Journal of the Society of Automotive Engineers Malaysia
Volume 3, Issue 3, pp 282-289, September 2019
e-ISSN 2550-2239 & ISSN 2600-8092

The Impact of Human Resource Practices in Car Manufacturing Industry: Using a Job Characteristic Model

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ORIGINAL ARTICLE **Open Access**

Article History:

Received
11 Jul 2018

Received in revised form
29 May 2019

Accepted
1 Jun 2019

Available online
1 Sep 2019

Abstract – *Today, car safety has become the main concern for every car manufacturer in Malaysia. It requires good employees and management practices in sustaining the value of safety features in producing cars. Human resource plays a greater role in every organization including the car manufacturing industry. The value of a company is greater when they have expertise in their organization, knowledgeable workers and a good working environment in terms of facilities, organizational support, and management practices. This paper analyses human resource practices in the car manufacturing industry in terms of training and development and working environment by using the Job Characteristic Model (JCM). Despite the technologically driven industry, the human touch is crucial – an employee at all levels in the car manufacturing industry needs to be aware of the business goal, vision and mission of the company in producing the safest car. This study concludes that human resource practices have a significant relationship in producing safer cars in terms of training and development. This study warrants future research where human resource practices should be considered a crucial role in the technical and engineering area.*

Keywords: Human resource, Job Characteristic Model (JCM), Training and Development, car safety.

Journal homepage: www.jsaem.saemalaysia.org.my

1.0 INTRODUCTION

The importance of safety in producing a car has become a major concern among the car manufacturing industry. At the global stage, car production has shifted its perception into looking for a brighter future, where a fully autonomous car will be implemented around the world. A fully autonomous car is the safest car that they predict where no human behinds the wheel. With all the challenges that car manufacturing industries faced, yet they must navigate their way to find a solution for sustaining their business and meet the demand of customers. To reach such glory, any organization with no exceptions requires good resources and commitment. Therefore, this is where human resource practices play a greater role in realizing the dream of the car manufacturing industry to produce safer cars.

Meanwhile, in producing a safer car, any car manufacturing industry in Malaysia must comply with the New Car Assessment Program (NCAP). NCAP which is proven to improve road safety by ensuring safe vehicles with up-to-date, and safety technologies delivered to the road users (Jawi et al., 2013b). This program has ensured the entire region comply with the safety measures outlined by the NCAP. This is the technical process that the car manufacturing industry should follow, however, implementing the technical process requires human's intellectual and dedication in ensuring everything is on the right path. To date, there was vast literature has proposed the perception of the safety of a new car and its impacts on customers' road safety, crash test, airbag, ergonomics and so on (Kulcsar et al., 2013; Jawi et al., 2013a). This has indicated that the perception of safety is in a singular direction where it was focused on the customer's side. However, very limited pieces of literature were found on the safety behaviour of a car among car manufacturers, car producers, and assemblers.

Although it is the nature of the job among car manufacturers to produced and comply with safety measures in their production, however, this nature of work does not guarantee that every single employee is doing the same thing. To make every employee in organizations is on the same page, the human resource department plays a crucial role in ensuring that they are doing the job accordingly, and with a commitment and dedication to comply with all rules and regulations for the best results. Therefore, this study is to investigate the impact of human resource practices on safety behaviour among the car manufacturing industry.

1.1 Employees' Perception of Performance

Understanding the perception of employees is crucial for every organization to perform and sustain their business, and perhaps for the manufacturing industry, the value creation must be geared towards sustainability (Stock & Seliger, 2016). To sustain a business, the human factor plays an important role to navigate the business into a top performer (Spreitzer & Porath, 2012). One of the human factors that drive organization to best performance is the behaviour of the employee. However, there are antecedents that lead employee's behaviour into a certain mood. Numerous literature found that organizational support, teamwork, working environment influence employee behaviour (Maertz et al., 2007; Jackson et al., 2012). This shows that no matter how great the rule is, somehow employee's behaviour plays part in producing the best result. This situation is no exception to the car manufacturing industry whereby, they need to comply with all the safety standards. Somehow, if employees are not engaged with the job, the best result is far beyond reach.

Ensuring the safety of a new car is a major concern in the car manufacturing industry. Therefore, not only to meet the standard outlined by NCAP but to make sure that all employees are upholding the value of safety of a new car in the organization. Employees that engaged with the job, which understand the meaning of safety, and really into their job are part of contributors towards the organization's performance (Bedarkar & Pandita, 2014). Therefore, if all employees are engaged with safety behaviour, this car manufacturing industry is predicted to be at their best performance in delivering a new safer car.

1.2 Employees' Safety Behaviour

Safety behaviour is important in car manufacturing industry, safety behaviour in human resource context is adapted from organizational citizenship behaviour where employee embraced the concept of altruism (Smith et al., 1983), which explain that the willingness to help others (organization, managers, employees, subordinates, customers, etc.) without seeking for any return. This concept is needed in an organization that particularly gives more attention to the details of their safety product.

Obviously, the safety of a new car requires quality work result, hence it is needed in this industry to have such employees that willing to do beyond their work in making sure that they are producing and delivering the best quality product. Therefore, in the manufacturing industry requires more safety behaviour which individuals in organizations committed towards safety in delivering their work.

Indeed, engaging with safety behaviour is not constant. There are factors that may adjust the behaviour of employees, which are training and development, and working environment. Knowledgeable workers/expert in the area influence positively towards organization and it help the organization's performance (Human Resource Management International Digest, 2013), In this car manufacturing context, if the organization has done all the training required for employees to do their job, and it is expected that they may comply with behaviour that organizations intended (safety behaviour). This is because training and development (NCAP training) supply knowledge and information needed for an employee, with this understanding, employees are expected to deliver it back to the organization as return on investment, therefore, as training been implemented, then employee may have better skill, and become expert in their area, thus help the organization to perform. Training also will ensure that delivering their work complying with NCAP.

Another factor that will affect employees' behaviour is the working environment (Jain & Kaur, 2014; Raziq & Maulabakhsh, 2015). The working environment influences employee's behaviour positively or negatively. To sustain the business and increase efficiency, effectiveness, and productivity, the business must satisfy the needs of its employees by providing good working conditions (Raziq & Maulabakhsh, 2015). Good working condition not just means the facilities but including the surrounding behaviour. If the organization is practicing, implementing and supporting the behaviour required by the organization, the result would be high chances of the intended behaviour (safety behaviour) to exist.

Theoretically, training and development, and working environment can be explained in Job Characteristic Model (JCM), in which job design influences the outcome of every individual and it portrays employee ability to improve in the firm (Casey & Robbins, 2010). JCM also explains the core job dimension which describes the task significance and task identity which employees are expert in their work, then psychological state where the meaning of work exists (engage with safety behaviour) and the outcomes will be the performance. In this study, the framework as shown below (Figure 1).

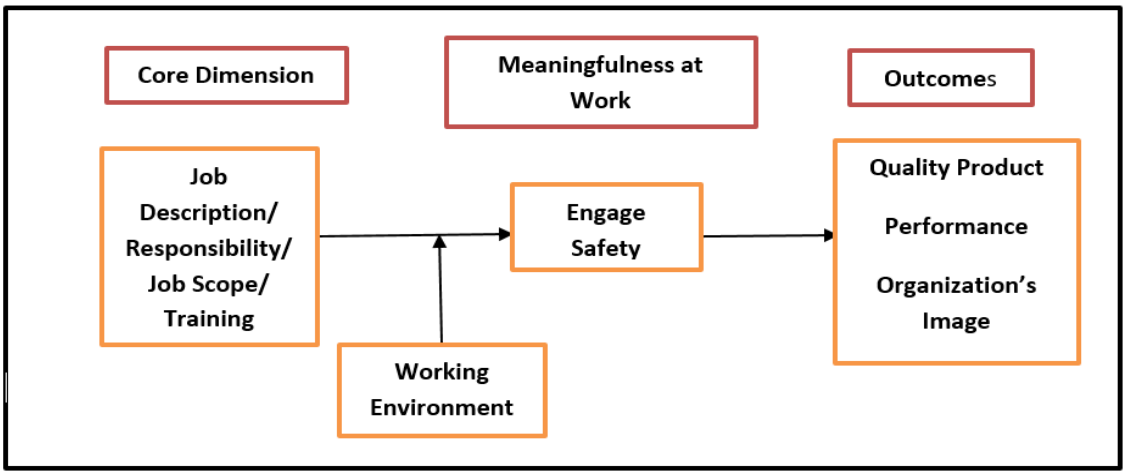

Figure 1: The study's framework

Therefore, the hypotheses of this study will be:

(i) **Hypothesis 1:** *Training and development will positively influence safety behaviour in the car manufacturing industry.*

(ii) **Hypothesis 2:** *The working environment will influence safety behaviour in the car manufacturing industry.*

(iii) **Hypothesis 3:** *The working environment moderates the relationship of training and development and safety behaviour in the car manufacturing industry.*

2.0 METHODOLOGY

Self-administered questionnaires were distributed to the car manufacturing industry in Malaysia. Snowball sampling was done through acquaintances in several organizations. Data gathered were analyse using SPSS through the univariate analysis and bivariate analysis. A total of 31 questionnaires were returned, in which 45% were males and 22% were females, while the remaining were unknown. Nearly half of the respondents were between the age of 43-51 years, and 63.3% were of engineering background. Reliability analysis was done to check the consistency of the items, and all the variables pass with acceptance level of 0.68 and above (Table 1). This shows that respondents understood the questions of the survey. Meanwhile, a multicollinearity test was done to make sure that the questions belong the variables do not correlate with other variables. Between the independent variable of training development and working environment, it shows low correlations. Therefore, the variables can be tested in further analyses.

Table 1: Reliability analysis

Variables	Reliability	Mean	SD
Safety behaviour	0.78	3.69	0.66
Training & development	0.68	3.55	0.53
Working environment	0.74	3.40	0.61

3.0 RESULTS AND DISCUSSION

According to Table 2, the Pearson correlation was performed to test the relationship. There is a significant positive moderate relationship between the factor of training development (r=0.54, P<0.05) and the low relationship between working environment and safety behaviour (r=0.38, P<0.05).

Table 2: Correlation table

Variables	Safety behaviour	Training & Development	Working environment
Safety behaviour	1		
Training & development	0.54**	1	
Working environment	0.38**		1

Significant at 0.05 level.

Table 3: Linear regression

Variables	Beta	P-value
Training & development	0.72	0.02
Working Environment	-0.23	0.405

R= 0.305, Significant at 0.05 level.

Meanwhile, regression analysis (Table 3) shows that the most factor that contributes to safety behaviour is Training and development *(Beta= 0.72, P<0.05)* as according to table 3. And the variance for all the independent variables is 30.5% of variance explained in safety behaviour. According to Table 4, the coefficient table explains the multicollinearity as the value of tolerance does not less than 0.1 and the VIF value is not more than 10. Therefore, there is no multicollinearity in the variables that exist.

Table 4: Coefficient

Model	Sig.	Collinearity Statistics	
		Tolerance	VIF
1 (Constant)	.000		
ZscoreTD	.020	.289	3.460
ZScoreWorkEnvironment	.445	.289	3.460
2 (Constant)	.000		
ZscoreTD	.021	.288	3.469
ZScoreWorkEnvironment	.250	.265	3.779
ZtdXZwe	.159	.708	1.413

Table 5 (ANOVA) indicates the finding as *F (3, 27) =4.880, P < 0.05*, therefore, it is significant to proceed to the next step. Table 6 explains the model summary, according to box 1, R-Square is 30.1 % of variance explained in the safety behavior, after box 2, *R-Square* is 35.2% of the variance in explaining the safety behaviour. Meanwhile, in Model 2, *R-square* change shows that working environment explains additional 5% of the variance in safety behaviour, however, the result is not significant as *p-value* > 0.05. The result from moderation analysis shows that there is no significant relationship in the moderating effect of the working environment between training and development and safety behaviour.

However, there is a direct relationship between training and development and safety behaviour, and working environment and safety behaviour according to the Pearson correlation test (Table 2), somehow working environment does not moderate the relationship. It could be the reason that in a manufacturing company the working environment is following the standard and there are no issues form this area. Furthermore, 63.6% which is more than half of the respondents are engineers, therefore, they know and familiar with their work environment. However, training and development show impact on safety behaviour, and this element is important towards safety behaviour.

As in the theory (JCM), task significant and task identity can be derived from training and development (core dimension). Training and development do contribute towards the safety behaviour, which most of the respondent think that training and development do help their behaviour towards concerning on designing the safety of a new car (meaningfulness at work). Therefore, to conclude all the findings, Hypotheses 1 & 2 are accepted.

Table 5: ANOVA result

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.064	2	2.032	6.031	.007[b]
	Residual	9.434	28	.337		
	Total	13.498	30			
2	Regression	4.745	3	1.582	4.880	.008[c]
	Residual	8.753	27	.324		
	Total	13.498	30			

a. Dependent Variable: safetybehavior
b. Predictors: (Constant), CentWorkEnvi, CentTD
c. Predictors: (Constant), CentWorkEnvi, CentTD, centTDcentWE

Table 6: Model summary

Model	R Square	Change Statistics	
		R Square Change	Sig. F Change
1	.301	.301	.007
2	.352	.050	.159

a. Predictors: (Constant), CentWorkEnvi, CentTD
b. Predictors: (Constant), CentWorkEnvi, CentTD, centTDcentWE

4.0 CONCLUSION

Safety behaviour in designing a new car is very important for any car manufacturing industry. Individuals at all level not just comply with the safety guidelines outlined by NCAP but to embrace all safety behaviour needed in producing a car. This finding helps car manufacturing industry to formulate training and development strategies (enhancing awareness of safety, increasing skill competencies particularly in safety awareness) for all employees as the results reveal that training and development is the factor that important in this study. Results also show that factor such as training and development is very important towards bringing awareness and instil the safety behaviour while carrying out their duty. The working environment proves that it does influence the safety behaviour but not to moderate the relationship.

Knowing this result, it helps the organization to build an environment that encouraging the employee to practice and always alert with safety measure. Furthermore, in current waves, in a technologically driven industry, the human touch is crucial in every organization's performance. The car manufacturing industry needs to be aware of the business goal, vision and mission of the company in producing safer cars which part of it can be done through training and development. This research emphasized training and development in the car manufacturing industry for better production and precision in order to meet the customer's demands, and organizations goals.

ACKNOWLEDGEMENTS

The authors would like to acknowledge the support from ASEAN NCAP Collaborative Holistic Research (ANCHOR) and the Malaysian Institute of Road Safety Research (MIROS).

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