

## **Impact of Cluster Activities Accelerate Human Capital and Firms Competitiveness: An Empirical Study of the Clusters in India (Kerala)**

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### **Abstract**

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This article emphasizes the significant role of human resource management in the representation of cluster activities, which are associated with the effectiveness and competitive aptitude of the firms. This includes mainly the analysis of possibilities that support the development of human resources and of gaining competitive advantages for companies involved in clusters and cluster activities. The survey was conducted in India (Kerala), with the aim to identify the differences in cluster activities in different entrepreneurial environment. The main goal was to detect which strategies in the human resource area lead to reaching the competitive advantage of a company, and to determine the task of human resource management in relation to competitive advantage of a company in current conditions. The data were collected by standard methods including questionnaire survey, structured interviews with cluster managers in India (Kerala), and analysis of available sources of information. The outcome of this study tries to elucidate the strategic activities in human resource management that influence the efficiency and competitive ability of a company. It has been observed that performance and competitiveness of a company can be reinforced by using the selected cluster activities, which enhance employees' knowledge skills and abilities in order to achieve competitive advantage. This article suggests that the opinions provided in this research could serve as a methodological instruction for cluster networks or individual companies prominent to enrich their competitiveness and effectiveness.

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**Keywords:** Cluster, cluster initiatives, competitiveness, competitive advantage, Human Resource Management (HRM)

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## Introduction

In the very beginning of globalization and industrialization, competitiveness is considered as a prerequisite condition for maintaining organizational performance, income and employment. Consequently, growing number of countries and individual businesses are under stress how to sustain in this modern competitive world and to keep pace with the continuously increasing complex network of social, political and economic entities. During this transition period, the concept of *clustering* and the importance of *Human Resources* were viewed as an eminent approach facilitating firms to achieve their organizational goal and to increase their performance. Furthermore, in this phase economic geography poses an enigma in the age of globalization.

Therefore, the appearance of cluster notion has increasingly been identified as an important approach especially for small and medium-sized enterprises (SMEs) to survive and to compete successfully in the world market. Since then, the idea of clustering has been fascinating the attention of numerous policy makers, academics and researchers from developing and developed countries. The impression of clustering has evolved in a process after passing through a numbers of economic theory developed and commenced by *VenThunen's Location Theory* in 1826, *Marshal's Industrial District Theory* initiated in 1920, *Max Weber's Industrial Complex Theory* started from 1950 and *Industrial Cluster Theory* introduced by Michael Porter in 1990 (Das and Das 2011; Saha 2012).

On the other hand, the theoretical background shows that in the era of globalization, human resources are viewed as a source of competitive advantage. The values of people management are based on the beliefs that an organization gains competitive advantage by using its people effectively and efficiently (Price 2007). Likewise, Human Resource Management (HRM) is the management of employees in an organization which can be referred as a 'soft' management skill. Wherever, it explains that the effective practice within an organization requires a strategic focus to ensure that people resources can facilitate to achieve the organizational goals (Armstrong 2006). At the same time Miller (1987) suggested that HRM relates to those decisions and actions of management of employees at all levels in the business concerning the implementation of strategies directed towards creating and sustaining competitive advantage (Sharma 2009).

In addition, it is to be noted that scholars mostly focus on the relationships between entrepreneurs and industry clusters, the connection between professionals and industry clusters, etc. But in research, the practice of HRM is not so profound enough to clarify some key questions such as: what kind of human resource activities can support the sustainable development of cluster core firms? How the cluster activities can enable enterprises to stimulate and enhance their competitive advantage? Mainly, these questions have become the bottleneck for the sustainable development of industry clusters.

### **Overview of Cluster Concept in Business**

Regarding the concept of cluster, different authors have expressed their opinion in different way. According to Cortright(2006)there is no such fixed and single definition ofcluster. It is necessary to modify one's definition depending on the purpose of thegivenstudy.In this article the definition of Porter has been considered. According to Porter (1990, 1998a), a cluster can be described as a geographic concentration of mutually interconnected companies, specialized suppliers, service providers, companies working in the same fields and associated institutions, such as universities, agencies and business organizations of different directions that compete but also cooperate<sup>4</sup>. Porter (1990) in his book *'Competitive Advantage of Nations'* expresses an assumption that commonly interconnected fields concentrated geographically in a restricted area are a driving force for national, regional and local growth.

Conferring to Choe et al. (2011)clusters were developed by rival firms andsuppliers that were collocating and collaborating on their ways to reduce their external transaction costs, to innovate, to develop new business opportunities and markets to create competitive advantage. Agreeing with this concept, the US President Barack Obama also emphasized the significance of a cluster strategy as a necessity to maintain dynamic interaction process between large and smallcompanies, universities, and financial institutions. He also considered the cluster policy as a vital factor for enhancing the future US national economic competitiveness(Lenchuk and Vlaskin, 2010).

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<sup>4</sup>Industry Clusters as an Economic Development Strategy  
Available from [http://www.uwex.edu/ces/cced/economies/northernedge/ne\\_clustersection1.Pdf](http://www.uwex.edu/ces/cced/economies/northernedge/ne_clustersection1.Pdf)  
[Accessed on 29.1.2013].

Similarly, Pavelková and Jirčíková, (2008) also mentioned that clusters allow firms to *stimulate economic growth through increasing their competitiveness and performance of businesses; stimulate innovation through efficient use of research and development; promote new businesses by attracting foreign investments and increasing exports as well as employment opportunities in the region.*

### **Cluster Initiatives and Cluster Policies**

While analyzing the different activities of clustering that increase competitiveness and we cannot ignore the cluster policies too. Cluster policies are currently a burning topic in this competitive age. Policy makers and economists in many countries, both at the national and the regional level, believe that supporting and creating clusters is the major way to be competitive and to win in the globalization race. According to Solvell et al. (2003), the cluster initiative can be said as an organized effort that focused on the increase of growth and competitiveness of a cluster in the region through the participation of cluster companies, government, and/or research community. As per Andersen et al. (2006) and Solvell (2003), clusters and cluster initiatives are supported by governmental and regional institutions in a number of countries, mainly in the following form:

- informational support and education by means of "Guides", seminars, and conferences,
- grants supporting mapping of potential clusters,
- grants supporting the implementation of selected projects.

Generally, clusters positively influence the real income levels in the regions. This has important implications for the regional development policies as well as for enhancing the core competences of the enterprises, which are related to the type of regional cluster policy connected with the: (a) *Type of cluster(s)*, (b) *Actual degree of cluster formation in the region*, and (c) *Information and knowledge about existing clusters and cluster policies held by relevant political authorities* (Saha, Jirčíková, and Bialic-davendra 2012).

### **Impact Of Cluster Activities Accelerating Human Resources**

According to Baptista and Swann (1998) as well as Bergeron (1998), companies within industrial clusters or regions are more likely to innovate than other companies, as the chances of boosting the technological knowledge are higher.

Additionally, Porter (1998) states that industrial clusters facilitate organizations in making more conscious decisions regarding the selection of their location, fostering productive social relationships in those locations and working with other constituents nurturing the cluster. Researchers claim that the companies, which are within the cluster, are more progressive as they have better conditions for being competitive. While associating with clusters, enterprises can attain the following advantages (Pavelkova 2006):

- Enterprises can enhance their productivity due to skilled manpower and adequate information
- A cluster can reduce the limitations of SMEs, connect the enterprises from the diverse link of the value chain and enable them to compete against the large enterprises.
- A cluster can provide the enterprises an opportunity to reach the critical volumes in key areas by sharing space, personal expenses at fairs and other promotional actions.
- Thanks to cooperation within a cluster, enterprises can increase their accessibility, power and voice in order to make investment in the specialized infrastructure.
- New born enterprises can get the benefit of entering into a global market, what enable them to study the marketing strategy.

Hence, recently a new trend has been observed the enterprises have a propensity to join cluster to integrate and motivate the human resources that facilitates them to: (i) develop more skills and specialized labour force, (ii) establish cluster skills centers, (iii) train people for employment, (iv) engage community-based employment intermediaries, (v) establish new ones to fill gaps, (vi) support regional skills and alliances, (vii) enhance its potential, organizations can gain knowledge through attending training and development programmes, seminars, and conferences (Ecotech 2004).

Therefore, in relation to above stated discussion, this article develops a conceptual and a practical framework in order to classify and analyze how the clustering and the activities of clusters in India (Kerala) act as a tool for improving their human resources *to enhance, to promote the regional economic development and to sustain in this competitive world.*

It is necessary to mention that during this changeover period, the idea of clustering has been also viewed by the Govt. of India as a well-known approach for the development of their SMEs with the aim of: (i) *to maintain their business in this modern competitive world*; (ii) *to keep pace with the continuously increasing complexity of social, political, and economic entities*, and (iii) *to enhance economic development of their nation*.

Moreover, this article pursues to offer an overview of research on economic clusters and regional growth, followed on how the cluster concept in India (Kerala) highlighted the importance of HRM and cluster activities provided by the clusters that act as a tool for improving human resources to strengthen the competitive advantage as well as to facilitate the regional economic development.

### **Research Methodology**

This study is principally based on a combination of both deductive and inductive reasoning. Considering to this research deductive argument depicts method of gaining knowledge, whereas, the inductive argument shows some degree of support in the form of probabilistic reasoning.

### **Methods of Data Acquirement**

In this research data were collected by standard methods including questionnaire survey, structured interviews with cluster managers and analysis of available sources of information. This data acquirement has been done as per the plan of research team at Tomas Bata University (TBU) in Zlín, Faculty of Management and Economics (FaME) in cooperation with its partners from the Czech Republic and abroad. Where, they were actively engaged in the survey of measuring and management of cluster performance by using questionnaires and structured interviews with cluster managers in period of 2007-2011.

Clusters' activities (which were the subject of research) have been identified by literature research and prior to research - communication with cluster managers and experts in clusters and cluster initiatives topic. On the basis of research conducted<sup>5</sup>, cluster activities have been divided into the following areas:

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<sup>5</sup>The Cluster Initiative Greenbook, 2003; Innovating Regions in Europe. IRE subgroup on Regional clustering and networking as innovation drivers: Cluster Management (Learning module 5); Cloe-Cluster Management Guide, 2006; Pavelková et al. (2009).

- Networking;
- Human resources;
- Research and innovations;
- Business cooperation and promotion;
- Support activities;
- Governmental/political area (lobbying);
- Other activities.

Initial aim of the survey was to acquire *information about tools, methods and good practices used for the successful cluster development*. The goal of structure interview was to gather detailed information about the cluster activities of the selected clusters in India especially to highlight the main activities undertaken by the cluster managers that provide support to the SMEs as a cluster initiative. The results of this investigation illustrate the approach of cluster activities and initiatives in India, which they offer to their members for the successful development and high performance of clusters. Succeeding text analyzes a sample of nine selected clusters in India from different industry in Kerala region. Based on conducted research the activities of the selected clusters in India (Kerala) were surveyed where, the activities of the clusters have been identified by literature research and prior to research - communication with cluster managers and experts in clusters and cluster initiatives topic (Saha 2012).

### **The Cluster Concept in India (An Empirical Evidence from the Activities of the Clusters Surveyed) – Case Study**

During the past 50 years the SMEs sector in India, has acquired a prominent role in the socio-economic development of the country. Hence, to apprehend the status of small enterprises as well as for the development and growth of a country's economic condition Govt. of India (GOI) constituted an Expert Committee headed by Prof Hussein (1996). The prime aim was to give a lift especially to the SMEs. This Expert Committee advocated industrial cluster development and support policies, strategies as the pivot of the small enterprises development. Previously in 1989, State Bank of India had initiated a technology up-gradation program targeted at selected clusters. During 1995 the rapid growth of SMEs all over the world has been speculated and especially to the developing countries.

Since 1996, United Nations Industrial Development Organization (UNIDO) assisted several Indian clusters on a pilot basis to customize its innovative cluster development methodology to the Indian environment (Bhaskaran 2008a).

It is essential to reveal that India has largely two types of clusters, *Industrial (SME) clusters* and *Artisanal clusters*. There are around 400 SME clusters and 3500 Artisan clusters in India. In India cluster alone contribute up to 40 % of the country's industrial output and 60 % of the country's manufactured exports come from cluster. Beside they also have a significant workforce and a high share in employment generation. The determinations of cluster development in India are as follows:

(a) to give rise to collective benefits through the spontaneous inflow of suppliers of raw materials, components and machinery; (b) to favour the creation of providers of specialized technical, administrative and financial services; (c) to create a conducive environment for the development of inter-firm co-operation as well as of co-operation among public and private institutions; (d) to promote local production, innovation and collective learning.

Then again, the most significant constituent of financing the clusters in India is done through enhancing the project cost for (i) Common Facility Centre (CFC) (ii) Soft Interventions (SI) and (iii) Infrastructure Development (ID). It has been observed that from \$ 0.2 million USD to 125 million USD has been invested for cluster development in India (Cluster Kraft grooming growth 2004). By 2014 Govt. of India is also planning to invest \$ 5.9 million USD for Integrated Cluster Development Programme (ICDP) that will focus on technology, management, skill development and the environment (Department of Commerce 2009).

### **Brief Information on the Different Activities of Selected Clusters Surveyed in India**

The results of this case study discuss the information about the particular clusters surveyed in India (Kerala). Where, the names of these clusters have been signified as **(IND A, B, C, D, E, F, G, H, I)**. The purpose of selecting these clusters as a sample to fulfill this study, as these clusters are under the Kerala the Bureau of Industrial of Promotion (K-BIP).

On the other hand, Government of India has acknowledged the State (Kerala) as the '*Model State*' for *Cluster Development* which is blessed.

In a word, it can be said that through this case study it facilitate us to see the impact and challenges of cluster initiatives in India that promote human resources to accelerate the competitiveness of the enterprises plus enhance the economic development areas follows:(Porter 1998; Bhaskaran 2008b;Ketels 2004a;Ketels 2004b;Ketels, Lindqvist and Solvell 2006).

- (i) Enable small enterprises to achieve competitiveness in the global market through cost minimization;
- (ii) Allow to attain better access for international market through quality up-gradation;
- (iii) Facilitate to develop new marketing strategy through networking;
- (iv) Make possible to create better patent regime and better enforcement;
- (v) Permit to build an innovative culture and a vibrant eco-system that attracts better talents, i.e. human resources in all fields.

Therefore, the answers of these clusters activities have been represented in this research in the form of a following manner as *(1-very important)*, *(2-important)*, *(3-partially important)*, and *(4-not important)*. Different activities offered by theselected clusters in India have been depicted in the below mentioned Table 1.

Table 1 highlighted the significance of different activities of the above mentioned cluster like networking, human resources, research and innovation, business cooperation and promotion, support activities, governmental and political activities, other activities (market widening), It can be viewed from the Table 1 that networking and human resources activities of clusters are the prime important factor among other different activities of clusters.

**Table 1: Significance of Different Activities of Clusters in India (Kerala)**

Different activities of Clusters	Clusters in India								
	INDA	INDB	INDC	INDD	INDE	INDF	INDG	INDH	INDI
Networking	1	1	1	1	1	1	1	1	1
Human resources	1	1	1	1	1	1	1	1	1
Research & Innovation	1	2	2	2	2	1	2	2	2
Business cooperation & promotion	1	2	2	1	3	1	1	2	3
Support activities	2	2	2	2	2	3	2	2	2
Govt. & political activities	2	2	2	2	2	2	2	2	2
Other activities(Market widening)	1	1	1	2	2	2	2	2	2

Source: (Own interpretation)

Where, \***IND A , B, C, D, E, F, G, H, I**- refers to the name of the clusters, \*1-very important, 2-important, 3-partially important, 4-not important.

Simultaneously, different significant role of the clusters in India have been illustrated in the form of (1- fully benefiting), (2- benefiting), (3- partially benefiting) and (4- not benefiting). In the below mentioned Table 2 different roles of the selected clusters in India have been depicted. Table 2 highlighted the significance of different roles (integrate global economy, strengthen competitive advantage, facilitate regional growth, accessibility of manpower, enhance productivity and support cluster development policy) of clusters that benefiting the enterprises situated in Kerala.

It can be seen from the Table 2 that the above mentioned clusters are mainly getting benefit for strengthening their competitive advantage and it facilitates to support cluster development policy.

**Table 2: Significance of Different Roles of Clusters in India (Kerala)**

Different roles of Clusters	Clusters in India								
	INDA	INDB	INDC	INDD	INDE	INDF	INDG	INDH	INDI
Integrate Global Economy	1	2	1	1	2	2	1	2	1
Strengthen Competitive Advantage	1	1	1	1	1	2	1	1	1
Facilitate Regional Growth	1	1	1	1	1	2	3	3	2
Accessibility of Manpower	1	1	1	1	2	3	1	1	2
Enhance productivity	1	2	1	2	3	3	1	3	2
Support Cluster Development Policy	1	1	1	2	1	1	1	2	1

Source: (Own interpretation)

Where, \* **IND A , B, C, D, E, F, G, H, I-** refers to the name of the clusters, \*1- fully benefiting, 2- benefiting, 3- partially benefiting, 4- not benefiting

As a result, it is essential to appraise the cluster activities in India that let us to get a glimpse on how this above mentioned cluster's activities and initiatives promote and facilitate human resources in order to be more competitive in this ever-changing world. Where, most of the selected clusters in India have the same impression about the importance of human resource activities of the clusters in India that have been depicted in Table 1 and Table 2.

Both the Table 1 and Table 2 shows the significance of the human resource activities of clusters that act as a tool for human resource development, which allow and expedite the region to enhance its core competencies. With the presence of competent human resources it will be more flexible for them to be economically developed and more competitive in compare with other regions.

On the other hand, the above stated Tables also highlighted the significance of cluster activities provided for reinforcing the human resources through research and innovation *to stimulate provincial economic development and to achieve their competitive advantage.*

Furthermore, to put emphasis on the human resource activities of clusters in India it can be understood from the example of the *Rubber* cluster in India *organizing a workshop regarding Social Accountability 8000 (SA 8000)* that increases the turnover, increases the employment opportunity, increases the export (Cluster Tidings Kerala 2004a). Similarly, *Kalady Rice Millers* cluster in Ernakulam district *also providing Technology up-gradation programme (UPTECH)* to set up a rice-bran oil extraction plant that increases the annual turnover (Bhaskaran 2008a; Cluster Tidings Kerala 2004b; Saha and Pavelkova 2011).

Besides, *Ethnic Food Processing* cluster in India also associated with *National Institute of Small Industry Extension Training (NISJET)*, *National Institute of Entrepreneurship and Small Business Development (NIESBUD)* and *Consortium of Women Entrepreneurs of India (CWEI)* that organizing training programs, providing escort services and export marketing for the benefit of first-generation women entrepreneurs. (Saha 2012; Entrepreneurship Development for Competitive SMEs 2007).

But due to fierce of high competition it has been speculated that though the growth of the cluster core enterprises in India was growing very fast, nevertheless this growth may not be sustained in 2011-12. As owing to several problems in policy that create hindrance for the rapid progress in some cluster development policy issues (Micro & Small Enterprises Cluster Development Programme (MSE-CDP)<sup>6</sup>. Such as:

(i) Inadequate financial support; (ii) Inability to promote their products and services in domestic and international markets; (iii) Lack of support from government organizations, large enterprises, etc. (iv) Lack of appropriate need-based training and development programme; (v) Lack of knowledge about low-cost brand communication solutions; (vi) Unavailability of latest news, trends, technologies and (vii) Lack of adequate networking opportunities and poor knowledge management.

## **Enlightenment Of Research Investigation**

Empirical evidence of this study shows, companies tend to enhance their level of performance by managing and improving their existing resources i.e. HR.

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<sup>6</sup>Micro & Small Enterprises Cluster Development Programme (MSE-CDP) Available from: <http://www.msmedildh.gov.in/cdp.pdf> [Accessed on 29.1.2013].

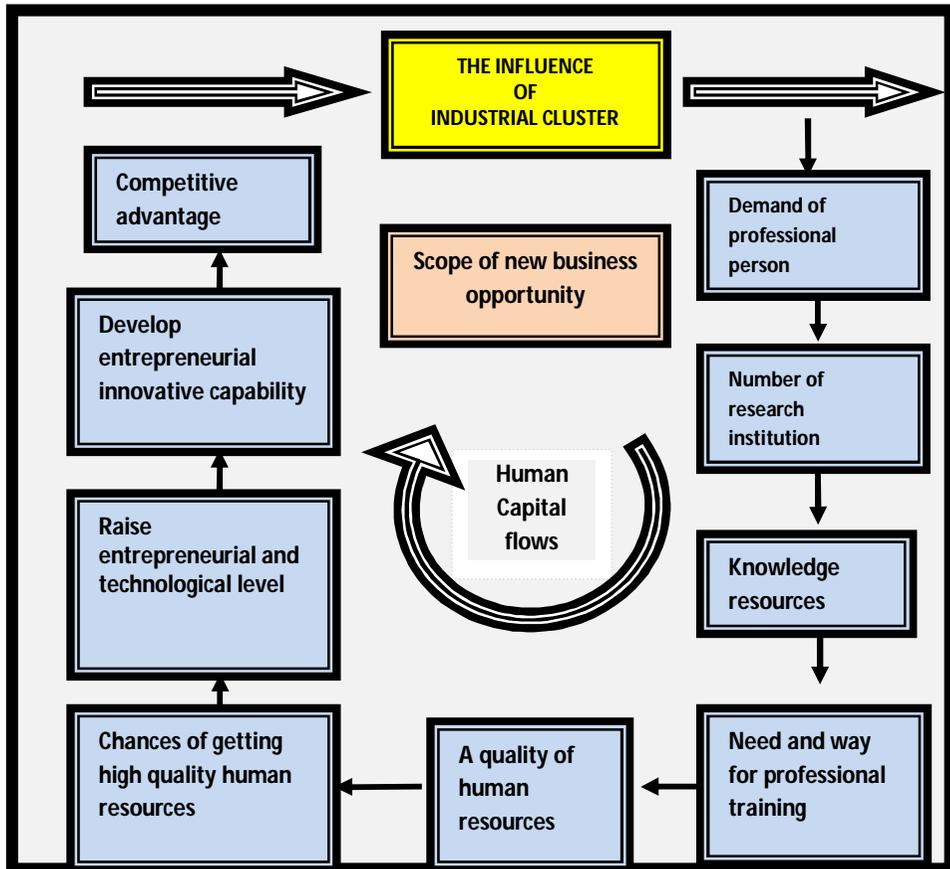
Sequentially to justify whether *the influence of clustering and HRM* can be considered as an important factor for achieving the competitive advantage or not; whether *the good practices of cluster can really reinforce its human resources and facilitate the regional growth or not*; the below stated Fig. 1 enable us to understand how the industrial clusters are able to influence the development of human resources indirectly. This furnishes us an idea about the flows of human capital that reveals continuously positive reactions to meet the competitive pressure and the consequence of the industrial cluster.

To get a more vivid representation, at first we need to explain the following factors which has a direct impact in this process of human capital flows. Such as: *demand of professional person, number of research institution, knowledge resources, need and way for professional training, quality of human resource, chances of getting highquality human resource, raise entrepreneurial technological level, develop entrepreneurial innovative capability, Competitive advantage*, all these factors can enhance the *scope of new business opportunity* that has an immense force in today's business.

Regarding the demand of professional individual, in Fig.1 we can say that present situation in the enterprises raise the demand of specialized professional employees in order to get a better performance that can facilitate the growth of a newform. Simultaneously, this factor lifts up to induce another factor, i.e. establishment of research institutions to enhance the number of expert personnel's to meet the global challenges. Because, to meet the global challenges companies need knowledgeable people while, within the cluster the chances of knowledge spill over is more. In another way, knowledge may flows in two ways either inflows or outflows. Inflows mean when the knowledge of an employee is sharing within the firm, whereas, outflows of knowledge mean when the knowledge of an employee is sharing outside the owner company. But both have its positive and negative effects. In this process the possibility of having a quality human resource, chances of getting better highly qualified people within the company that may lead a firm to increase its technological level.

Technology is also another key factor influenced by industrial clusters. Thus, within the cluster technological progress reduces costs and benefits both competitiveness and profitability. Opportunities for cooperation increase among firms so as to expand the scale of production (Saha & Pavelkova, 2010; Saha, 2012).

**Fig.1. Thematic Model of Industrial Cluster Boost Human Capital**



Source: (Saha and Pavelkova, 2010; Saha, 2012)

## Discussion And Conclusions

Based on aforesaid investigation this article has summarized some strategy as suggestion for enhancing the competitiveness of cluster core firms. This article finally recommended some suggestion based on previous evidences concerning significant cluster activities in India (Kerala). It suggested that the activities of cluster mainly human resource activities of cluster *could be the most important* strategic activities in human resource management area which influence the efficiency and competitive ability of a company.

It was defined that performance and competitiveness of enterprises can be supported by using the selected cluster activities, which enhance knowledge and skills of the employees and also the potential of utilization of the knowledge for the benefit of the company.

On the other hand, from the practical perspective point of view this article provides some suggestion to the enterprises, how they can optimize their productivity and enhance the organizational performance through clustering and developing human capital, i.e. Human Resource.

These following advices may be useful for the enterprises intended to join cluster, intended to increase their competitiveness through their existing resources.

- (a) Enterprises need to focus on managing their human resources in an effective way that will enable them to be the peak performers in this competitive world.
- (b) Enterprises need to apply the best collective practice approach like systematic managerial strategy, policies and practice in order to control and supervise the human factor.
- (c) Enterprise should look forward and provide best facilities to their employees (people) as they are the most important assets of an organization comparing to other tangible assets.
- (d) So to be competitive, enterprises need to identify the right person (having the capabilities of knowledge, skills, and abilities) that will work hard for them to increase the level of organizational performance.
- (e) Enterprises need to be proactive in reaching the goals, and cluster members must study the new ideas, approaches, and technologies, through learning the powers of persuasion.

These are the things that make employees attractive to employers, and propel them up the ladder to success. So to cope up with the present business environment knowledge Skills and Abilities (KSAs) development has become an essential criterion as a part of an organization as the present business environment is changing significantly around the world. It can be said that hopefully the above mentioned guidelines will facilitate the enterprises to except the change through their new experiences, new ideas, skills, and opportunities.

Therefore, it is necessary to underline that clustering policy can be a strategy for improving human resources, strengthening the competitive ability of the enterprises. This is followed by the way cluster concept is focusing on the internal processes of regional development and competitive advantage where, policy has been developed for different institutional and strategic environments. This article also tries to highlight the importance of linking firms, people, and knowledge at a regional level, which are one of the way of making regions more innovative and making business more competitive.

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### Dedication

The first author dedicated this paper to her only beloved son "*Kanishka Binayak Saha*".

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