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The Empirical Investigation of Advanced Manufacturing Technology Transfer to Developing Countries

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ABSTRACT

This study empirically evaluates the contribution of Technical knowledge transfer from foreign-based companies to local companies in the Sri Lankan's manufacturing sector. It is analyzed in terms of contributions to the Advanced Manufacturing Technology transfer (AMT) from foreign-based companies to local companies and how technical knowledge transfer vary on country of origin of the foreign companies, their mode of entry, type of industry, employees, usage of AMT, and location. The results of the statistical analysis show that usage of AMT, country of origin and mode of entry variables are significant than the other variables. The amount of contribution in each firm is measured by summing up the amount of AMT usage, the expatriate managers working in a local office, number of training program, and number of foreign trainings offered to the local managers, and Manuals, course materials, books and papers relevant to transfer of technical knowledge by foreign-based companies to local companies in host county.

This study has focused on the transfers of largely procedural AMTs related technical knowledge (know-how) and AMT related equipment rather than on the transfers of largely declarative knowledge. The study has used multiple regressions model and artificial neural network model for determining the contribution of AMT by foreign-based companies in manufacturing processes in developing countries. Information has been collected from companies operating business in Sri Lanka-a developing country. This study has analyzed information collected from 1026 foreign-based companies operating business in Sri Lanka and developed two models-Regression-based model and Artificial Neural Network based model. It was found that the ANN Model and Regression model guide same prediction of AMT use by foreign-based companies contributing to developing countries.

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