

Clustering Locations of Textile and Garment Industries to Compare with the Future Industrial Cluster in Thailand

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Abstract : Textile and garment industry is used to a major exporting industry of Thailand. According to lacking of the nation's price-competitiveness by stopping the EU's GSP (Generalised Scheme of Preferences) and 'Nationwide Minimum Wage Policy' that Thailand's employers must pay all employees at least 300 baht (about \$10) a day, the supply chains of the Thai textile and garment industry is affected and need to be reformed. Therefore, either Thai textile or garment industry will be existed or not would be concerned. This is also challenged for the government to decide which industries should be promoted the future industries of Thailand. Recently Thai government launch The Cluster-based Special Economic Development Zones Policy for promoting business cluster (effect on September 16, 2015). They define a cluster as the concentration of interconnected businesses and related institutions that operate within the same geographic areas and textiles and garment is one of target industrial clusters and 9 provinces are targeted (Bangkok, Kanchanaburi, Nakhon Pathom, Ratchaburi, Samut Sakhon, Chonburi, Chachoengsao, Prachinburi, and Sa Kaeo). The cluster zone are defined to link west-east corridor connected to manufacturing source in Cambodia and Mynmar to Bangkok where are promoted to be design, sourcing, and trading hub. The Thai government will provide tax and non-tax incentives for targeted industries within the clusters and expects these businesses are scattered to where they can get the most benefit which will identify future industrial cluster. This research will show the difference between the current cluster and future cluster following the target provinces of the textile and garment. The current cluster is analysed from secondary data. The four characteristics of the numbers of plants in Spinning, weaving and finishing of textiles, Manufacture of made-up textile articles, except apparel, Manufacture of knitted and crocheted fabrics, and Manufacture of other textiles, not elsewhere classified in particular 77 provinces (in total) are clustered by K-means cluster analysis and Hierarchical Cluster Analysis. In addition, the cluster can be confirmed and showed which variables contribute the most to defined cluster solution with ANOVA test. The results of analysis can identify 22 provinces (which the textile or garment plants are located) into 3 clusters. Plants in cluster 1 tend to be large numbers of plants which is only Bangkok, Next plants in cluster 2 tend to be moderate numbers of plants which are Samut Prakan, Samut Sakhon and Nakhon Pathom. Finally plants in cluster 3 tend to be little numbers of plants which are other 18 provinces. The same methodology can be implemented in other industries for future study.

Keywords : ANOVA, hierarchical cluster analysis, industrial clusters, K -means cluster analysis, textile and garment industry

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