Investigating the Performance of Green human resource management (GHRM) in the development of a European automobile company

Student Name:

Reg No:

Dep:

Table of Contents

1.1 Introduction	5
1.2 Scope	5
1.3 Objectives	5
1.4 Research Limitation	6
2.1 Literature Review	7
2.2 Green training and development	7
2.3 Environmental performance	8
2.4 Employee performance	8
2.5 Hypotheses	9
3.1 Methodology	11
4. Business Game	14
4.1 Business Simulation Teamwork and Key Decisions	14
4.1.1 Market Share	14
4.1.2 Pricing Inventory	15
4.1.3 Earnings Before Interest and Taxes (per worker)	16
4.1.4 Implementing Customization for Competitive Advantage in Business	17
5. Discussion	18
5.1 Conclusion	21
References:	24

List of Figure

Figure 1: A theoretical model and a diagrammatic representation.	9
Figure 2: PLS algorithm	10
Figure 3: Structured Indicators of Global Health Risk (TISM)	Error! Bookmark not defined.
Figure 4: Power dependence matrix for GHRM indicators	Error! Bookmark not defined.
Figure 5: Market Share of Each Model	15
Figure 6: New Car Registration Europe Market Share	16
Figure 7: Cost of Vehicles	Error! Bookmark not defined.
Figure 8: Pretax profit per employee	Error! Bookmark not defined.

List of Table

Table 1: Industry response rate	9
Table 2: Discriminant validity	
Table 3: GHRM, context, and interpretation	
Table 4: Matrix of GHRM indicators' initial reachability	
Table 5:Indicators of GHRM final reachability matrix	13
Table 6: Reachability matrices and level partitions from iteration I through iteration VI	14
Table 7: Testing hypothesis Error! Bookmark ne	ot defined.
Table 8: Direct/indirect effects-mediation Error! Bookmark no	ot defined.

1.1 Introduction

An organization's human, material, and conceptual assets can be broken down into atomic parts in the resource-based view (RBV). These priceless and unique assets serve as the foundation for long-term success and a competitive edge. Implementing GHRM practices can give businesses an edge in the market and ensure that their operations are in harmony with nature.

We must be confident that fulfilling any of these roles in a world where we can see its decline daily and where governments are attempting to save it using various tools and methods will be futile. The automobile industry needs our attention if we want to keep the planet habitable for future generations. Human resources management is an integral part of these organizations. Green human resources management is a relatively new term focusing on H.R.'s contribution to environmental protection. Human resource management (HRM) is defined in this project as the process of finding, hiring, and developing employees who are dedicated to the company's success and who share the same values regarding sustainability. As a bonus, the rest of the team will review how analysis tools can be used by sales, marketing, and other departments to boost profits and reduce waste.

The study's findings indicate that a company's Sustainability improves when it employs green recruitment and selection practices and green rewards. In this framework, GHRM practices and green intellectual capital play a beneficial role. New sustainability areas may focus on future research into the effects of green HRM practices and the influence of management and stakeholder pressure. Regarding resources, businesses once saw the entire planet as free and unlimited. Companies widely believed that their operations had negligible effects on the natural world. After increased environmental issues, businesses began taking precautions to safeguard the planet (M, 2022). This research contributes to the literature by exploring how green intellectual capital (GIC) and green human resource management practices (GHRMP) affect long-term success. There is a lack of information available on the factors above, ideas, and theories (J.Y, 2019). Manufacturing is the sector most responsible for pollution and environmental problems (Dal, 2019).

1.2 Scope

A growing body of evidence suggests that (GHRM) is crucial to the success of sustainable business strategies. To provide concrete recommendations for the future, however, there is a lack of research into how to best systematize and integrate existing knowledge on GHRM. Regarding success, "environmental integrity," and "social equity," GHRM has the best chance of Sustainability in the dimensions of the organization's reach. Human resource management (HRM) systems that foster and maintain employees' long-term financial, physical, and social health can be said to embody sustainability principles.

1.3 Objectives

• learn how green intellectuals and HRM can have a beneficial effect on the preservation of the natural environment.

- To identify the most crucial GHRM indicators for the automobile repair industry by analyzing their driving force and dependency.
- The goal of this research is to learn more about how green teams, which are responsible for an organization's environmental management, affect its overall Performance through the lens of business strategy.
- To determine how GHRM and other company divisions can collaborate, particularly supply chain management.

1.4 Research Limitation

The proposed model has only been tested in the automotive industry in Europe. However, with some tweaks, the same approach might be applied to other sectors of many economies. The case industry experts whose opinions are sought may also have their agendas. The present research aids human resource experts by pinpointing the most important indicators to consider when illuminating the service organization's environmental Performance.

2.1 Literature Review

Careless actions by working people are a major cause of environmental degradation (Yusoff, 2010). To save the planet, the GHRM practices have the potential to be utilized to incentivize workers to act responsibly (P, 2016). The application of good health risk management practices is recommended as a starting point for greening an organization (S, 2015). To better understand the role GHRM plays in fostering the connection between "green transformational leadership, green innovation, and environmental sustainability," Singh et al. (2020) conducted an in-depth study. The researchers discovered that GHRM practices significantly impact environmentally friendly innovation.

Moreover, they imply that GHRM practices have major effects on environmental Sustainability. Corporate social responsibility is integrated into the GHRM framework (T.T.Y, 2018). Managers in today's businesses need to raise employees' consciousness about several issues (Roca-Puig, 2019). Representatives are encouraged to participate in environmentally friendly practices when financial and non-financial incentives are provided.

HRM (Human Resource Management in E.M. (Environmental Management) emphasizes the importance of HRM in minimizing contamination caused by an institute's day-to-day activities (W, 2012). There are two parts to GHRM: the strategic HRM dimensions of organizations and the more traditional HRM practices that align with environmental goals (Jabbour, 2012). The Management Academy (USA), for instance, has adopted "Green Management Matters" as the theme of the conference held each year in recognition of the significance of greening human resource management practices (J, 2008). As a result, academics have started to look at GHRM's implementation as an emerging trend in businesses, a line of inquiry in E.M. to standardize HRM procedures (C, 2016). (DS, 2016) state that there are three areas where GHRM practices could grow and improve.

2.2 Green training and development

Many businesses offer employee training on implementing green practices, such as lowering or eliminating pollution-causing emissions, boosting managerial and technical abilities to protect and conserve natural resources, and promoting environmental sustainability. Few organizations comprehend the necessity for green training programs for sustainability. Economic growth and corporate expansion are today's most significant business challenges (JP, 2012). Green training

courses improve managerial and non-managerial workers' attitudes and behaviors. Today's challenge is balancing financial progress and sustainable development (E, 2016). Management and non-administrative workers should receive environmental education. GHRM encompasses practices and plans for the economic, social, and ecological sustainability of human resources. Literature-based hypotheses: H4: Green Training Development promotes organization sustainability

2.3 Environmental performance

Environmental Performance is an organization's ability to accomplish environmental goals and objectives outlined in its environmental strategy or policy. Different companies are conducting green projects to get a competitive advantage. An acceptance of green practices in enterprises can lead to better execution. A few scholars showed how to improve environmental Performance, GHRM, and green products have been implemented (E.P.) (N, 2008). The literature led to the following hypotheses. H2: Environmental Performance mediates evaluation of environmental performance management and long-term viability of the enterprise. Green training and development contribute to a sustainable organization through the mediation of environmental Performance (H5). Organizational Sustainability is linked to green incentives and compensation, and environmental Performance mediates this relationship.

2.4 Employee performance

It's hard to measure employee environmental performance. Green HRM measures worker performance. The efficiency of novice personnel within the firm system. The resource-based view is one solution (RBV). It demonstrates how some groups profit when firms use assets well. RBV helps firms establish and sustain a competitive edge. According to firm data, skill is its most valuable resource. This concept intertwines the organization's cultures, I.D, protocols, exercises, records, and output. Studies show psychological learning is driven. EMEM can integrate environmental targets and procedures into overall development goals.

Sr. no.	Textile company	Sample	Responses	Responses %
1	Interloop Ltd. Faisalabad	10	10	100%
2	Bismillah Textiles Faisalabad	20	18	92%
3	MTM Faisalabad	15	13	90%
4	Kamal Textile Mills	25	20	80%
5	Gohar Textile Mills	15	10	80%
6	Other textile companies	90	80	88%
	Total	165	151	91.51%

Table 1: Industry response rate

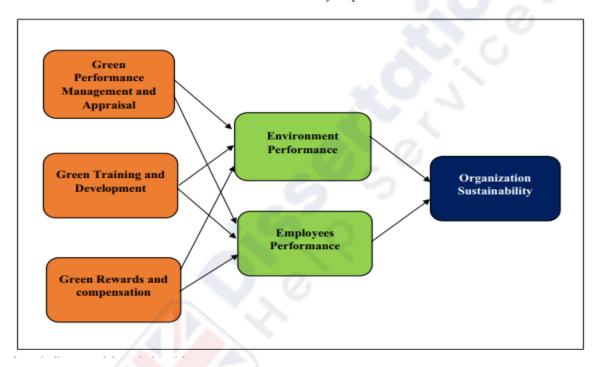


Figure 1: A theoretical model and a diagrammatic representation

2.5 Hypotheses

H1: Appraisal of management of green Performance positively affects the long-term viability of a company.

H2: Green performance management appraisal has a considerable relationship with organizational Sustainability, and environmental Performance acts as a mediator of this relationship.

H3: Green performance management appraisal significantly correlates with organizational Sustainability, and employee performance acts as a mediator between these two concepts.

H4: Organizational Sustainability is significantly correlated with environment-friendly education and growth.

H5: Environment-friendly education and growth have a substantial link to long-term organizational viability, and this link is mediated by environmental performance (H5).

H6: Organizational Sustainability is linked to green training and development, and this relationship is significant.

	EMP	EP	GRC	GTD	GPMA	os
Employee performance	0.736				9/3	
Environmental performance	0.726	0.735				
Green reward and compensation	0.685	0.688	0.861			
Green training and development	0.720	.0730	0.676	0.738		
Green performance management and appraisal	0.678	0.725	0.712	0.709	0.779	
Organizational sustainability	0.704	0.709	0.703	0.737	0.721	0.720

Table 2: Discriminant validity

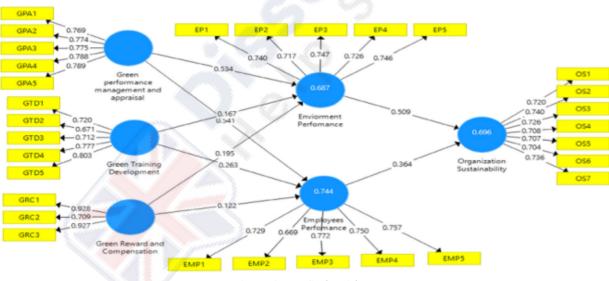


Figure 2: PLS algorithm

H7: The seventh point is that "green" incentives and salaries have a major impact on the longevity of a company.

H8: Green pay and benefits have a great effect on an institute's longevity, and environmental Performance serves as a mediator between the two concepts.

H9: The work of an employee is the intermediary between the green incentives and pay and organizational Sustainability, supporting the hypothesis.

3.1 Methodology

This subsection offers a more in-depth discussion of the TISM methodology utilized for this research project. This section also discusses the process of data collection and analysis. This is because TISM places emphasis on both nodes and links, whereas ISM puts its primary focus primarily on nodes. There were a total of 15 field experts that were reduced after 10 indicators were discovered based on their current managerial position, job-related talents, academic and teaching background, field experience, journal publications, research and teaching experience, and field experience. These indications were collected from a broad literature synthesis and semi-structured interviews with corporate leaders and top experts from the automobile industry. Fifteen specialists were involved in the process, with five coming from the realm of academia and study sector, six from professional experience, and all currently serving in upper management level roles at highly regarded companies, and the remaining members coming from state and federal agencies. Each specialist has an aggregated experience equivalent to 8.5 years on average (i.e., on the field or in the classroom). We were able to determine the GHRM indicators, their contextual relationship, and their interaction using Table I.

Factors/Indicators	Contextual relationship	Interpretation
Indicators of GHRM Green training and development (C1), green job design (C2) to green employee relations and union management (C10)	Indicator 'P' influences another indicator 'Q'.	How does an indicator 'P' influence another indicator 'Q'?

Table 3: GHRM, context, and interpretation

The TISM method's step-by-step procedure is explained here for your convenience.

- (1) Specify the indicators and causes by identifying them: The first stage in TISM is to identify the problem and describe each factor and indicator. There is current literature and experts on the subject that can be used to detail each sign.
- (2) The relationship between the indicators and the context in which they are being used must be determined before any previously defined criteria can be used.
- (3) We have now arrived at the first stage of the transition from the traditional ISM to the contemporary TISM.

- (4) Rationale based on interpretations of pairing comparisons, reachability, and transitivity tests: To compare indicators in a paired form, we develop an "interpretive judgment knowledge" basis. The opinions of all of our consultants have been compiled into Table I, which can be found further down the page.
- (5) The level will be the same if both the intersection and reachability requirements are satisfied. Would the maximum possible TISM level be accomplished? There is no impact from the highest-level indicators, on the other hand.
- (6) Each and every correlation based on context has been tabulated. Each indicator was compared to all the others in each entry; a 'Y' was typed if the topic shared a relationship, and a rationale was supplied for that link; otherwise, an 'N' was organized.

As a result of the processes described above, the initial reachability matrices for GHRM indicators are shown in Table II, and the final reachability matrices are shown in Table III. The FRM was organized into several different tiers. For each variable, we determined the sets of reachability (row ones), antecedents (column ones), and intersections (between the two). It was decided to move a component with values in the reachability and meeting sets identical to the highest position in the hierarchy. Iterations similar to those performed on each criterion were carried out to achieve a broad range of elimination. Table IV presents the complete 6-tiered partitioning plan in its entirety. The TISM-based model was built to represent all five levels in a tree structure, replete with causal links and their interpretations. This model was developed (Figure 1)

S. No.	Indicators of GHRM	1	2	3	4	5	6	7	8	9	10
1	Green training and development (C1)	1	0	0	0	0	1	1	1	1	1
2	Green job design (C2)	0	1	1	1	0	0	0	0	1	1
3	Green staffing (C3)	0	0	1	1	0	0	0	1	1	1
4	Green selection (C4)	0	0	0	1	0	0	0	1	1	1
5	Green organisational culture and adoption of green strategy (C5)	1	1	1	1	1	1	1	1	1	1
6	Green awards and recognition (C6)	0	0	0	0	0	1	1	1	1	1
7	Assessment of green performance (C7)	0	0	0	0	0	1	1	1	1	1
8	Green grievance cell (C8)	0	0	0	0	0	0	0	1	1	1
9	Green health and safety management (C9)	0	1	0	0	0	0	0	0	1	1
10	Green employee relations and union management (C10)	0	0	1	1	0	0	0	0	0	1

Table 4: Matrix of GHRM indicators' initial reachability

- 1) our team is the critical research object; evaluating internal data from the first to the thirteenth round is the following section's focus. In addition, various competitors will be researched and compared to comprehend our company's environment and condition.
- 2) Data collection: All associated data is acquired via automatically created reports on the "Executive" website since each topic requires business simulation validation.
- 3)In this stage, a chunk of data must be changed into a more precise and understandable form, such as calculating the average. This data transformation makes insights more accessible.
- 4) Data analysis: Excel finds correlations and issues in business simulations. The processed data would be grouped into line graphs and bar charts, giving researchers a visual of the company's performance and overall trends.
- 5) Findings: The particular topic will be validated based on data analysis. Limitations of simulations and further improvement will be discussed in the fifth section.

												(DP)		
S.	Indicators		2	0		_		-	0		10	Driving	Net	Martin
No.	of GHRM	_1	2	3	4	э	6	-1	8	9	10	power	influence	Nature
1	C1	1	0	0	0	0	1	1	1	1	1	6	4	Driving
2	C2	0	1	1	1	0	0	0	0	1	1	5	2	Driving
3	C3	0	0	1	1	0	0	0	1	1	1	5	-1	Dependence
4	C4	0	0	0	1	0	0	0	1	1	1	4	-3	Dependence
5	C5	1	1	1	1	1	1	1	1	1	1	10	9	Driving
6	C6	0	0	0	0	0	1	1	1	1	1	5	1	Driving
7	C7	0	0	0	0	0	1	1	1	1	1	5	1	Driving
8	C8	0	0	1*	1*	0	0	0	1	1	1	5	-2	Dependence
9	C9	0	1	1*	1*	0	0	0	0	1	1	5	-4	Dependence
10	C10	0	0	1	1	0	0	0	0	0	1	3	-7	Dependence
	Dependency	2	3	6	7	1	4	4	7	9	10	53/53	00	

Table 5:Indicators of GHRM final reachability matrix

The row totals and column totals have been bolded to underline their relevance. The accommodations in the rows illustrate the driving force, while the accommodations in the columns demonstrate the dependency.

S.No.	(RS) Reachability set	(AS) Antecedent set	Intersection	Level
1	1,2,3,4,6,7,8,9,10	1,5	1	V (1)
2	2,3,4,9,10	1,2,3,4,5,6,7,8,9	2,3,4,9	II(2, 3, 4)
3	2,3,4,8,9,10	1,2,3,5,6,7,8,9,10	2,3,8,9,10	III (3, 8)
4	2,4,8,9,10	1,2,3,4,5,6,7,8,9,10	2,4,8,9,10	II (2, 4, 8)
5	1,2,3,4,5,6,7,8,9,10	5	5	VI (5)
6	2,3,5,6,7,8,9,10	1,5,6,7	5,6,7	IV (5, 6, 7)
7	2,3,5,6,7,8,9,10	1,5,6,7	5,6,7	IV (5, 6, 7)
8	2,3,4,8,9,10	1,3,4,5,6,7,8,10	3,4,8,10	III (3, 8)
9	2,3,4,9,10	1,2,3,4,5,6,7,8,9,10	2,3,4,9,10	I (2,3,4,9,10)
10	2,3,4,9,10	1,2,3,4,5,6,7,8,9,10	3,4,9,10	I (3, 4, 9, 10)

Table 6: Reachability matrices and level partitions from iteration I through iteration VI

4. Business Game

4.1 Business Simulation Teamwork and Key Decisions

In the business simulation, our group or company is known as T5, and we operate as a small automaker based in Europe. At the moment, we produce four distinct models—a (luxury model), a Top (large model), a Vic (city model), and a Daesung to cater to a variety of different markets (medium model). The teamwork and primary decisions will be revealed by examining three aspects: market share, inventory cost, and financial indicators, which will be explored in more detail below.

4.1.1 Market Share

Figure 1 is a line graph showing the cumulative market share of four models from the first to the fourth iteration. Our company's manufacturing plans, which include product design, cost, inventory, and pricing strategies, are tentative and updated regularly before the 10th cycle, and this is reflected in the considerable variations in market share across all models. Further, several difficulties in teamwork arise at that time. Collaboration is complex because of the time and effort needed to overcome the language barrier when dealing with team members from various nations. Since the operating results are not successfully provided within the limited period during the third and fourth rounds, our company suffers a significant loss. Figure 1 also shows that GD, TOP, and VIC all had 0% market share throughout this period, further attesting to the loss. Since mass production of Deasung doesn't start until the fourth cycle, the company has zero market share in the first three years. To avoid a similar problem in the future, we decided to make the most of the break in the lab schedule to talk things over and come to a conclusion.

To get back on track, we imported automation to boost productivity, and as a result, GD's market share increased steadily beginning in the fifth round, with Daesung and Vic's figures peaking at

(1.8% in the sixth round). The reduction in market share of TOP, VIC, and Daesung during the 7th to 9th round is also attributable to the fact that our company discovered that the expenditure of inventory is costly, and, to solve this issue, our team determined to cut the amount of the production. But after 10 years, our team realizes that destocking causes production and revenue declines, so the company shifts its strategy to maximize output while minimizing stock. Figure 1 also shows that the market share of each vehicle type rises between the ninth and tenth rounds and then stabilizes after the eleventh.



Figure 5: Market Share of Each Model

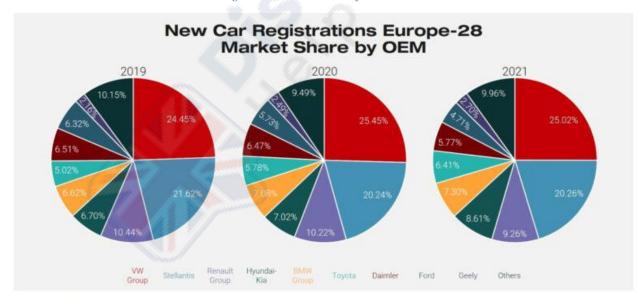


Figure 6: New Car Registration Europe Market Share

4.1.2 Pricing Inventory

One of the most critical decisions made in simulation is to drastically cut inventory spending because having a lot of stock on hand significantly raises storage expenses and total overheads.

Stock maintenance costs are shown in Figure 2 for each cycle, with the highest level reached in the sixth cycle, at 349,000,000 pounds. After the sixth round, our company began reducing inventory. After several games, we got it down to O. Our team uses iterative simulations to determine the optimal production level that brings the list down to zero without a drop in sales due to tighter control over production, maximizing inventory turnover and revenue.

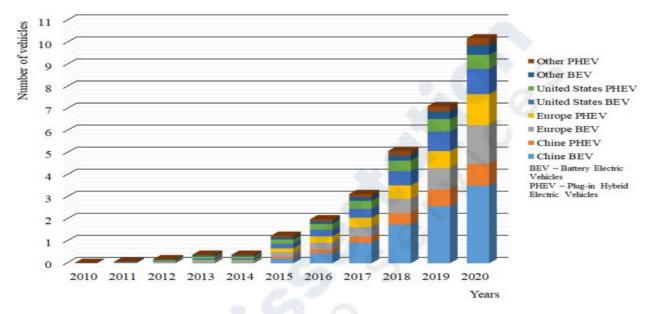


Figure 7: Cost of Vehicles

4.1.3 Earnings Before Interest and Taxes (per worker)

Bryan (2007) defines pre-tax profit per employee as a company's pre-tax income divided by its present personnel, which is the new gauge of organization performance. This metric represents the efficiency and effectiveness in which the company's resources are being used, thus, the amount of profit generated by each employee (Bryan,2007). So, we'll be looking at "pre-tax profit per employee" as our financial indicator of choice. Figure 3 also shows that T5 has a higher pre-tax profit per worker than the average of the other nine teams/companies (orange bar).

Most companies, including T5, lost money from the first through the fifth round. Our company's loss in the fourth round is significantly higher than the industry average because of the communication above issues within our team. Our company started to produce profit in the sixth round, but our pre-tax profit per employee has consistently lagged behind the market norm until the tenth round. There are two primary causes for this situation: first, production is being regulated to reduce inventory, which has resulted in low sales, and second, the number of staff is too high, and productivity is too low. On the other hand, by the tenth iteration, we had identified

the flaws in our production approach and had begun to make the necessary investments in large-scale automation to substitute for human labor to boost output while simultaneously cutting down on expenses. The inventory strategy is also adjusted to make maximum sales when stock is depleted. As a result, T5's pre-tax profit per employee after the tenth round is significantly higher than the norm for the industry. In addition, T5 has the highest pre-tax profit per employee index scores in rounds 101, 111, and 13. After 10 years, we've established a track record of success with our business strategy and significant decisions.



Figure 8: Pretax profit per employee

4.1.4 Implementing Customization for Competitive Advantage in Business

Because the supply of customer data is limited and the structure of information is stand-alone in the business game, this section does not aim to discuss the specific big data technology or algorithms for applying personalization in our organization during business simulation. In this article, we'll use the luxury GD model as a case study to discuss how custom items affect our company's bottom line and analyze whether or not it's possible to apply such a system to the automotive sector. GD was chosen as an example because customization seems to have a more significant impact on the sales of high-end products, which is why affluent consumers place such a high value on it. Figure 4 shows the overall consumer sentiment about our product design as reflected by their opinions of GD's customization choices (blue line) and model design (orange line). Equally applicable to both the option index and the model design index, the customer satisfaction index is the average of the percentage of satisfied customers with the options presented to them. Each round's customer data may be gathered straight from the market perception report in the business simulation game.

5. Discussion

In the European automotive service sector, GHRM sustainability indicators were developed in this study, and TISM was used to investigate the driving and reliance power of these indicators. The TISM model was a six-level hierarchy, with the lowest indicators having the greatest significance, the top indicators having the greatest degree of dependence and the indications in between having moderate significance. According to the findings, "Green organizational culture & adoption of green strategy (C5)" is the most important indicator of the GHRM and has the potential to drive all of the other components of the case industry. On the other hand, "Green employee relations and union-management (C10)" was found to be significantly dependent on the rest of the indicators. The Global Warming Reduction Model (GHRM) not only has positive effects on the environment but also helps save resources for future generations and creates techniques for decreasing costs. The business of providing services for automobiles is just one of the numerous industries that contribute to the degradation of the environment. Going green is a process that cannot be completed without the participation of employees. The study identifies essential indicators for illuminating the organization's environmental Performance and the contextual interaction between the indicators for H.R. professionals. Additionally, the study examines the interaction between the indicators in context. The model that has been suggested takes into consideration no other part of the automotive industry in Europe other than the service sector. For instance, in the beginning, the decisions on product design are not based on the analysis of the customer's taste and habits. As a result, personalized items are not offered to targeted customers, which results in low sales and excessive inventory. The same strategy, with only some minor adjustments, is capable of being made to function in a variety of subfields within economics. Also, the inputs from the case sector specialists could be biased. As a result, the authors would prefer to utilize AHP, ANP, DEMATEL, TOPSIS, and so on, in combination with TISM, in a future study to improve the dependability of the results. An increase in the number of extra crucial factors may also increase the model's inaccuracy, and the MCDM approaches may be utilized to investigate the ranking of these components. According to the authors' plans, PLS-SEM will also be used to validate the investigation results.

In Europe's textile sector, the purpose of this study was to examine how good human resource management practices (GHRM) affect environmental Performance and worker performance. According to the findings, environmentally friendly employee training and development have a sizeable but relatively minor effect on overall staff performance. According to the findings of Daily et al. (2012)'s investigation of 220 manufacturing companies in Mexico, the most significant factor in improving employee performance was an investment in environmentally responsible training and development. According to Masri and Jaaron, environmentally conscious training and development raise the level of employee performance (2017). Some challenges occur in teamwork that's are following: At the beginning of the business game, the team's primary focus was on its internal operations, and they paid little attention to the data of their rivals. In this research paper, it only can be proved that personalization strategy has positive impact on company's performance. Thus, the limitation of this paper is not providing a specific example or case study in real world to describe the role of big data technology in personalization of automotive industry Mishra et al. (2014) discovered comparable findings in other developing nations like India that make use of GHRM practices. Based on these findings, Europe ought to increase its investment in environmentally friendly education and development in order to improve its performance in GHRM. The findings of this study concur with those of Bai and Sarkis (2010), who found that training can improve employee performance. According to Ahmad, employee training and development programs need to incorporate concerns about the community and the environment (2018).

As a result of the rising globalization of the market, manufacturers are now required to place a greater emphasis on the interaction between the market and customer choice, which has become a significant sector in product design and configuration (Kabasakal et al., 2017). As a result, the provision of bespoke goods and services has emerged as a tactic for better satisfying customers' requirements, and the concept of personalization has garnered an increasing amount of study interest from academic institutions and private companies (Tam & Ho,2006). Automobile manufacturers invest more money in digital services to better understand customer behavior and personalization. For instance, GM uses big data analytics to obtain 360-degree consumer profiles (Tian & Chin,2016). Additionally, our group or organization utilizes personalization in the business game as a product design technique. As a result, the specific subject matter of this investigation is "Big data analytics and integration for personalization in the automotive

industry." The purpose of this piece of writing can be summed up as follows: 1) Elaborating on the function that personalization plays within the automobile industry, 2) Outlining the strategy for putting personalization into practice in the real world, 3) Demonstrating the powerful potential of personalization in enhancing the performance of the organization through an indepth study carried out within a business simulation. It does not appear that there is any room for debate on the fierce competition that exists in the global automobile market. In 2016, around 400 different automobile models were available to buyers in the United Kingdom from 44 other automotive brands (Rao,2017). For this reason, automotive businesses must design and implement organizational strategies to attract customers and maintain their competitiveness (Ho,2006). If one were to conduct a cursory literature review on the topic of how automobile manufacturers bring in new customers and establish customer loyalty, one would discover that the majority of the previous kinds of literature primarily focus on two aspects: the first is increasing the quality of products and customer service, and the second is providing personalized products/services.

The primary reason for this shift is most likely due to the technological changes that have taken place in the automotive sector. According to a report published by McKinsey (2016), the automotive industry is undergoing a revolution and experiencing disruptive growth in technology due to the introduction of autonomous driving, connectivity, and electrification. In the past, the sector produced vehicles operated by humans, stood on their own, and was fueled by petroleum. Today, however, the industry is dominated by new cars connected to one another, controlled by artificial intelligence (AI), and run on a wide range of energy sources (World Economic Forum, 2016). Therefore, vehicles' more user-friendly designs are being used due to technological developments. This would lead to changes in customers' driving habits and preferences, which would result in the demand for more personalized products in the future. It would appear that this compels the automotive sector to shift its primary focus from producing high-quality goods to personalizing them. In addition, contemporary marketers know that providing individualized goods and services is the most effective way to captivate clients. This is because customer tastes constantly shift. As a result, a particular topic is being presented that will center on the concept of customization and attempt to describe it as a strategic instrument that may assist automotive firms in increasing their competitiveness and business success. It may be difficult to assess the environmental performance of staff members. Green HRM is a method

that evaluates the efficiency of workers. The efficiency of inexperienced personnel within the framework of the system used by the organization. Consider approaching the problem from the perspective of the available resources as one possible response (RBV).

It highlights how specific populations benefit when companies effectively use their assets. RBV can develop and maintain a competitive edge for businesses. According to the data provided by the company, its most valued resource is its skilled workforce. This idea weaves together the company's cultures and protocols, practices, and records, among other things. According to the findings of studies, psychological learning is influenced. EMEM can incorporate environmental objectives and processes into overall development goals. It is recommended that the concept known as customization be investigated to elucidate the substance of personalization. Personalization and customization are frequently used interchangeably in numerous journals. Customization is when a customer proactively requires one or more specific elements in final products or services. For example, Yahoo allows customers to add specific characteristics to their home pages (Arora et al., 2008). On the other hand, personalization refers to the process by which businesses adapt their goods and services following individual customers' preferences as determined by the information provided by those customers. Because of this, personalization is seen as something initiated by the business, but customization is seen as something undertaken by the customer. In addition, Fan and Poole (2006) consider personalization to be a strategic tool that can alter the content, interface, and information access to the processes in the design of products and services to improve personal relevance to an individual consumer or a group of consumers. According to Arora et al. (2008), customization and personalization have contributed to the creation of differentiated products by providing numerous possibilities for satisfying the preferences and expectations of consumers. The fundamental difference between the two is that customization heavily depends on customer data to forecast how consumers would react to things.

5.1 Conclusion

The body of this research study comprises two distinct portions, each with its own focus. In the first section, the concept of personalization is broken down with an emphasis placed on the automotive industry and big data technology. The automobile industry has seen a shift in its marketing and manufacturing strategies due to technological improvements. The manufacturing

environment in the automotive sector has shifted toward a more customer-oriented approach, which is reflected in the growing popularity of customizing options. In addition, personalization is heavily dependent on consumer data, which results in a high need for data technology for data warehousing, integration, and analysis. As a result, big data is essential in implementing personalization in the real world.

The second primary portion explains our company's personalization strategy in the business game to confirm the individual issue. It also discusses the actions and teamwork involved in business simulations that are carried out using in-depth business analytics. The second primary portion explains our company's personalization strategy in the business game to confirm the individual issue. It also discusses the actions and teamwork involved in business simulations that are carried out using in-depth business analytics. In the second section, the company's results and primary decisions are discussed in terms of the following three aspects: market share, the cost of inventories, and profit before taxes per employee. While this is going on, the luxury model (GD) will be used as a case study to discuss the personalization strategy that our company operates in product design and manufacturing. This will support and corroborate the particular topic, even though there isn't much practice with the significant data aspect of the business game. In conclusion, although there are several obstacles and limits, a considerable amount of valuable experience and exercise can be achieved from business simulation. The use of customization in the automobile industry can be shifted to utilizing specialized big data technology in personalizing products in other sectors as the primary focus of further study. From their point of view, the implementation of green HRM faces several challenges, the most significant of which are the inherent complexities of green technology and the challenges associated with its widespread acceptance. For instance, to create and evaluate efficient green human resource management, one must grasp the environmental effects connected with the operations, supply chain, distribution processes, consumer behaviors, product life cycles, and so on of a business. In addition, considered the absence of technical assistance a barrier to adopting green HRM. The author speculated that the absence of support might be related to the difficulty of accepting new technology. That is to say, the study cited a lack of support from stakeholders as another barrier to implementing green HRM. This research focuses on examining the potential for a link

between the two. This is a pattern that's emerged just recently (i.e., GHRM and GSCM practices). By adopting these procedures, manufacturing companies may improve their sustainability and foster a more environmentally conscious corporate culture. This is crucial to meet the core obligation of manufacturing enterprises: striking a balance between their environmental, economic, and social performance toward the community. To increase their degree of sustainability, industrial enterprises will have no choice but to apply the study's results.



References:

- 1. Yulia, M.; Yong, J.Y.; Tanveer, M.I.; Ramayah, T.; Faezah, J.N.; Muhammad, Z. A structural model of the Impact of green intellectual capital on Sustainable Performance. J. Clean. Prod. 2020, 249, 119334. [CrossRef]
- 2. Bombiak, E.; Marciniuk-Kluska, A. Green human resource management as a tool for the sustainable development of enterprises: Polish young company experience. Sustainability 2018, 10, 1739. [CrossRef]
- 3. Çankaya, S.Y.; Sezen, B. Effects of green supply chain management practices on sustainability performance. J. Manuf. Technol. Manag. 2019, 30, 98–121. [CrossRef]
- 4. Abdul-Rashid, S.H.; Sakundarini, N.; Ghazilla, R.A.R.; Thurasamy, R. The Impact of sustainable manufacturing practices on sustainability performance. Int. J. Oper. Prod. Manag. 2017, 37, 182–204. [CrossRef]
- 5. Yong, J.Y.; Yusliza, M.Y.; Ramayah, T.; Chiappetta Jabbour, C.J.; Sehnem, S.; Mani, V. Pathways towards Sustainability in manufacturing organizations: Empirical evidence on the role of green human resource management. Bus. Strategy Environ. 2019. [CrossRef]
- 6. Dal Mas, F. The relationship between intellectual capital and Sustainability: An analysis of practitioner's thought. In Intellectual Capital Management as a Driver of Sustainability; Springer: Berlin, Germany, 2019; pp. 11–24.
- 7. Yusoff, Y.M.; Omar, M.K.; Zaman, M.D.K.; Samad, S. Do all elements of green intellectual capital contribute toward business sustainability? Evidence from the Malaysian context using the partial least squares method. J. Clean. Prod. 2019, 234, 626–637. [CrossRef]
- 8. Mutu, P.; Thondhlana, G. Encouraging pro-environmental behaviour: Energy use and recycling at Rhodes university, south Africa. Habitat Int. 2016, 53, 142–150. [CrossRef]
- 9. Ahmad, S. Green human resource management: Policies and practices. Cogent Bus. Manag. 2015, 2, 1030817. [CrossRef]
- 10. Alkhateeb, T.T.Y. Green human resource management, financial markets and pollution nexus in Saudi Arabia. Int. J. Energy Econ. Policy 2018, 8, 33–36.
- 11. Roca-Puig, V. The circular path of social Sustainability: An empirical analysis. J. Clean. Prod. 2019, 212, 916–924. [CrossRef]
- 12. Freitas, W.; Jabbour, C.; Mangili, L. Filho, W.L.; Caldeira de Oliveira, je building sustainable values in organizations with the support of human resource management: Evidence from one firm considered as the "best place to work" in Brazil. J. Hum. Values 2012, 18, 147–159. [CrossRef]
- 13. Jabbour, C.J.C.; Santos, F.C.A. The central role of human resource management in the search for sustainable organizations. Int. J. Hum. Resour. Manag. 2008, 19, 2133–2154. [CrossRef]
- 14. Zhao, J.; Liu, H.; Sun, W. How proactive environmental strategy facilitates environmental reputation: Roles of green human resource management and discretionary slack. Sustainability 2020, 12, 763. [CrossRef]
- 15. Higgins, C.; Coffey, B. Improving how sustainability reports drive change: A critical discourse analysis. J. Clean. Prod. 2016, 136, 18–29. [CrossRef]
- 16. Ones DS, Dilchert S (2012) Environmental Sustainability at work: A call to action. Ind Organ Psychol 5(4):444–466

- 17. Cherian JP, Jacob J (2012) A Study of Green H.R. Practices and Its Effective Implementation in the Organization: A Review. Int J Bus Manag 7(21):25–33
- 18. Jabbour E, Kantarjian H (2016) Chronic myeloid leukemia: 2016 update on diagnosis, therapy, and monitoring. Am J Hematol 91(2):252–265
- 19. 5. Bryan, L. (2007). The new metrics of corporate performance: Profit per employee. [online) McKinsey & Company. Available at: https://www.mckinsey.com/business-functions/strateqy-and-corporatefinance/our-insights/the-new-metrics-of-corporate-performance-profit-peremployee
- 20. Arora, N. and Henderson, T (2008). Embedded premium promotion: "Why it works and how to make it more effective." Marketing Science, 26, pp.514-531.

