

Upgrading Human Resources Practices of Manufacturing Sector to Sustainable Green Human Resources Practices in Pakistan

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ABSTRACT

The core objective of the study is to examine the transformations in human resource practices in the manufacturing sector of Pakistan through investigating current human resource operations through the lens of green concepts. The study aims to examine the prevalent human resource practices concerning manufacturing procedures, practices and processes to identify the practical implementation of green management practices for sustainable growth. The current research employed a quantitative research design with a positivist worldview and deductive approach. Convenient sampling was utilized to gather data from the respondents working in the manufacturing sector to achieve the objectives of the study. The survey instrument was employed which consisted of close-ended question items adapted from the previous state of the art studies. The collected data underwent a sorting and coding process into SPSS file sheets. The descriptives, correlations, and validity were assessed via SPSS. The findings of the study revealed that conventional human resource practices pose relative challenges in terms of bringing sustainable growth. The results indicated that manufacturing facilities' proficiencies improved with sustainable green human resource practices in contrast to prevailing trends. The study concludes that sustainable human resource practice adoption is possible in the long run although existing practices offer little room for integration of new innovative approaches such as triple bottom line. The study contributes to the scholarly discussion regarding the green human resource practices in Pakistan and informs Human resource managers, executives, and policymakers regarding potential advantages of green human resource-based hiring strategies.

KEYWORDS: Green HRM, Triple Bottom Line, Manufacturing facilities

INTRODUCTION Manufacturing companies worldwide are increasingly focusing on adopting sustainable practices as their top priority (Shah & Soomro, 2023). To bring new human resource patterns, continuous improvement are practiced to induce innovation and germinate a spirit of competitiveness (Mousa & Othman, 2020). Relative advancements within operational practices are being considered to evolve current human resource principles. Traditional human resource practices are transformed into new approaches by

investing in large-scale initiatives in not only service industries but also in manufacturing sector. The environmental contribution is a necessary factor that needs to be considered by each organization and corporate business entity (Khan & Muktar, 2020). This is more important in as organizations have adopted a triple bottom line approach to business practices which contains ample concern for people, planet and profit dimensions (Nawaz et al., 2021). According to Saeed et al. (2019) to overcome the various human resource challenges, the integration of technological techniques are introduced to bring sustainable growth. Similarly, Hair Jr and Sarstedt (2021) proclaims that it has been identified that conventional practices processed within the human resource framework were inefficient due to which employee performance lacks to initiate productive outcomes. The current emphasis of government institutions is on integrating sustainable development goals to be practiced within manufacturing enterprises to reduce the carbon emission ratio (Amjad et al., 2021). Implementation of sustainable human resource practices is a core objective for bringing sustainable development (Ahmad, Islam, Sadiq, & Kaleem, 2021). The research findings of Raza and Khan (2022) indicated that integrating human resource strategies will provide relative direction and guidelines regarding engaging employees within current HR processes. To increase the coordination rate, employee engagement is practiced by involving the workforce with each other (Hooi, Liu, & Lin, 2022). The traditional approaches lack behind in guiding the employees towards sustainable practices, due to which managing workplace dimensions become a complex process (Karatepe, Hsieh, & Aboramadan, 2022). In the light of preceding discussions, it can be said that due to challenges that strategic human resource management encountered in the past was larger due to which reduced productivity prevails.

The current study strives to identify the implication of sustainable growth within manufacturing companies operating in Pakistan by way of comparison with prevalent practices. Moreover, it also compares the current operational approach with traditional practices that provides an understanding for management regarding how to bring sustainable growth in such industries which are plagued by inefficiencies and low productivity. In other words, this study strives to identify a change in human resources practices within the manufacturing sector in Pakistan to induce sustainable growth in manufacturing concerns. More specifically, the current research answers the questions; How current human resource practices are implemented within the manufacturing process? What is the importance of green management practices to ensure sustainable growth? How human resource principles improved within manufacturing companies of Pakistan? In order to achieve the aim of the study the following objectives of the study have been formulated; To explore current human resource practices implemented within the manufacturing process.; To identify the implication of green management practices for bringing sustainable growth; To recommend manufacturing enterprises to bring sustainable growth in the long run.

LITERATURE REVIEW

From a corporate view, managing the expectations of associated stakeholders are necessary based on which stable production practices are adopted (Bhatti, Saleem, Murtaza, & Haq, 2022). Maintaining sustainable growth amidst growth pains is one of the core principles for companies within the manufacturing sector (Nisar et al., 2021). The current manufacturing practices implemented by companies in Pakistan are not focused enough on sustainable growth, which has led to inadequate management of environmental impact as well as reduced productivity. The implication of green practices within manufacturing firms involves effective knowledge within management and the workforce to adopt a cost-effective approach to managing production expenditures (Yong, Yusliza, & Fawehinmi, 2020).

Managing business resources and initiating core competency practices are significant for sustainable growth. The research findings of Parida and Brown (2021) indicated that manufacturing firms are a major contributor to economic stability and growth. The integration of resource-based practices assists in gaining a sustained competitive advantage in manufacturing concerns (Chien et al., 2021). According to Shahzad, Qu, Rehman, and Zafar (2022) manufacturing practices must focus on waste management principles as minimizing operational cost and production waste is a significant factor to be considered by operational management. Hence, the current study aims to identify the change practices, and processes within the manufacturing sector of Pakistan and evaluate the efficacy of current approaches in comparison to conventional practices in vogue.

According to the study of Al-Swidi, Gelaidan, and Saleh (2021) traditional manufacturing practices were lacking in adopting sustainable growth. The intervention by government institutions in bringing transformation was minimal, which created significant challenges in bringing green production (Aggarwal & Agarwala, 2023). The manufacturing policies were not effective as waste management practices were not implemented (Akbar, Yousafzai, & Akbar, 2023) (Abdullah Kaid, Gelaidan, & Saleh, 2021). However, current human resource practices are a cost-effective means for in bringing low forms of innovation (Bhatti et al., 2022). As discussed by Muisyo and Qin (2021) employees functioning within organizations and corporate businesses are assets; therefore, it is necessary to provide relative training patterns to process sustainable green manufacturing. The implication of green practices will result to bring down by adopting waste management principles by reducing costs and minimizing operational resources (Akbar, Ahmad, & Yousafzai, 2022; Luu, 2019; Marwat, 2023). The research findings of Syed, Li, Junaid, and Ziaullah (2020) indicated that in order to process sustainable growth, strategic relationships with suppliers must be managed in order to attain effective raw materials to be used within the manufacturing process. In this regard, the supplier evaluation process must be adopted to manage long-term business relationships (Akbar et al., 2022; Tang, Chen, Jiang, Paillé, & Jia, 2018). In addition, Huang, Chien, and Sadiq (2022) revealed that production principles adopted within Pakistan during the traditional time frame involve using non-renewable resources, due to which sustainable production becomes challenging.

Lack of knowledge creates significant problems for production management within a past time frame (Irani, Kilic, & Adeshola, 2022). Moreover, the operational patterns and processes introduced within the manufacturing process were less focused on maintaining quality standard practices, due to which mass production is one of the core objectives of the management during traditional practices (Costan et al., 2021; Yousafzai, Nawaz, Xin, Tsai, & Lee, 2020). Still the current manufacturing process involves certain standardization practices based on which sustainable production is focused. The research findings of Rehman et al. (2021) indicated that managing resources, i.e. equipment, production facilities require effective adoption of planning principles based on which labor functioning within the production processes are guided accordingly. The integration of technological patterns has combined human intervention with advanced machine based processes on which production efficiencies are managed as timely production is simple to handle (Akbar & Ahmad, 2022; Amrutha & Geetha, 2020). The intervention of technological practices reduces certain challenges and complexities due to which accuracy within current operational practices can be attained. During the Covid-19 situation, strategic management transformed many operational practices as a relative focus on managing sustainable manufacturing principles has been emphasized (Leong et al., 2019). Based on the preceding discussions; it is asserted that sustainable development practices creates opportunities for employees and employer in

understating the long term positive, and differential effects of green human resource practices in organizational statutes and regulations.

METHODOLOGY

Research design is used for selecting methodology for a particular investigation and specific subject matter within the inquiry. Research design serves as guide map which enlists relative processes and relative patterns to be included in the studies (Dannels, 2018). The research design entails the philosophical worldviews, the data to be used in the study as well as method to be adopted for collecting data along with respondents are determined in advance. The current study uses a quantitative research design in which statistical interpretation of data was carried out with the help of software. The rationale for using a quantitative research design is that research questions and problems identified within the study has been addressed effectively by a positivist ontology as against other competing ontologies (Creswell et al., 2018). Moreover, no biasness was recorded in the current study while collecting quantitative data from the respondents as an objective process in line with positivist epistemology was observed.

Collecting data within the study is an essential element, as validation of the study is maintained by using data. To center the study towards specific arguments and particular logical reasoning, it is necessary to collect data sets in various patterns and forms from different data sources to validate the study. By understanding the ratio of resources available to the researcher, i.e. time, cost etc., a data collection method is selected within a study. The data collection process consists of two methods, i.e., primary, secondary (Rahimi et al., 2021). The primary data collection process involves gathering data by involving human subjects within a study (Ruggiano & Perry, 2019). The researcher's direct involvement with participants is significant for collecting real data (Clark, Williams, Kirkegaard, Brickley, & Ball, 2022). To reduce biasness, ethical implications within the study need to be considered. The primary data collection method involves face-to-face interviews as well as online questionnaires. For conducting interviews, a proper physical setting must be managed to conduct interview sessions. However, questionnaires was collected based on both physical and online methods (Radwan, Radwan, & Radwan, 2020). Interviews involve open-ended feedback and reviews collected from respondents, and the questionnaire approach involves close-ended responses from involved participants (Levis et al., 2020). To collect secondary data, secondary sources, i.e. books, journal articles, magazines etc., is used based on which secondary studies is conducted. The secondary studies omit the inclusion of participants as secondary data consists of the experimental process conducted within closed observations based on which authentic secondary data is collected (Uljarević et al., 2021).

Within the current study, the primary data collection process is used. To collect primary data 5-point Likert scale, a close-ended questionnaire technique has been considered, on which relative responses from the participants was collected. The sample size within the current study was 150 respondents. The total population to be considered within the study were employees who work in manufacturing firms of Pakistan. The research's core responsibility is to manage ethical implications within the study. In this regard, it is necessary to provide complete confidentiality to involved participants, and their informed consent must be used within a study (Ross, Iguchi, & Panicker, 2018). Moreover, the participants are randomly selected without compromising the reliability of the study. In addition, participants were completely free to withdraw their personal information and responses from the study whenever they feel uncomfortable. To secure data in the form of responses and personal information provided by the respondents is stored within password-protected USB devices consisting of encrypted folders. To secure data, further password-protected laptops is used.

RESULTS AND DISCUSSION

The validity of the study depends on the reliability of the data. The reliability test indicates how reliable the data was collected from the respondents, and it shows that rather participants filled the questionnaire with proper concentration. The more reliable the data is it will produce more valid the results. The value of Cronbach's alpha needs to be greater than 0.6; the value within a current study as reported in table 4.1 was ascertained as 0.72, which is greater than 0.6, showing that data collected from respondents falls within the green zone of reliability.

TABLE 4.1 RELIABILITY ANALYSIS

Case Processing Summary			
		N	%
Cases	Valid	150	100.0
	Excluded ^a	0	.0
	Total	150	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized items	N of items
.724	.725	10

DESCRIPTIVE STATISTICS

The descriptive analysis test shows mean and standard deviation values. The mean test within descriptive analysis indicates average values for each question. For calculating mean values, the responses collected from each participant for each question separately was added and divided by the total number of respondents based on which average values for each question is calculated. The average mean values within the current study were around 3 for each question which shows that the average values for each question are alike. The standard deviation values indicate the scatteredness of the responses and how far or near the responses are from average mean values. The standard deviation values as reported in table 4.2, which is near to average mean values, i.e., 3, which showed that the participants' responses are near each other.

TABLE 4.2 DESCRIPTIVE ANALYSIS

Descriptive

[DataSet1]

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Question 1	150	1	5	3.06	1.439
Question 2	150	1	5	3.28	1.405
Question 3	150	1	5	2.89	1.452
Question 4	150	1	5	2.93	1.415
Question 5	150	1	5	3.15	1.460
Question 6	150	1	5	3.09	1.387
Question 7	150	1	5	3.03	1.545
Question 8	150	1	5	3.11	1.308
Question 9	150	1	5	2.91	1.343

Question 10	150	1	5	2.96	1.446
Valid N (listwise)					

The frequency test is the part of the descriptive analysis in which each table and graph indicates the ratio of each response selected by participants. The question:1 of the study as revealed in table 4.3 of the study; indicated the role of the sustainable green process towards enhancing operational practices within manufacturing companies of Pakistan; asking this question to involved participants showed that 26 employees strongly agreed with the question, 39 agreed, 18 responded neutral, 34 answered in to disagree, and 33 strongly disagreed. According to the study by Naim, Muniasamy, Clementking, and Rajkumar (2022), it is being identified that know-how towards green manufacturing principles brings relative advancements within manufacturing companies with time. In this regard, large-scale investment decisions assist operational managers in bringing new practices based on which operational costs is minimized. The second question showed that traditional manufacturing principles were more challenging; it revealed that 20 employees were strongly agreed with the question, 33 employees were greed, 21 showed a neutral response, 37 provided disagreed, and 39 provided strongly disagreed answers as represented in table 4.4 of the study. According to Haghnegahdar, Joshi, and Dahotre (2022) research findings indicated that conventional practices involve relative complexities within the production process, due to which on-time production and maintaining green practices become difficult. The third question indicated that a cost-effective approach is used to minimize operational expenses within production companies. While asking the question as reported in table 4.5 of the study; 37 responded strongly agree, 28 replied to agree, 26 answered neutral, 32 replied in disagree, and 27 answered strongly disagree. The research study of Vaneker, Bernard, Moroni, Gibson, and Zhang (2020) concluded that waste management practices reduce production costs as demanded production is emphasized rather than mass production.

The fourth question revealed that human resource practices changed with time; while asking the question, as reported in table 4.6 of the study; 35 replied strongly agree, 25 answered in to agree, 31 replied neutral, 34 answered disagree, and 25 replied strongly disagree. In accordance with the findings of Piwowar-Sulej (2021) human resource policies evolved with the time frame as the recruitment pattern of the employees involves hiring a workforce with relative knowledge regarding the green sustainability process. The fifth question showed the implication of the technological process is significant in hiring a skilled labor force. With respect to this item, 28 respondents replied to strongly agree, 30 answered to agree, 18 were neutral, 39 disagreed, and 35 strongly disagreed as revealed in table 4.7 of the study. The research study of Wissemann, Pit, Serafin, and Gebhardt (2022) indicated that the integration of technological principles assists strategic human resource managers in recruiting a highly skilled and capable workforce based on which operational practices is enhanced. The sixth question indicated that initiative towards training sessions is relevant towards enhancing employee skills and capabilities based on which continuous improvement is practiced. While asking this question, as reported in table 4.8 of the study; 23 respondents answered strongly agree, 36 answered agree, 27 were neutral, 32 disagreed, and 32 strongly disagreed. The research findings of Manzoor, Wei, Bányai, Nurunnabi, and Subhan (2019) indicated that providing on-time training to employees is relevant and further influence their working practices. The seventh question indicated that traditional approaches used within human resources were more time taking and involved relative challenges. When asking the question employees as stated in table 4.9 of the study; 37 respondents answered strongly agree, 26 replied to agree, 22 answered neutral, 26 disagreed, and 39 strongly disagreed. According to the research of Zavyalova, Sokolov, and Lisovskaya (2020) conventional human resource

processes were inefficient due to being associated with relative risks. The complexities associated with past human resource principles create relative problems for management to attain strategic objectives. The eighth question showed that managing sustainable practices is important for manufacturing firms in the long run. On answering the question as reported in table 4.10 of the study; 23 replied strongly agree, 26 answered to agree, 37 were neutral, 39 disagreed, and 25 strongly disagreed. The research study of Shahzad et al. (2022) revealed that maintaining sustainable growth is necessary as production companies need to emphasize quality manufacturing by estimating demand.

The ninth question showed that the availability of minimal resources creates operational challenges for manufacturing enterprises in Pakistan; while answering the question, 30 answered strongly agree, 31 agreed, 33 were neutral, 35 disagreed, and 21 strongly disagreed. The study of Amjad et al. (2021) concluded that scarcity of resources brings certain problems within operational practices, due to which managing sustainability is a hectic task for manufacturing companies. The tenth question asked by the researcher shows that using the participative approach is relevant to be used by operational managers to collaborate with subordinates. The respondents' answers show that 33 out of 150 strongly agreed, 30 replied to agree, 27 were neutral, 30 disagreed, and 30 strongly disagreed. The research findings of Busse and Regenber (2019) indicated that the participative leadership dimension engages managers with employees, due to which operational challenges were minimized in the long run. A correlation test shows the relationship between the variables and factors used in the study. Moreover, the correlational test shows the linear relationship between factors and their strength. The value of correlational needs to be less than 0.05, which will show that the variables and factors are strongly correlated. The correlational table shows that the majority of the values are less than 0.05, which indicates a strong positive relationship between questions; however, some of the values are more than 0.05, which indicates a weak relationship between questions. The correlational value of more than 0.05 shows that themes identified within the questions are unrelated. For, i.e. the correlational value identified within Q:2 and Q:4 is 0.149, which shows that the relationship between the questions is weak and the themes identified within the questions are unrelated. The theme identified in question:2 shows that conventional methods initiated within the manufacturing process are more complex, whereas the theme identified in question:4 shows that human resource practices have been changed with time frame. The value of correlation shows that both questions are weakly correlated with each other. Further, it indicates that the linear relationship between the two is negatively directed.

TABLE 4.3 QUESTION ONE

Frequency Table

Question 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	26	17.3	17.3	17.3
	2	39	26.0	26.0	43.3
	3	18	12.0	12.0	55.3
	4	34	22.7	22.7	78.0
	5	33	22.0	22.0	100.0
	Total	150	100.0	100.0	

TABLE 4.4; QUESTION 2

Question 2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	20	13.3	13.3	13.3
	2	33	22.0	22.0	35.3
	3	21	14.0	14.0	49.3
	4	37	24.7	24.7	74.0
	5	39	26.0	26.0	100.0
	Total	150	100.0	100.0	

TABLE 4.5 QUESTION 3

Question 3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	37	24.7	24.7	24.7
	2	28	18.7	18.7	43.3
	3	26	17.3	17.3	60.7
	4	32	21.3	21.3	82.0
	5	27	18.0	18.0	100.0
	Total	150	100.0	100.0	

TABLE 4.6 QUESTION 4

Question 4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	35	23.3	23.3	23.3
	2	25	16.7	16.7	40.0
	3	31	20.7	20.7	60.7
	4	34	22.7	22.7	83.3
	5	25	16.7	16.0	100.0
	Total	150	100.0	100.0	

TABLE 4.7 QUESTION 5

Question 5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	28	18.7	18.7	18.7
	2	30	20.0	20.0	38.7
	3	18	12.0	12.0	50.7
	4	39	26.0	26.0	76.7
	5	35	23.3	23.3	100.0
	Total	150	100.0	100.0	

TABLE 4.8 QUESTION 6**Question 6**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	23	15.3	15.3	15.3
	2	36	24.0	24.0	39.3
	3	27	18.0	18.0	57.3
	4	32	21.3	21.3	78.7
	5	32	21.3	21.3	100.0
	Total	150	100.0	100.0	

TABLE 4.9 QUESTION 7**Question 7**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	37	24.7	24.7	24.7
	2	26	17.3	17.3	42.0
	3	22	14.7	14.7	56.7
	4	26	17.3	17.3	74.0
	5	39	26.0	26.0	100.0
	Total	150	100.0	100.0	

TABLE 4.10 QUESTION 8**Question 8**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	23	15.3	15.3	15.3
	2	26	17.3	17.3	32.7
	3	37	24.7	24.7	57.3
	4	39	26.0	26.0	83.3
	5	25	16.7	16.7	100.0
	Total	150	100.0	100.0	

TABLE 4.11 QUESTION 9**Question 9**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	30	20.0	20.0	20.0
	2	31	20.7	20.7	40.7
	3	33	22.0	22.0	62.7
	4	35	23.3	23.3	86.0
	5	21	14.0	14.0	100.0
	Total	150	100.0	100.0	

TABLE 4.12 QUESTION 10**Question 10**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	33	22.0	22.0	22.0
	2	30	2.0	20.0	42.0
	3	27	18.0	18.0	60.0
	4	30	2.0	20.0	80.0
	5	30	20.0	20.0	100.0
	Total	150	100.0	100.0	

CONCLUSIONS

Our work has led us to conclude in the light of analysis that traditional human resource practices involve relative challenges in terms of implementations. This inwardly serves as impediment for which maintaining sustainable growth through transition to green human resource practices. The study suggests that considerable progress has been made in regards to awareness to green human resource practices in academic spheres. The manufacturing companies functioning within Pakistan are characterized with resource scarcity, low-skilled cheap labor, less know-how among operational managers regarding maintaining quality practices, larger operational expenses due to which initiative toward green manufacturing process are constrained in the prevalent scenario. However, government intervention can induce innovative principles by evolving manufacturing policies for maintaining sustainable growth through long term policy-based interventions. The study results indicate that current manufacturing processes are more towards integrating sustainable practices, as green manufacturing is relevant in this regard in coming days. The transformation within human resource practices assists in maximizing the profitability ratio by hiring a qualified workforce with relative knowledge of maintaining sustainable growth in the long run. By integrating technological practices, relative operational challenges are reduced. Moreover, the training approach will enhance relative capabilities and skills associated with labor, which further impacts productivity principles. In the same manner, cost-effective practices are relevant to be introduced within manufacturing enterprises to manage sustainable growth.

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