

A comparison on the capabilities of Malaysian SMEs with different equity structure in implementing advanced manufacturing technologies

ABSTRACT

The principal ownership of firms by equity structure or country reflects the differences in management styles and practices. Based on a “culture” of origin, many researchers have argued that national culture and different equity structure have an impact on management strategies and practices. In Malaysia, different equity structure based on the Bumiputra (the people of the land) and non-Bumiputra may have an influence in the implementation process of advanced manufacturing technology. Since the SMEs in Malaysia play a vital role in developing the economy, the use of technologies has been one of the main focuses by the government. Using data collected from 136 manufacturing companies in Malaysia, this paper presents the results of a study on the differences between the Bumiputra and Non-Bumiputra SMEs implementing Advanced Manufacturing Technology (AMT). The survey results showed that although the Bumiputra scored better in its organizational structure planning, provisions and training, it has less number of AMTs, mostly stand alone compared to the non-Bumiputra companies. However, both group of companies focused on short term solutions, rather than planning for the future with the AMTs they implemented. Also, the results indicated that the changes in nonBumiputra can be significantly correlated with AMT, but not so in the case of Bumiputra companies. Based on indices developed for organizational (O) requirements (culture, structure, workers skill) and technology (T) (integration of functions using computer, levels of computer usage), the fit between organization and technology was determined by regression analysis and compared between the two groups. The O-T map showed that most of the Bumiputra companies were in the stage 1 of technology implementation (stand-alone technology), while non-Bumiputra companies lie in stage 2 (having ‘Islands’ of automation). The R-squared value for the non-Bumiputra companies (0.4584) is much higher than the Bumiputra companies (0.2516) indicating that the non-Bumiputra companies has a higher fit between organization and technology. A fit between technology and organization has been shown by many researches as having positive contributions from AMT implementation. The results of the study have provided a better understanding of the underlying factors in these companies in the implementation of technologies, and thus, would enable the government to structure appropriate policies and programs for each group.

Keyword: AMT; Equity structure; Organizational and technology fit