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## Electrical Equipment Industry Cluster

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## **ELECTRICAL EQUIPMENT INDUSTRY CLUSTER**

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**Abstract:** The growing collaboration between two or more industries in a specific region in which they work in a symbiotic relationship, providing benefits to each other and contributing in the overall development of the region, is what is popularly known as business clusters. Even though this concept is commonly known and implemented in the West, South Asian economies are unfamiliar with the advantages of this unique business strategy. There are, undeniably, many potential business clusters in these developing countries, which if tapped efficiently, could result into an industrial boom.

This research focuses on investigating the existence of a business cluster in the electrical equipment sector in Faridabad, a city that shares its borders with the capital city of India (New Delhi). The research relies on an already developed formula from Professor Fregoso Jasso's 2010 paper to confirm whether there exists a business cluster or not. Developing of a business cluster in the afore mentioned area would result in increased employment and ultimately, higher living standards for the people of the district.

**Keywords:** Business clusters, spatial clustering, electrical equipment industry cluster, Faridabad district, Haryana, industries, companies

## 1) INTRODUCTION

Clusters are in simple words, an array of linked industries. They are a geographical concentration of interconnected companies and institutions in a particular field (Porter, 1998). This research focusses on the electrical equipment industry cluster in Faridabad city of Haryana, India.

## 2) AIM

The purpose of the research is to verify whether there exists an electrical equipment industry cluster in the Faridabad district of Haryana, India.

## 3) LIMITATIONS

- 1) Small, unregistered companies whose data is unavailable have not been taken into account.
- 2) The data of number of workers is bound to have marginal errors.

## 4) METHODOLOGY

The following numerical calculations have been used (Fregoso Jasso, 2010):

- Coefficient of the Industrial District (CDI) =  $(TTS/TTI) / (TTI/PTE)$
- Economic Unit Coefficient for Labor in the Sector on Divisional Level (CULS) =  $(TTS/UES)$ , and
- Economic Unit Coefficient for Labor in the Industry in the State Level (CULI) =  $(TTI/UEI)$  where:

TTS: Total labors in the sector on divisional level, expressed in number of people.

TTI: Total labors in the industry on state level, expressed in number of people.

PTE: Working age population in the country, expressed in number of people.

UES: Economic unit value in the sector, expressed in number of companies/firms.

UEI: Economic unit value in the industry, expressed in number of companies/firms.

A group of industries can successfully be called a cluster when

- $CDI > 1$
- $CULS > CULI$

## 5) SELECTION OF REGION

Faridabad district of Haryana has been chosen because of its location as a major industry hub and proximity to New Delhi.

## 6) THEORETICAL FRAME

The cluster approach was popularized by Michael Porter, Harvard Business School professor, in 1998. Dr. Porter's methods include analysing businesses and industrial bases, followed by developing a marketing strategy for the identified clusters.

Dr. Porter's research suggests that a strong cluster includes supply and distribution of raw materials, but also includes marketing, finance, advertising, packaging and more specialized services.

Alfred Marshall, an English economist, cited in his 1916 text (Marshall, 1916) the benefits of spatial clustering i.e., partitioning data into a series of meaningful subclasses. The benefits comprise availability of specialized inputs from suppliers and service providers and rapid knowledge flow of business among firms.

## 7) ANALYSIS

Using the formula aforementioned in the 'methodology' section:

- Total Labours in the Industry on State level (TTI) = 547,636
- Total Labours in the Industry on City level (TTS) = 161,090
- Working Age Population in the Country (PTE) = 900,000,000
- Economic Unit Value in the Industry (UEI) = 771
- Economic Unit Value in the Sector (UES) = 28

By substituting,

- Coefficient of DI (CDI) =  $(TTS/TTI)/(TTI/PTE)$
- Economic Unit Coefficient for Labor in the Sector on divisional level (CULS) =  $(TTS/UES)$
- Economic Unit Coefficient for Labor in the sector on state level (CULI) =  $(TTI/UEI)$

CDI= 4834.227

- CULS= 5753.21
- CULI= 710.293
- 

As we get  $CULS > CULI$  and  $CDI > 1$ , the conditions of a cluster have been satisfied.

## 8) CONCLUSION

It can be successfully concluded that an electrical equipment industry cluster exists in the Faridabad district of Haryana, India.

This can have numerous benefits (Moore, 2019) like:

- Broader range of products and services,
- Increased Productivity of employees,
- Increased innovation due to collaboration.

Faridabad serves as an industrially important suburb adjoining the capital city of India. Formation and development of a cluster in this district would result in an increased employment and would foresee an exponential rise in living standards as a result of the former. Hence, the formation and development of an industry cluster is crucial.

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