Human Resource Management Strategies to Enhance Sustainable Corporate Performance in Industry 4.0

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Abstract

In the Industry 4.0 era, achieving sustainable business success requires organizations to harness unique, rare, and inimitable resources. These resources demand a long learning curve within the organization and are critical for sustaining competitive advantage. This study explores the Era 4.0 Organizational Sustainability Model, a hybrid framework that demonstrates the interrelation of key organizational elements, including core competencies, business outcomes, and strategic objectives essential for long-term operational sustainability. In a landscape of intense competition, survival and growth are imperative goals for organizations. Central to this endeavor is the management of human resources, particularly the Millennial workforce, known for its unique challenges in turning weaknesses into opportunities for development. This research highlights the critical role of tailored talent management strategies in addressing generational characteristics, fostering employee growth, and aligning workforce capabilities with organizational needs. By employing an innovative and holistic HR strategy, organizations can enhance their ability to compete sustainably while driving long-term profitability and resilience in the face of rapid technological and market changes.

Keywords : Industry 4.0, Organizational Sustainability, Hybrid Framework, Human Resource Management.

1. INTRODUCTION

Indonesia is emerging as a key industrial hub in ASEAN, aligning with the government's initiative to transform its economy and emphasize growth in the non-oil and gas processing sectors. As of 2018, Indonesia's reputation has evolved from a commodity-based economy to a product-based economy, as evidenced by its Manufacturing Value Added (MVA) share of 4.5% in ASEAN and its global ranking as the ninth-largest manufacturing economy. The food and beverage industry leads this transformation, contributing 6.3% to the national GDP in the first half of 2018 and achieving the highest growth rate of 9% among other sectors such as chemicals (2.9%), metals and machinery (2.08%), transportation equipment (1.76%), and textiles (1.13%).

This industrial advancement demands a workforce that is skilled, motivated, and adaptable to maintain sustainable growth (Fareed et al., 2016). Companies must ensure their talent pool possesses the expertise, skills, and qualifications needed to thrive in a dynamic and increasingly

complex environment. Hence, implementing human resource development programs becomes critical—not only to achieve business goals but also to foster sustainable growth.

Industry 4.0: A New Era of Challenges and Opportunities

The advent of Industry 4.0 presents unique challenges, particularly in technology, including wireless advances, autonomous vehicles, cashierless retail stores, and robotic customer service. The focus now shifts toward equipping Millennials and Generation Z—the workforce aged 18 to 30—with the skills to leverage these technologies. However, managing this demographic effectively poses challenges. Gallup's 2016 survey highlights that only 29% of Millennials exhibit emotional and behavioral commitment to their jobs and organizations, creating significant challenges for companies striving to drive progress.

Millennials account for over 33.25% of Indonesia's population, followed by Generation Z at 29.23% (Statistics Finland, 2019). Indonesia's global competitiveness hinges on maximizing the contribution of Millennials and Gen Z while enhancing productivity. These generations are closely associated with technological advancements, reshaping multiple socio-economic domains through innovations in information, technology, and communication.

A Paradigm Shift in Organizational Culture and Climate

To harness the potential of these generations, organizations must adapt swiftly to the evolving landscape. Gallup (2016) recommends businesses transition from the "old paradigm" to a "new paradigm" concerning corporate culture and climate. This shift is fundamental to enhancing sustainable performance and improving workplace environments. The following key questions arise in this context: Is the shift toward a new organizational paradigm a principle for achieving sustainable performance?

Is the primary goal to enhance corporate culture and climate?

Organizational culture and climate play a pivotal role in driving company performance and increasing the productivity of human resource management. Addressing these questions is essential for businesses to effectively manage Millennials and Gen Z, ensuring long-term economic success in the Industry 4.0 era.

Objective

The purpose of this presentation is to explore strategies for managing talent effectively to achieve sustainable growth in Industry 4.0. By addressing the challenges posed by the generational workforce and evolving organizational paradigms, businesses can secure a competitive edge and foster a thriving economy in the long run.

2. RESEARCH METHOD

This study utilizes a descriptive analysis method by collecting and examining information through an extensive literature review. Relevant data from academic journals, books, reports, and credible sources are regularly gathered and analyzed to identify patterns and relationships within the research topic. The findings are synthesized to extract meaningful insights, which are then used to draw conclusions and provide recommendations. This approach allows for a comprehensive understanding of the subject matter by leveraging existing knowledge as a foundation for analysis and practical application.

3. RESULTS AND DISCUSSION

Industry 4.0 Era The idea of Industry 4.0 first emerged in Germany in 2011. The Internet of Things (IoT), radio systems, and human-to-human communication are used in Concept 4.0 to create a technological revolution. machines or from one machine to another. (Roblek, Meško and Krapež, 2016). In the Industry 4.0 era, automation and artificial intelligence are changing working conditions. 3D printing technology, autonomous cars, and unstaffed retail outlets are examples of the Industrial Revolution 4.0. The benefits of Industry 4.0 include the development of new business models and the addition of value to increase the efficiency of work processes (Roblek, Meko, Krape, 2016). The adverse effects of technology on jobs, work techniques, and work skills also remain. Technology will replace many jobs and replace them. Therefore, coordination of staff training and development is needed to overcome this challenge. Industry 4.0 cannot only be seen from the perspective of robotics and production automation, but must be seen from the perspective of business processes, material acquisition phases, and the entire production process. For distribution to customers. All of these areas require process automation to operate more efficiently and create competitive advantage. Automation, including data collection and sharing, accelerates the decision-making process. Even in an automated environment, people are always involved in the digitalization of this business as the minds that develop new products and solutions. Talent in the Industry 4.0 era Technology-based Industry 4.0 is a challenge for HR departments due to social changes (Schar et al., 2019). From the shrinking pool of human resources with unique skills to threatening the survival of low-skilled workers, demographic changes are taking place. At the same time, the Millennial generation is starting to enter the workforce. Until now, workers between the ages of 40 and 60 years old have made up the majority of the workforce. The number of skilled and specialized workers will decrease drastically when the period of service in this profession ends. Workers born in the 1980s and 1990s dominate the job market after this. In this situation, some businesses are working to attract and retain a large number of potential employees (Schar et al., 2019). Millennials differ from previous generations in several ways.

The characteristics of the millennial generation are as follows: (Schar et al., 2019)

1. Millennials tend to appear confident. They have confidence in their skills and are enthusiastic about the future of their careers.
2. Millennials think that collaboration and social work produce positive results. You can work in groups in this way.

3. Millennials look for office settings where they can gain respect and independence from their employers. Additionally, people often look for jobs in places with positive reputations and environments (e.g. nice furniture, fancy buildings, etc).
4. Millennials don't like repetitive work. They like to discover and try new things.
5. Millennials want flexibility in their work schedules and locations. They are adept at leveraging communication technology to enable flexibility in the workplace.
6. Millennials value the perspective of family and the work environment of society. I also pay attention to work-life balance in life social I .
7. Millennials value loyalty, so they are reluctant to change professions as long as the company meets their demands.
8. Millennials are not too concerned about salary. A good salary is nice, but millennials expect more self-development. Resource-Based View (RBV).

As a conceptual model , the Resource-Based View (RBV) views source Power as factor key success business . According to Seong (2011), these key resources must be special, uncommon, and challenging to duplicate. According to Madhani (2010), unique resources are resources that are difficult to sell or transfer but have a steep learning curve for the company. Organizational processes, organizational characteristics, and knowledge or information that is only known by the organization concerned are additional resources that can be categorized as RBV, according to Madhani (2010). According to Farid et al. (2016), resources are special, uncommon, and difficult to obtain. Resources Power man organization (human capital) is one of the RBV. Organization must capable develop source Power the human being such that appearance so that knowledge, skills work, abilities and characteristics other necessary to be optimal. develop and bring mark for organization in matter sustainable growth. Everyone's knowledge , skills, and experience are different and never the same. It is impossible to recreate an organization's human resource department in such a short time. Human capital theory The basic theory of human capital (Fareed et al., 2016) defines human capital as the knowledge and job skills acquired through education. This theory explains that the efficiency and productivity of an organization depend on the specific skills and abilities of its people. This theory emphasizes the importance of investing in human resources according to the knowledge and needs of the workforce.

This affects the organization's ability to attract, engage, reward, and develop its employees. This theory assumes that great people create great organizations. Human resource development is not just about developing competencies. Because of differences in staff perceptions and work motivations, it is also important to cultivate the culture and atmosphere of the organization to support staff performance. Organizational culture is a set of shared norms, values, principles, and assumptions (Fareed et al., 2016). Organizational culture is the learned behaviors, symbols, rituals, stories, values, and principles that a person believes in. Organizational culture is the same as the daily habits of the organization's inhabitants, which are experienced both formally and informally in the social process (Goyal, 2014). Organizational culture has been an interesting research topic in the management literature for the past three decades. Many studies have tried to link corporate culture with sustainable competitive advantage. A large amount of empirical evidence shows that organizational culture has a significant impact on organizational performance. Attitudes towards human resources and organizational effectiveness as part of organizational culture

influence organizational effectiveness more than organizational strategy and structure (Fareed et al., 2016).

Organizational culture goes beyond formal management systems such as procedures and mandates and greatly influences employee behavior. Therefore, it is important for HR managers to develop a strong organizational culture in line with the implemented organizational strategy. When HR understands organizational culture, HR practices become more accessible, which increases morale, enthusiasm, teamwork, information sharing, and openness to new ideas. According to Schneider, Ehrhart and Macey (2012), different cultural approaches produce different values and behaviors. This affects organizational efficiency. In addition to expectations, he represents four different cultures here. (internal and flexible for employees), adhocracy (external and flexible for organizational growth), market (external and stable and competitive), and hierarchy (internal and flexible). Always focus on organizational structure). The details of the Competitive Value Framework (CVF) can be found in Table 1. This CVF describes the culture inherent in an organization with the additional goal of ensuring that cultural variables do not occur by chance but rather demonstrate success. Determined by the organization. Commitment should focus on assumptions, beliefs, values, and expected behaviors. This CVF has dimensions related to organizational performance indicators such as employee attitudes, operational performance and financial performance. The CVF system has been shown to work as expected. For example, employees of clan culture organizations are happier and more engaged, and are functionally and financially better off.

Table 1. The competing values framework

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Culture type	Assumptions	Beliefs	Values	Artifacts (behaviors)	Effectiveness criteria
Clan	Human affiliation	People behave appropriately when they have trust in, loyalty to, and membership in the organization	Attachment, affiliation, collaboration, trust, and support	Teamwork, participation, employee involvement, and open communication	Employee satisfaction and commitment
Adhocracy	Change	People behave appropriately when they understand the importance and impact of the task	Growth, stimulation, variety, autonomy, and attention to detail	Risk taking, creativity, and adaptability	Innovation
Market	Achievement	People behave appropriately when they have clear objectives and are rewarded based on their achievements	Communication, competition, competence, and achievement	Gathering customer and competitor information, goal setting, planning task focus, competitiveness, and aggressiveness	Increased market share profit, product quality, and productivity
Hierarchy	Stability	People behave appropriately when they have clear roles and procedures are formally defined by rules and regulations	Communication, routinization, formalization	Conformity and predictability	Efficiency, timeliness, and smooth functioning

From Hartnell CA, Ou AY, Kinicki A. 2011. Organizational culture and organizational effectiveness: a meta-analytic investigation of the competing values framework. *Journal of Applied Psychology* 96:677–694, figure 2, p. 679. Copyright © 2011 by the American Psychological Association; reprinted with permission.

Conceptual Framework

Sustainability Model The 4.0 Era Organization is hybrid from the Delta Air Lines Business Model (Wright, 2008) and the Competitive Value Framework (Schneider, Ehrhart & Macey, 2012) used For describe connection sustainability company. Framework. The main driving force of the organization supports the achievement of higher profits. Employee performance and productivity are achieved not only because employees have knowledge and experience, but also because a good organizational culture and atmosphere create commitment and motivation to support profitable business growth. That is one of the core competencies that you can do.

Specifically, the use of a conceptual framework shows the relationship between key elements, core competencies, business outcomes, and objectives that are integral to an organization's performance improvement strategy, and guide long-term operations. can maintain. The goal of a company in the 4.0 era is no longer just to win, but to be able to survive in the face of intense competition. The success of a company's survival, even winning the competition, is the main goal that must be supported and achieved by all elements of the organization. Competent and good people management, supported by a good organizational culture and climate, is one of the keys to success, which can be described by the following model:
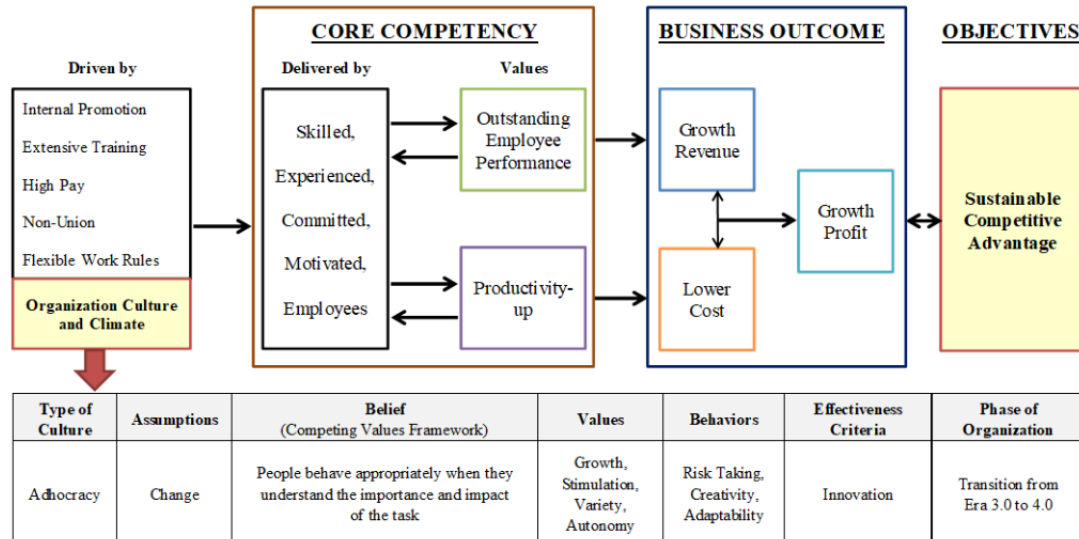
ORGANIZATIONAL SUSTAINABILITY MODEL IN ERA 4.0

Figure 1. Organizational Sustainability Integration Model in Era 4.0

Challenges of the workforce generation and human resource management in the 4.0 era

"Technical but patient" (Perspektif, 2019) very clearly describes the generational challenges faced by most companies in the current 4.0 era. The majority of employees are millennials, and multigenerational leadership is practiced across generations. Millennials are synonymous with technology and speed, while other generations such as Gen X are synonymous with SOPs and practices. Competency management in the 4.0 era requires the right strategy to take the right steps to achieve company goals. Competition is increasingly intense, the need for qualified personnel to support organizational goals is very important, and valuable employees are rewarded in a way that motivates and brings out their best talents. The ability of an organization to manage its employees is one of the most important aspects of its management. Achieving sustainable competitive advantage.

The Evolution of the Delta Business Model was created to illustrate the five most important factors for improving employee core competencies. The combination of internal promotion, extensive training, high wages, no unions, flexible work, and competitive values. Aligning corporate culture is important because the five elements of the Delta business model are widespread and owned by most companies. Other important elements that emerge from the competitive value framework are therefore not limited to providing basic needs and technology, but are used as a human resource management strategy for a company, including human resource management related to operations and organizations. One of the most important driving forces is creating the right organizational culture and atmosphere in the company, which serves as a tool for corporate identity and multi-generational workforce management in the 4.0 era.

Organizational culture and climate as the main key to organizational sustainability

Culture and climate are two related but ambiguous concepts with different meanings (Wallace, Joseph Hunt, & Richards, 1999). Culture etc. Collaborative, creative and competitive culture becomes added value, while climate supports the creation of a culture where the organizational climate to adjust employees in working is an important key to the sustainability of the organization, especially in the 4.0 era where we must adapt quickly. change By creating a good culture and atmosphere in your organization, you should be able to motivate and engage your employees so that they can use their skills and experience to improve performance. Culture can be divided into two, namely. family culture given by the owner (depending on the situation of the company and the owner) and the emerging organizational culture. Responding to changes in age suitability. Based on Delta's business model, family culture is one of the key factors in maintaining the success of Delta employees. However, in the sustainable development model of the developing organization, the desired culture is an adaptive and adaptive culture that meets the goals of the organization, which quickly adapts to the profile of the company's employees and adjusts to the needs and developments of time and organization. . . Given the current situation where organizations and employees are moving from 3.0 to 4.0,

A number of challenges arise, especially related to the speed of adaptation to change. Failure to adjust and adapt causes various long-term losses, including the loss of skilled workers, loss of business competitiveness, and even disability. The sustainable development model of the Era 4.0 organization is used to build a culture. Organizations in transition emphasize the assumption that the organization is in a stage of change or ready to change. This may be due to the type of culture. Changes do not only occur in the context of employees, but also in the context of the company and sustainable development. (Schneider, Ehrhart, & Macey, 2012). These changing conditions, which create an internal culture and work atmosphere that have a very important role in the company's sustainable development process, must be designed to adapt to the work environment. Manage your employees and understand what tasks are being done. and the importance of the work done to achieve organizational goals. Employees who adapt to the company culture and atmosphere that shape their lives are motivated to do their best and get the job done. Accountability motivates employees to work better and achieve productivity, so employees must have the experience and skills that support them to achieve good results (Bogdanovic and Durian, 2016). Goyal (2014) stated that organizational culture plays a very important role in any organization. A good organizational culture promotes the company and the workplace

success and satisfaction. In addition, corporate culture and climate are closely related to the values that must be communicated. The adhocracy model teaches a spirit of growth, striving for improvement (stimulation), and the ability to see things and act accordingly. Doing things differently (diversity) and independence in business (autonomy) are key to creating risk, creativity, and rapid adaptability. These are factors that organizations must consider and consider to benefit from their multigenerational workforce and achieve their long-term goals. Identical to the development and speed of technology in the 4.0 era. rapid adaptation, including creativity and risk, will create innovations that are differentiating factors that enable companies and organizations to succeed in competition and sustainability.

Sustainable HR management strategy to improve company performance in the 4.0 era

In the 4.0 era, the so-called Millennial workforce is characterized by the difficulty of turning weaknesses into opportunities for self-growth, which is suitable for further development of the workplace and organization. Therefore, an appropriate talent management strategy is needed to address this millennial workforce and provide the best for the business so that it can continue to grow sustainably. Good human resource management begins with setting a work schedule that supports optimal work efficiency. A high-performance work system is characterized by the development of competencies/work skills needed to carry out task assignments, the development of reward and performance management policies, and motivation (Armstrong, 2008). Talent management strategies to improve performance can be analyzed using the AMO (*Ability, Motivation, Opportunity*) model. Every employee in the workplace has three sides. (Armstrong and Brown, 2019)

- Competence, the ability to perform tasks based on knowledge, work skills/abilities, and talents.
- Motivation, the desire to complete a task independently or feeling the need to do a task.
- Opportunities: work structure, supportive environment and a place to express yourself.
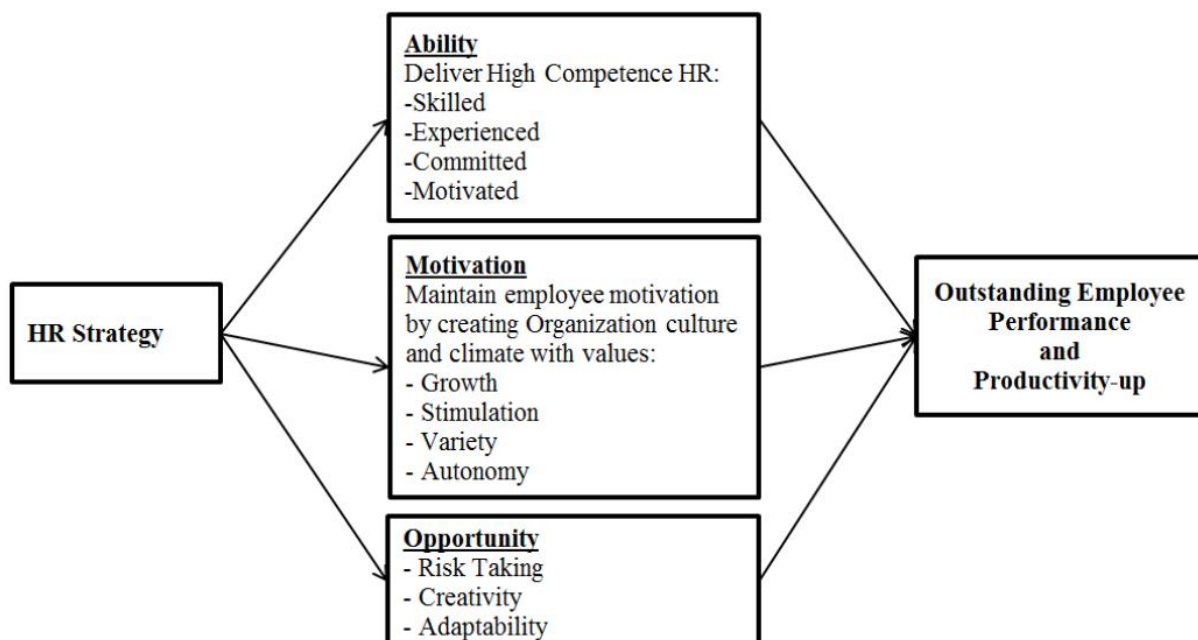
Figure 2. Human Resource Management Strategy with the AMO approach

Abilities

Employees work well if they have good work skills (professional), have problem-solving experience (experienced), are enthusiastic about their work (commitment), and are enthusiastic about their work (high motivation) can be done. Employees with skills, competencies and experience can make significant contributions to an organization's success, supported by their ability to use them for the benefit of the organization, and are the main key to competitive advantage. (Waiganjo, Kahiri, and Ph, 2012).

Motivation

You need to motivate your employees by building a culture and atmosphere that supports business growth. Increased intrinsic motivation and creativity lead to more efficient decision making, especially when using modern information and communication technologies (Stock and Seliger, 2016). The culture and climate of an organization inspire a spirit of growth *,* striving to be better (*encouragement*), the ability to see and do things differently (*diversity*), and independence in business. Must be able (autonomous). With this organizational culture and atmosphere, employees perform very well and the company grows continuously and sustainably (Fareed et al., 2016).

Opportunity

Corporate culture and business climate play an important role in further developing the workforce towards Industry 4.0. For this, motivated employees must be given the opportunity to develop and grow. Provide opportunities to take risks. Taking risks is a great learning tool to improve employee performance. Working under pressure not to make mistakes reduces employee risk appetite and prevents early learning from mistakes (Schneider, 2018). In addition, maximizing the opportunities offered as a creative space requires the ability to adapt to change (adaptation) (creativity). Combining the three AMO strategies increases employee productivity by motivating employees to do their best. This affects the company's sales growth (increased turnover) and cost reduction (lower costs). Revenue growth and cost savings affect profit growth (margin growth), which is in line with the company's long-term sustainability (sustainable competitive advantage).

CONCLUSION

Continuous improvement in employee performance within organizations in the Industry 4.0 era can be achieved by implementing human resource management strategies focused on enhancing organizational performance. The AMO (Ability, Motivation, Opportunity) model is a suitable framework for addressing organizational challenges in this era. By considering these three dimensions, employees are empowered to perform at their best within the organization. Organizations that prioritize skill development, foster a positive organizational culture, and provide growth opportunities for their employees are better positioned to succeed in a dynamic and competitive environment.

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