Proposed Human Resource Competency for Society 5.0

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A R T I C L E   I N F O

A B S T R A K

Society 5.0 juga dapat diartikan sebagai konsep masyarakat yang berpusat pada manusia dan berbasis teknologi. Model kompetensi akan mendukung efektivitas proses rekrutmen dan seleksi sehingga perusahaan dapat menjaring talenta-talenta yang dibutuhkan untuk membangun kinerja SDM-nya. Dengan demikian, pengembangan model kompetensi Society 5.0 memiliki nilai yang cukup besar dari sudut pandang pendidikan, pelatihan, dan pembangunan manusia dalam menghadapi era perubahan khususnya Society 5.0. Tujuan dari penelitian ini adalah untuk melakukan analisis mendalam terhadap model kompetensi penelitian dan praktik yang ada serta melanjutkan pengembangan model kompetensi untuk Society 5.0. Metode penelitian menggunakan Systematic Literature Review (SLR) merupakan metode penelitian yang digunakan untuk mengumpulkan, mengkaji dan mensintesis literatur yang relevan dalam bidang penelitian tertentu. Pencarian literatur dilakukan melalui database akademik, seperti PubMed, ERIC, dan Google Scholar, dengan menggunakan kata kunci yang sesuai seperti "kompetensi sumber daya manusia", "society 5.0". Selanjutnya, data ini dianalisis untuk mengidentifikasi pola, tren, dan konsistensi temuan. Penelitian ini menemukan konsep revolusi industri 4.0 dan Society 5.0 fokus pada peningkatan digitalisasi rantai nilai, dengan manusia sebagai komponen utama dalam Society 5.0. Untuk menghadapi era Society 5.0, sumber daya manusia perlu beradaptasi terhadap tantangan masa depan dengan kemampuan berpikir tingkat tinggi. Society 5.0 menghadirkan peluang dan tantangan bagi perusahaan. Kompetensi sumber daya manusia memerlukan hard skill yang disesuaikan dengan era Society 5.0.

A B S T R A C T

Society 5.0 can also be interpreted as a concept of a human-centered and technology-based society. The competency model will support the effectiveness of the recruitment and selection process so that companies can attract the talents needed to build their HR performance. Thus, the development of a competency model for Society 5.0 has considerable value in terms of education, training, and human development perspectives in facing the era of change, especially Society 5.0. The purpose of this study is to conduct an in-depth analysis of existing research and practice competency models and continue the development of competency models for Society 5.0. The research method uses Systematic Literature Review (SLR) is a research method used to collect, review and synthesize relevant literature in a particular research field. A literature search was conducted through academic databases, such as PubMed, ERIC, and Google Scholar, using appropriate keywords such as "human resource competency", "society 5.0". Next, this data is analyzed to identify patterns, trends, and consistencies in the findings. This study found that concepts of industrial revolution 4.0 and Society 5.0 focus on increasing the digitalization of the value chain, with humans as the main component in Society 5.0. To face the Society 5.0 era, human resources need to adapt to future challenges with high-level thinking abilities. Society 5.0 presents opportunities and challenges for companies. Human resource competency requires hard skills that are adapted to the Society 5.0 era.

1. INTRODUCTION

Transformation in various fields of human life is the impact of the industrial revolution. Currently the world is adapting to the development of the industrial revolution 4.0, where the industrial revolution 4.0 provides many challenges and opportunities for human life, with the great benefits felt by the industrial

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world is to achieve a high level of operational effectiveness and productivity, as well as a higher level of automation (Astuti et al., 2019; Elas et al., 2019; Skobelev & Borovik, 2017). With the very rapid development of information and communication technology brought about by the industrial revolution 4.0, the world is currently preparing to face the era of Society 5.0 (Agustini et al., 2019; Tri et al., 2021). Society 5.0 is a concept that was built with public awareness of the importance of information as a development of the industrial revolution 4.0, which aims to create a prosperous community life by utilizing innovation, information, and communication technology so as to be able to support economic development and solve community challenges, and the community is able to enjoy a high quality of life (Carayannis & Morawska-Jancelewicz, 2022; Skobelev & Borovik, 2017). In short, Society 5.0 can also be interpreted as a concept of a human-centered and technology-based society.

Digitization in all sectors of human life as a result of Society 5.0 makes a significant contribution to the development of human resource competencies. Society 5.0 is a concept which states that technology will coexist with humans to improve the quality of human life (Liu et al., 2020; Ulyawati & Sugito., 2022). Human resources must be able to adapt to the changes brought about by Society 5.0. The contribution of human resources who are ready to face changes will support the improvement of employee performance in the future. The contribution of resources in achieving company performance is also very significant.

The development of competency models to deal with various forms of change is very important in the context of the readiness and resilience of human resources. There are many concepts of competence that have been formulated by previous experts and researchers. First, this research focuses on the concept of competencies needed by human resources in dealing with the changes that have emerged from Society 5.0 (Sitohang et al., 2022; Wahjusaputri et al., 2020). Second, the concept of human resource competencies for Society 5.0 will produce a model of human resource competencies for Society 5.0 which will enable organizations to carry out human resource planning effectively. The concept of pre-existing human resource competencies needs to be adjusted to the changes that have emerged in the current industrial revolution era.

Human resources have experienced enormous development, especially in terms of their contribution to the achievement of company performance. At the beginning of the 20th century, human resources played a role as an optimized resource in overcoming organizational challenges and adding value to the organization through good management and working relationships between employees and good relationships between employees and the organization (Nguyen, 2016; Uygun, 2018). The increasing role of human resources is increasingly significant in response to emerging changes that must be faced by companies that increase organizational challenges that require organizations to be flexible and adaptive (Ali, 2021; Suryadi et al., 2021). To produce a human resource competency model for Society 5.0, it is necessary to conduct a literature review related to human resource competencies that have been developed to date.

Many studies have compiled competencies into three broad categories of competencies, namely knowledge, skills, and attitudes. These categories will later be used to develop a competency concept that has behavioral indicators and a framework that can be used to map and evaluate competencies more deeply (Kanokorn et al., 2013; Sang et al., 2021). Furthermore, research conducted by previous study explains that a competency-based perspective divides competence into two categories: competence based on input, which is managerial competence; and competence based on output, namely transformational competence, where optimization of the utilization of human resource competencies can improve a company's competitive advantage (Gauthier, 2020; Tsai, 2020). Previous study developed a competency management model in China and identified three levels of competency management, including superior performance, achieving strategic alignment, and catalyzing organizational change (Wahjusaputri et al., 2020). The model is structured in the form of a pyramid when viewed from the bottom up. The model is able to support increasing the strategic contribution of competency management, shifting from the work context to the organizational context, and becoming more future-oriented and proactive.

Likewise, the competency model will support the effectiveness of the recruitment and selection process so that companies can attract the talents needed to build their HR performance (Ahmed et al., 2021; Tripathi & Agrawal, 2014). Thus, the development of a competency model for Society 5.0 has considerable value in terms of education, training, and human development perspectives in facing the era of change, especially Society 5.0.

The purpose of this study is to conduct an in-depth analysis of existing research and practice competency models and continue the development of competency models for Society 5.0. To this end, we first review the competency model literature from experts and from a historical perspective. Based on the framework derived from the literature, we further review the competency model practices that have been implemented in organizations. The novelties of this study provide recommendations for future research

and discuss approaches for the development of competency models according to the developments of the industrial revolution.

2. METHOD

The research method uses Systematic Literature Review (SLR) is a research method used to collect, review and synthesize relevant literature in a particular research field (Manfra, 2019). This method has systematic steps designed to minimize research bias and ensure that all relevant literature has been examined. This approach is particularly useful for investigating proposed human resource competency for society 5.0. The data collection process is carried out by identifying and evaluating scientific articles that are relevant to the topic. This data includes findings, research results, and other related information contained in these articles. A literature search was conducted through academic databases, such as PubMed, ERIC, and Google Scholar, using appropriate keywords such as "human resource competency", "society 5.0". After identifying relevant articles, the data analysis process began by thoroughly reading each selected article. Relevant data such as findings of positive or negative impacts of school-university partnerships and professional learning communities were extracted. Next, this data is analyzed to identify patterns, trends, and consistencies in the findings. Compiling a summary and synthesis of the findings helps in understanding the overall impact. The analysis also allows identification of proposed human resource competency for society 5.0. The results of this analysis form the basis for drawing up the conclusions in the SLR report, which presents a comprehensive picture of the impact of the partnership based on existing evidence in the literature.

3. RESULT AND DISCUSSION

Result

HR Competence in Society Orientation 5.0

Many argue that human resources will have a diminishing role in line with the development of digital technology, which will further eliminate the role of human resources in carrying out their work. The type of human work will decrease, which will be replaced by the emergence of artificial intelligence, the use of robots and sophisticated machines. The development of the industrial revolution has now reached the stage of the industrial revolution 4.0. The concept of Industry 4.0 describes the increasing digitization of the entire value chain and the resulting interconnections of people, objects, and systems through real-time data exchange (Gandasari et al., 2020; Rosmadi et al., 2019). Industry 4.0 is characterized by the internet of things and cyber-physical systems that produce smart factories with high efficiency and effectiveness. The accommodation and culinary fields, manufacturing, and retail trade are the 3 most vulnerable areas to being crushed by the development of information technology (Almaududi, 2018; Avando Bastari et al., 2021).

The concepts of the Industrial Revolution 4.0 and Society 5.0 actually do not have much difference, but the concept of society focuses more on the context of humans. If the industrial revolution uses AI and artificial intelligence as its main components, while Society 5.0 uses modern technology, it only relies on humans as its main component (Hermawan et al., 2020; Vartiainen et al., 2016). The concept of Society 5.0 is a refinement of the previous concepts. Society 5.0 is an era where all technology is part of humans themselves. The internet is not only used to share information but to live life. In Society 5.0, where the main component is humans who are able to create new value through technological developments, it can minimize the gap between humans and economic problems in the future (Ituma, 2011; Yildirim, 2017).

The era of society 5.0 will change the concept of the industrial revolution 4.0, which has the potential to degrade human roles. Society 5.0 will use big data collected via the internet network to improve human abilities and create new opportunities. In this era, humans are expected to have a central role in all life activities. The development of society 5.0 requires human resources who are able to collaborate with technological sophistication (Aini et al., 2020; Andriana et al., 2022). In preparing human resources to face the Society 5.0 era, it is necessary to adjust the required competencies in accordance with the knowledge and expertise that are in accordance with the opportunities and challenges that will be faced. In the era of Society 5.0, it is more prioritized so that human resources are able to adapt to future challenges with higher-order thinking skills. By having high thinking, flexible and methodical, human resources will be able to use modern science.

Innovative Conceptualization of Human Resource Competency for Society 5.0

Society 5.0 creates many new opportunities for enterprises, but at the same time, several challenges arising from automation and digitization. Competence is the capability or ability of human resources to carry out work. The theory of performance is the basic theory of competence. The theory used

in the competency concept approach is the basic contingency theory. The division of competency thresholds consists of expertise and experience; knowledge, and various basic cognitive competencies, such as memory and deductive reasoning. The new conceptualization of human resource competency for society 5.0 is formulated based on the relevant competency-forming factors in the society 5.0 era, which are described in Table 1.

Table 1. Conceptualization of Human Resource Competency for Society 5.0

No.	Factors Forming New Competencies	Researcher(s)
1.	Personal Attributes Leadership and Management Competencies Role-Specific HR Competencies	(Kin et al., 2018)
2.	Cognitive Skills Meta-Cognitive Skills Social Skills Emotional Skills Practical Skills Physical Skills	(Bravo et al., 2021)
3.	Abilities Basic Skills Cross-Functional Skills	(Uygun, 2018)
4.	Emotional Intelligence Social Intelligence Cognitive Intelligence	(Boyatzis & Boyatzis, 2008)
5.	Technical Competencies Methodological Competencies Social Competencies Personal Competencies	(Hecklau et al., 2016)
6.	Storytelling and Communication Research and Discovery HR and Business Acumen Consulting Technical Knowledge Data Fluency and Data Analysis	(Mccartney et al., 2020)
7.	Sense Making Novel and adaptive thinking Transdisciplinarity Social Intelligence New Media Literacy Computational Thinking Cognitive Load Management Design Mindset Cross-Cultural Competency Virtual Collaboration	(Davies et al., 2011)
8.	HR technical expertise and practice Relationship management Consultation Leadership and navigation Communication Global and cultural effectiveness Critical evaluation Ethical practice Business acumen	(Cohen, 2015)

Basically, Society 5.0 will provide many opportunities for human resources, but at the same time, it will also create many challenges, especially in the development of digital technology. The next step is to analyze the challenges that will be faced by human resources in the era of society based on an in-depth literature review presented in Table 2.

Table 2. Challenges of Human Resources in Society 5.0 Era

No.	Challenges of Human Resources in Society 5.0 Era	Source
1.	• Security of computer data • Commitment to implementing information technology in the organization • The combination of the hard and soft skills that will operate the smart factory	(Petrillo et al., 2018)
2.	• The requirement to implement innovative working processes • New business models require innovation • Increasing digitization in various aspects of life requires the acquisition of new technical skills	(Teitel & Teitel, 2000)
3.	• Companies need to improve employees' technical and non-technical skills, such as communication and working in teams • The variety of languages and cultures	(Gardner, 2017)
4.	• An increasing number of employees are losing their jobs • Challenges in the economic, social, technological, environmental, political, and legal fields	(Cerika & Maksumic, 2017)
5.	• Lack of adequate HR skills • Security issues in communication technology, production machine stability and dependability • Inability to change by stakeholders • Jobs lost due to automation	(Ellitan, 2020)

Based on Table 2, the review of empirical research on the human resource competency and Society 5.0 along with the study related to the Factors Forming New Competencies and Human Resource Challenges in Society 5.0 era, it can be concluded that a new conceptualization is needed that is adapted to the conditions and challenges of human resources in the era of Society 5.0, because of the limitations of the concept of human resource competence which is too rigid, so that it is not in accordance with the competency needs of human resources in the era of Society 5.0.

Based on the results of the review in the previous section, human resource competence requires hard skills that are adapted to the challenges of the Society 5.0 era. The term "hard skills" refers to technical knowledge and skills in a particular field related to a process, tool, or technique. This ability is usually obtained through formal education. Skills included in hard skills are computer operating skills, financial knowledge and skills, foreign language skills, and product assembly skills. Hard skills are more oriented towards developing intelligence quotients (IQ). As a result, hard skills are defined as the ability to master technological science and technical skills while developing an intelligence quotient relevant to their field. Hard skills for human resource competencies in the Society 5.0 era are related to technical competence, technical knowledge, data fluency and data analysis, computational thinking, and HR technical expertise and practice.

Discussion

Human Resource Competences in Era 5.0 Requires Technical Skills Related to the Needs of Work and the Development of Digital Technology

Hard skills for human resource competencies in the era of Society 5.0 have an important role in increasing the readiness of human resources for all the challenges and changes that will arise. There are many challenges and changes that must be made in the era of Society 5.0. Superior HR is the main goal of increasing the competence of human resources in a nation (Hartati et al., 2022; Kolesnikov et al., 2019). The era of super smart society (society 5.0) itself was introduced by the Japanese government in 2019, which was created as an anticipation of the disruptive turmoil due to the industrial revolution 4.0, which caused complex and ambiguous uncertainty (VUCA) (Birsyada et al., 2022; Deguchi et al., 2018). It is feared that the invasion could erode the values of human character that have been maintained so far. In relation to the values of human character, they can be associated with soft skills as forming human resource competencies in the era of Society 5.0. Soft skills are a person's skills in dealing with other people (including himself). Thus, the attributes of soft skills include values, motivations, behaviors, habits, characteristics, and attitudes (Kaliannan & Chandran, 2010; Mami & Arayesh, 2010). Soft skills, or people skills, can be divided into two parts, namely intrapersonal skills and interpersonal skills. Intrapersonal skills are a person's skills in

"managing" oneself. Meanwhile, interpersonal skills are a person's skills needed in dealing with other people.

Soft skills in dealing with the era of society 5.0 must experience changes for the better, be more advanced and more developed in order to be able to overcome various kinds of human problems. Human resources in era 5.0 will require soft skills such as being always responsive to various types of problems that arise and quickly seeking and finding the right solution; mastering the ability to solve difficult problems; being able to think critically and logically in accordance with clear, reasoned, and target-oriented goals; having to continue to innovate and find something unique and useful for society; being able to organize, lead, and use human resources in a targeted and effective manner; being able to collaborate with others; being able to regulate, assess, accept, and control their own and others' emotions; being capable of drawing conclusions from the situation at hand and making decisions under any circumstances; being able to talk, negotiate, and convince people in all aspects; being capable of spontaneously constructing knowledge in a variety of ways in response to adaptation; having teamwork skills (Asignacion et al., 2021; Mahoney et al., 2023).

The Most Important Component of Human Resource Competence in Facing the Society 5.0 Era is Soft Skills, Which Will Control and Distinguish Artificial Intelligence, Robotic Sophistication, And Human Intelligence.

Spiritual skill or spiritual intelligence, which is also usually referred to as SQ (Spiritual Quotient) in general, is a mental intelligence that helps a person to develop himself as a whole through the creation of possibilities to apply positive values and is a facility that helps a person to overcome problems and make peace with the problems (Parvathamma & Pattar, 2013; Yuliana et al., 2022). The main characteristic of spiritual intelligence is indicated by one's awareness of using their experience as a form of application of value and meaning. Spiritual intelligence can be interpreted as a person's ability to ask questions about the most important meaning of life and its relationship to the world in which they live (Jaakkola et al., 2022; Kivunja, 2015). Spiritual intelligence is a type of intelligence that is closely related to spiritual abilities that help a person to live a better life. Having this ability allows you to unite spirituality, inner life, and outer life. Spiritual intelligence is related to the ability to solve meanings and values, intelligence that makes behavior and life have a wider context of meaning, intelligence to judge that one's actions or way of life are more meaningful than others.

Spiritual Intelligence is the intelligence of the soul that can help a person build himself as a whole. Spiritual intelligence does not depend on culture or values. Instead of following existing values, create the possibility of owning the values themselves. Spiritual Intelligence (SI) refers to the skills, the abilities and behaviors needed to develop and maintain a relationship with the ultimate source of God, success in finding meaning in life, finding moral and ethical ways to guide us in life, externalizing our sense of meaning and values in our personal lives and in our interpersonal relationships (Budiarti et al., 2020; Gede & Ketut, 2018).

Spiritual Skills are Needed to Balance the Soft and Hard Skills Needed to Optimize the Competence of Human Resources in Facing Society 5.0.

Based on the formulation of the three propositions above for human resource competence in the era of Society 5.0, we formulate the concept of human resource competence 5.0 as the capabilities and characteristics possessed by human resources, which consist of hard skills, soft skills, and spiritual skills, for the competence of human resources in dealing with Society 5.0, so that human resources can carry out their duties professionally, effectively, and efficiently (Fırat & Laramee, 2018; Wagiran et al., 2019).

The concept of human resource competence for Society 5.0 is needed as a guide for human resources in preparing the competencies needed for the era of Society 5.0. The existing theory of human resource competence is not suitable for use for current conditions, which are closely related to changes related to the impact of the industrial revolution, which is currently facing society 5.0 (Deguchi et al., 2018; Gladden, 2019). The submission of the concept of human resource competence for society 5.0, which will be referred to as Human Resource Competence 5.0 has new values. This is because the concept of human resource competency 5.0 is adapted to the challenges and competencies needed to face this era.

This study has significant managerial implications as a new conceptualization of human resource competence. First, the conceptualization underscores the changes brought about by the Society 5.0 era, which underlines the development of student-centered digital technology and three specific domain areas that focus on adapting the human resource competencies needed for the Society 5.0 era. Second, the three domain areas are very useful as a tool to analyze and identify the training programs and human resource development needed to face the era of Society 5.0. So, this domain area can be used as a basis for human

resource managers to determine the type of training and development for employees to increase employee work effectiveness and increase employee readiness for changes that occur in the Society 5.0 era.

4. CONCLUSION

The industrial revolution 4.0 and Society 5.0 concepts focus on the increasing digitization of the value chain, with humans as the main component in Society 5.0. The industrial revolution 4.0, characterized by AI and artificial intelligence, may decrease human roles. Society 5.0, on the other hand, uses modern technology to improve human abilities and create new opportunities. To face the Society 5.0 era, human resources need to adapt to future challenges with higher-order thinking skills. Society 5.0 presents opportunities and challenges for enterprises. Human resource competence requires hard skills adapted to the Society 5.0 era. Hard skills, such as computer operating skills, financial knowledge, foreign language skills, and product assembly skills, are essential for HR competencies in the Society 5.0 era. These skills are related to technical competence, technical knowledge, data fluency and analysis, computational thinking, and HR technical expertise and practice.

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