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Measuring the influence of green HRM, lean HRM, and agile HRM on sustainable manufacturing

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Abstract

This research targets Malaysian manufacturing sustainability as one of the most important industries that affect the country's income. This study aims to examine the relationships between green human resource management (GHRM), lean human resource management (LHRM), and agile human resource management (AHRM) in terms of sustainable manufacturing in Malaysia. For the sake of achieving the objectives of this particular research quantitative method was employed on 562 respondents from the Malaysian manufacturing industry. The data was analyzed via SPSS in the initial and descriptive analysis, while SEM-AMOS was used in hypothesis testing. The findings of the research supported the hypothesis of the significant impact of GHRM on sustainable manufacturing in Malaysia, the significant impact of LHRM on sustainable manufacturing in Malaysia, and the significant impact of AHRM on sustainable manufacturing in Malaysia. GHRM is the crucial base variable to implement other variables (LHRM & AHRM) in the Malaysian manufacturing industry, whereas GHRM has the highest impact and is mostly implemented among the employees and factories.

Keywords: GHRM, LHRM, AHRM, Sustainable manufacturing, Malaysia

1. Introduction

There are certain challenges and obstacles faced in the AHRM implementation process. For instance, AHRM includes several perceptions and concepts to be implemented at the same time, mandating the existence of GHRM and LHRM amongst these concepts. The ease and smoothness of being adapted to any project is another obstacle, as it could cause issues to manufacturing [1]. In addition, the agile perceptions would involve all employees, which might result in much time and effort to be paid, and that could be reflected in performance [1]. Malaysia, one of the Asian countries, started to adopt the agile human resource AHRM [2], and has turned out to be an expected future manufacturing hub [3]. Organizational sustainability is not yet obtained, especially in the manufacturing industry, regardless of implementing lean, agile, six-sigma, and green manufacturing strategies, because of the required high responsiveness to the changes [4], maintaining the workplace, health, and safety of the employees [5].

There is a lack of empirical studies about AHRM toward sustainable performance in the industries [6-7]. In the same study, AHRM was the main factor reviewed and observed to affect the sustainability of the institutions. In the current competitive market, specifically the manufacturing industry, maximizing the value of the products, cutting the costs, enhancing the product's quality, increasing the market share, maximizing the profit, and both brand and social image are critical factors impacting the factory's success [4, 8, 9]. In the manufacturing industry, there are several strategies being adopted, for instance lean, green, six-sigma, resilience, sustainable, and agility but yet the manufacturing industry is not able to adopt every single change and fulfil the needs of the customers [9, 10]. Such an argument encouraged the researcher to conduct a practical study implementing three agile, green, and lean strategies in the Malaysian manufacturing industry.

2. Literature review

This section will go through all the main variables of this research, GHRM, LHRM, AHRM, green, lean, and agile manufacturing is a recent perspective in both developed and developing countries. The literature will be followed by certain supportive theories for this research's variables. The variables selected since green, lean, and agile are crucial towards competitiveness nowadays, and most importantly, to fulfill the world's environmental concerns [11].

2.1. Green HRM (GHRM)

GHRM refers to a set of policies, practices, and systems stimulating green behaviours of an organization's staff for engendering an environmentally sensitive and efficient resource and socially responsible workplace in the organization [10]. Recently, GHRM has been highly recognized in research [11-13]. The term sparked in business after being discussed by [14]. It encompasses all HRM functions into the transformation of promoting, hiring, developing, training, compensations, and appraisal of the employees to be green [12], green job design, green employment, green selection, green performance assessment, green education and development, green reward management, green safety and health management, green discipline management [15]. Human resources must be well prepared in terms of skills, involvement, continuous development, satisfaction, training, trust, and skilful employees [16]. Additionally, technology must exist to improve the sense of the factories and enable the firms to promptly respond to the abrupt changes. In sequence, the implementation of GHRM led to maximising the outputs of the LHRM; in other words, the more GHRM is efficiently used, the better the results of the LHRM [17]. GHRM inspires firms to reduce the waste in pollution, energy, consumption, time, processes, and maximize the possible outputs of the same sources, employees, product designs, raw materials, equipment, and machines, where all are aggregated as an environment-friendly firm [12]. Thus, GHRM leads to more enthusiastic, responsible, careful, and environment-friendly employees, which will surely be reflected in the environmental and organizational sustainability [13].

2.2. Lean HRM (LHRM)

The essential definition and function of LHRM concentrates on minimizing the waste of effort, pay, and time embodied in the HR process [18, 19]. Lean HRM is about the mindset of the employees as the most prominent and powerful source, including their belongingness, involvement, autonomy, decision-making, engagement, and performance, to be reflected in the firm's total performance [20, 12]. In addition, [21, 22] affirmed that the knowledge, skills, and abilities of the employees are the criteria of an effective LHRM in the firms. LHRM significantly affects the organizational sustainability in the firms [23]. It utilizes creative, innovative, analytical, and optimum use of resources, and continuous learning leads to improving employee satisfaction, employee performance, and organizational sustainability [24]. Research [25] also approved the critical need of the organizations for practicing concepts such as agility, green, and lean in such an uncertain business environment.

2.3 Agile HRM (AHRM)

In a very interesting definition of agility [26], it is stated as the range of obtaining greater values of the operations, procedures, customers, and outcomes of an organization and minimizing the waste of effort and

time. Agile is embracing the innovative idea where it's allocated in constructive sights, modern models, and practical approaches [27].

Additionally, agility affects the attitudes, mindset, and capabilities of the employees and managers in the firms. Hence, “HR is going Agile” was introduced by [28] in the Harvard Business Review, where the concept is divided into the operational AHR and conceptual AHR, as the operational AHR is more about the functions of HRM. Research [29] integrated the two green workforce and agile workforce concepts to introduce the green agile workforce.

AHRM enhances the employees' productivity, efficiency, and effectiveness, which would be reflected in the total performance as has been implemented in BBVA and Sky, and reported successful enhancement in the performance for individuals and firms [7]. Some other researchers described AHRM as the optimal way of utilising, positioning, and arranging the employees and their capabilities [30].

The initial level of AHRM is the existence and implementation of GHRM, which is defined as the overall practices, policies, systems, and behaviors of the human resource under the umbrella of expecting the surrounding environmental sensitivity and changes [10, 12]. The inquiry of adaption the agile strategy is flexible and adaptable resources including the human resources which is defined as the average and maximum capability of the human resource department on implementing the technical, steps and levels of the overall organizational changes, the agile manufacturing is the adaption of technology and hitting the customers’ satisfaction [31]. In order to be agile, firms need several factors to assess the agility in the firm’s systems, capabilities, and willingness to adapt the changes to the main factors toward agility [32, 33]. Furthermore, these two factors are implementable in every industry and firm in the world.

Agile HR practices are transforming a firm’s service delivery by encouraging adaptive workforce strategies, continuous improvement initiatives, teamwork, transparency, customer focus, and evidence-based practices [12]. Through cross-functional teams, hospitals are improving communication and collaboration among staff. A flexible staffing roster enables rapid adjustments to match patient demand, optimising resource allocation and reducing bottlenecks. The use of agile performance management facilitates goal alignment and accountability, which enhances the efficiency of service delivery [34]. In the agile context, HR is the most critical department to implement the agility toward performance enhancement, maximizing profits, interaction, and collaboration while minimizing waste, purposely to strategize tactics with high response, flexibility, and adaptability, where such a rapidly changing business environment requires agility toward sustainable performance [35]. Moreover, Agile HR emphasizes frequent feedback loops and performance assessments, facilitating timely recognition of achievements, identification of development areas, and prompt adjustments to enhance individual and team performance [35]. Implementing agile thinking among employees can enhance their speed and flexibility, increase the quality of employees' activities, and lead to more productive operations [36, 11]. The firm's thinking about transmission toward sustainability has to prepare the base of agility practices in all departments [37].

Figure 1. Agility drivers; Source: [37]

Agility is not just a word to be implemented in organizations, but it's a strategic plan that enables organizations to be agile [38]. The three interrelated aspects of achieving agility within organisations [39]. First, 'agility drivers', for example, increased competition and accelerated changes in dynamic environments; second, 'organisational capabilities' like responsiveness, adaptation, and flexibility that support reacting to changes and deriving benefits from them; and third, 'providers', such as organisations, people, technology, and innovation, who facilitate these capabilities.

2.3. Green, lean, and agile manufacturing

The needs of the firms for the employees' flexibility and capabilities to perform various tasks, which could be the way to achieve the satisfaction of the consumers, confirming the importance of human resources in the agile manufacturing industry and the inability to replace them with machines [39]. Transforming the factories to green factories in terms of practices, processes, strategies, and visions is the crucial requirement to obtain organizational sustainability [40, 31], assured that GHRM and LHRM are the antecedents of the agility in sustainable manufacturing.

The purpose of lean manufacturing (production) is to achieve a better result by spending less money, labor, and other resources [31]. The lean concept performs well where demand is relatively stable and predictable, and variability is low. Lean manufacturing is a set of steps that work together to create a successful, high-quality system that meets customer demand with minimal waste to produce the final product. Researchers [40] believe that any system of manufacturing factors, such as manpower, raw materials, machinery, and time, that is overused and does not provide added value to the final product is a waste and should be eliminated.

In 1991, the concept of agile manufacturing was used for the first time at the Iacocca Institute, Lehigh University. Researchers [41] divided agility into certain sections: delivering value to the customers, being ready for change, valuing human knowledge and skills, and forming virtual partnerships. The aspects describing agility are all related to human beings, either as customers or providers, technology, and changes. An agile manufacturer is defined as a strategic plan and predictions for the future of the factory, where importantly is the agile resources are importantly provided [42]. In addition, agile manufacturing is meeting the demand of consumers by preparing processes and operations toward achieving customer satisfaction, which is the highest priority in the manufacturing industry.

The types of waste are classified into seven groups: overproduction, excess inventory, waiting, transportation, unnecessary motion, overprocessing, and defects [12]. Due to the changes in the world, the manufacturing industry shall proceed with the new perspectives toward more market share, profit margin, branding image, social image, society satisfaction, and aligning the global market [40, 43, 8].

There is a reported issue toward sustainable manufacturing as even with the implementation of Lean, Green, Six-sigma in the factories but not yet achieving the sustainability [4, 40], this research aims to combine the three concepts, Green, Lean and Agile in the Malaysian manufacturing industry and figure out the possible results. Lean is an initial step in obtaining a competitive advantage toward sustainable performance. There is a need for collaborative operations of various departments in Agile manufacturing rather than the conventional sequential operations. Agile manufacturing concentrates on the management of time, whereas flexibility focuses on the measurements of competencies [41]. The environmentally suitable and friendly manufacturing system is called a sustainable manufacturing system.

The continuous failure of implementing a solo method in the manufacturing industry has the researchers to attempt to combine the concepts of Green and Lean, while others have combined Lean and manufacturing. This research aims to combine GHRM, LHRM, AHRM, and sustainable manufacturing. Lean manufacturing affects the sustainability of the firms [42, 41]. One of the best definitions of agile manufacturing is how fast the factories respond to the customers' requirements, how fast they serve customers, fix issues, and how efficiently they deal with the beneficiaries. Lean aims at managing limited resources, while agility aims at abrupt changes.

The concept of integrating human resource management is green, lean, and agile, first introduced by [43] first introduced it in the field of supply chain management. One of these concepts won't be effective if integrating more than one. However, it is crucial to study the concepts of lean human resource management, agility, flexibility, and green; what emerges is the outcome of empirical research [44]. According to [37], technology is not the only factor for a firm to be agile, because workers need to be trained to apply the technology and cope with the dynamic environment. Concepts such as lean, green, agile, and sustainable would be reflected on to increase the firm's performance [11, 45,46]. The concept of agile is improving the response of the firms to risks, changes, learning, technology, collaboration, cooperation, flexibility, and adaptability [11]. AHRM is the optimal driver of organizational sustainability and development [49] and innovation [50]. Other research [47, 48] explored the manufacturing industry, either examining the GHRM or LHRM. The integration of both concepts GHRM and AHRM was sparked when [51] targeted the agile workforce to be represented by the ability to respond in the right way within the shortest possible time where achieving the optimal possible performance based on the history of the factory, which in another words mean being able to change in the procedures and functions with ensuring the sustainability of the manufacturing.

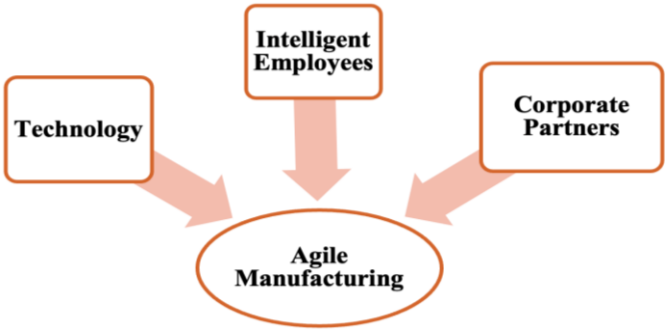

Figure 2. Agile manufacturing requirements; Source: [16]

The HR department is the ruler of the Green-Lean-Agile strategy, which mostly ends up with sustainability [52]. This research aims to examine the impact of each of GHRM, LHRM, and AHRM on sustainable manufacturing in Malaysia, as the first study including all three variables at once. Where [53] concluded that concepts of lean and agile are not only inseparable but also interdependent in organizations (lean, agile, and green practices). The LAG top practice is identified to be sustainable packaging, which significantly impacted performance [54]. On the other hand, [55] identified barriers related to the lean, green, agile mindset in manufacturing systems.

2.4. Supportive theories

2.4.1. Self-determination theory (SD theory)

It's a prominent theory suitable to shape the human resource attitudes in the organizations [56]. Thus, self-determination theory is needed as the basis of GHRM practices by engaging the employee's attitude and engagement with the working environment as a new green working environment, fully motivated and believing in the concepts [56]. Furthermore, the SD theory provides a valuable lens through which to examine the influence of green HRM practices on employee behaviour [56]. In the specific context of this study, employees have psychological needs, such as competence, relatedness, and autonomy, which can be explored in relation to green HRM practices. Finally, the theory exploring the strategy to implement lean-agile perception found that it sparked when there existed green practices in the firms [12, 37].

2.4.2. Stimulus-organism-response (S-O-R) theory

SOR theory supports the adaptability of employees to the new instructions and culture [57]. The main pillars of this theory are stimulus, organism, and response. Thus, the high response to the changes, especially the green practices, will enhance the values, principles, behaviours, and satisfaction of the employees, as it's about the lean and agile mindset preparation. Basically, the theory targets a lean-agile mindset amongst the employees by improving the creativity, innovation, adaptability, and efficiency [12].

Table 1. Reliability and multicollinearity

	Statements	Source	R	C. R	VIF	Tol	Skew	Kurt
	Sustainable Manufacturing							
SM1	There is a proposed dynamic model of agile manufacturing toward sustainability.	[61]	0.743	0.803	1.534	0.432	1.432	0.499
SM2	Costs, quantity, quality, and humanity are improved and sustained in our factory.		0.831	0.855	1.488	0.458	-0.435	1.939
SM3	The factory relies on agility, lean, and green principles.		0.940	0.941	2.094	0.753	0.995	1.493
SM4	There is a sequence in the implementation of sustainable production.		0.852	0.855	2.945	0.853	0.102	0.943
	Green HRM							
G1	I think that job positions in our factory enable involvement in environmental management activities.	[60]	0.904	0.905	2.490	0.758	0.239	-0.094
G2	I think that the environmental performance of the factory attracts employees.	[15]	0.831	0.833	1.485	0.856	1.043	0.039
G3	The HR department selects employees by considering environmental motivation in our factory.		0.971	0.979	1.499	0.543	0.048	-0.438
G4	My factory sets green goals for its employees.		0.752	0.772	1.400	0.664	1.955	0.948
G5	My factory provides employees with training about green organizational culture.		0.790	0.794	1.934	0.630	0.938	1.930
G6	My factory considers employees' workplace green behaviour in performance appraisals.		0.753	0.755	1.395	0.499	-1.049	0.043
G7	My factory relates employees' workplace green behaviours to rewards and compensation.		0.895	0.898	1.945	0.503	1.995	0.993
G8	My factory considers employees' workplace green behaviours in organizational agility.	[61]	0.809	0.811	1.440	0.550	-0.339	1.942
	Lean HRM							
L1	This factory provides appropriate training for performance evaluators.	[62]	0.877	0.893	2.488	0.850	1.293	1.284
L2	Work teams are assigned for day-to-day participation in issues like quality control, maintenance, work planning, and safety.		0.860	0.890	2.059	0.844	1.049	0.949
L3	There is a system for employee suggestions, whereby suggestions are applied.		0.730	0.752	2.978	0.399	-1.454	0.900
L4	When employees are recruited, willingness to learn new skills is highly valued.		0.757	0.799	2.868	0.546	-0.004	1.394
L5	This factory provides rewards for applied ideas suggested by either individuals or teams.		0.798	0.853	1.559	0.475	0.932	1.995
	Agile HRM							
A1	It is easy to understand how those green operations are applied to serve the agility.	[60]	0.857	0.890	1.657	0.653	1.395	0.873
A2	My factory has been fast in terms of detecting changes that occur in customer preferences for products.		0.880	0.885	1.878	0.449	-1.053	0.756
A3	My factory has been fast in terms of detecting changes.		0.940	0.965	1.885	0.608	1.493	1.039
A4	My factory analyses important events concerning customers, competitors, and technology without any delay.		0.962	0.970	1.950	0.570	0.499	-0.043

Note: R: reliability, C.R: composite reliability, VIF: variance inflation factor, Tol: tolerance, Skew: skewness, Kurt: kurtosis

3. Method

This research was conducted as a quantitative study, which is more suitable for a population size of 2.37 million employees in the Malaysian manufacturing industry, according to STATISTA (see the link provided in the references list) in April 2024. The selected sample will avoid bias as each employee has the same chance as others to be selected. Thus, the sampling method utilized is a simple random sampling method sized 384 employees to represent the given population size [58]. Thus, 713 questionnaires were distributed on 22 factories (see the appendix) in Malaysia, but only 18 factories responded; only 562 questionnaires were usable for the analysis purpose. The selection criteria of the employees were based on their willingness to participate and their knowledge and awareness about the concepts of the research. The questionnaires were via both languages, English and Bahasa Melayu, to enable the researcher to collect as many responses. The items of the questionnaires were adapted from different sources presented in Table 1, and face validity by experts in the field was done to approve the items after certain amendments were required. The questionnaires are divided into five sections: section A representing the demography of the employees, section B - sustainable manufacturing, section C - green HRM, section D - lean HRM, and section E - agile HRM. The data will be analyzed via structural equation modeling (SEM) and AMOS.

4. Results and discussion

The first analysis to be discussed is the demographic profile for the respondents; 71.7% of the respondents were males and only 28.3% were females, describing the majority of the Malaysian manufacturing industry employees. The highest range of age was 30-40 years old, followed by 20-30 years old employees. The lowest educational qualification, with just secondary school, appears with the highest percentage of 49% of the total respondents. The employees of the Malaysian manufacturing industry mostly have an experience range of below five years in the same factory, with 52.5% of the total employees.

The following are the reliability and multicollinearity of the research items. The reliability of the items scored Cronbach's Alpha above 0.7, which refers to [59] which is indicating the goodness of items and accessibility to the next step of the data analysis. Composite reliability scored a high score and higher than Cronbach's Alpha as well. The variance inflation factor VIF which is the optimal factor of this value to be up to 1 and tolerance to be up to 0.2 as a minimum [60], the scores of these values a stated in the following table were within the eligible values for the indication. Skewness and kurtosis acceptance range is -2 to +2 according to [60], the current study found all items skewness and kurtosis values within the identified accepted range, with the highest score for skewness 1.492 and the lowest -1.454, where for kurtosis highest scores were 1.995 and the lowest -0.438.

In structural equation modeling (SEM), confirmatory factor analysis (CFA) is one of the most crucial tests to be conducted is crucial for validating latent constructs in SEM [63]. First step in CFA is factor loading of the items, resulting in deleting G7 only due to indicating a very poor loading score of 0.306, which is less than 0.4 [64]. Construct validity, the second step in CFA, relies on assessing model fit. Adequate fit is indicated when at least one of the fitness indexes meets accepted criteria across three categories [65, 66]. The measurement model obtained strong correlation between the variables with scores above 0.85 as criteria of accepted correlation [67-71], the model fit of the CFA were all in the acceptance range with scores of Chi-square 1528.938, RMSEA 0.0482, CFI 0.627, NFI 0.941, TLI 0.872, Chi-square/df 2.984, and Pclose 0.300. The results do not all attain the fit scores, such as CFI and TLI less than 0.90, but the other validity, reliability, and loading are high, which encourages the researcher to pursue analyzing the data.

Exploratory factor analysis (EFA) is another analysis to be employed on the data to find the regression and effect of GHRM, LHRM, and AHRM on SM in the Malaysian manufacturing industry. Based on the same criteria stated above, the conceptual model indices as presented in the tale below are Chi-square 1366.234, RMSEA 0.012, CFI 0.837, NFI 0.913, TLI 0.927, Chi-square/df 2.903, and Pclose 0.001. The score of CFI is not accepted.

Table 2. Model fit indicators

Category	Indices value	Acceptance value	Remark
Chi-square	1366.234	P-value > 0.05	Accepted
RMSEA	0.012	RMSEA < 0.08	Achieved
CFI	.837	CFI > .90	Not Accepted
NFI	.913	NFI > .90	Accepted
TLI	.927	TLI > .90	Accepted
Chi-square/df	2.903	Chi-Square/f <3.0	Achieved
Pclose	0.001	Pclose > 0.000	Achieved

The values of CFI below 0.9 are justified by previous scholars as if the other indices are all accepted, then such a value could be considered more than 0.8 considered accepted [72]. The hypothesis testing summary listed below in the table contains the estimation, standard error, critical ratio, and significance of each relationship. The impact of green HRM on sustainable manufacturing in Malaysia was significantly positive with sig 0.000, C.R 3.207, S.E 0.021, and the highest estimation of 0.937 in the study. The impact of lean HRM on sustainable manufacturing in Malaysia was significantly positive with an estimation of 0.820, S.E. 0.103, C.R. 2.384, and significance of 0.009. The significant positive impact of agile HRM on sustainable manufacturing in Malaysia was indicated were estimation 0.436, S.E 0.032, C.R 2.073, and significance of 0.040.

Table 3. Standardized regression weight

	Estimation	S.E.	C.R.	P
Green HRM > Sustainable Manufacturing	.937	.021	3.207	***
Lean HRM > Sustainable Manufacturing	.820	.103	2.384	0.009
Agile HRM > Sustainable Manufacturing	.436	0.032	2.073	0.040

This study, conducted in the Malaysian manufacturing industry, involves predictors (green HRM, lean HRM, and agile HRM), and a predictor is sustainable manufacturing. Firstly, GHRM and sustainable performance or sustainable manufacturing studies in Malaysia were observed; the previous studies [73-74] affirmed that GHRM, by all practices and functions, directly has a significant and positive influence on the Malaysian sustainable manufacturing performance. Which aligned with the current study's results, as the significant and positive impact of GHRM on sustainable performance. In addition, [75, 76] assured that GHRM does not fully support sustainable performance in the Malaysian manufacturing industry. In other words, not all GHRM practices supporting sustainable performance in the manufacturing industry, training, and rewards happen to be insignificantly affecting sustainable performance in the Malaysian manufacturing industry. This variant in the results shows that the different samples could have different results. Therefore, [77] stated that GHRM affects Malaysian sustainable manufacturing mediated by certain variables. In this particular study, engagement was examined to be the mediator of the relationship, while [78] examined the relationship between GHRM and SP mediated by environmental performance, resulting in a significant and positive influence. In sum, the GHRM impact on SP in the Malaysian manufacturing industry was rarely examined in specific, with just less than 20 papers, as well as the results of the examination are not yet clear and confirmed, where the different measurement tools and differences in the sample could make changes in the outcomes.

Secondly, LHRM and sustainable performance in the Malaysian manufacturing industry were specifically examined in fewer than 10 studies. Particularly, [79] concluded that learning the SMEs manufacturing industry in Malaysia leads to sustainable performance. LHRM and lean total quality management (LTQM) as variables to enhance the manufacturing companies in Malaysia [79]. These results encourage the researchers to conduct this specific research examining the direct impact of LHRM on SP. With the significant and positive results, this paper supports the importance of LHRM toward sustainable performance in the Malaysian manufacturing industry.

Thirdly, this research paper resulted as there is a significant and positive impact of AHRM on sustainable manufacturing. In the previous studies, there wasn't a particular study examining the AHRM on SM in Malaysia. AHRM is an indication of environmental and cultural improvement in the nations [1].

5. Conclusions

In conclusion, the examination of the relationship between GHRM, LHRM, and AHRM on sustainable manufacturing amongst the Malaysian factories resulted as there is a significant impact of each GHRM, LHRM, and AHRM on sustainable manufacturing. The highest impact amongst the variables on sustainable manufacturing is GHRM, followed by LHRM, and lastly AHRM. This research assures that the significant impact of AHRM on sustainable manufacturing has a low effect due to the new implementation of AGRM in the Malaysian manufacturing industry. Therefore, the research recommends the implementation of concepts and attempts to involve these effective terms in the manufacturing industry, to enhance sustainability in the industry, especially Malaysia as a country competes in Asia in the manufacturing industry. Future researchers are recommended to use a mediator or moderator variable in the relationship, involve a higher response rate in future studies, and include of qualitative method targeting the managers of the factories to consider another view of the point.

Declaration of competing interest

The authors declare that they have no known financial or non-financial competing interests in any material discussed in this paper.

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Author contribution

Ishaq Ibrahim: This is an individual work done only by me in a period of 9 months, including collecting data and the writing process. Rany Abu Eitah: Developing the literature of the research and adapting the questionnaires items.

Ethical approval statement

Research ethics approval was obtained by the Ethical approval to report this case was obtained from *Jawatankuasa Etika Penyelidikan dan Moral*, FWA000024213 (*Federalwide Assurance*) and IRB00010568 *Institutional Review Board*.

Informed consent

Informed consent for the publication of personal data in this article was obtained from the participant(s).

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