

MANAGING TRANSFORMATION FOR SUSTAINABILITY:

Perspectives from Marketing,
Human Resources
and Finance



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Hak cipta dilindungi undang-undang
Dilarang memperbanyak maupun mengedarkan buku dalam bentuk dan
dengan cara apapun tanpa izin tertulis dari penerbit maupun penulis

Foreword

This book is a collection of scientific papers from 3 Professors in the field of Management from the Management Department of FEB UNAIR, who happen to have more or less the same major theme, namely Transformation for Sustainability. Thus, this book was created with the intention of making the benefits of the Professor's inauguration speech manuscript have a longer duration. Not only during the inauguration event, but it can also be read by others who were not present at the event. Corporate transformation for Sustainability is observed from various points of view that are the expertise of academics from the Management Department of FEB UNAIR, both from the marketing, financial, and HR aspects.

In-depth conceptual discussion is expected to inspire academics in developing further research plans. As for practitioners, the recommendations given by the authors are also expected to inspire. Thus, the conceptual and practical benefits of this book can be felt. So that readers are expected to see the reasons why this material should be published. Sustainability carried out in the SDGs is a shared work, both individuals and institutions that make the socialization of

strategies from deep thinking must continue to be carried out. Making this book also a form of implementation of SDG point 4, namely to support the quality of education and point 8, namely to increase economic growth and decent work, and point 12, namely for sustainable consumption and production activities.

Happy reading and increasing your knowledge, hopefully it will be useful and a blessing for all of us.

Writing Team

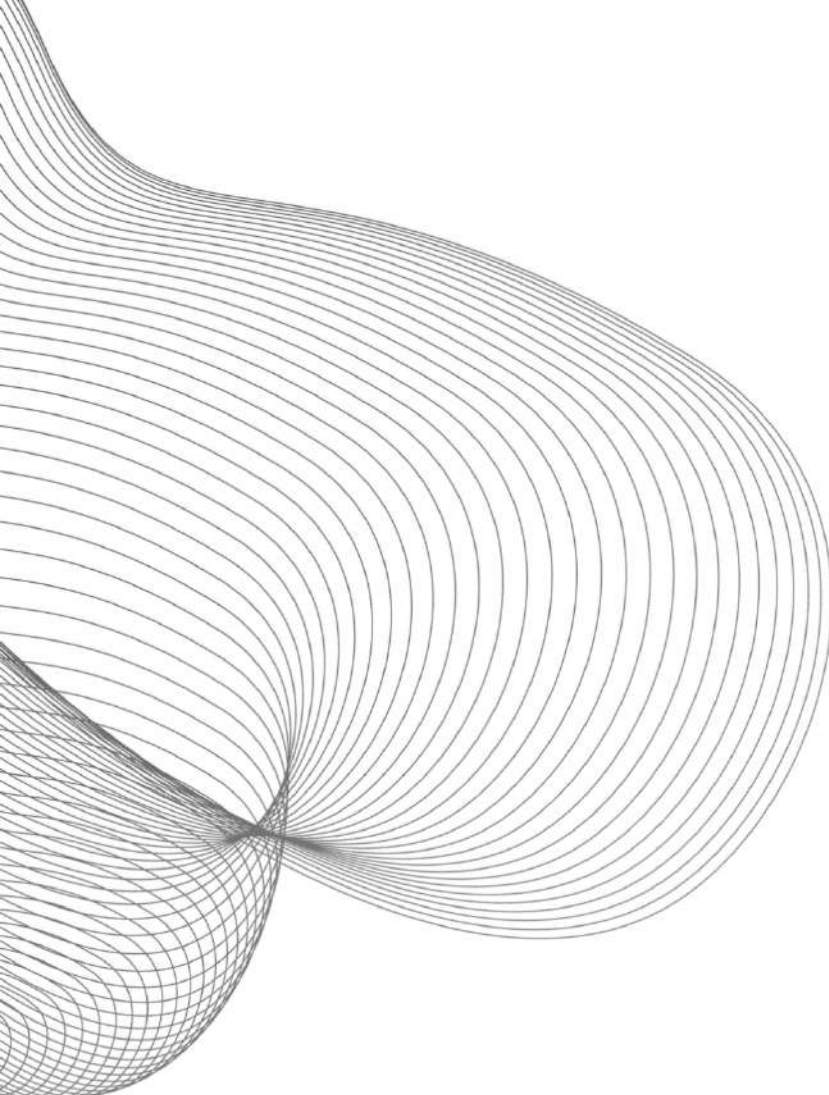
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Part 1

**INTRODUCTION: THE IMPORTANCE OF ATTENTION TO
SUSTAINABILITY**

“The world is not doing well right now” (Sri Mulyani, 2024), but on the other hand, “Fortunately, the world is still turning” (Bernadya, 2024).

We can see several phenomena and data that show that the condition of the world we live in is not good around us, including:

Global challenges, such as environmental pollution and climate change, are driving countries to adopt more environmentally friendly technologies and economic approaches (IISD, 2022). The increasingly severe level of environmental damage hampers efforts to achieve sustainable development, thus requiring comprehensive global strategies and policies to ensure sustainability (García-Feijoo et al., 2020). This environmental conservation issue has attracted widespread attention from researchers and international organizations, where much remains to be done to address environmental problems effectively (Tao et al., 2022). From these problems, it is known that one of the largest sources of environmental pollution is CO₂ emissions from motor vehicles, industrial operations, household combustion appliances, and forest fires. This has been summarized in Figure 1 where it is known in detail that global CO₂ emissions by sector (left axis) and per capita (right axis)

from 1970 to 2021 have continued to increase (Crippa, M. & Guizzardi et al., 2022). So that it becomes a problem not only for developed countries but also for developing countries like Indonesia. Currently, the environmental quality condition in Indonesia is ranked 133 out of 180 countries based on the Environmental Performance Index (EPI) in 2018, with a score of 46.92 (Yale University and Columbia University, 2018). This indicates environmental problems such as air pollution, climate change, loss of biodiversity, deforestation and environmental damage (Akter et al., 2018; Zheng et al., 2021)

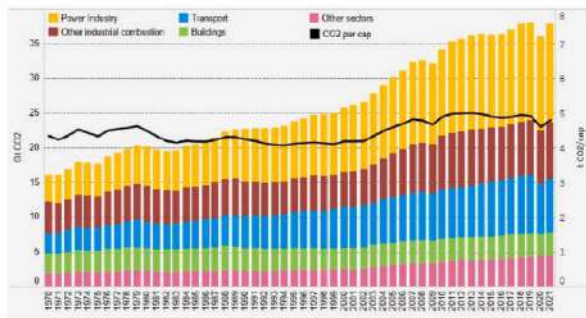


Figure 1. Global CO2 emissions by sector (left axis) and per capita (right axis) from 1970 to 2021 (In Gt) (Crippa MGuizzardi et al., 2022).

In addition, there is also climate change caused by a decline in environmental quality coupled with increased economic activity (Jabbour et al., 2016; Raut, 2020). This causes increasingly competitive competition so that

companies need to think about sustainable business performance by focusing on reducing worse impacts on environmental damage (Ragas et al., 2017).

We can also summarize several environmental problems from the following information,

- a. Global warming is increasing from year to year. The average global temperature on the Earth's surface has increased by 0.74 ± 0.18 °C (1.33 ± 0.32 °F) over the past hundred years, which is caused by increased use of freon, air pollution from increasing numbers of motor vehicles and industrial pollution. The IPCC (Intergovernmental Panel on Climate Change) explains that most of the increase in temperature is caused by human behavior. Human behavior can produce greenhouse gases (GHG) which contribute to warming the Earth's surface (dlh.bulelengkab.go.id, 2019).
- b. Increased volume of industrial and consumer waste. Data from the National Waste Management Information System (SIPSN) of the Ministry of Environment and Forestry (KLHK) in 2022, the result of input from 202 districts/cities throughout Indonesia, stated that the amount of national waste

accumulation reached 21.1 million tons. Of the total national waste production, 65.71% (13.9 million tons) can be managed, while the remaining 34.29% (7.2 million tons) have not been managed properly (www.kemenkopmk.go.id/, 2023).

- c. The rate of deforestation reached 1.8 million hectares/year, resulting in 21% of Indonesia's 133 million hectares of forest being lost.
- d. 30% of 2.5 million hectares [Coral reefs](#) in Indonesia experienced damage.
- e. Hundreds [Rare Indonesian Plants and Animals](#) and endangered. According to IUCN Redlist records, as many as 76 Indonesian animal species and 127 plants are in the highest threat status, namely Critically Endangered status, and 205 animal species and 88 plant species are in the Endangered category, and 557 animal species and 256 plants are in Vulnerable status (dislhk.badungkab.go.id, 2019).

Sustainability Theme in SDG

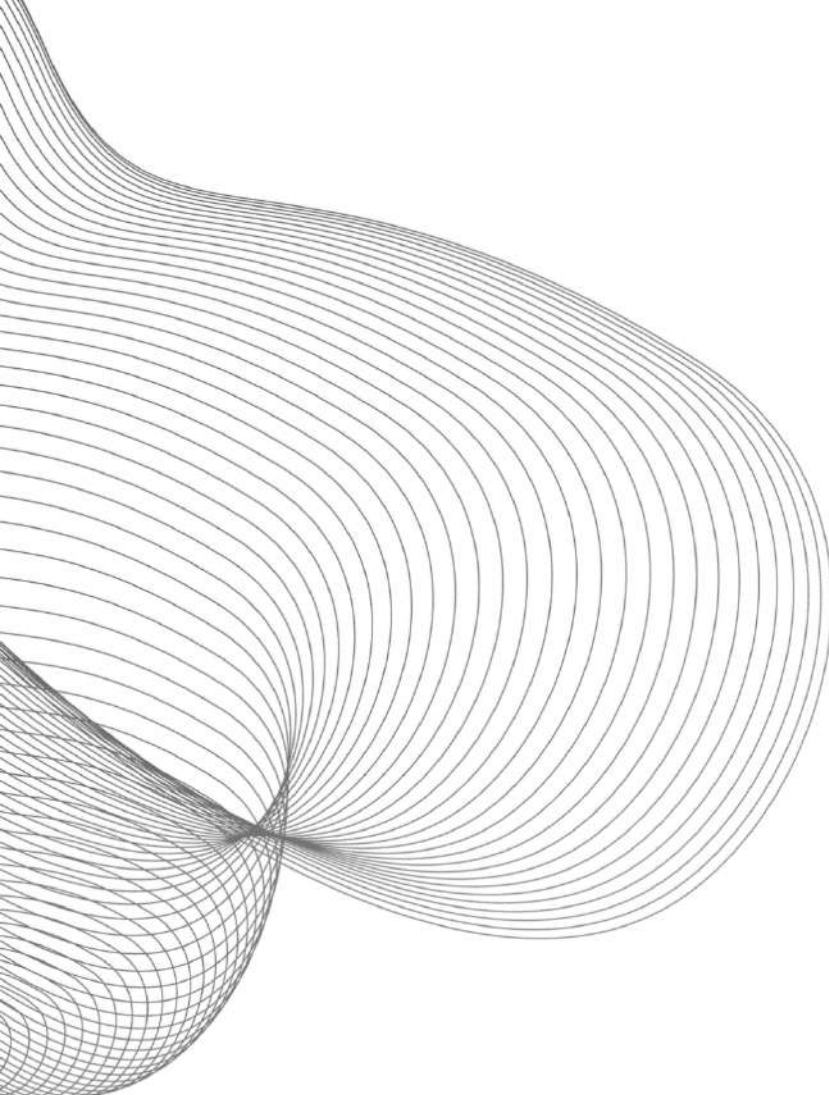
Discussion of the concept of sustainability will not be separated from the emergence of the concept of Sustainable Development Goals (SDG). Sustainable environmental

problems are one of the problems that occur in the world. Various problems that occur have made several countries take the initiative to work together to overcome world problems. The Summit of 189 UN member countries, in September 2000, gathered to agree on 8 main points that became the development program of each country. The 8 main points are known as the Millennium Development Goals (MDG), including (Asmanto, 2008):

1. Tackling Poverty and Hunger,
2. Achieving Universal Primary Education,
3. Promoting Gender Equality, and Women's Empowerment,
4. Reducing Child Mortality Rates,
5. Improving Maternal Health,
6. Combating HIV/AIDS, Malaria and Other Infectious Diseases,
7. Ensuring Environmental Sustainability, and
8. Building a Global Partnership for Development.

Of the 8 commitments, one of the program points can be seen to be attention to environmental issues, in addition to economic (point 1) and social (2, 3, 4, 5, 6) issues. When the MDG agreement was about to end in 2012, countries that

were members of the UN agreed to formulate broader Sustainable Development Goals. In 2013, the UN General Assembly formed an open working group to develop the SDGs proposal. On September 25, 2015, the UN General Assembly adopted the 2030 Agenda for Sustainable Development which includes 17 SDGs and 169 specific targets to be achieved by 2030. The SDGs were also inaugurated as a global framework for sustainable development. As the successor to the MDGs, the SDGs were designed to be more comprehensive, by accommodating several general themes including economic issues, environmental issues, and social issues. The SDGs also became a program that became a responsibility that was not only carried out by the government, but also by all parties, both government, individuals and the private sector. Of the 17 SDG points agreed upon, 6 points are related to the environment, namely point 6 (Clean Water and Proper Sanitation), 11 (Sustainable Cities and Settlements), 12 (Responsible Consumption and Production), 13 (Addressing Climate Change); 14 (Ocean Ecosystem); and 15 (Land Ecosystem).



Part 2

**GREEN TRANSFORMATION IN HUMAN RESOURCE
MANAGEMENT: DRIVING FACTORS AND CHALLENGES
TOWARDS SUSTAINABILITY**

Global challenges, such as environmental pollution and climate change, are driving countries to adopt more environmentally friendly technologies and economic approaches (IISD, 2022). The increasingly severe level of environmental damage hampers efforts to achieve sustainable development, thus requiring comprehensive global strategies and policies to ensure sustainability (García-Feijoo et al., 2020). This environmental conservation issue has attracted widespread attention from researchers and international organizations, where much remains to be done to address environmental problems effectively (Tao et al., 2022). From these problems, it is known that one of the largest sources of environmental pollution is CO₂ emissions from motor vehicles, industrial operations, household combustion appliances, and forest fires. This has been summarized in Figure 1 where it is known in detail that global CO₂ emissions by sector (left axis) and per capita (right axis) from 1970 to 2021 have continued to increase (Crippa, M. & Guizzardi et al., 2022). So that it becomes a problem not only for developed countries but also for developing countries like Indonesia. Currently, the environmental quality condition in Indonesia is ranked 133 out of 180 countries based on the Environmental Performance Index (EPI) in 2018, with a score of 46.92 (Yale University and Columbia University, 2018). This indicates environmental problems such as air pollution,

climate change, loss of biodiversity, deforestation and environmental damage (Akter et al., 2018; Zheng et al., 2021)

The application of the sustainable concept into business activities aims to create long-term consumer and employee interests that can create a green strategy that not only prioritizes profit, but how the business can run in its social, cultural and economic environment simultaneously (Singh et al., 2009; Ghouri et al., 2020). Efforts that can be made so that the industrial sector can develop sustainably are by making a transition or change in the management of traditional human resource management to green human resources management (GHRM) or known as green transformation in human resource management (Jackson et al., 2011; Raut, 2020).

In addition, climate change also occurs due to a decrease in environmental quality coupled with increased economic activity (Jabbour et al., 2016; Raut, 2020). This causes increasingly competitive competition so that companies need to think about sustainable business performance by focusing on reducing the worse impacts on environmental damage (Ragas et al., 2017). The application of the sustainable concept to business activities aims to create long-term consumer and employee interests that can create a green strategy that not only prioritizes profit, but how the business can run in its social, cultural and economic environment

simultaneously (Singh et al., 2009; Ghouri et al., 2020). Efforts that can be made so that the industrial sector can develop sustainably are by making a transition or change in the management of traditional human resource management to green human resources management (GHRM) or known as green transformation in human resource management (Jackson et al., 2011; Raut, 2020).

Sustainability-related topics have been widely studied in developed and developing countries (Goyal et al., 2013; Laskar & Gopal Maji, 2018; Wang et al., 2021). Most of the research related to sustainability is conducted in industries such as chemicals, hotels, and films. Nanduri, (2016) added that the industrial sector plays an important role in the business environment through green industry practices, and holds a strategic position that can maintain the green revolution. This can support various initiatives towards a green, clean environment, eco-friendly bonds, solar panels and renewable energy-related projects (Miah et al., 2021). However, when the industry fails to detect environmental impacts, it will indirectly cause environmental damage (Shaumya & Arulrajah, 2017). So the role of green transformation in human resources or green human resources management (GHRM) is needed in maintaining company performance (Mousa & Othman, 2020). GHRM is

essential for the successful implementation of green strategy and environmental management practices (Harian and Huang, 2001; Renwick et al., 2013; Utama et al., 2022). This success makes a positive contribution to the company's environmental sustainability as well as increasing employee awareness, and improving their attitudes towards sustainability issues.

However, there are still many companies that have not succeeded in adopting GHRM (Suresh & Bhavna, 2015). This is due to obstacles in resource factors from management, human resources and organizational aspects. Lack of responsibility regarding the importance of environmental management can be interpreted as low resources in organizations that have limited understanding of sustainable management of the environment (Hasan et al., 2021). Orji (2019) stated that low knowledge and understanding of organizational resources is also caused by the lack of support from top management, where top management cannot provide progress for its employees. The absence of training provided by top management is one form of lack of commitment from top management in allocating financial resources to support training programs to improve the quality of its employees (Orji, 2019). As a result, employees have less understanding of environmental management efforts (Gardas et al., 2019). So the industry needs to pay

attention to its resources in overcoming obstacles by implementing the GHRM concept.

Green Human Resource Management(GHRM) aims to promote the company's green culture in order to encourage its employees to implement environmentally friendly concepts (Darvishmotevali & Altinay, 2022). Green Human Resource Management (GHRM) also pays attention to developing employee capabilities through green recruitment, selection, and training processes, rewarding their green performance, green management of organizational culture (Ansari et al., 2021; Moraes et al., 2019; Renwick et al., 2016). The implementation of GHRM helps companies achieve their environmental goals by creating a green culture and green employees (Paillé et al., 2014; Kim & Choi, 2018). Through the implementation of a work concept that pays attention to pro-environment, it can create a competitive advantage for companies in terms of environmental concerns (Yu et al., 2020). Jackson & Seo, (2010) argue that companies that are proactive towards the environment will generate competitive advantages. On the other hand, when companies do not implement the GHRM concept, it will result in ineffective environmental management (Renwick et al., 2013, 2016). Therefore, the implementation of sustainability depends on how companies manage their resources. From the description

that has been presented above, this study is focused on discussing the driving factors and challenges in implementing GHRM.

When a company is able to implement GHRM well, it can be an advantage for the company, which is in line with the resource-based view (RBV) perspective (Opatha & Arulrajah, 2014; Yong et al., 2020). In the RBV perspective, human resources are considered as valuable, rare, imperfectly imitable, non-substitutable resources and are able to produce unique competitive advantages for the company (Singh et al., 2020). This shows that the relationship between Human Resource Management (HRM) and environmental problems in the company can have a synergistic effect (Barney, 1991; Gerhart & Feng, 2021; Yong et al., 2019). Then in the RBV approach there are three main categories, namely physical resources, human resources, and organizational resources that can increase the growth of environmental performance and support the company's sustainability (Wilk and Fensterseifer 2013; Haldorai et al., 2022). In an effort to transition from traditional Human Resource (HR) to GHRM practices, companies are not enough to just have resources without other triggers, for example, there needs to be demands from stakeholders (Sarkis et al., 2011; Shahzad et al., 2020; Yu & Ramanathan, 2015). Demands from stakeholders, both external and internal, trigger companies to move

towards sustainability and minimize the negative possibilities that will occur (Sarkis et al., 2011). This is because when there are no demands, the company will move constantly in using the resources it has. From this context, Khan et al., (2020) stated that stakeholder demands play an important role because they focus on managing the business environment and common interests that have an impact on the company in the long term. In the application of stakeholder theory, there are two main sources of external stakeholder demands on the implementation of GHRM practices, namely customer pressure and regulatory pressure (Guerci et al., 2016). Pressure from these two types of stakeholders can help companies improve their environmental performance (Guerci et al., 2016; Kassinis & Vafeas, 2006; Yong et al., 2022).

The research method used as an approach to identify and analyze the drivers and challenges in the implementation of Green Human Resources Management (GHRM) is the Fuzzy Delphi Method (FDM). This method is applied to obtain consensus from experts regarding factors that are considered to be the main drivers and barriers in the implementation of GHRM in the industry. FDM allows the processing of qualitative data from experts by considering the uncertainty and subjectivity that often arise in the evaluation process. Through FDM, expert opinions are collected in the form of

linguistic assessments which are then converted into fuzzy numbers to measure the level of importance and accuracy of each identified barrier. This process is carried out iteratively until a consensus is reached, which aims to produce a list of valid and prioritized barriers that can be used in the preparation of a more effective GHRM implementation strategy. By using this approach, the study is expected to be able to provide more objective and comprehensive results in understanding the challenges faced by the industry in implementing GHRM principles.

This study contributes theoretically by enriching the literature related to the drivers and challenges in implementing Green Human Resources Management (GHRM), especially in the context of Indonesia or a specific industry. This study also strengthens the understanding of GHRM implementation from the Resource-Based View (RBV) perspective by identifying resource limitations that can affect its success and providing a framework for evaluating organizational readiness to adopt GHRM practices. In addition, this study helps identify gaps between theory and practice that can be the basis for developing new models or improving existing concepts. Practically, this study provides strategic recommendations for companies in designing sustainable policies by understanding the existing drivers and challenges. This study also contributes to the

development of environmentally friendly HR policies, increasing employee awareness and involvement, and providing input for the government in formulating regulations and industry standards that support the implementation of GHRM in Indonesia.

Theoretical Study of Green Transformation in Human Resource Management

There are several theories underlying the green transformation, namely Green Human Resource Management Theory, Resource Based View (RBV) and Stakeholder Theory.

Green Human Resource Management (GHRM) is an approach that emerged from the results of the combination of the relationship between Human Resources Management (HRM) and Environmental Management (EM) which was systematically proposed by Jabbour et al., (2016) and Renwick et al., . (2013). Management of human resource functions to improve organizational performance by paying attention to the environmental context which until now continues to be developed in the Human Resource literature (Pham, 2018). The word 'green' refers to the environmental context while HRM refers to the application of human resource management practices. Currently, the increasing

awareness of environmental management and sustainable business requires every organization to develop HRM practices aimed at improving environmental and ecological quality (Singh et al., 2019).

Green Human Resources Management (GHRM) is defined as an aspect of Human Resource Management that is combined with environmental management and HRM practices (Renwick et al., 2013; Garrison, 2022). The main objective of Green Human Resource Management is to reduce the environmental impacts of activities carried out by the organization (Kodua et al., 2022). This is supported by Malik et al., (2021) who stated that the purpose of GHRM is to promote the use of sustainable resources, prioritizing environmental conservation in general which will increase employee awareness and commitment to environmental management issues. According to Ren et al., (2018) GHRM is a relevant phenomenon for understanding the relationship between organizational activities that have an impact on the natural environment and the design, evolution, implementation, and influence of the HRM system. This means that Green Human Resources Management is an important thing to do to understand organizational activities that have an impact on the environment.

Research conducted by Yusliza et al., (2019) explains that GHRM consists of human resource principles and

practices that are in accordance with the three basic sustainability principles or triple bottom line, namely the balance between the environment, society, and the economy, which results in a decrease in the company's negative impact on the environment. GHRM refers to the HRM aspect of environmental management and includes human resource practices that are aligned with environmental goals (Renwick et al., 2016; Saeed et al., 2019; Shafaei et al., 2020). In general, the green business process is targeted at the intelligent use of energy at low cost (Bombiak, 2020; Jafri, 2012; Vahdati & Vahdati, 2018). In building a green business, HR managers need to optimize resource allocation. Most business companies have implemented environmental awareness in employees and business operations. Thus, organizations have found that to achieve long-term sustainability, companies must consider the social and environmental impacts of their activities (Vahdati & Vahdati, 2018; Shah, 2019).

Companies that practice GHRM can help improve company performance, especially environmental performance and achieve a green corporate culture. GHRM practices are one of the significant green business programs, because this program refers to the organization's efforts to transform normal employees into green employees. Every employee who is involved in pro-environmental behavior with all activities involved in the development,

implementation and maintenance of the ongoing system, which will later create a significant impact on environmental sustainability (Opatha & Arulrajah, 2014; Zientara & Zamojska, 2018). Employee pro-environmental behavior involves the extent to which employees take environmentally friendly initiatives in the organization, which will be influenced by the level of ability, motivation and opportunities provided by the organization to them (Ansari et al., 2021; Rubel et al., 2021).

Meanwhile, designing and implementing GHRM is still a challenge for companies in various countries, especially in developing countries. In practice, companies often experience quite significant challenges which are the reason companies do not use GHRM in their implementation. This phenomenon is felt in companies in Ghana that experience challenges in implementing GHRM as explained in the research of Kodua et al., (2022). The challenges felt are influenced by several economic, political, regulatory, cultural and educational factors.

The phenomenon of limited implementation of GHRM was also found in research conducted by Bombiak, (2020). In Poland, the study explained that limited finances were also a major challenge in implementing GHRM. The low incentives for environmentally friendly activities were considered not to trigger companies to move to make more environmentally

friendly changes, and this was a major obstacle for companies in Poland. The unavailability of these incentives was followed by low knowledge and management competence regarding GHRM itself.

Resource Based View (RBV) is one of the theories that also supports sustainability. This theory was first published by Wernerfelt, (1984) who stated that every company is a collection of diverse resources. Then continued by Barney, (1991) who explained that in increasing efficiency and effectiveness, companies need resources in them. Barney, (1991) stated that the RBV theory is the dominant paradigm in strategic management that focuses on competitive advantage and company performance from a group of resources that are the company's core competencies. In addition, this theory explains that companies rely on resources to gain competitive advantages that can drive their sustainable development (Madhani, 2010). This is an idea about the role of a company's resources and capabilities as the main basis for its strategy and source of profitability (Singh et al., 2020). In this assumption, company resources are very important and are the basis for the company's competitive performance capabilities in achieving competitive advantage. Companies that can utilize their resources well can become a profitability for the company (Pee & Min, 2017; Opatha & Athula, 2019)

So, in general, the resource-based view theory requires certain types of resources in achieving strategic competitive advantage and improving company performance, namely Valuable, Rare, Imperfectly imitable, and Non-substitutable (VRIN) (Barney, 1991; Hoskisson, 1999; Haldorai et al., 2022). Madhani (2010) provides a description of VRIN to provide competitive advantage and sustainable efficiency where valuable means that the resources owned by the organization are not useful if they do not add value to the organization. Furthermore, resources can be said to be rare if they are difficult to find among the organization's competitors. Resources that can be easily obtained by many organizations cannot offer a competitive advantage. Imperfectly imitable refers to the creation of copy resources or imitating resources, it will not be feasible. The obstacles to imperfectly imitable vary, namely, difficulty in obtaining resources, ambiguous relationships between capabilities and competitive advantages or resource complexity allows an organization to have a competitive advantage over others. Furthermore, non-substitutability of resources indicates that competitors cannot achieve the same efficiency by replacing the resource with other alternative resources. When a resource cannot be replaced by other alternative resources, then the resource is non-substitutable. This perspective is based on the idea that heterogeneous

organizational resources over time lead to sustainable competitive advantage (Barney, 1991; Haldorai et al., 2022a).

Resources can be classified into three main categories, namely Physical resources, Human resources; Organizational resources (Barney, 1991; Iswan & Kihara, 2022). Physical Resources (PR) are considered tangible assets that organizations use to create value offerings and value propositions to their customers. PR usually consists of plant and equipment, raw materials, financial instruments, geographic locations, and information technology (David-West et al., 2018). Human Resources (HR) are important in an industry because in this domain there is a lot of creativity and knowledge that organizations need. Including all employees, training, experience, intelligence, knowledge, skills, and abilities. (Barney, 1991; Pereira & Bamel, 2021). While Organizational Resources (OR) are formed by routines that coordinate human and physical resources in a productive way including organizational structures, planning processes, and management information systems.

Stakeholder theory often used in the transformation of GHRM practices. Demands from stakeholders, both external and internal, are important factors that encourage companies to focus on sustainability and minimize negative impacts. This is supported by Clarkson (2016) who defines stakeholders as individuals or groups who have special

interests in the organization. Guerci et al., (2016) stated that stakeholder theory has been widely recognized as a key theory for understanding why organizations adopt and specifically implement HRM practices. This theory contains the assumption that managers must recognize the existence of many stakeholders and be able to understand the special interests of each stakeholder. Furthermore, most studies on stakeholder theory in corporate environmentalism assume that association pressure, regulatory pressure, and customer pressure are external stakeholder groups and employees are internal stakeholder groups (Fraj-Andrés et al., 2009; Saleem et al., 2020).

Organizations also have demands in their industry through association pressure (Shubham et al., 2018). In this case, association pressure as a secondary stakeholder has coercive and normative power over aspects outside the organization (Berg et al., 2018). Furthermore, this association pressure increasingly has special attention to environmental issues so that association pressure becomes an important source of pressure in the organization (Darnall et al., 2008). In addition, association pressure also makes a significant contribution to improving environmental performance (Ahmed et al., 2020). However, association pressure has the same role as regulatory pressure which emphasizes

normative pressures, namely related to the rules and norms that apply (Berg et al., 2018; Krell et al., 2016).

Regulatory pressures refers to formal mechanisms or forms of coercive regulation enforced by regulatory bodies that require compliance from individuals or organizations (Hwang et al., 2016). Strict environmental regulation is a major force that drives organizations to engage in pro-environmental behavior (Schmitz et al., 2019). In this case, punishment for environmental pollution by organizations directly affects the environmental governance level (Zhang et al., 2019). On the one hand, the government can enact mandatory laws and regulations to instill environmental orientation in organizations (Li et al., 2018). On the other hand, the government also supports the implementation of green innovation in organizations through a series of incentives, such as setting up special support funds for green innovation and providing subsidies for Green Research and Development in organizations (Zhang et al., 2019).

From the perspective of environmental management practices, customer pressures refer to consumer demands to improve organizational performance in environmental and social areas (Hwang et al., 2016). In general, organizations receive more environmental pressure from customers than from suppliers, which in turn affects green innovation behavior (Peng et al., 2021). Customers who prioritize

environmental issues can take environmental protection as an important indicator in choosing products (He et al., 2019). To meet customers' environmental requirements, organizations tend to seek environmental certification and qualification licenses, introduce green supply chain management, and develop products with low pollution and low energy consumption (Cheng & Shiu, 2012; Dong et al., 2021). In addition, customers can provide more support and information feedback for green innovation in organizations (Pujari, 2006; Q. Zhang & Ma, 2021). In this case, organizations can carry out green technology innovation according to market demand (Xie et al., 2019)

Driving Factors in GHRM Implementation

Based on the relevant literature review, there are seven aspect drivers or drivers in GHRM, namely: organizational resources (A1), physical resources (A2), regulatory compliance (A3), association compliance (A4), customer pressure (A5), top management commitment (A6), and human resources (A7). In these seven aspects, 33 GHRM criteria were identified. The selection of aspects and criteria was based on the Resources Based View and Stakeholder Theory theories and supported by previous research.

Organizational resources(A1) has a role as an aspect that influences the climate of organizational involvement in implementing GHRM practices (Simon et al., 2018). One of the important resources owned by an organization can be a knowledge management system (C5), which is able to create value and achieve the organization's strategic goals (Yee et al., 2019). The knowledge management system can accumulate knowledge in environmental management which allows the practice of identifying, creating, communicating, socializing, measuring, and improving internal knowledge to support strategic goals in implementing GHRM (Haldorai et al., 2022a; Hislop et al., 2018). In addition, organizational culture is a resource owned by the organization in implementing GHRM. One of the organizational cultures that has an impact on the implementation of GHRM is learning culture stimulating innovation (C3). An organizational culture that is oriented towards learning and innovation is needed because it can encourage learning between individuals, teamwork, collaboration, creativity, and knowledge distribution can be conveyed properly (Coronas & Oliva, 2008). To stimulate organizational innovation in the implementation of GHRM, learning culture stimulating innovation can be applied so that in the end the organization will get the desired value (Maletič et al., 2015). Green business process (C4) is one of the characteristics of organizations that are transitioning from

traditional management to environmentally oriented management. When organizations understand the value to be achieved, they will bring environmental improvements that will support the implementation of green business processes. This includes GHRM management that will produce environmental resources (Wu et al., 2019). GHRM is a set of HR activities that are oriented towards the environment and also social impacts. The implementation of GHRM requires a relationship with strategic partners (C6) (Masri & Jaaron, 2017). The relationship between the organization and its strategic partners can be a resource for the organization in implementing GHRM. The transition from traditional HR management to GHRM requires sufficient financial resources (sufficient budget) (C1). These sufficient financial resources can help organizations to invest in R&D needs, especially in creating more environmentally friendly products and services according to consumer demand (investment in R&D) (C2) (Haldorai et al., 2022a).

Physical resources (A2) is the material used by the organization to achieve goals in an organization that can be used as learning (Amadi & Ezeugo, 2019). GHRM requires supporting access, one of which is technology that can be easily accessed because it is a transition from traditional management (access to advanced technology for GHRM) (C8). One of the technologies that can be used in the

implementation of GHRM includes the Human Resources Information System (HRIS) (C9) and digital technology (Kumar et al., 2019; Luthra et al., 2017). The organization has a very complex human resources structure, where HRIS is needed to be able to design and manage the HRM information system network which will later be managed by the system (Trujillo-Gallego et al., 2022). Meanwhile, the application of digital technology (C10) in GHRM can help organizations to more easily respond to environmental changes through capturing, transforming, sharing, and data analysis (Trujillo-Gallego et al., 2022). In creating the right technology to implement, organizations need a supportive environment, namely through green workspace (C7). Green workspace is designed through sustainability with efficiency of resources that will increase organizational productivity (Saeidi et al., 2022).

Regulatory compliance (A3) is a demand from authorities such as the government to create rules aimed at organizations in implementing a sustainable organizational environment (Huang & Li, 2018). One of the demands created is the obligation of the organization to meet the standards that have been set (obligation to meet the legislated standard) (C12). The standards given by the authorities relate to environmentally friendly business practices to support GHRM (Gualandris & Kalchschmidt, 2014). The form of

standards given to organizations can be in the form of effective rules and laws to support sustainability (C11) (Luthra et al., 2017). In this case, the government is one of the stakeholders who has the authority to establish appropriate laws. In addition to these rules, stakeholders also have special demands that must be met by organizations to adopt environmentally friendly business practices (stakeholders substantial impact) (C14). In its application, organizations that behave irresponsibly towards the environment will be fined and punished (fines and penalties for environmentally irresponsible behavior) (C13). In organizations that receive fines and penalties, the organization will receive negative reports (C15) for committing violations. The consequences that will be obtained are a decline in reputation and a bad assessment in the annual report (Gualandris & Kalchschmidt, 2014).

Association compliance (A4) has an important role in the implementation of GHRM in organizations. Through professional associations, organizations can learn the right ways and reasons to carry out a green approach to support the implementation of GHRM (Colwell & Joshi, 2013; Yusliza et al., 2019). Associations encourage organizations to implement environmental responsibility in order to create sustainability in the industry (encouragement from associations) (C16) (Ball & Craig, 2010; Kouhizadeh et al.,

2021). The form of encouragement given can be in the form of requirements that must be met by organizations to be part of the industry (Required to be environmentally and socially responsible) (C17). For organizations, being part of an industry association is an advantage because it can help support the activities carried out by the organization, especially in the implementation of GHRM. Industry Associations have expectations (C18) that expect all organizations in the industry to be environmentally and socially responsible (Helmig et al., 2016).

Customer pressure (A5) refers to consumer demand to improve organizational performance, especially in the environmental and social fields (BN Hwang et al., 2016). Customer pressures play an important role in the implementation of GHRM in organizations. Customers have certain requirements so that the relationship between the organization and the customer is maintained properly. The requirements given by customers can change depending on consumer attitudes and consumer ecological awareness (change in consumer attitude and ecological awareness) (C20) (Yong et al., 2020). When an organization is able to meet the requirements given by customers, the organization certainly also meets customer satisfaction (C21). Organizations can increase customer satisfaction through environmentally friendly practices, one of which is GHRM (Malik et al., 2020).

In supporting the achievement of customer satisfaction, companies need to promote public awareness of sustainable HR (promote public awareness on sustainable HR) (C19). Promotion is carried out by providing sufficient information to create awareness of GHRM (Cherry & Pidgeon, 2018; Rasool et al., 2019). This will give a good reputation to the organization because it has been able to meet consumer needs (seeking positive reputation for customers) (C22). A good reputation for environmental sustainability will be attractive to consumers and will attract new consumers (Panda et al., 2020).

Top management commitment (A6) towards the environment will tend to adopt a system that is able to provide information related to the environment. With top management commitment, companies will be able to effectively implement green initiatives and achieve positive environmental performance (Spencer et al., 2013). Top management commitment supports GHRM to have leaders change orientation (C24) which changes traditional management to environmentally oriented management (Colwell & Joshi, 2013). Furthermore, top management also acts to facilitate the implementation of GHRM by building a green organizational culture through organizational thinking and commitment. This shows that top management has broad systems thinking (C26) which supports the success of GHRM

(Kiesnere & Baumgartner, 2019). The thinking of top management comes from the existence of social and environmental consciousness (C25) where top management cares about environmental issues so as to increase its ability to realize sustainability (Haldorai et al., 2022a). Therefore, top management can link organizational activities with the environment so that the implementation of GHRM can run well. Next, top management will carry out proactive plans that integrate sustainable HR (integrating sustainable HR in proactive plans) (C23) (Allais et al., 2017; George et al., 2016). Strategic plans in an organization can be achieved by determining the goals that the organization wants to achieve. These goals can be achieved through a vision and mission that explain behavior in dealing with social problems including various environmental problems (long-term environmental vision & mission) (C27) (Darvishmotevali & Altinay, 2022b; Haddock-Millar et al., 2016).

Human resources (A7) becomes a human-centered aspect that is oriented towards development, workforce abilities, motivation, and opportunities for workers to contribute to GHRM (Barrena-Martinez et al., 2018; Renwick et al., 2013). It takes a workforce with knowledge and skills so that it can transform traditional HR into GHRM (C28) (employees expertise) (Schouteten et al., 2021). To create human resources that are oriented towards GHRM,

organizations need to carry out green designing job positions (C32). Job designing will create a special position to manage green practices in the organization (Masri & Jaaron, 2017; Opatha & Arulrajah, 2014). Creating awareness among employees (awareness of environmental issues) (C30) by continuously communicating the goals and objectives of the organization to employees related to environmental issues is one strategy in realizing GHRM-oriented human resources (Gupta, 2018b; Tang et al., 2018). Communication can be in the form of cooperative teamwork (C29). Teamwork that is implemented must support environmental protection in the organization (Haldorai et al., 2022a). Improving employees' health and safety (C31) is needed to create a safe environment for workers by following certain rules (Gupta, 2018b; Haldorai et al., 2022a). The level of safety support provided by the organization supports the quality of human resources (Mei et al., 2020). The Proposed Attributes are summarized in Table 1 below.

Table 1. Proposed Attributes Driving GHRM

Aspect	Criteria	
A1 <i>Organizational resources</i>	C1	<i>Sufficient budget</i>
	C2	<i>Investment in R&D</i>
	C3	<i>Learning culture stimulating innovation</i>

	C4	<i>Green business process</i>
	C5	<i>knowledge management system</i>
	C6	<i>Relationship with strategic partners</i>
A2 <i>Physical resources</i>	C7	<i>Green workspace</i>
	C8	<i>Access to advanced technology for GHRM</i>
	C9	<i>Human Resources Information System (HRIS)</i>
	C10	<i>Availability of digital technology</i>
A3 <i>Regulatory compliance</i>	C11	<i>Enforce government regulations and effective legislation</i>
	C12	<i>Obligation to meet the legislative standard</i>
	C13	<i>Fines and penalties for environmentally irresponsible behavior</i>
	C14	<i>Stakeholders substantial impact</i>
	C15	<i>Negative reports for committing infraction</i>
A4 <i>Association compliance</i>	C16	<i>Encouragement from associations</i>
	C17	<i>Required to be environmentally and socially responsible</i>

	C1 8	<i>Industry association expectations</i>
A5 <i>Customer pressure</i>	C1 9	<i>Promote public awareness on sustainable HR</i>
	C2 0	<i>Change in consumer attitude and ecological awareness</i>
	C2 1	<i>Meet customer satisfaction</i>
	C2 2	<i>Seeking positive reputation for customers</i>
A6 <i>Top management commitment</i>	C2 3	<i>Integrating sustainable HR in proactive plans</i>
	C2 4	<i>Leaders change orientation</i>
	C2 5	<i>Social and environmental consciousness</i>
	C2 6	<i>Broad systems thinking</i>
	C2 7	<i>Long-term environmental vision & mission</i>
A7 <i>Human resources</i>	C2 8	<i>Employee Expertise</i>
	C2 9	<i>Cooperative team work</i>

	C3 0	<i>Awareness of environmental issues</i>
	C3 1	<i>Improving employees' health and safety</i>
	C3 2	<i>Green designing job positions</i>

Based on the results of research using the Delphi method in manufacturing companies in Indonesia, it was found that there are 5 aspects and 17 criteria that are valid attributes as driving factors for GHRM, where these aspects are organizational resources (A1), regulatory compliance (A3), association compliance (A4), top management commitment (A6), and human resources (A7). While the criteria are sufficient budget (C1), investment in R&D (C2), learning culture stimulating innovation (C3), green business process (C4), Knowledge management system (C5), enforce government regulations and effective legislation (C11), fines and penalties for environmentally irresponsible behavior (C13), stakeholder's substantial impact (C14), negative reports for committing infraction (C15), encouragement from associations (C16), required to be environmentally and socially responsible (C17), leaders change orientation (C24), social and environmental consciousness (C25), long-term environmental vision & mission (C27), employees expertise

(C28), awareness of environmental issues (C30), and green designing job positions (C32). In addition, it was also found that there are three causal aspects that can affect other aspects, namely Association Compliance (A4), Top Management Commitment (A6) and Human Resources (A7). These aspects have an important role in helping companies adopt GHRM in the perspective of RBV and Stakeholder Theory. Based on the results of the study, it was found that there are several criteria that are important factors in organizations to transform towards GHRM in uncertain and complex situations, some of these criteria include sufficient budget (C1) negative reports for committing infraction (C15), leaders change orientation (C24), long-term environmental vision & mission (C27) and awareness of environmental issues (C30). Furthermore, the aspects and criteria that are causal in this study are discussed as follows:

1. *Association Compliance (A4)*

Industry associations use their legitimacy to build a healthy workplace. The findings of this study are in line with previous studies, which hypothesize that industry associations support each other and have a direct influence on organizations, encouraging organizations to adopt an environmentally friendly approach to doing business based on GHRM (Helmig et al., 2016). In accordance with previous studies where organizational participation in industry

associations that promote environmental sustainability has a positive effect on the implementation of GHRM (Campbell, 2007; Shubham et al., 2018).

Industry associations evaluate the social and environmental outcomes of organizations. This creates pressure on organizations and forces organizations to comply with established standards. There are consequences that can worsen the organization's reputation if it does not comply with applicable standards. Thus, organizations will be wiser in carrying out their activities because if they make mistakes, the organization's reputation will be damaged and the organization will suffer losses as explained in previous studies (Zhang et al., 2019). The findings of this study provide credence to the idea that organizations must work by meeting the requirements set by industry associations. In this case, organizations will seek legitimacy by adjusting to the rules given by the association and adopting sustainability practices to gain legitimacy and a good image.

2. *Top Management Commitment (A6)*

Top management commitment becomes a key aspect of how GHRM is implemented in an organization. This indicates that top management can put pressure on sustainability at all levels of the organization. Furthermore, the involvement of top management is also an important factor in the success of

implementing management strategies, especially in environmental protection efforts, which have been studied in previous studies as very important (Obeidat et al., 2020). This is in line with previous research which states that when the organization's top management commitment is high, it is likely that the implementation of GHRM practices will be noticed (Colwell & Joshi, 2013). The results of this study are also consistent with previous research which suggests that top management's dedication to the environment is likely to increase the chances of GHRM being implemented as an HR strategy in a company (Haldorai et al., 2022a).

The implementation of top management commitment in an organization is very important for the implementation of GHRM practices and policies that support the organization's environmentally oriented mission and goals. As a result, top management becomes an important component of GHRM growth and evolution. This is in accordance with previous research where top management commitment is important for realizing organizational green initiatives, this is due to the role and responsibility of top management in allocating resources (Bansal & Roth, 2000; Yusliza et al., 2020).

3. *Human Resources*(A7)

Human resources emerged as a key motivator for businesses to implement GHRM practices. This finding

supports previous research that focused on green human capital, which is defined as the knowledge, skills, and capacities of employees that enable a company to achieve desired green environmental outcomes (Haldorai et al., 2022a). In line with this, Mansoor et al., (2021) noted that previous work may have provided employees with expertise in environmental sustainability that can help develop environmental understanding within the organization. Employees' awareness and concern for environmental issues encourage human resource departments to develop it.

Human capital in the implementation of GHRM serves as a driver of green behavior change that supports the organization's GHRM. This will help the organization expand its knowledge and build managers' understanding to effectively implement sustainable HRM practices. In accordance with previous research which explains that green human capital will encourage green intellectual capital, which involves green manufacturing to achieve green goals (Jabbour et al., 2016; Lee & Tai, 2008). In addition, human capital can be a competitive advantage by considering relevant segments through GHRM so that organizations can achieve competitive advantage.

Next, it explains the criteria that are important factors in organizations in transforming towards GHRM, namely sufficient budget (C1), negative reports for committing

infraction (C15), leaders change orientation (C24), long-term environmental vision & mission (C27) and awareness of environmental issues (C30).

Sufficient Budget (C1)

To encourage the implementation of GHRM practices that have a greater impact on environmental performance, a budget is needed that supports solving environmental problems. Having sufficient funds is an important resource for manufacturing companies to successfully implement GHRM. The shift from traditional HRM practices to GHRM requires financial investment, including the purchase of cutting-edge technology and employee skill enhancement through training. Luthra (2017) revealed that the allocation of financial resources and budgets in an organization can trigger managers to adopt environmentally friendly and sustainable initiatives. This means that in adopting sustainability, management must be able to utilize the budget as efficiently as possible.

Negative Reports for Committing Infraction(C15)

Manufacturing companies need to comply with regulations given by stakeholders so as not to receive bad reports that can damage the company's image. The Indonesian government has shown considerable attention to environmental issues. This is indicated by the existence of

regulations set by the government regarding environmental protection and management by companies. In this case, the manufacturing industry must comply with these regulations through environmentally oriented operational activities. If a company in the manufacturing industry commits an environmental violation, the consequence is that a negative report will be recorded in the company's annual report or on the stock market which will also have an impact on the company's image. In line with research by Guerci et al., (2016) revealed that regulations from stakeholders will have an impact on company decisions and the development of resources and organizational performance. These consequences will be able to encourage the manufacturing industry to change organizational behavior to be more ecologically responsible. This means that stakeholders in the manufacturing industry need to formulate policies by considering policies related to environmental conservation practices.

Leaders Change Orientation(C24)

The driving factors of GHRM practices have a major impact on company performance, policy makers need to have an environmental orientation. This will allow top management as policy makers to implement GHRM practices through existing pressures. In addition, companies need support from top management in implementing the right

decisions to be able to transform to GHRM. In this case, leadership plays an important role in influencing HRM practices (Haldorai et al., 2022a; Singh et al., 2020b) Top management actions focus on improving technical aspects and environmentally oriented organizational changes. The orientation and actions of top management must have a long-term perspective so as to encourage individuals to be able to contribute sustainably to the organization.

Long-term Environmental Vision & Mission(C27)

In this case, vision and mission are very important in adopting and implementing GHRM effectively where a clear commitment and plan from top management are needed to create a sustainable organization. To support sustainable organizational goals, a long-term vision and mission are needed. The vision and mission are expected to encourage the organization to achieve optimal efficiency and effectiveness by utilizing the resources it has. Organizations are required to formulate and implement environmentally friendly practices when faced with crucial environmental pollution problems. In line with that, Zhang et al., (2019) found that organizations must consider taking a broad perspective and focusing on long-term performance in order to achieve sustainability.

Awareness of Environmental Issues(C30).

Companies also need to recruit their best human resources who will be given an understanding of GHRM so that they can encourage employee green behavior. It is the organization's responsibility to improve employee understanding of the positive effects of environmentally friendly activities on green performance and sustainable organizational performance. In accordance with research by Gupta (2018) and Masri & Jaaron (2017), where employee empowerment and involvement appear as GHRM practices considered important in solving environmental problems that produce a sense of responsibility for the organization's green goals. This will also support employees to be able to have the appropriate knowledge and skills for the manufacturing industry to implement GHRM by providing employee training on environmental issues.

Challenge Factors in GHRM Implementation

Based on the relevant literature review, there are seven aspects of barriers in GHRM, namely, Management Barrier (A1), Human resources (A2), Organizational Barrier (A3), Financial Barrier (A4), Technical & Infrastructural (A5), Regulatory and Industry Barriers (A6), and Customer Barrier (A7). In these seven aspects, the author identified 37 GHRM criteria which will be explained respectively below.

Management Barrier(A1) has a role as an aspect that refers to the obstacles that exist in the managerial environment in developing companies to understand the potential of environmental conservation and economic opportunities (Kodua et al., 2022). One of the factors that is an obstacle for the company is the lack of support from top management (C1), due to the lack of support and enthusiasm from the organization in carrying out GHRM (Kodua et al., 2022). The absence of company support is due to the lack of adequate information in achieving sustainability goals in the implementation of GHRM (Orji, 2019; Hasan et al., 2021). In addition, the obstacle that has an impact on the implementation of GHRM is the absence of a comprehensive plan to implement GHRM (C2). The company does not have a comprehensive commitment and plan in implementing GRHM (Hasan et al., 2021; (Kodua et al., 2022). When a company does not have a comprehensive plan, there is no commitment to its implementation. In addition, the lack of a comprehensive plan to implement GHRM creates ambiguity (Fayyazi et al., 2015). This is in line with the next obstacle, namely the lack of corporation and commitment from HR (C3) where human resource managers lack commitment to the principles of GHRM on the use of sustainable resources (Jackson & Seo, 2010; Yong et al., 2019). Other obstacles are caused by inadequate proactive plans (C4) which are

proactive plans to ensure sustainable development is inadequate and not adhered to (Adnan et al., 2017; Orji, 2019). Lack of reward systems (C5) the company does not have a reward system for its workers, especially related to environmentally friendly behavior (Madrid-Guijarro et al., 2009; Zhu et al., 2012). Green rewards can be financial such as bonuses or non-financial such as appreciation (Bombiak, 2020). However, companies have not implemented increasing employee engagement, staff loyalty, organizational reputation, gaining competitive advantage of the company (Cherian & Jacob, 2012; Yusliza et al., 2019).

Human Resources Barrier(A2) is a barrier that occurs in human resources that refers to the new development of GHRM that combines environmental management and sustainable development to improve organizational performance (Al Kerdawy et al., 2019). In it there are several barriers due to the lack of focus on green training and lack of awareness of the green environment (Lack of focus towards the environmental or green training and obligations or awareness) (C6). This barrier causes workers to be inadequately trained and have low awareness of the development of training and competency programs (Gardas et al., 2019). The lack of awareness of training is due to the lack of commitment from top management and management does not want to spend funds on training in developing its

employees (Abdullah et al., 2016; Orji, 2019). Training programs related to environmental awareness can improve employee competence (Adnan et al., 2017; Gardas et al., 2019). Furthermore, the barrier to the development of GHRM is the lack of green teams and their cross-functional integration (C7). This means a lack of cross-functional green teams in solving organizational sustainability problems (Gedam et al., 2021). Managers need to form green teams to be able to improve organizational sustainability performance that can bring sustainability and collaborative culture to the organization (Amrutha & Geetha, 2020; Jabbour & Jabbour, 2016). Not only that, the lack of policies and practices for recruitment and selection, performance, appraisal (C8) can also be an obstacle in implementing GHRM. This is because there is no encouragement for employees to participate in environmentally friendly activities due to the lack of policies and practices related to timely evaluation, appropriate compensation, incentives and rewards to motivate employees (Muduli et al., 2020). When an organization does not have proper performance appraisals, inappropriate remuneration, incentives, policies and practices related to remuneration to motivate employees, then these policies and practices can be obstacles in encouraging employees to carry out environmentally friendly activities (Saeed et al., 2019; Gedam et al., 2021). Low employee capacity to change (C9) is

also a barrier because workers have no interest and have low complexity due to lack of knowledge, uncertainty, distrust of information sources, resistance to change and fatalism (Jackson & Seo, 2010). Lack of employee welfare package (C10) Employee welfare packages and remuneration are not attractive to encourage productivity on sustainable issues (Hoeksma et al., 2017; Orji, 2019).

Organizational Barriers(A3) is an organizational barrier referring to the barriers in the flow of information among employees that can lead to the commercial failure of an organization. One of the barriers to implementing GHRM is the lack of understanding of green policies (the Lack of understanding of green policies) (C11) where the company does not have a strong communication system, which results in a lack of understanding of green policies to employees (Fayyazi et al., 2015). Because the company does not understand the existing policies, it causes the next barrier, namely the lack of knowledge about environmental management (lack of environmental management (EM) knowledge) (C12). This is due to the low level of resources in the organization that have knowledge about environmental sustainability management (Hasan et al., 2021a). Then, the low level of competence (insufficient environmental competencies) (C13) of employees also contributes to the implementation of GHRM. Employees who are not sufficiently

trained and competent in environmental issues make organizations think twice about implementing GHRM practices (Mangla et al., 2015; Orji, 2019). On the other hand, organizations that do not have or do not focus on green culture (lack of green culture) (C14) are another obstacle that contributes to the implementation of GHRM. In this case, the company does not have related policies and regulations, which will lead to the implementation of an organizational culture that emphasizes environmentally friendly behavior (Vahdati 2018). The transition from traditional HR practices to GHRM is hampered by the complexity of design and implementation of GHRM (C15). Mousavi et al. (2020) stated that the transition from traditional HR practices to GHRM has a high complexity compared to traditional HR systems. The transition to GHRM practices must be supported by cooperation between departments within the organization (lack of Interdepartmental cooperation in communication) (C16). The low level of cooperation between departments will hamper the flow of information within the company, resulting in a delay in the transition to GHRM. Then supported by the lack of cooperation between departments in communication (Batista et al., 2021; Govindan et al., 2014).

Financial Barrier(A4) is a financial barrier that is the most prominent problem for many organizations (Govindan et al., 2014; Lawrence et al., 2019; Vasilenko et al., 2011; Wei

et al., 2009). This is because most organizations give higher priority to different transactions that are the main source of income, thus creating low incentives for environmentally friendly activities (Hollins et al., 2011; Rademaker et al., 2022). The low level of incentive is caused by several barriers, one of which is the lack of financial resources (C17). High capital and investment, and inadequate financial resources from some businesses and companies that hinder the implementation of GHRM (Geng & Doberstein, 2008; Hasan et al., 2021b; Ormazabal et al., 2016; Rizos et al., 2016; Shi et al., 2008). In addition, economic instability (C18) is also a financial constraint factor where economic conditions with frequent major recessions, unclear business cycles, and very high inflation currently experienced by companies can hinder the implementation of GHRM practices (Mousavi et al., 2020).

In addition to several internal factors, companies can also be a financial barrier factor when switching to a new system (cost of switching to new system) (C19). The cost of switching to a new system that is too expensive results in obstacles for companies in implementing GHRM (Chien et al., 2022; Govindan et al., 2014; Mudgal et al., 2010). Lack of funds for training (C20) Geng and Doberstein organizations lack funds to provide training for their employees (Mangla et al., 2015; SK Singh et al., 2020). Training is the most important thing in developing the quality of the company but in its

implementation it requires quite a lot of funds. This makes funds a major barrier for organizations to carry out proper training for their employees (Mangla et al., 2015). The uncertainty about the impact of GHRM is also an obstacle in implementing these activities. Organizations tend to implement things that have been proven to provide high profits. So that in the implementation of GHRM results in a low level of profit and market demand level (C21). This indicates that the risk of implementing GHRM allows companies to experience reduced profits due to high investment costs at the beginning of implementing the system (Akbar et al., 2019; Khan et al., 2020). The next obstacle is the high cost of obtaining environmental certifications (C22) the high cost of obtaining certification for service products and systems from related institutions which is very large (Mousavi et al., 2020). In addition, return on investment uncertainty (C23) is also an obstacle in the financial sector due to high investment and low returns in implementing the green concept (Govindan et al., 2014). The low return on investment is considered ineffective and a barrier for companies (Govindan et al., 2014).

Technical & Infrastructural Barriers(A5) is the low integration of human resources with technology that leads to better sustainability (Jabbour & De Sousa Jabbour, 2016). One of the factors that is a technical & infrastructure barrier is

inefficient technology (C24), where there is insufficient technological inefficiency for investment in sustainable operations (Luthra et al., 2016; Mangla et al., 2015; Orji, 2019). In addition, the complexity and difficulty in adopting green technology are the next obstacles (complexity and difficulty of adoption of green technology) (C25). In adopting green technology, resources in the company have difficulty understanding and implementing the use of technology (Rompa, 2011). HR professionals will be faced with uncertain workforce changes. So that workers' skills in using technology are due to a lack of technical and technological capacity (lack of technical and technological capacity) (C26). Where there is an organizational inability to implement GHRM because the technology currently applied is still inflexible (Khan et al., 2020). The company's inability is due to current practice lacking flexibility to switch over to new system (C27). The company has not been able to keep up with existing developments to switch to a new system (Chien et al., 2022; Govindan et al., 2014; Revell & Rutherford, 2003). The company still has difficulty in transforming positive environmental attitudes into action (difficulty in transforming positive environmental attitudes into action) (C28). Although companies have positive environmental attitudes, they find it difficult to implement them (Chien et al., 2022; Govindan et al., 2014; Hillary, 2004; Perron, 2005;

Revell & Rutherford, 2003). So this makes companies reluctant due to lack of expertise in environmental management (lack of expertise in environmental management) (C29). Companies are reluctant to implement effective environmental measures (Chien et al., 2022; Govindan et al., 2014; Nageswara Rao & Babu, 2001).

Regulatory and Industry Barriers(A6) is a government and regulatory barrier that will impact the organization's desire to incorporate green solutions into company operations (Fogt Jacobsen et al., 2022; Seidel et al., 2008; SK Singh et al., 2020). One of the regulatory and industry barriers is the lack of government policies and regulations (C30) strict government policies and regulations put pressure on organizations to adopt sustainable processes and technologies (Al Asbahi et al., 2020). Lack of government support, especially in terms of infrastructure development (lack of infrastructure) (C31) is an obstacle for companies to implement GHRM (Gardas et al., 2019; Geng & Doberstein, 2008; SK Singh et al., 2020). In addition, the inefficient legal framework (C32) is also an obstacle because the lack of a strict framework causes a lack of laws related to environmentally friendly business processes, impacting the organization's desire to incorporate green solutions into its operational activities (Orji, 2019; SK Singh et al., 2020; Smith et al., 2017). Then the lack of industrial support (C33) causes

minimal support from industry associations related to the implementation of GHRM, such as minimal knowledge sharing activities (Khan et al., 2020).

Customer Barrier(A7) is the low customer awareness regarding the importance of implementing environmentally oriented business practices will impact the company's possibility to implement environmentally oriented business practices including green HRM practices. This affects the organization's decision in determining the transition from traditional HR to green HR. Because customers are one of the main stakeholders that facilitate organizations to achieve sustainability goals (Gupta, 2018; Jabbour & De Sousa Jabbour, 2016; SK Singh et al., 2020). Consumer distrust regarding the benefits of environmentally friendly business processes "(lack of trust on green benefits) (C34). Consumers have little confidence in the environmental benefits of implementing green concepts (Al Asbahi et al., 2020; Govindan et al., 2014). Thus causing a lack of customer demand (lack of customer demand) (C35). Lack of customer response to new products will indicate organizations that have less tendency to innovate (Abdullah et al., 2016; Da Silva et al., 2018). Another obstacle is the pressure from customers to provide lower prices (pressure for lower prices) (C36). Lower prices are one of the obstacles in implementing environmentally friendly business processes because often

products with lower prices tend to be less environmentally friendly (Dhull & Narwal, 2016).

Table 2. Proposed Attributes of GHRM Challenges

Aspect	Criteria	
A1 Management Barrier	C1	<i>Lack of support from top management</i>
	C2	<i>Absence of a comprehensive plan to implement GHRM</i>
	C3	<i>Lack of corporation and commitment from HR</i>
	C4	<i>Inadequate proactive plans</i>
	C5	<i>Lack of reward systems</i>
A2 Human Resources Barrier	C6	<i>Lack of focus towards the environmental/green training and obligations/awareness</i>
	C7	<i>Lack of green teams and their cross-functional integration</i>
	C8	<i>Lack of policies and practices for recruitment and selection, performance, appraisal</i>
	C9	<i>Employee's capacity to change</i>
	C10	<i>Lack of employee welfare package</i>

<i>A3 Organizational Barrier</i>	C11	<i>The Lack of understanding of green policies</i>
	C12	<i>Lack of environmental management (EM) knowledge</i>
	C13	<i>Insufficient environmental competencies</i>
	C14	<i>Lack of green culture</i>
	C15	<i>Complexity of design and implementation of GHRM</i>
	C16	<i>Lack of Inter-departmental co-operation in communication</i>
<i>A4 Financial Barrier</i>	C17	<i>Lack of financial resources</i>
	C18	<i>Economic instability</i>
	C19	<i>Cost of switching to new system</i>
	C20	<i>Lack of funds for training</i>
	C21	<i>Low level of profit and market demand level</i>
	C22	<i>High cost of obtaining environmental certifications</i>
	C23	<i>Return on investment uncertainty</i>
<i>A5 Technical &</i>	C24	<i>Inefficient technology</i>
	C25	<i>Complexity and difficulty of adoption of green technology</i>

<i>Infrastructural Barriers</i>	C26	<i>Lack of technical and technological capacity</i>
	C27	<i>Current practice lacks flexibility to switch over to new system</i>
	C28	<i>Difficulty in transforming positive environmental attitudes into action</i>
	C29	<i>Lack of expertise in environmental management</i>
<i>A6 Regulatory and Industry Barriers</i>	C30	<i>Lack of government policies and regulations</i>
	C31	<i>Lack of infrastructure</i>
	C32	<i>Inefficient legal framework</i>
	C33	<i>Lack of industrial support</i>
<i>A7 Customer Barrier</i>	C34	<i>Lack of trust on green benefits</i>
	C35	<i>Lack of Customer Demand</i>
	C36	<i>Pressure for lower prices</i>

Furthermore, this study identified that out of 7 aspects, there are 5 aspects that have met the requirements. The aspect value is said to meet the requirements if it is more than the threshold. Among the aspects that meet the Threshold are Management Barrier (A1), Human Resources Barrier (A2), Organizational Barrier (A3), Regulatory & Infrastructural Barrier (A6), and Customer Barrier (A7). While in the criteria

factor, it is known that out of the 36 criteria above, there are 14 criteria that meet the requirements. The criteria are said to meet the requirements if they have a value more than the threshold. The criteria that meet the requirements are Lack of support from top management (C1), Absence of a comprehensive plan to implement GHRM (C2), Inadequate proactive plans (C4), Lack of focus towards the environmental/green training and obligations/awareness (C6), Lack of policies and practices for recruitment and selection, performance, appraisal (C8), Employee's capacity to change (C9), Lack of environmental management (EM) knowledge (C12), Insufficient environmental competencies (C13), Lack of green culture (C14), Lack of government policies and regulations (C30), Lack of industrial support (C33), Lack of trust in green benefits (C34), Lack of Customer Demand (C35), Pressure for lower prices (C36). Then, these aspects and criteria will be used as questions in the second stage to be processed again using the Fuzzy DEMATEL method to find clauses from aspects and criteria that inhibit GHRM. Where this study shows that there are four aspects that have a causal influence on other aspects, namely Management Barrier, Human Resources Barrier, Organizational Barrier, Regulatory & Infrastructural Barrier.

1. Management Barrier

This aspect has a strategic role in planning the management of all resources, including finance, human resources, and infrastructure, to align with the company's vision and mission. The right approach in managing management barriers is expected to support environmentally oriented human resource management practices (Rehman et al., 2021). Management Barriers are closely related to the process of coordinating the company's internal resources. This barrier is identified as one of the Critical Success Factors (CSFs) that influence the success of GHRM implementation in various sectors (Li et al., 2019). In all industrial sectors, the managerial system has a unique strategic value, because its characteristics cannot be imitated as a whole by other companies and cannot be replaced by a different system (Iswan & Kihara, 2022).

This uniqueness makes strategic decision-making in each company different, which ultimately determines the company's competitiveness. However, the company's failure to recognize and utilize its resources can hinder the effectiveness of the managerial system. Therefore, a deep understanding of the company's resources is essential for leaders to manage and develop the managerial system effectively. This lack of understanding can increase the risk of managerial failure and negatively impact the success of

GHRM implementation. Meanwhile, the current managerial system requires integration with environmental and sustainability issues to increase its effectiveness (Rajput et al., 2013; Rajput et al., 2012; Suresh & Bhavna, 2015). A system that is integrated with the principle of sustainability is able to produce strategic policies, including in investment decision-making and business implementation that focuses on financing environmentally friendly products (Mathivathanan et al., 2018; Muduli et al., 2020). Managerial support in designing business development strategies that are oriented towards environmental sustainability is a key element (Nath et al., 2014). By focusing on optimal resource development, companies can achieve competitive advantage and create high-value resources.

2. Human Resources Barrier

The second aspect that deserves the attention of all industrial sectors in implementing GHRM is the Human Resources Barrier. Human Resources is one of the valuable resources, because each company has unique characteristics in its resources, which not only form the company's identity but also become the main asset in formulating strategic steps to compete with other companies (Pereira & Bamel, 2021). Human resources are very important because they are related to the creation of habits and culture in the

organizational environment (Vahdati & Vahdati, 2018). By forming an organizational culture that focuses on the implementation of GHRM is an important thing that needs to be done. When the company is unable to create this culture, the company's competitive advantage will be difficult to achieve (Haldorai et al., 2022). Like small habits carried out by employees can form a culture in the work environment, if it is good, it will support the realization of the company's goals in implementing GHRM.

On the other hand, if the habits of employees in it are spending time in the office with the computer on, excessive use of paper and so on will form an inefficient work culture and ultimately make the bank one of the sectors that contribute to emissions and carbon (Cheema et al., 2015). These things are the reasons why human resources are also said to be critical factors in the success of GHRM. The process of selecting workers and communication between employees, management plays an important role in gaining employee support for sustainable development initiatives. Lack of knowledge possessed by employees related to the vision and mission of the organization can lead to a lack of employee knowledge (Hasan et al., 2021).

3. Organizational Barrier

Furthermore, the third aspect, namely Organizational Barriers, is related to the information system which is the result of a company's routine in coordinating between one employee and another so that it becomes one of the critical factors that determines the success of an organization in achieving its goals (Iswan & Kihara, 2022). This coordination is related to the relationship between employees, work units, and fields that work together by carrying out their respective functions. For this reason, organizational barriers refer to the flow of information between employees that can result in the commercial failure of an organization (Fayyazi et al., 2015). This failure is often caused by communication between departments, employees, and inadequate knowledge to become an environmentally friendly organization. Barriers to coordination between departments and lack of communication will affect the performance of the organization in utilizing internal resources effectively and influence the culture in the work environment that does not support change (Iswan & Kihara, 2022). Previous research states that the level of knowledge possessed by employees in the industry is an important factor in managing environmental sustainability (Hasan et al., 2021). Employees who are not adequately trained on environmental issues make organizations rethink implementing GHRM practices

(Mangla et al., 2015; Orji, 2019). In addition, studies state that managing organizational culture towards an environmental focus is one of the critical factors in achieving successful implementation of sustainability (Mathivathanan et al., 2018; Tweneboa Kodua et al., 2022). Therefore, organizational culture regulates the most appropriate ways and processes for an organization to be able to thrive in implementing sustainability practices by adjusting to the circumstances of the organization.

4. Regulatory and Industry Barriers

The next aspect that needs to be considered by all industrial sectors is the Regulatory and Industry Barrier. This indicates that in accordance with stakeholder theory, regulators and industry associations are important stakeholders owned by companies (Freeman et al., 2010). Regulations made by the government and associations are a form of legitimate regulation for organizations and individuals to change towards a system that is more environmentally friendly by adopting green solutions into the company's business processes (Djalilov & Piesse, 2019). This regulation has an impact on the company's discipline in complying with regulations related to environmental sustainability.

Previous studies have found that the lack of government involvement in formulating environmentally friendly regulatory framework policies and guidelines is a major obstacle to adopting and implementing sustainable practices (Park & Kim, 2020). In Indonesia, regulations regarding environmental sustainability are stated in Law No. 32 of 2009 concerning environmental protection and management, requiring economic activities to comply with environmental sustainability. However, in practice, there are still many companies that provide funding to factories with waste that damages the environment (Yuniarti, 2013). The lack of strict punishment mechanisms applied in Indonesia makes the industry still choose to consider business risks rather than legal risks. This is in line with previous research conducted by Bombiak (2020) which also concluded that the lack of government regulations and laws is an external obstacle to the implementation of GHRM. Therefore, regulations that support and provide incentives for sustainable practices can encourage industry to be active in implementing environmental sustainability practices.

This study also found several criteria that are inhibiting factors for organizations in transforming towards GHRM. Some of these criteria include: lack of green culture (C9), lack of trust in green benefits (C12), employee's capacity to change (C6), lack of support from top management (C1), and absence

of a comprehensive plan to implement GHRM (C2). These five criteria are obstacles for banking companies to adopt GHRM.

Lack of support from top management (C1)

Attention and efforts made to overcome these obstacles cannot run without the support of top management. When there is no support from top management, it will be a significant obstacle in the implementation of GHRM in the banking industry. Companies cannot change green behavior and the resources needed to the maximum without strong support and commitment from top management. The absence of support from top management can be seen in the policies taken by banks related to operations and business. Policy making related to operations can be seen from habits carried out in the work environment, such as excessive use of paper, waste in the use of electricity and so on. So in a company, it is important for top management to understand and examine the importance of GHRM in achieving company goals. Top management must have a firm commitment to support the banking industry in implementing GHRM. Where top management needs to formulate the right vision and affirm its commitment to include GHRM principles in the company's business strategy. In addition, what top management can do to overcome problems that occur in the implementation of GHRM is to provide a sufficient budget and create clear rules.

These rules can specifically regulate employee working hours, budget restrictions for office stationery, renovation of more environmentally friendly buildings, digitization of processes, and rules related to prohibitions on financing for businesses that contribute large emissions and produce damaging waste. Rules like these can only be made by top management and communicated through socialization, technical guidance, and periodic evaluations.

Absence of a comprehensive plan to implement GHRM (C2)

The success of top management in implementing GHRM requires a comprehensive and structured plan. Without a clear plan such as objectives, strategies, and detailed implementation steps, companies can have difficulty implementing GHRM effectively. There are several steps that companies can take in making a plan. Companies need to plan by identifying outcomes, organizational readiness, and collecting the data needed. Then it is necessary to conduct environmental scanning, create a business model framework, and most importantly prepare a leader figure who can motivate and encourage employees to be able to change.

Employee's capacity to change(C6)

Companies need to pay attention to employees' ability to adapt and change their behavior. This is because the lack of employees' ability to adapt is an obstacle that can hinder

companies in implementing GHRM. Employees' difficulty in changing is caused by habits in the banking environment, lack of interest and low complexity due to lack of knowledge, uncertainty, distrust of information sources and resistance to change. Companies need to take preventive steps that can be taken by providing socialization, training, and then evaluation. Then legitimate actions can be taken by making rules regarding policies taken by banks in supporting environmental sustainability which are manifested in SOPs in branch and unit environments. Furthermore, technical guidance can be carried out in stages and evaluations can be carried out. So that there is no other choice for employees to change. More attention can be given to more senior or older employees as part of an inclusiveness effort so that no one feels marginalized by the new system.

Lack of green culture (C9)

Organizational culture that does not support sustainable practices can be a barrier to implementing GHRM. Without a culture that values sustainable practices that focus on environmental aspects, there can be resistance and difficulty in changing existing behaviors and habits. These habits are related to daily behavior that is carried out continuously so that it forms a pattern. Changing a culture is not easy and takes time, but it does not mean that culture

cannot be changed. Strong support from the company can be started by creating practical policies such as standard operating procedures that regulate the reduction of paper use, rules for maximizing working hours and avoiding overtime to save energy, prohibitions on providing drinks and food in plastic containers in banking environments, and so on. These small rules may be resisted at first. But over time, they will form new habits. Employees who do not obey the rules can be given sanctions from the lightest to the most severe, depending on the rules violated. Conversely, those who obey the rules can get additional credit points or incentives as a reward. The reward and punishment system has proven to be effective as a means of coercion. Changing habits must also be done periodically and slowly to minimize resistance in employees that causes business and operational obstacles in the company.

Lack of trust on green benefits (C12)

In addition to internal barriers, the lack of consumer trust in the benefits resulting from the implementation of GHRM is also an obstacle that companies need to pay attention to. If this is not considered by the organization, it can lead to a lack of customer demand. For this reason, the banking industry needs to pay special attention to its consumers in providing a clear understanding of the industry's goals in implementing GHRM practices. Banks need

to transparently provide easy information about the company's efforts in carrying out environmentally friendly business practices. This includes providing access to sustainability reports, environmental policies, and performance indicators related to environmental aspects. In addition, it can provide education about the environmental benefits generated from their services. This can be done through several methods such as marketing and educational materials. With the education provided, it will increase consumer understanding which can have a positive effect on their choices and will increase the opportunity to support the banking industry in implementing GHRM. However, companies must consistently demonstrate their commitment to implementing sustainable business practices. This includes evaluating their consumers and being involved in various environmental initiatives. When companies can be consistent in their commitment, they will provide consumer trust in the benefits generated from the implementation of GHRM

Conclusion

The implementation of Green Human Resource Management (GHRM) in industry provides significant practical benefits for companies in achieving sustainability goals.

There are several key driving factors in the implementation of GHRM, namely clear internal policies, employee involvement, community trust, and top management support. Structured internal policies, such as paper reduction and energy efficiency, are the first step in building an environmentally friendly organizational culture. In addition, a reward and punishment system can be used as an enforcement mechanism to ensure compliance with sustainability policies. Employee involvement also plays an important role in the implementation of GHRM, which can be facilitated through ongoing training and education programs to increase their awareness and competence in implementing environmentally friendly practices. Another factor that supports the implementation of GHRM is community trust in the organization's commitment to protecting the environment. This can be achieved through company transparency in communicating their environmental efforts and active involvement in community-based sustainability programs, such as funding renewable energy projects or environmental education. In addition, top management

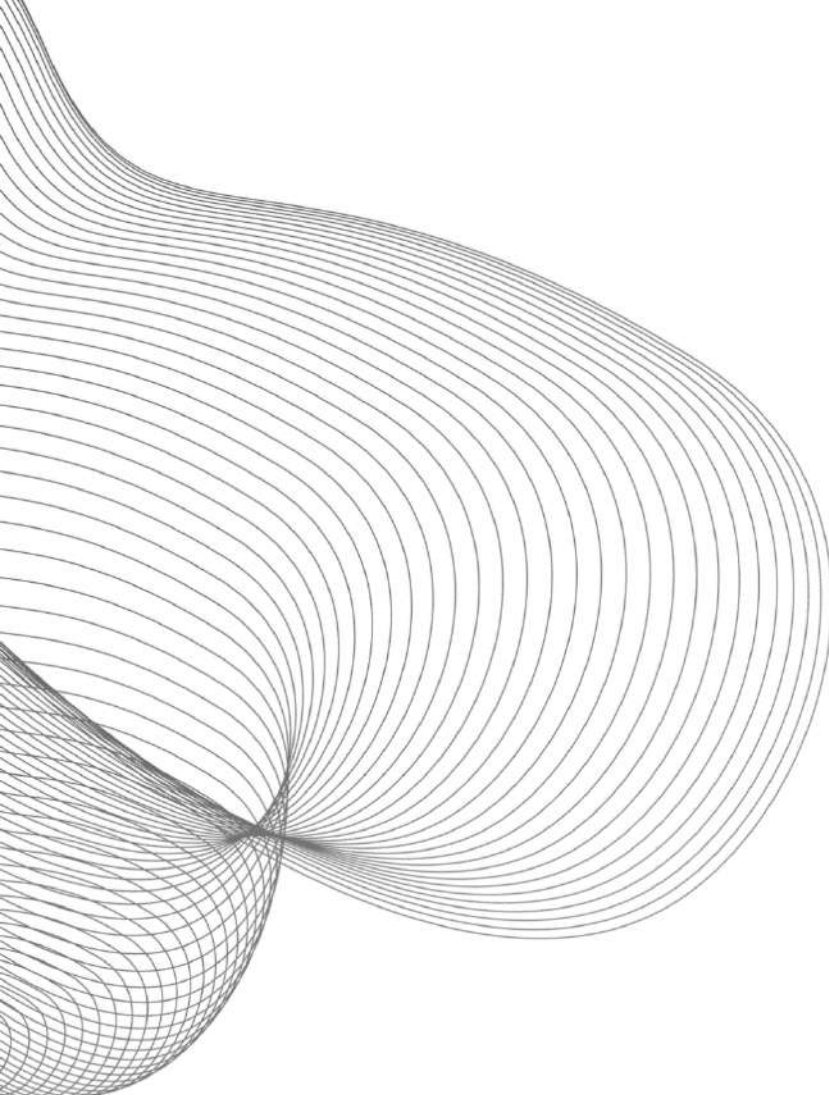
support is the main key to the success of GHRM, given the hierarchical structure in the Indonesian banking industry. Commitment and active involvement from senior leaders can be strengthened through workshops and seminars that highlight the long-term benefits of GHRM to business sustainability and corporate reputation. By ensuring that GHRM objectives are integrated into executive performance metrics, sustainability can become a top priority in strategic decision making. Therefore, the success of GHRM implementation depends on a comprehensive approach combining internal policies, employee involvement, community participation, and strong leadership, so that organizations can effectively achieve sustainable environmental goals.

Meanwhile, there are also challenges that must be faced in implementing Green Human Resource Management (GHRM) in the industrial sector including various internal and external factors that can hinder the transformation towards more sustainable practices. Management Barrier is the main challenge, where the lack of support and active involvement from top management can hinder the implementation of GHRM policies. Meanwhile, the Human Resources Barrier is also a challenge in itself, considering that in building an environmentally friendly organizational culture, it is necessary to introduce practical policies that can

be gradually accepted by employees without causing resistance that has an impact on company operations (Sulistiwan, 2024). In addition, building consumer trust (customer barriers) is an important factor that requires transparency in environmental efforts and active involvement with local stakeholders to improve reputation and customer loyalty. In the Indonesian context, other challenges faced are reliance on informal practices and resistance to formal procedures (Regulatory and Industry Barrier), which require strategies that are tailored to local work values and culture so that GHRM implementation can be well received. Finally, consistent top management support is essential to ensure successful implementation, where banks need to secure long-term commitment through an approach that emphasizes the financial and reputational benefits of GHRM implementation.

In addition, this study also provides theoretical contributions. valuable in understanding the implementation of Green Human Resource Management (GHRM) by integrating the perspectives of Resource-Based View (RBV) and Stakeholder Theory. Theoretically, this study confirms that top management commitment is a major factor in the implementation of GHRM, which plays a role in disseminating sustainability strategies throughout the organization (Herachwati et al., 2023). This finding

strengthens previous literature stating that senior management involvement has a significant influence on the success of environmental strategy implementation in organizations. In addition, this study highlights the important role of industry associations as secondary stakeholders that can put pressure on companies to comply with environmental standards, thereby broadening the understanding of external dynamics that influence GHRM implementation. This study also enriches the literature by confirming that green human capital, which includes employees' environmental competence and awareness, is a strategic asset that contributes to the development and success of GHRM implementation. Thus, this study provides a conceptual foundation that can be used by academics and practitioners in designing sustainability-oriented human resource strategies.



Part 3

**TRANSFORMATIONAL AND SPIRITUAL MARKETING IN
FORMING A SUSTAINABILITY-MINDED MILLENNIAL
GENERATION**

Various bad environmental conditions are increasing in line with the unconsciousness of consumption behavior that cares about the surrounding environment or what is called sustainable consumption behavior. Especially the unconsciousness of the consumption behavior of the younger generation, the heirs of future life. For that reason, it is important to understand how to move the millennial, z, alpha and beta generations to have more sustainable consumer behavior.

Indonesia is especially said to have an advantage in terms of growth of the productive age generation, or in other words, it is stated to have a demographic bonus. In 2023, the population of Indonesia is estimated to reach 278.7 million people, increasing from 270.2 million people in 2020 (Datain, 2023). BPS projections show that in 2050, the proportion of the productive age population (15-64 years) will dominate up to 64% of the total population (ganto.co, 2024). This data shows that management of the productive generation is very necessary, considering that they are the ones who must inherit the earth, and must carry out environmental management. Raising the spirit of the millennial generation to have more environmental awareness and knowledge is important. For this reason, an understanding of how to raise this spirit is needed.

And some of my research in the last 4 years has led to this. The use of the TPB (Theory of Planned Behavior) development model we use in various research to understand whether environmentally conscious behavior is more due to individual personal factors or because of the influence of the environment? This question is important considering the impact of the strategy that can be distinguished. If personal factors are more dominant, efforts to increase awareness and knowledge become a must. However, if environmental factors are more dominant, then the influence of influencers must be increased.

Generation Z is known to be highly influenced by their surroundings, they need validation from their surroundings especially social media environment. The use of TPB theory can be developed to understand and influence the behavior of the millennial generation. For more details, I will explain this in today's inaugural speech.

Sustainability Requires Support from All Stakeholders

SDGs are developed from MDGs which are not only a government program of a country, but are a shared responsibility. For this reason, SDGs have the values of Inclusive, participatory and no one left behind (sdgs.bappenas.go.id, 2024). Inclusive in the sense of SDGs is

involving all stakeholders consisting of elements of the Government, Community Organizations (Ormas) and the media, Philanthropy and Business Actors, as well as Academics and Experts from the planning, implementation, monitoring, and evaluation stages. Participatory in SDGs means that all stakeholders actively participate in the planning, implementation, monitoring, and evaluation process of achieving SDGs goals. As for no one left behind in SDGs, it means that the implementation of activities involves all stakeholders and provides benefits to all, especially the vulnerable. And one important aspect as an implementer at the individual level is the millennial generation who are in the birth range of 1981-1996 (currently aged 28-43 years).

Millennial Generation as One of the Key Factors for SDG Success

This millennial generation is the second largest population group in productive age (15-64 years) after generation z (www.tempo.co). The awareness and behavior of this millennial generation will inherit the earth that we currently live on, and they will also be the driving force behind the implementation of the next SDGs. Indonesia must be able to utilize the demographic bonus it has to gain sustainable benefits. the position of youth is expected not only as a

target/beneficiary, but can be optimized as a subject/actor of development (tanotofoundation.org, 2020). Stated by UNDP (2022), "Youth play a significant role in achieving the Sustainable Development Goal (SDGs) as a stakeholder of all social phenomena and situations and as a group of people having the capacity to learn, and enabling environmental factors to develop themselves and society."

One real example of the role of the millennial generation as a central role in protecting the environment is carried out by the Pandawara Group, a group of young people from Bandung consisting of only 5 people. However, in various actions, they were able to mobilize hundreds of residents to clean up trash from rivers and beaches.

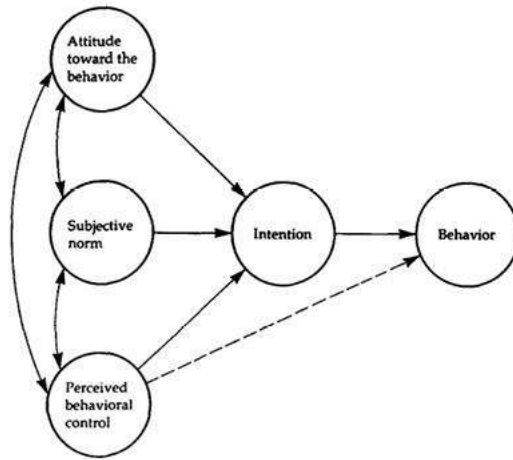
As a driving individual, we also know the millennial generation of FEB UNAIR Management S1 alumni, Vania Santoso, who successfully entered the ranks of Forbes magazine's "30 under 30" 2021, as a pioneer who succeeded in inspiring by successfully transforming cement paper waste into an iconic fashion product called heySTARTIC. Until in 2011, heySTARTIC was selected to represent Indonesia to win the Ecopreneurship Make A Difference Award from Hong Kong. Since then, heySTARTIC has become a social enterprise that has a name and has been labeled a pioneer of eco fashion in Indonesia. Now Vania has exported her products to several

countries such as the Netherlands, Australia, and others and collaborated with a number of well-known brands.

Thus, trying to understand the driving variables of the millennial generation in adopting environmentally responsible behavior is important. The challenge is that for the current generation, a different approach is needed from the past, considering that environmental changes have occurred. As quoted by Albert Einstein, "we cannot solve new problems with old approaches." This quote is in line with what was conveyed by Ali bin Abi Thalib ra. who stated "Teach your children according to their time, because they live in their time, not in your time. Indeed, they were created for their time, while you were created for your time." This quote reminds us that the right way is needed to drive the behavior of the millennial generation to be adjusted to the current digital and social media era.

TPB and Extended TPB for Sustainability Research

In the TPB model, consumer intention to behave is influenced by attitudes, subjective norms and perceived behavioral control with mediation from behavioral intention.



Source: Ajzen (1991)

Figure 3.1. Model Theory of Planned Behavior

Explained by Ajzen (1991), Attitude in the TPB model is a factor inherent in a person, namely a comprehensive assessment related to how good or bad a certain behavior is. Subjective norms are social aspects around consumers that provide social pressure to behave or not behave in a certain way. This social aspect provides a positive influence, meaning that the higher the social pressure to behave in a certain way, the intention to behave will also increase. While the factors that can make an intention run into behavior are the existence of opportunities, abilities and supporting resources, this is what Ajzen added by adding the concept of Perceived Behavior Control to the Theory of Reasoned Action (TRA) model developed with Fisbein.

In his discussion, Ajzen (1991) also stated that to explain behavior, it is not enough to only make behavioral

antecedents only on attitudes, subjective norms, and perceptions of behavioral control. Although TPB can be the main framework to explain the complexity of human behavior by accommodating social and behavioral sciences. This is what can make various studies develop TPB with various other variables, becoming what is called 'the Extended Theory of Planned Behavior.' Several other variables stated by Ajzen (1991) can be added including knowledge/information, beliefs, Perceived moral obligation, feelings and previous behavior.

Research Journey of TPB Use and Development in Sustainable SCB

Discussions on the consumption of environmentally friendly products will lead to the concept of Sustainable Consumption or Sustainable Consumer Behavior (SCB) which is defined as "the consumption of products and services that are not only to meet needs but also consider a better quality of life by minimizing the use of hazardous materials and wasted emissions and pollutants so as not to endanger future generations." (Oslo Symposium, 1994).

SCB according to Daniel, et al. (2024) and Chen, et al. (2022) has 4 dimensions, including;

- a. *Voluntary Simplicity*, is a minimalist lifestyle, full of awareness of ecological considerations and ethical consumption.
- b. *Ethically Minded Consumer Behavior*, is consumer behavior that avoids things that are considered bad and not in accordance with norms
- c. *Direct Environmental Behavior*, is a behavior that cares about the environment, such as saving electricity, water, sorting waste, etc.
- d. *Support in Green Products*, is a concrete effort to always buy environmentally friendly products.

My research related to SCB has started since 2020 to 2024, and has been published in a reputable journal, the results of which can be seen in the tabulation in Table 1.1. The research was conducted for various contexts such as the intention to purchase environmentally friendly products, the intention to throw away waste at tourist destinations, the intention to throw away clothing waste. The research was also conducted in different respondent contexts, both consumers and MSME companies.

Table 3.1. Publication Articles on Sustainable Consumption

No	Article	Year	Journal	Results
1	<i>Green marketing tools, religiosity, environmental attitude and green purchase behavior among millennials generation</i>	2020	Management and Economics Journal (Sinta 3)	Green marketing tools have more influence than religiosity on green purchasing behavior
2	<i>Understanding Younger Tourist Intention toward Environmentally Responsible Behavior</i>	2021	Journal of Tourism and Geosites (Q1)	Using extended TPB for adolescent respondents, namely adding the Destination Green Image variable. Attitude has a dominant influence, subjective norm has an impact, PBC has no impact.
3	<i>Extended Theory of Planned Behavior to Explain Environmentally Responsible Behavior in the Context of Nature based Tourism</i>	2021	Journal of Tourism and Geosites (Q1)	Using extended TPB for adolescent respondents, namely adding positive affect and biospheric value variables, for littering behavior. Subjective norms have no impact on responsible behavior.

4	<i>Sustainable Clothing Disposal Behavior, Factors Influencing Consumer Intention Toward Clothing Donation</i>	2021	Fibers and Textiles (Q3)	Testing the influence of attitude on the intention to donate sustainable clothing, also the variables of environmental concern, religiosity and emotional value on attitude. Religiosity has no impact on attitude.
5	<i>Environmentally responsible behavior and Knowledge-Belief-Norm in the tourism context: The moderating role of types of destinations</i>	2022	International Journal of Geoheritage and Parks (Q1)	Personal Norms are supported to influence Environmental Responsible Behavior Intention. Biospheric Value does not influence the new environmental paradigm.
6	<i>Explaining littering prevention among park visitors using the Theory of Planned Behavior and Norm Activation Model</i>	2023	International Journal of Geoheritage and Parks (Q1)	using Extended TPB, with additional variables of personal norms, responsibility assessment. Subjective norms have no impact on green behavior.

7	<i>Extended Theory of Planned Behavior and Environmentally Responsible Behavior in the Context of Beach Tourism</i>	2023	MAJCAFE (Q4)	Using extended TPB for adolescent respondents, namely adding positive affect and biospheric value variables, for littering behavior. Subjective norms have no impact on responsible behavior.
8	<i>Building a Greener Future: Can Malaysia's Property Development Sector Achieve Sustainable Development Goals?</i>	2024	International Journal of Research and Innovation in Social Science (International Journal)	The unit of analysis is the company, that the awareness to build green buildings arises from the company itself
9	<i>International Tourist's Perspective of Environmentally Responsible Behavior</i>	2024	Journal of Tourism and Services (Q3)	Biospheric value has no effect on Environmental concern. Personal Norm and Environmental Concern have an indirect impact on environmentally responsible behavior.
10	<i>An Investigation for Business Performance on Indonesia's Small and Medium Medical Companies Sustainability</i>	2024	Revista de Cercetare Si Interventie Sociala (Q3)	Spirituality significantly positively moderates the relationship between creativity, improvisation,

				<p>business performance and innovation capability. Creativity affects business performance, improvisation and innovation. Improvisation capability predominantly affects innovation capability and business performance. Likewise, innovation in MSMEs can affect business performance.</p>
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Source: Author's Research Collection

The results of various researches that have been conducted since 2020, several implementations of the development of TPB (extended TPB) as suggested by Ajzen (1991) have been carried out. In general, SCB shows that TPB is able to explain this behavior. Specifically, the results of each research can be discussed.

- a. **Understanding Younger Tourist's Intention toward Environmentally Responsible Behavior.** 2021. Fenitra RM, T Handriana, I Premananto, GC & Usman, Indrianawati. *GeoJournal of Tourism and Geosites.* (Q1)

The model in the research is to add the contextual variable “Destination Green Image” in the TPB model.

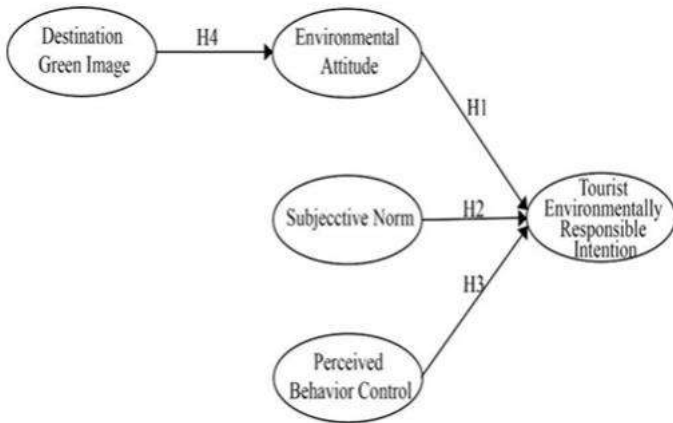


Figure 3.2. Conceptual Framework for TPB Development

Testing in the development of the TPB model for responsible tourist behavior obtained results that supported the model used for SCB. Behavioral intentions were able to be explained by the model by 67%. However, perceptions of behavioral control did not affect the intention to behave responsibly in tourist attractions. This is possible considering that throwing away garbage does not require high resources.

- b. **Extended theory of planned behavior to explain environmentally responsible behavior in the context of nature-based tourism.**2021. RM Fenitra, H Tanti, CP Gancar, U Indrianawati. *Geo Journal of Tourism and Geosites*, (Q1)

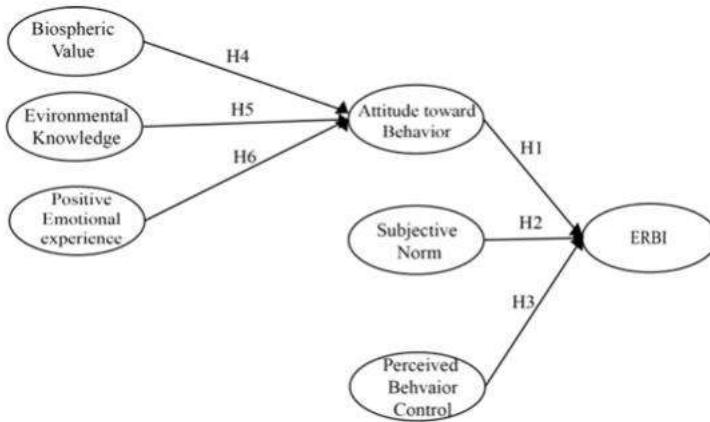


Figure 3.3 Conceptual Framework of ERBI Research

TPB was developed by adding variables of knowledge, belief principles and feelings, as suggested by Ajzen (1991). And all hypotheses were supported, indicating that the TPB development model is valid in explaining SCB, considering that responsible behavior can be explained by the model 57%.

- c. **Extended Theory of Planned Behavior and Environmentally Responsible Behavior in the Context of Beach Tourism.** 2023. Candra Premananto, Gancar, Rakotoarisoa Maminirina

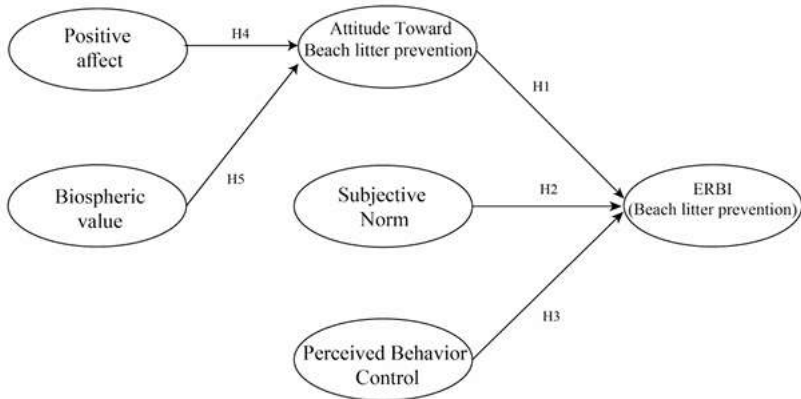


Figure 3.4. ERBI conceptual framework

TPB was developed by adding determinant variables of attitude, namely feelings and biospheric values. From the results of statistical analysis, it was found that subjective norms did not affect ERBI. This is possible because the behavior of littering in tourist attractions is often done outside the observation of others. In general, the developed TPB model is able to explain 56% of SCB behavior.

- d. **Explaining littering prevention among park visitors using the Theory of Planned Behavior and Norm Activation Model.** 2023. RMFenitra, N Laila, GC

Premananto, A Abbas, RMH Sedera. International Journal of Geoh heritage and Parks (Q1).

This research uses the TPB model which was developed by adding the variables of personal norms and responsible spirit (*ascription of responsibility*). *Where Personal norms are variables that influence attitudes and subjective norms. All hypotheses are supported, except for the influence of subjective norms.* It is possible that the activity of throwing away garbage at tourist destinations is often an activity that is not visible to other people.

Several other study results that have been conducted, although not entirely using the TPB model and only using part of the TPB model, also support the need for other variables in explaining SCB, namely:

1. Religiousness,
2. Green Marketing Tools
3. Biospheric Value
4. Environmental Knowledge.
5. Environmental Concern
6. Emotional Value

Based on the results of various previous researches that appear in table 1.1. there are 2 important groups that become additional variables for the TPB model, namely:

1. *Individual Differences*, which is related to Ecological Intelligence, namely the variables of attitude, knowledge, values and awareness of the environment. Individual differences that should also not be forgotten are religiosity.
2. *Green Marketing Tools*. Marketing Activities of product marketers,

Further research needs to be developed by accommodating the original and additional TPB variable determinants, which one is more dominant in influencing the intention to consume sustainable products, especially for the millennial generation. Given that each determinant has different strategic implications.

When the internal aspect of the individual is more dominant, then strengthening education and socialization regarding the important values of sustainable product consumption, especially related to spiritual marketing. When the social pressure factor is dominant, then the use of influencers on social media becomes a solution that can be raised. As for when Marketing tools are dominant, then Transformational Marketing can be an option.

Some of my research results for the millennial generation in Table 1.1. found that the Marketing tools variable is more dominant in the developed TPB model, compared to individual difference factors. These results point to the important value of marketing and socialization activities regarding SCB. Likewise, the influence of the social environment, for millennial tourists, turns out to have a dominant influence, which leads to the important value of the emergence of the role of influencers on social media.

Transformative Marketing and Spiritual Marketing for SCB

Transformative Marketing is needed in the digital era. From V. Kumar (2018) it is stated that Transformative Marketing is a concept in marketing practice that continues to be dynamic in its course of time by quickly adapting to changes in the environment and consumer demand. Added by Lim (2023), transformative marketing is increasingly needed in this era, because changes that occur in the environment are increasingly developing rapidly, and unexpectedly. Changes in the environment and consumers are currently leading to the development of the use of digitalization and AI. And that is also stated in Transformative Marketing, conveyed by Kumar (2018) the increase in the use of smartphones and social media, creating an increase in opportunities for

marketers to build more engagement with consumers, especially the millennial generation and beyond. Companies must be agile in transforming themselves, so that they are ready to face the changes that occur.

Understanding changes from generation to generation requires adjustments to marketing activities. And looking at the characteristics of the millennial generation, some of which must be understood in order to touch on effective points in conveying messages. Conveyed by Au-Yong-Oliveira et al. (2018) and Kurz et al. (2019). That the millennial generation has several characteristics as follows:

1. Have more trust in user generated content (UGC) than 1-way media from companies,
2. Starting to abandon television and move to smartphones,
3. Have and be active on social media,
4. Dislikes conventional reading models,
5. Tends to be disloyal but able to work effectively
6. Tend to shop cashless
7. More technologically savvy than previous generations
8. Using technology and information
9. Tends to be lazy and consumerist.

Added by Kurz et al. (2019) that the characteristics of the millennial generation are not much different from generation X and after, but have differences with the previous generation or baby boomers. Which makes the strategy for the millennial generation and after have no significant differences.

Adapting to changes and technology in delivering marketing messages is a must in transformative marketing. Furthermore, in delivering this sustainability message, the importance of using the right endorsers and influencers cannot be forgotten. Considering that one of the determinants of TPB, namely subjective norms, is an important form of social pressure. The era of social media experienced by the millennial generation and beyond is an era of the need for validation from their social media environment. As conveyed by Knight (2016), "teens are especially vulnerable to developing an unhealthy reliance on these platforms." This requires marketers to understand associative groups (groups where teenagers are part of) and aspirational groups (groups where teenagers want to be part of), especially to determine endorsers and influencers.

What cannot be forgotten from the results of the research that has been conducted is the important role of attitude formation in the developed TPB (extended TPB) that one of the drivers of CSB is by building sustainable

environmental knowledge and giving a nuance of religiosity to the message conveyed by marketers. This provides implications for the important value of formal academic and religious education in playing a role in encouraging SCB. The development of the era related to SDG must be part of the curriculum taught to students. And Alhamdulillah, this has been done in the curriculum at the Department of Management FEB UNAIR. Accommodated in the Business Ethics Course in S1 Management as well as the Seminar Course and Business Ethics and CSV Course in the Master of Management. Even the TOP CSV Awards and HaKI certificates have been obtained by Master of Management students in recent years, which shows that the SDG education process has headed in a good direction. Even in collaboration with the Asian Association for Consumer Interest and Marketing team, a Green Consumer and Marketing book chapter has been created to disseminate the SCB message to marketers and consumers.

Thus, discussions related to Spiritual Marketing become important things to be put forward. Spiritual marketing is a marketing activity model based on spiritual or religious values (Mallik, 2023). Chalik and Dharmmesta (2015) added that spiritual marketing is a marketing concept that has an impact on the success of the world and the next world. The message of religiosity has also been carried out by

the Department of Management FEB UNAIR, by presenting various books and radio broadcasts in collaboration with Suara Muslim FM radio regarding spiritual management and spiritual marketing, which convey various religious teachings in marketing activities by marketers and product consumption by consumers.

But what is also more important in the CSB discussion is the concept of perceived behavioral control which is one of the main variables of TPB. Marketers must be able to design their products within the limits that can be purchased by the millennial generation. Because without the perception that their resources are sufficient to carry out CSB, consumer intentions will not continue to behavior.

Recommendation: Together Conveying the Message from FOMO to YOLO to YONO

This inaugural speech script illustrates that I have done various activities to understand the process of building SCB as something important for the future of the earth's next generation. Through a series of research, publications, socialization, education, song-making to appreciation of the importance of discussing sustainability is important for all of us, because we live on the same planet as our children and grandchildren.

The results of various research that I presented today found that to build SCB behavior, the implementation of the "extended TPB" model is needed, including:

1. Formation of positive attitudes towards the environment with spiritual marketing. Formation of positive attitudes and mentality for these young consumers can be done by providing spiritual marketing to discuss knowledge about the environment and religiosity regarding environmental sustainability. Providing spiritual content that nature protection activities are a form of rahmatan lil 'alamin activities that are rewarding, can provide reinforcement for SCB.
2. Transformative Marketing from marketers and environmental NGOs. Need to better adapt to the evolving conditions of media and consumers.

And to implement it, it requires support from various parties to strengthen its impact on consumers, including the need for academics/influencers/endorsers including trusted preachers, product marketers, NGOs that create consumer service advertisements, and the government in regulating environmentally friendly products.

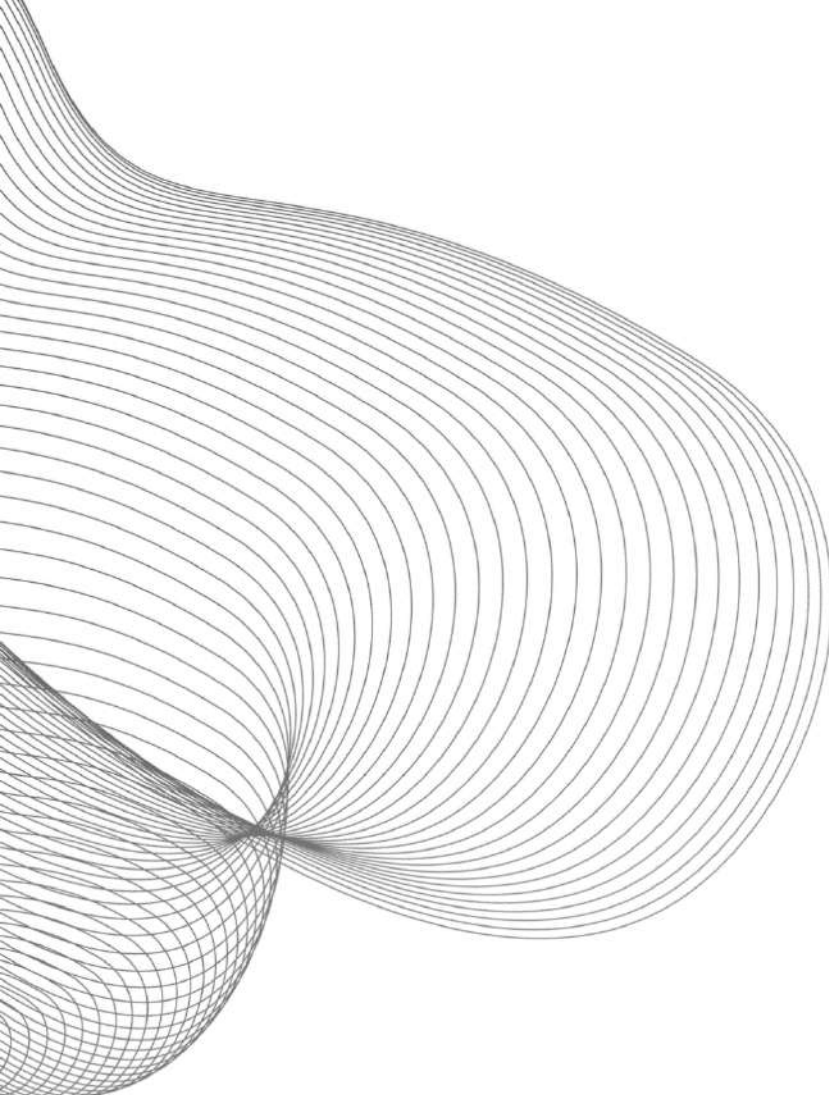
The millennial generation is a generation that is easily influenced by its social environment, especially its social

media environment, which results in FOMO behavior. This behavior can be utilized in a positive direction, namely by forming a social environment that supports the issue of sustainable consumption. Directing the millennial generation to direct their behavior and lifestyle towards YONO (You Only Need One) rather than the behavior of consuming products for the purpose of extravagant consumption and prioritizing famous brands and luxury because the principle of life is that we only live once (You Only Live One/YOLO). Humans with this type of lifestyle have been signaled in the Qur'an "Whoever desires the life of the world and its adornment, We will surely give them (a full reward) for their work in the world (perfectly) and they will not be harmed in the world." (QS Hud: 15). As for YONO, it is a lifestyle that encourages consumption with full consideration. The principle is simplicity, namely buying goods that are really needed, of good quality, and durable (www.detik.com, 2024). In the Qur'an, a generation with a lifestyle like this has also been indicated in the Qur'an, "O you who believe, fear Allah and let every soul consider what it has done for tomorrow (the hereafter); and fear Allah, surely Allah is All-Knower of what you do." (QS Al Hasyr 18). Balancing the message with a spiritual context can strengthen acceptance of the concept of sustainability. For this reason, smart consumers must be able to learn spiritual marketing in their consumption activities.

The relationship between Spirituality and consumer behavior is supported by research by Daniel et al. (2024) and further the need for spirituality in the SDGs is also important as proposed by Luets and Nunn (2023).

The role of spiritual education in coloring the SDGs has also been conveyed by Schliesser (2024) who quoted Nelson Mandela, "My generation is the product of missionary education. Without [it], I would not be here today. I will never have enough words to thank the missionaries for what they did for us." And this makes me remember Ali ra's advice, "Education is the most powerful weapon we can use to change the world.." and in our hands, lecturers, especially lecturers at Airlangga University, we direct the millennial generation students and beyond to be able to change the world for the better.

God willing.



Part 4

**BEHAVIORAL FINANCE: INERTIA PROBLEM AND THE
CHALLENGE OF OVERCONFIDENCE BIAS IN CORPORATE
STRATEGY TRANSFORMATION TOWARDS BUSINESS
SUSTAINABILITY**

Introduction

Strategic decision making in a company is a very important element in determining the direction of growth and sustainability of a company. These strategic decisions cover a variety of crucial things, from resource allocation, market expansion strategies, to innovation and new product development that can affect the company's competitive position. The right strategic decision making can be the difference between a company's success and failure in an increasingly competitive market.

However, decision-making in the context of business transformation is not always done rationally or based on previous experience of decision-making policies and strategies. In many cases, strategic decisions are influenced by emotional factors, unvalidated assumptions, or pressure to act quickly in uncertain situations. This can lead to neglecting in-depth data analysis from previous experiences, thus increasing the risk of errors in decision-making. In addition, internal dynamics such as cognitive biases, including overconfidence bias or the tendency to be too confident in intuition or predictions, can worsen the quality of decisions. When this happens, companies not only risk missing opportunities but also face significant potential losses due to decisions that are immature or not aligned with market realities.

Many psychological factors can influence the decision-making process, which sometimes have a negative impact on the company. One factor that often influences strategic decisions is denial that arises due to hubris (arrogance) from the decision maker. This hubris can cause distortion of perception that leads to decisions that are unrealistic or do not consider reality objectively (Rumelt, 1995). In this context, decision makers may feel overconfident in the company's capacity and advantages, thus ignoring the risks or challenges that exist.

In addition to hubris, another factor that also plays a role in decision-making distortion is overconfidence, a cognitive bias in which individuals feel more confident in their abilities or judgments than they actually are (Singh, 2024). Overconfidence can lead to overly optimistic decisions, ignoring data or information that can provide a more realistic picture of the situation the company is facing. These two factors, namely denial and overconfidence, can have a major impact on the final outcome of strategic decision-making, because they can encourage decision-makers to ignore or underestimate existing risks, which can ultimately harm the company in the long run.

Therefore, it is important for companies to be aware of the influence of these psychological factors and to apply a more rational and data-based approach to strategic decision-

making. Applying objective analysis and understanding existing psychological biases can help companies make more informed and effective decisions in achieving their long-term goals.

Overconfidence

Overconfidence bias is a form of cognitive bias that has a significant impact on decision-making, including at the corporate level (Malmendier and Tate, 2008). This bias occurs when individuals systematically overestimate their ability to make the right decision or to predict the outcome of a situation (Singh, 2024; Bayrak, 2017; Sari, 2023). This phenomenon applies not only to personal decision-making, but also in the context of strategic decision-making in companies.

In the corporate world, overconfidence bias can arise when executives or managers of a company are overly confident in their ability to manage risk or make profitable decisions, despite the fact that there are uncertainties or unpredictable factors in the business environment. This often causes decision makers to underestimate the potential for losses or failures, because they believe that the decisions they make will always have positive outcomes.

In the context of corporate strategy, overconfidence bias can have a significant impact, both in the short and long term. In the short term, decisions based on overconfidence can lead companies to expand too quickly, make large investments without fully considering the risks, or take poorly thought-out strategic moves. This often results in financial losses or a damaged reputation if the situation turns out to be different from initial expectations.

In the long run, the impact of overconfidence bias can be more damaging. Overly optimistic decision-making that is not based on in-depth analysis can cause companies to fail to adapt to market or technological changes, and be unprepared for increasingly fierce competition. In addition, companies that are constantly trapped in decisions influenced by this bias may miss other important opportunities or even fall into a bigger crisis.

Inertia Problem

Inertia problem, or inertia problem, is broadly defined as the inability of firms, especially large or long-established firms, to make necessary internal changes when faced with changes in the external environment (Hannan and Freeman, 1984; König et al., 2021; Miller and Friesen, 1980; Tushman and Romanelli, 1985). This inertia problem often poses a

significant challenge in maintaining a firm's competitiveness and relevance amidst rapid and dynamic change.

Rumelt (1995) in his research describes inertia as a lack of elasticity in the structure and function of the company, which leads to the company's inability to adapt or respond to change effectively. In Rumelt's view, this inertia is not just structural rigidity, but more about the company's resistance to transformation. According to him, the main challenge in overcoming inertia is how a company can carry out effective transformation without being trapped in old ways that have become part of the company's culture.

Besson and Rowe (2012) further develop Rumelt's idea by positioning inertia as a deeper problem, stemming from the structural rigidity of the company. They state that in many cases, companies have a tendency to maintain structures, processes, and mindsets that have been established for years, even though external conditions have changed. Besson and Rowe identify five types of inertia that hinder the process of corporate transformation. One of them is negative psychology inertia, which focuses on the negative psychology that arises in companies and individuals when faced with change.

Negative psychology inertia refers to the natural human tendency to stay in the comfort zone and refuse to break out of existing patterns, even when such change is necessary for

the survival of the company. At the individual level, this phenomenon often manifests itself in the form of skepticism, resistance to new ideas, or fear of learning new things. However, more than that, negative psychology inertia can also occur at the social collective level within a company, where groups or teams as a whole adopt a mindset that is resistant to change. This is often triggered by uncertainty, fear of failure, or concerns about losing existing status and control.

Corporate Strategy Transformation

Corporate strategy transformation is a fundamental change process carried out by a company to adjust the direction of policy in line with market needs, changes in the business environment, or technological developments. With this transformation, the company creates a company that is more adaptive to change, innovative in creating new value, and competitive in maintaining and expanding market share. In addition, this transformation also functions as an effort to increase operational efficiency, encourage cross-functional collaboration, and maximize the use of modern technology to ensure business sustainability in an increasingly dynamic era.

However, corporate strategy transformation often faces challenges such as inertia problems and overconfidence

bias. Inertia problems occur when companies are reluctant to change the status quo or the current state or situation despite the urgent need to adapt, while overconfidence bias refers to the tendency of decision makers to be overconfident in new plans without fully considering the risks.

Overconfidence Bias in Decision Making

Overconfidence bias is a person's tendency to overestimate their abilities, knowledge, or control. This bias often becomes a barrier to rational decision-making and can lead to suboptimal results. Therefore, identifying this bias requires a structured approach to ensure more objective and effective decision-making. Kahneman and Tversky (1979) found that individuals will have excessive confidence in assessing their ability to predict the future if they are in a situation of high uncertainty. The stages of identifying overconfidence bias in decision-making can be described as follows:

1. Evaluating Behavior in Decision Making

Identification of overconfidence bias can begin by observing individual behavioral patterns in the decision-making process. This bias is often reflected in certain actions and tendencies that can lead to suboptimal decisions. There

are two behavioral patterns to detect decision-making that leads to overconfidence bias.

The first behavioral pattern, ignoring conflicting information. Policy makers or individuals who are overconfident often tend to ignore conflicting facts or information and ignore important perspectives that could enrich the decision analysis. As a result, the decisions taken do not reflect a comprehensive analysis, and risks are not adequately identified because important information related to decision-making indicators tends to be ignored.

The second behavioral pattern is insisting on a particular solution. Policy makers or individuals who are overconfident often have too much faith in the proposed solution, even though the alternative is better. The tendency to hold on to the belief that their opinion is the most effective, even when evidence suggests otherwise. This can cause more innovative or effective alternatives to be ignored, thus missing out on the opportunity for the company to adopt a more profitable approach.

A study by Malmendier and Tate (2005) found that policymakers with overconfidence bias are often more aggressive in making investment decisions. Policymakers tend to be more willing to take high risks, even when evidence suggests that the decision does not provide optimal results. For example, in the case of mergers and acquisitions,

policymakers with this bias often take corporate actions with overpriced values.

2. Use of Historical Data

Using historical data is one effective method to identify overconfidence bias in decision making. This analysis allows companies to evaluate whether the predictions or targets made are consistent with actual results. Repeated discrepancies can be a sign of overconfidence bias. There are two behavioral patterns of using historical data that can give rise to overconfidence bias.

The first behavioral pattern, predictions that are consistently overly optimistic. Overconfidence bias is often seen in individuals or companies that set unrealistic targets or predictions, where expectations are consistently higher than actual results. This pattern can have various negative impacts, such as failure to achieve targets that ultimately damage the trust of investors or other stakeholders, as well as inefficient allocation of resources to pursue goals that are difficult or even impossible to achieve.

The second behavioral pattern is the failure to take risk factors into account. Overconfidence bias can lead individuals or teams to ignore relevant risks in the planning process, due to excessive confidence that the results will be in accordance with the plan. This attitude makes them less likely

to take into account pessimistic scenarios or possible obstacles that may arise. As a result, the company becomes unprepared for operational challenges or changes in market conditions, and has the potential to experience financial losses due to the absence of adequate risk mitigation strategies.

Factors Causing Overconfidence at the Corporate Level

Overconfidence is a cognitive bias that causes individuals or policy makers to tend to overestimate their abilities, knowledge, or control over a situation. Here are some of the main factors that trigger overconfidence bias:

1. Leadership and Ego

Policymakers with previous successful experiences often develop an overconfidence in their abilities, creating an illusion of superiority that makes them feel they have more control or knowledge than they actually do. In the corporate world, this is often seen in CEOs or high-level managers who unconsciously ignore risks because they are overconfident in their past successes. This ego-driven success can have negative impacts on decision-making, including ignoring conflicting information, where leaders only accept

information that supports their beliefs and reject input that is perceived as threatening to their authority.

In addition, overconfidence often leads them to take big risks without considering the data or potential losses in depth, and to rely too much on intuition, which, while important, can backfire in complex situations with many variables. This indicates an excessive focus on information that supports existing beliefs while ignoring information that contradicts them (confirmation bias).

For example, a CEO who has successfully navigated a company through a major crisis may believe that every decision they make will have a similar outcome, ignoring realistic feedback from their team or risk warnings from experts. The belief that an event can be predicted after it has happened increases the confidence in their ability to predict the future (hindsight bias). This can lead to high-risk decisions, such as investing in new technology without adequate market research or acquiring a company at a premium without considering business synergies.

Hayward and Hambrick (1997) showed that hubris in leaders is often the cause of major acquisition failures, where they tend to underestimate the risks and overestimate the benefits of their decisions. Malmendier and Tate (2005) also found that overconfidence bias in leaders often leads to

excessive investment decisions, even when data shows potential losses. This phenomenon emphasizes the importance of a more rational approach to strategic decision making at the leadership level.

2. Competitive Pressure

Competitive business environments often push decision makers to show courage, especially when facing threats from competitors. In these situations, leaders tend to overestimate their ability to seize opportunities or face risks. This bias is further exacerbated by the pressure to generate growth in a short time, which is often a top priority. Such pressure can have significant consequences, especially if not balanced with adequate data validation or risk analysis.

One of the main impacts is irrational risk-taking, where leaders rush strategic moves such as new product launches, major investments, or market expansions without comprehensively considering the risks. In addition, overly optimistic estimates of success often occur, with an overconfidence that their strategies will succeed even though market signals or data indicate potential mismatch or failure. Such decisions can also trigger a domino effect on the company, such as burdening company resources, damaging brand reputation, and internal tensions within the teams that must implement the decisions.

Kahneman and Lovallo (1993) show that pressure to make bold decisions often triggers overly optimistic predictions, with leaders focusing more on opportunities than risks. Camerer and Lovallo (1999) also find that overconfidence is one of the main causes of excessive market entry, with leaders often overestimating their ability to compete and ignoring existing challenges. This emphasizes the importance of balancing strategic boldness with in-depth analysis to avoid the negative impacts of competitive pressure.

3. Asymmetric Information

Overconfidence bias is often reinforced by limited access to objective and comprehensive information. In a complex corporate environment, leaders often receive only biased data and focus more on positive aspects or successes. While risks, weaknesses, or potential failures are not clearly communicated or even deliberately ignored. This information imbalance creates an unrealistic perception of opportunities, which further reinforces the belief that the decisions taken will always be right.

Incomplete access to information can lead to various negative consequences. One of them is the emergence of an exaggerated perception of opportunities, where information that only highlights the positive side creates a belief that opportunities are greater than reality, while the potential for

failure is ignored. This often leads to decisions that do not consider real risks, so that leaders tend to take reckless or overly optimistic actions. Hirshleifer and Teoh (2003) found that limited information in financial reports often creates bias because it only focuses on certain information, such as revenue, while revenue volatility (business risk) is ignored.

4. Lack of Negative Feedback

In a hierarchical corporate environment, information is often filtered before it reaches top management. Negative feedback, criticism, or warning signals are often hidden, reduced, or repackaged into more positive messages. As a result, top leaders only hear reports that reinforce their successes or support their decisions. This situation reinforces the belief that the strategies and decisions they make are always right, even though the reality may be different.

The absence of internal criticism creates an unhealthy positive feedback loop, where leaders feel increasingly confident even though their decisions are based on incomplete information. In such conditions, the overconfidence bias is reinforced, leading leaders to ignore risks or inflate expectations of success.

The impacts include over-supporting failed projects, where companies continue to invest resources despite diminishing chances of success, and creating an environment

that is not conducive to innovation because employees are reluctant to voice dissenting views. In addition, decisions that are not based on comprehensive risk analysis often increase the likelihood of detrimental bias.

Bazerman and Moore (2009) show that the hierarchical structure of a company often reinforces decision-making biases, while Tversky and Kahneman (1974) highlight how overconfidence develops when decisions are not based on complete information. Therefore, creating a culture of information transparency and accepting constructive criticism is an important step to reduce bias and improve the quality of decision-making.

5. Success Attribution Error (or Self-Serving Bias)

Successful leaders tend to attribute their success to personal abilities, such as intuition, strategic insight, or leadership skills. Conversely, when faced with failure, they often attribute it to external factors, such as market conditions, regulations, or competitor behavior. This attribution pattern creates the belief that their approach will always be successful, even though market dynamics and the business environment are constantly changing.

One of the impacts is the tendency to repeat the same strategy in different conditions, without considering external variables such as changes in consumer behavior, market

dynamics, or new technologies. In addition, leaders with this mindset often ignore the contextual analysis that is important for adapting strategies to current situations. This can also lead to resistance to innovation, where leaders become rigid in decision making and refuse to adopt new approaches or listen to suggestions from the team.

Heaton (2002) shows that managerial optimism often influences corporate financial decisions, such as over-investment or disproportionate risk-taking. Meanwhile, Paredes (2004) highlights how leadership bias can have a significant impact on corporate governance and strategic decision-making. Therefore, it is important for leaders to recognize these attribution biases and ensure a more rational and data-driven approach to decision-making.

The Negative Impact of Overconfidence Bias at the Corporate Level

While self-confidence is important in leadership, overconfidence bias often has negative consequences for company performance. This bias affects various operational and strategic aspects, with some of the impacts being as follows:

1. Excessive Risk Taking

Overconfident policymakers tend to make major strategic decisions without adequate risk analysis, believing that their intuition or experience is enough to guarantee success. This approach often ignores relevant data or input that could help identify potential challenges or obstacles. As a result, decisions such as aggressive expansion, investment in ambitious projects, or new product launches often end up costing the company a lot of money, reputation, or operational stability. This imbalance between boldness and strategic planning highlights the importance of strong governance to manage overconfidence bias in leadership.

Unmeasured risks can have serious consequences for a company, including the failure of major investments that drain resources without delivering the expected results, significant financial losses due to wrong strategic decisions, and, in more severe cases, triggering a company sustainability crisis. The inability to anticipate or manage these risks is often caused by a lack of in-depth analysis, an over-reliance on intuition, or an unrealistic belief in success.

One example of over-decision making is AOL's acquisition of Time Warner in 2000, which became one of the most high-profile cases in business history. AOL's CEOs were convinced that the merger would create major synergies, but they failed to anticipate the integration challenges and

significant market changes. As a result, the deal ended up being a multi-billion-dollar loss, destroying shareholder value and becoming one of the biggest acquisition failures (Malhotra & Zhu, 2006).

2. Risk Estimation Error

Overconfidence often leads policymakers to fail to recognize emerging threats from competitors. They tend to believe that their company's position is strong enough or even irreplaceable, thus ignoring clear warning signs, such as declining market share, shifting consumer preferences, or competitors' technological advances. This attitude not only makes companies vulnerable to external disruptions but also inhibits proactive responses that could protect or strengthen their position. In the long run, this inability to read market dynamics can cause companies to lose relevance or even be eliminated from the competition.

Failure to anticipate competitive risks can have serious consequences for companies, including gradual loss of market share or even sudden, unexpected disruption. Without a deep understanding of competitor movements, changing customer preferences, or new technology trends, companies risk getting stuck in outdated and irrelevant business approaches. As a result, they may fail to respond to competitor innovations or fail to meet evolving market needs,

ultimately weakening their competitive position and threatening their long-term sustainability.

Examples of competitive risk misestimation include Blockbuster's failure to respond to threats from digital platforms such as Netflix, the bankruptcies of Nokia and Blackberry. The belief that traditional business models are still relevant led the company to ignore changes in consumer preferences for the company's products or services, which ultimately resulted in the company losing market share (Camerer & Lovallo, 1999).

3. Inefficient Resource Management

Overconfident policymakers often focus too much on ambitious investments and projects that are believed to be the key to the company's success. As a result, basic operational needs and efficient resource allocation are often neglected. This approach can create an imbalance in corporate priorities and too many resources are diverted to large, high-risk initiatives, while important aspects such as operational efficiency, risk management, and long-term sustainability are not given adequate attention. In the long run, such a strategy can weaken the stability of the company and reduce its overall performance.

*Project*Overly optimistic and poorly planned investments can be a major burden for companies, as they

often require significant allocation of financial and human resources with no guarantee of success. When investments fail to meet targets or encounter unanticipated obstacles, companies risk losing resources that could have been allocated to operational needs or other strategic initiatives. As a result, long-term operational stability can be compromised, reducing the company's ability to adapt to market changes or manage future risks.

An example of inefficient resource management is WeWork under Adam Neumann. Neumann's overconfidence bias led to uncontrolled global expansion, opening new offices without considering local market demand. The result was an embarrassing IPO failure and a drastic decline in the company's market value, which created huge losses for shareholders and the company's reputation (Cohan, 2019).

4. Erosion of Stakeholder Trust

Overconfidence bias can have widespread negative impacts, including reducing the trust of all key stakeholders such as investors, employees, and business partners. Strategic decisions made without adequate risk analysis often result in failure, which can reduce trust in management's ability to lead the company. Investors may lose confidence and withdraw their financial support, employees may become demotivated because they see the company's resources being

wasted, and business partners may sever ties if they feel that the risks taken by the company are not commensurate with the promised benefits. In the long term, this erosion of trust can undermine the stability and sustainability of the company.

Overconfidence bias in leadership can have serious consequences for stakeholder relationships. Investors who lose confidence in management's ability to make wise decisions often withdraw their financial support, leaving the company in financial trouble. Employees become demotivated, especially when they witness the company's resources being wasted on ambitious, poorly planned projects, making them feel that their contributions are underappreciated. Meanwhile, business partners may sever ties if they judge that the risks taken by the company are not worth the benefits, causing damage to the company's strategic network and lowering its credibility in the market.

Positive Impact of Overconfidence Bias at Corporate Level

While overconfidence bias is often associated with risks and negative impacts, there are certain situations where overconfidence can provide significant benefits to a company. Under the right conditions, this bias can be a catalyst for tremendous innovation, motivation, and growth. Some of the positive impacts of overconfidence bias are:

1. Innovation Driver

Policymakers with an overconfidence bias tend to display extraordinary courage in taking risks, such as making large investments in innovative projects or adopting new technologies that are not yet fully proven. This courage can be a valuable asset, especially in fast-moving and highly competitive industries where innovation and speed are key to staying relevant. However, the success of this approach depends largely on leaders' ability to balance their optimism with sound strategic planning and data validation. Under the right conditions, this courage can lead companies to major breakthroughs, as seen in the development of disruptive technologies by leading companies in the technology and biotechnology sectors.

Overconfidence bias can be a significant driving force for companies to push past traditional boundaries, encourage exploration of new opportunities, and create innovative solutions that have never existed before. Overconfidence in their abilities and vision allows leaders to take big risks that competitors often avoid. In many cases, this approach allows companies to create technological breakthroughs, enter new markets, or change the way industries operate. When combined with a well-thought-out strategy and proper execution, overconfidence bias can be a catalyst for innovation that brings positive, sustainable change.

Elon Musk, CEO of Tesla and SpaceX, is an example of the positive impact of overconfidence. Despite many skeptics of his ambitions and visions such as accelerating the transition to electric vehicles or starting commercial space exploration, his high level of confidence has spurred major innovations in both industries. Tesla is now a pioneer in electric cars, while SpaceX has created a breakthrough in rocket technology with reusable launches and landings (Huang and Pearce, 2015).

2. Team Motivation

The high level of confidence demonstrated by a leader has a significant psychological impact on their team. Leaders who are confident in their vision and strategy are able to create a work environment that is full of enthusiasm and optimism. This confidence often inspires the team to go beyond their limits, face challenges with courage, and commit to achieving a common goal. In addition, the leader's confidence can provide a sense of security to the team, help them cope with uncertainty, and increase confidence in the direction the company is taking. In the long run, this motivation and inspiration can be a significant factor in driving innovation, productivity, and collective success.

Confident leaders not only inspire their teams, but they also play a significant role in increasing employee

engagement and commitment to the company's goals. When leaders clearly communicate their vision and demonstrate confidence in the company's strategic direction, employees feel more connected and motivated to contribute to their full potential. Additionally, a strong sense of confidence from leaders helps create a proactive, solution-oriented work culture where employees are encouraged to approach challenges with a positive attitude, innovate, and work together to achieve the best results. This type of environment builds strong team dynamics and drives the company's overall success.

Overconfident leaders are often able to instill a sense of confidence in their teams, even in difficult situations. For example, in a major acquisition, a CEO's confidence can influence management to work hard to achieve success, despite high risks (Hayward and Hambrick, 1997).

3. Drivers of Growth and Expansion

The courage to set ambitious goals is one of the positive outcomes of overconfidence bias in leadership. Leaders who have high confidence in their abilities and those of their teams often dare to go beyond what is considered realistic, creating unexpected growth opportunities. In a measured context and supported by mature strategic planning, this courage can be a key driver to drive innovation,

expand markets, and achieve extraordinary results that might not be possible with a conservative approach. This confidence can also motivate teams to work harder to achieve these ambitious goals, thereby improving overall company performance.

Overconfidence bias in leadership, when managed well, can provide significant strategic benefits, such as helping a company expand into new markets or launch innovative products. A leader's high level of confidence in the company's vision and capabilities often encourages bold but necessary risk-taking to explore new opportunities. Moreover, this boldness can position a company as an industry leader, especially when an ambitious strategy results in competitive advantage, disruptive innovation, or market dominance. In the long run, the combination of boldness, innovation, and proper execution enables a company to not only survive but also lead change.

Many successful technology companies, such as Amazon under the leadership of Jeff Bezos, have grown rapidly thanks to the belief that they can dominate the market through bold innovation and long-term strategy. Bezos led Amazon with a vision that emphasized heavy investment in technology, logistics, and customer experience, often at the expense of short-term profits. This belief proved effective, as the focus on market expansion and the development of new

services, such as Amazon Web Services (AWS), has made Amazon one of the largest technology companies in the world (Stone, 2013).

Research by Wang et al. (2023), supports that executive overconfidence results in ESG (Environmental, Social, Governance) performance, which in turn means an impact on increasing the company's value. In other words, the impact of confidence on the sustainability of the company's business can be seen.

Strategies for Managing Overconfidence Bias

Overconfidence bias often becomes a challenge in decision making at both individual and corporate levels. To manage its negative impacts, a number of strategies can be implemented. These strategies aim to create a more objective, rational, and effective decision-making process.

1. Diversification of Perspectives in Decision Making

Involving different parties with different backgrounds and experiences is one effective way to reduce the influence of individual overconfidence bias in decision-making. Diverse perspectives provide a more balanced view, allow for more comprehensive risk identification, and help evaluate opportunities in a more objective manner.

Decisions made by groups with diverse perspectives tend to be more objective than decisions made individually. This is due to the collective ability of the group to identify possibilities, both opportunities and risks, that overconfident individuals might miss. Lovallo and Sibony (2010) showed that teams consisting of individuals with diverse backgrounds tend to be more rational in strategic decision making. They found that these groups were better able to challenge existing assumptions and offer more innovative and realistic solutions.

Google applies the concept of "collective brainstorming" in making major strategic decisions. By involving various cross-functional teams, the company ensures that every decision includes a variety of perspectives. This approach not only reduces the risk of bias, but also improves the quality of the final decision, ensuring that the strategy taken is relevant and can be implemented well.

2. Implementing Data-Driven Processes

Integrating data into the decision-making process is an important step to reduce subjective bias and increase objectivity in evaluation. By leveraging accurate data and in-depth analytics, companies can make decisions based on facts, rather than on intuition or assumptions that are often biased. Historical data can provide an objective basis for evaluating

various options and risks, allowing companies to more clearly identify opportunities and challenges. The use of historical data also helps reduce the dominance of intuition in decision-making, ensuring that each step is based on measurable and relevant analysis.

Bazerman and Moore (2009) found that companies that consistently use analytics in decision-making show more consistent, more accurate results, and fewer errors than companies that rely on intuition or individual opinion. Historical data also allows companies to better anticipate risks and evaluate potential outcomes.

Companies like Amazon have been pioneers in using big data to support their strategic decisions. Amazon uses big data analytics for a variety of aspects, including predicting customer demand, optimizing supply chains, determining dynamic pricing, and even deciding on new product launches. This approach allows Amazon to stay competitive in a rapidly changing market and deliver consistent results. By integrating historical data into the decision-making process, companies can reduce risk, improve decision accuracy, and ensure that their strategies are based on measurable and relevant insights.

3. Negative Feedback Reinforcement

Leaders who tend to ignore or not accept negative feedback often reinforce the overconfidence bias, which can lead to unrealistic or high-risk decisions. Also, making negative feedback appreciated and considered constructive can help overcome this bias, allowing the company to more effectively evaluate weaknesses and take corrective action.

Negative feedback provides an opportunity to evaluate weaknesses in a plan or decision before potential risks become reality. By encouraging open discussion and appreciating criticism, companies can identify problems early, improve decision quality, and mitigate the negative impact of leader bias.

Argyris (1991) in the concept of double-loop learning states that companies that encourage a culture of deep reflection and critical evaluation are more effective in identifying errors and correcting them. This culture allows companies to not only correct actions, but also examine the basic assumptions underlying the decisions.

Microsoft, under Satya Nadella's leadership, has developed a work culture that values feedback and criticism. In strategy meetings, employees are encouraged to voice their critical opinions on management's plans, including potential risks or weaknesses in the proposed strategy. This practice

allows the company to make more informed decisions and avoid major mistakes due to leadership bias.

4. Bias Awareness Training

Training to recognize and understand cognitive biases can be a strategic step in helping leaders and employees manage the negative impacts of overconfidence bias. By increasing awareness of biases, these training programs enable individuals to identify irrational thinking tendencies and develop a more objective approach to decision-making.

These training programs typically include simulations, case studies, and group discussions designed to raise awareness of cognitive biases, including overconfidence bias. Through practical exercises, participants learn to recognize biased thinking patterns, evaluate their assumptions, and use analytical tools to strengthen rational decision-making processes.

Milkman, Chugh, and Bazerman (2008) showed that bias awareness training significantly improved individuals' ability to make more rational decisions. They found that individuals who participated in the training program were better able to identify risks, avoid making overly optimistic decisions, and evaluate options more objectively.

Many global companies, such as Google and Deloitte, have integrated bias awareness training into their leadership

development programs. These programs not only improve leaders' decision-making skills but also help create a more open and objective company culture. For example, training at Google includes strategic decision simulations and exercises to recognize patterns of bias that can affect decision-making processes at both the individual and team level.

5. Involving External Advisors

External advisors can provide invaluable objective perspectives in strategic decision-making, helping companies mitigate the impact of overconfidence bias among internal leaders. Because they are outside the corporate structure, external advisors can highlight risks that leaders who are overconfident in their own abilities might overlook or underestimate.

External consultants or advisors bring an independent perspective and data-driven analysis that is not influenced by internal bias. They often uncover hidden risks and provide objective evaluations of proposed strategies, ensuring that key decisions are based on thorough and rational considerations.

Heaton (2002) found that external advisors can help companies make more rational decisions by revealing hidden risks and evaluating assumptions used in the planning process. This study shows that companies that actively

engage independent advisors are more likely to avoid overly optimistic or unrealistic decisions.

Large companies often engage renowned consulting firms such as McKinsey and Company or Boston Consulting Group (BCG) to evaluate important strategies, such as mergers and acquisitions, market diversification, or corporate restructuring. For example, before acquiring another company, companies often ask consultants to analyze the feasibility of the investment, assess potential synergies, and identify risks that may not be visible to internal teams.

6. Risk Evaluation Framework Development

Creating a comprehensive framework for evaluating risk is an important step for companies to understand the potential impact of their decisions, especially when overconfidence bias can influence decision-making. This framework allows companies to identify and quantify risks, as well as project potential outcomes through structured scenario analysis.

The risk assessment framework includes elements such as key risk identification, probability analysis, and scenario simulations to project potential outcomes of various decisions. This process helps decision makers consider a range of possible scenarios, including the worst-case scenario, so they can make more realistic and calculated choices.

Tversky and Kahneman (1981) showed that using simulation scenarios helps individuals become more realistic in evaluating risks and possible outcomes. The study found that when decision makers were given simulations that reflected a range of possibilities, they tended to make more objective and data-driven decisions.

Many companies in the financial sector use Monte Carlo simulations to evaluate potential investment risks. These simulations generate scenarios based on historical data and probability projections to help companies understand the potential impact on their portfolios under various market conditions. This approach allows companies to make more informed investment decisions and reduce the risk of major losses.

7. Implementation of Post Mortem Assessment

Conducting a post-mortem after a major decision is a strategic move that helps companies learn from mistakes and improve the quality of future decision-making. This process allows teams to objectively analyze what worked, what didn't, and how the decision-making process can be improved to reduce the impact of overconfidence bias.

Post-mortem assessments focus on deep reflection after the implementation of a major decision or project. By analyzing the factors that influenced success and failure,

companies can identify patterns of bias that emerged during the decision-making process and apply these learnings to future projects. This process not only increases accountability but also fosters a culture of continuous learning.

Garvin and Roberto (2001) found that teams that consistently conducted post-project evaluations were more successful in avoiding similar mistakes in the future. These assessments help teams identify root causes of failure or success and implement changes to the decision-making process to improve effectiveness and efficiency.

Companies like Boeing routinely conduct in-depth evaluations after every major project. This process includes technical, operational, and strategic analysis to identify areas for improvement. For example, after a new product launch, Boeing evaluates each stage of the project to understand where processes can be improved, ensuring that lessons learned from the project are applied to future initiatives.

Closing

In the dynamic business world, change and uncertainty are inevitable. However, many companies are still trapped in the old mindset, relying on past experiences to face today's challenges. Two main phenomena, namely overconfidence bias and inertia problem, often become obstacles in strategic decision making.

Overconfidence is a cognitive bias that has a significant influence on a company's strategic decision-making. Although confidence is an important attribute in leadership, overconfidence bias can lead to irrational decisions, such as taking unmeasured risks, ignoring important input, and ignoring in-depth risk analysis.

Meanwhile, inertia problem refers to resistance to change in an organization. Many companies are reluctant to leave their comfort zone, even though change is necessary to survive in a competitive market. This phenomenon is often exacerbated by negative psychology inertia, where the fear of failure makes individuals or groups choose to maintain the status quo or the current state or situation.

While confidence is important for leadership, overconfidence can have negative consequences for suboptimal strategic decision-making, such as ignoring risks, inefficient resource allocation, or inability to accept feedback. On the other hand, there are certain situations where

overconfidence can provide significant benefits to a company. When in the right conditions, this bias can be a catalyst for tremendous innovation, motivation, and growth, and the company's business sustainability.

Managing overconfidence through various strategies is essential to address the problems that can arise from this bias and minimize its negative impact on decision-making. These strategies aim to reduce the influence of unfounded overconfidence and ensure that decisions are more objective and rational.

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Gancar has also received various awards, both as the best international paper (2020, 2021, 2022, 2023), Exemplary Lecturer 2 of Airlangga University (2020), Champion of Keroncong Karaoke 1 (2019), Lecturer with the Most MOOCs (2019), lecturer with the most IPRs in the Department of Management (2020), The Most Innovative Teaching Lecturer (2024).

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This book is a contributions of our thinking related to Transformation Strategies to Build Business Sustainability. Of course, it is not a perfect thoughts, but we hope that our thoughts can be an inspiration and trigger for more brilliant academic and practical thinking and steps, both in terms of marketing, human resources, and finance. Hopefully it will be useful and become a sustainable knowledge for all of us.

MANAGING TRANSFORMATION FOR SUSTAINABILITY:

Perspectives from Marketing,
Human Resources
and Finance

Buku ini berisi materi berbasis *empirical research* berkaitan dengan bagaimana strategi dan perencanaan pengelolaan transformasi dapat dilakukan berkaitan dengan tema keberlanjutan. Ditulis oleh para Guru Besar dari Departemen Manajemen FEB UNAIR yang pakar di bidangnya masing-masing yakni Manajemen Pemasaran, Manajemen SDM dan Manajemen Keuangan, dengan pendalaman teori yang jelas.

Buku ini sangat bermanfaat dan diharapkan dapat menginspirasi berbagai riset lanjutan dalam bidang-bidang yang berkaitan dengan keberlanjutan bisnis.



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