DETERMINANT FACTORS 0F TOTAL QUALITY MANAGEMENT (TQM) AND HUMAN CAPITAL MANAGEMENT (HCM) FOR PRODUCT QUALITY IMPROVEMENT IN HERBAL INDUSTRY IN MALAYSIA

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Abstract - This study was to determine which factors of Total Quality Management (TQM) and Human Capital Management (HCM) that improve product quality of herbal industry in Malaysia. To establish a flexible data collection tool, a questionnaire was developed to measure the outcomes of herbal product quality. Regression analysis and confirmatory factor analysis were utilized to test the hypotheses claim in the study. It was found that quality maintenance and visionary leadership were having a high beta coefficient with product quality, confirming that maintenance of quality is a more important factor that increases product quality and customer satisfaction in the contexts of Malaysian herbal industry. Consequently, this study provided further evidence of the hypothesis made. Through these findings, the quality standard of Malaysian herbal products will be achieved and established.

Keywords - Leadership, Total Quality Management, Human Capital Management, Herbal Industry

I. INTRODUCTION

World Bank released herbal market expectations data in year 2008 that amounted to USD 200 billion (RM 760 billion) and will increase to USD 5 trillion (RM19 trillion) in 2050 (World Bank, 2008). This reflects the optimistic growth expectations by 14 per cent per annum. The value of herbal industry in Malaysia was about RM 17 billion in 2013 (Zakaria, 2015).

The trade value of herb sector was expected to reach over RM2 trillion by 2020 as compared to RM 777 billion worth in 2009 (Bernama, 2013). To sustain and boost trade value in herbal industry, Malaysia needs a visionary leadership and   quality herbal product. Quality maintenance and visionary leaders are among the key factors confirming the success of an organization in improving herbal product quality. A leader is an agent of change, a person who affect other people in an organization and triggers motivation and competencies of others in an organisation (Bass, 1985).

In Malaysia, most herbal industry owners are inherited from family business (Paul et al., 2013). Therefore, visionary leadership plays a very important role to increase product quality and motivate family members in herbal industry.

II. METHODOLOGY

This study used qualitative and quantitative methods. In both methods, the probability sampling approach using purposive sampling technique was used. In qualitative method, the voluntary respondent through indication of future participation was considered as purposive sampling. This was purposive because the respondents had participated earlier in the quantitative method and knew the reason for participation in further research using the qualitative approach.

The respondents were purposely targeted because of their quantitative participation experience.

In this research, 400 survey forms or questionnaires were distributed to employees of 23 herbal companies in Malaysia that registered with National Pharmaceutical Control Bureau (NPCB). The response rate was 75%.

III. FINDING AND RESULTS

In order to confirm that the structural model fit the data, the model in Figure 1.0 was evaluated in the terms of goodness of fit indices. A good fit to the sample data provides support for the hypothesised model (Cunningham, 2008). Parameter estimates together with coefficient values were examined for hypotheses testing purposes. Parameter estimates were used to generate the estimated population covariance matrix for the model (Tabachnick and Fidell, 2007). The variance estimate was divided by its standard error (S.E) to derive Coefficients' values. The parameter was statistically significant at the .05 levels when the critical value (C.R) or z-value was greater than 1.96 for a regression weight (standardised estimates).
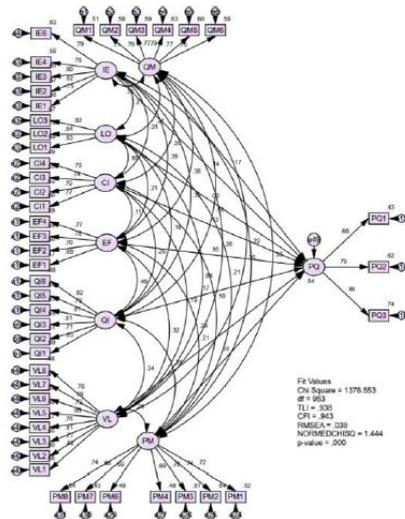
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Figure 1.0: Final Structural Model

From the standardised regression estimation, it was found that beta coefficient of quality maintenance and quality improvement was having high influence on product quality by 18.1% and 0.16.5%. Similarly, the impact of HCM factors (internal-external cooperation, visionary leadership, employee fulfilment) was significant at p value of 0.05 whereas learning organization was found to be not significant (p=0.959 i.e. >0.05).

The structural analysis was conducted to determine the product quality measurement as a latent construct and to confirm the influence of TQM and HCM constructs used in the present study with four independent constructs. The hypothetical model was run on the 48 items of the factors. The results of the CFA succeeded in configuring the important factors. The hypothesised path related was statistically significant after examined the path coefficients and t values for the initial structural model. Square multiple correlations also confirmed that TQM and HCM factors were indicators for predicting the product quality of the herbal industry. Therefore, the path analysis in the form of re-specified structural model was assessed. From the assessment, the goodness of fit indices show that the model was acceptable; with a (χ^2 = 1376.840, df = 953, χ^2/DF = 1.440, P=0.000, TLI = 0.939, CFI = 0.943 and RMSEA=0.039).

As suggested by Carmines and Zeller (1979), the acceptable threshold value for the factor loadings is 0.70 or above. Further this threshold value of factor loadings above 0.7 were also acknowledged by (George and Mallery, 2007). In contrast with the threshold value of 0.60 suggested by Hair et al, (2010) and due to the issue of redundancy with high modification indices, these items were discarded from the final model. Similar removal of items with redundant and low variance were removed by Richins (1980) for developing and defining measures along with data reduction techniques performed by them.

The result of square multiple correlation showed that the model fit criteria were solved and there was a high correlation between the TQM and HCM factors with product quality. The finding of the study was considered a very active and important since the overall square multiple correlation was found to be 0.54 (54%) with the significant standardised regression weights of all the constructs and items. Finally, from the results of the re-specified model, it could be seen that the AGFI (0.8) (Acceptable fit criteria) and RMSEA less than (0.08) is fit (Hooper, Coughlan, and Mullen, 2008). This showed that the measurement model has a good fit with the data. Thus, overall, the model was fit. The summary of the hypothetical testing is presented in Table 1.0

Table 1.0: Summary of hypothesis Testing

Hypo.	Details	Result
H1:	There is a positive relationship between quality maintenance and product quality	Supported
H2:	There is a positive relationship between quality improvement and product quality	Supported
H3:	There is a positive relationship between process management and product quality	Supported
H4:	There is a positive relationship between continuous improvement and product quality	Supported
H5:	There is a positive relationship between internal-external cooperation and product quality	Supported
H6:	There is a positive relationship between learning organization and product quality	Not Supported
H7:	There is a positive relationship between employee fulfilment and product quality	Supported
H8:	There is a positive relationship between visionary leadership and product quality	Supported

CONCLUSION

The survival and growth of a company in today's challenging marketplace required high commitment to meeting customer needs through communication,

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planning and continuous process improvement activities. By inculcating this culture change, the quality of product and service of a company can be improved as well as the employee attitudes and enthusiasm. The quality model would be able to support employees for continuous process improvement emphasizing prevention activities and problem solving techniques. The result illustrates the positive effect on the Malaysia herbal industry once the organization applies the quality model concept in their company. Therefore, when herbal industry producers use this quality model, the products will meet standard quality requirement which can be marketed and sustained.

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