligence on Expertise Development: Implications for HRD." *Advances in Developing Human Resources* 24(2): 78–98.

Brown, Sally et al. 2022. "Web-Based Technology and the Changing Landscape of HRD." *Advances in Developing Human Resources* 17(3): 247–50.

Budiarso, U.S. Putro, Y. Sunitiyoso, and R. Fitriati. 2022. "Constructing the Collaborative Working Relationships in One of the Big Four Firms." *Systemic Practice and Action Research* 35(5).

Budiarso, U. Sarjono Putro, Y. Sunitiyoso, and R. Fitriati. 2021. "How Do Design Parameters of Firm Governance Affect Collaboration Process Dimensions in Professional Service Firm?" *Heliyon* 7(11).

Checkland, P. 1990. *Soft Systems Methodology in Action*. Chichester, UK: Wiley.

Checkland, P, and J Poulter. 2020. "'Soft Systems Methodology', in Reynolds, M. and Holwell, S. (Eds), Systems Approaches to Making Change: A Practical Guide." In London: Springer-Verlag London Ltd.

Checkland, P, and J Scholes. 1999. *Soft Systems Methodology in Action*. Hoboken: John Wiley & Sons.

Checkland, Peter. 2000. "Soft Systems Methodology: A Thirty Year Retrospective." *Systems research and behavioral science* 17(S1): S11–58.

Checkland, and Poulter. 2006. 15 Philosophy of Management *Learning for Action: A Short Definitive Account of Short Systems Methodology and Its Use for Practitioners, Teachers and Student*.

Farr, James L, Joshua Fairchild, and Scott E Cassidy. 2013. "Technology and Performance Appraisal." *The psychology of workplace technology*: 77–98.

Huang, Liang et al. 2020. "Brand Image and Customer Loyalty: Transmitting Roles of Cognitive and Affective Brand Trust." *Social Behavior and Personality: an international journal* 48(5): 1–12.

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==

Johnson, Richard D, and Hal G Gueutal. 2011. "TRANSFORMING HR."

Khan, Anupriya, and Satish Krishnan. 2021. "Citizen Engagement in Co-Creation of e-Government Services: A Process Theory View from a Meta-Synthesis Approach." *Internet Research* 31(4): 1318–75.

Li, Jessica. 2013. "Web-Based Technology and the Changing Landscape of HRD." *Human Resource Development International* 16(3): 247–50.

Melin, Ulf, and Elin Wihlborg. 2018. "Balanced and Integrated E-Government Implementation–Exploring the Crossroad of Public Policy-Making and Information Systems Project Management Processes." *Transforming Government: People, Process and Policy* 12(2): 191–208.

Permatasari, Yolanda Indah, Sudarsono Hardjosoekarto, and Roy Valiant Salomo. 2020. "Institutional Transformation of Public Private Partnership to Ensure Low Transaction Costs: Case Study of Infrastructure Provision at the Ministry of Public Works and Housing of the Republic of Indonesia." *Systemic Practice and Action Research* 33(2): 149–65.

Rosa, Ade Tutty Rokhayati. 2020. "Teacher Development Potential (Creativity and Innovation) Education Management in Engineering Training, Coaching and Writing Works through Scientific Knowledge Intensive Knowledge Based on Web Research in the Industrial Revolution and Society." *International Journal of Higher Education* 9(4): 161–68.

Sobri, M, Andries Lionardo, and Raniasa Putra. 2023. "The Use of the Adaptive Governance Model in the Implementation of Information Disclosure in the Government of South Sumatra." *International Journal of Science and Society* 5(4): 219–32.

Stone, Dianna L, Diana L Deadrick, Kimberly M Lukaszewski, and Richard Johnson. 2015. "The Influence of Technology on the Future of Human Resource Management." *Human resource management review* 25(2): 216–31.

Suryaatmaja, Kevin, Dermawan Wibisono, Achmad Ghazali, and Rachma Fitriati. 2020. "Uncovering the Failure of Agile Framework Implementation Using SSM-Based Action Research." *Palgrave Communications* 6(1).

Welchman, Lisa. 2015. *Managing Chaos Digital Governance By Design*. Rosenfeld Media.

Zehir, Cemal, Tuğba Karaboğa, and Doğan Başar. 2020. "The Transformation of Human Resource Management and Its Impact on Overall Business Performance: Big Data Analytics and AI Technologies in Strategic HRM." *Digital Business Strategies in Blockchain Ecosystems: Transformational Design and Future of Global Business*: 265–79.

533

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