



A STUDY ON TECHNOLOGICAL INNOVATION AND ENTREPRENEURSHIP IN SMES (SMALL AND MEDIUM ENTERPRISES) IN COIMBATORE DISTRICT

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ABSTRACT :

SMEs means 'small and medium enterprises', has taken a jump in the recent times and great developments have been observed in this field. Recently, most of these small and medium business organizations have started by the talented and young entrepreneurs who have changed their mode of functioning from the conventional ways to the modern, digital techniques of advertising and promoting their businesses. SMEs played an important role in driving economic growth through generating exports, investment in fixed assets and promoting technology integration in advanced economy. This study examined the impact of technological innovation, product innovation and process innovations on small and medium enterprises (SMEs) performance in the manufacturing industry in Coimbatore district with a sample size of 50 new and old generation small & medium size entrepreneurs. The results indicated that Research & Development spending by the firms as well as product and process innovation has significant impacts on the firm's performance. Also, training of workforce constitutes the major innovation activities in the manufacturing SMEs. This study suggests improvement in Research & Development spending and other technological activities which are expected to increase SMEs' profitability and thus generate more employment in the country.



KEYWORDS : Technological Innovation, Small and Medium Enterprises (SMEs), Manufacturing Industry and Profitability.

INTRODUCTION

SMEs means 'small and medium enterprises', has taken a jump in the recent times and great developments have been observed in this field. Recently, most of these small and medium business organizations have started by the talented and young entrepreneurs who have changed their mode of functioning from the conventional ways to the modern, digital techniques of advertising and promoting their businesses. The primary source of acquisition of many SME owners is entered the market with a plunge onto the online marketing methods with digital marketing.

Usually a digital marketing campaign incorporates the use of the digital media resources including the websites, servers, software applications, videos, notifications, social media, online content, e-books and so more; to reach out to the customers in the global market. The SMEs have been greatly benefited by online digital marketing campaign which increases their products and services greatly in front of the targeted customers. The digital marketing techniques have benefited the SMEs in the following ways:

- The digital marketing technique has helped the SMEs to search for more flexible market potential in the global scenario.
- Most of the digital marketing techniques offer free services, hence it is considered as the most cost effective method to reach out the targeted potential methods.
- CPC (Cost per Click) or PPC (Pay per Click) are the leading digital marketing campaigns can be utilized greatly to achieve the desired results and enhanced profits for the SMEs.
- The SMEs can also come in direct contact with the experts of this field who are in constant touch with the recent updates or the advancements.
- The SMEs are also given the freedom to make the necessary changes or reforms in their ongoing online marketing campaigns with the use of effective digital marketing techniques.

Technological innovation and development

Technology capability is a collection of aptitudes, skills, knowledge, equipment and attitudes that offer a firm ability to operate, understand, change and create production processes and products. It can be referred to as the technical knowledge about a production process which has been acquired through formal training and learning by doing. This is the capability needed to acquire, assimilate, use, adapt, change or create technology. Technological capability is likened to a ladder-climbing process which is rather a step-wise one than a haphazard process.

SMEs contribution to country's economy

SMEs played an important role in driving economic growth through generating exports, investment in fixed assets and promoting technology integration in advanced economy. It is observed that in some newly industrialised countries like Taiwan, Malaysia, South Korea and Singapore, SMEs have effectively dictated not only on industrial production strategies but also on the export earnings. Especially, SMEs form the production wheels for the large scale enterprises in India. SMEs act as momentum of accelerated economic growth and development. However, the much expected accelerated speed of economic growth through SME has not been reached in India.

Review of literature

Vonortas and Xue (1997), they were studied the process innovations of small firms in the USA. It was observed that internal resources, economic incentives and organizational and technical competencies that a firm has developed or accumulated over time and a firm's linkage to external sources of expertise for learning about new technological development were the major forces that influenced these firms in adopting a process innovation.

Hoffman et al. (1998) a survey made by author pertaining to UK. It was found that internal factors are more important core determinants of innovation and innovation plays a key role in success or failure than are external factors. It was identified that both internal and external factors as the driving forces of innovation.

Danneels and Kleinschmidt (2001) According to them, product innovation requires the firm to have competences relating to technology and relating to customers. These studies strongly indicated that neither internal competence of the firm nor customer requirements alone drive a firm to undertake innovations. Innovation emerges only when a technically competent firm is able to identify and respond to customer requirements by developing and/or improving products/processes.

Statement of Problem

- Limited access to funding sources and no guarantee to technological innovation
- Lack of environment and mechanisms to attract and retain innovative talent
- Conservative operating thinking and lack of innovative consciousness
- Limited resources for innovation and poor innovation collaboration

Objectives of the Study

- To enquire the relationship between technological innovation and growth in performance of SMEs.
- To ascertain the increase rates of production, cost, sales, investment, and employment of technological innovative SMEs.

These objectives are studied with respect to auto components, electronics, and machine tool manufacturing SMEs in Coimbatore district of Tamilnadu which is the pioneer in the field of industrialization and an industrially progressive hub in the country.

Data Analysis and Interpretation

For Data analysis 50 small and medium size manufacturing enterprises (auto components, electronics and machine tool manufacturing SMEs) were selected in the study area.

Table - 1: Technological Innovation in manufacturing SMEs firms in Coimbatore

| Nature of technological innovation | No. Of SMEs | % of manufacturing SME firms |
|------------------------------------|-------------|------------------------------|
| Product innovation | 18 | 36 |
| Process innovation | 17 | 34 |
| Both | 15 | 30 |
| Total | 50 | 100 |

Source: Primary data

It was also observed from the survey that 36 per cent of the respondents (Sample SMEs) engage in product innovation, 34 per cent of the respondents engage in process innovation and 30 per cent of the respondents engage in both product innovation and process innovation.

Table - 2: The technological innovation on SMEs productivity in Coimbatore

| Innovation activity | Process | Change/Increase in productivity (No. Of respondents) | Percentage |
|---|-----------------------------------|--|------------|
| Introduction of advanced machinery and equipments | Production and process | 17 | 34 |
| Digitalisation | Production, process and training | 12 | 24 |
| Skill development activities | Training & development | 10 | 20 |
| Implementation of new techniques and methodology | Production, process and marketing | 11 | 22 |
| Total | | 50 | 100 |

Source: Primary data

Table 2 shows that 34 per cent of the respondents have opined that the introduction of advanced machinery and equipments change/increase in SMEs productivity, 24 per cent of the respondents have opined that digitalisation in production, process and training change/increase in SMEs productivity, 22 per cent of the respondents have opined that the implementation of new techniques and methodology change/increase in SMEs productivity in production, process and

marketing and 20 per cent of the respondents have opined that the skill development activities change/increase in SMEs productivity.

Table - 3: The technological innovation on SMEs Cost in Coimbatore

| Innovation activity | Process | Change/Increase in Cost (No. Of respondents) | Percentage |
|---|-----------------------------------|---|------------|
| Introduction of advanced machinery and equipments | Production and process | 22 | 44 |
| Digitalisation | Production, process and training | 14 | 28 |
| Skill development activities | Training & development | 05 | 10 |
| Implementation of new techniques and methodology | Production, process and marketing | 09 | 18 |
| Total | | 50 | 100 |

Source: Primary data

Table 3 shows that 44 per cent of the respondents have opined that the introduction of advanced machinery and equipments change/increase in SMEs cost, 28 per cent of the respondents have opined that the digitalisation in production, process and training change/increase in SMEs cost, 18 per cent of the respondents have opined that the implementation of new techniques and methodology change/increase in SMEs cost in production, process and marketing and 10 per cent of the respondents have opined that the skill development activities change/increase in SMEs cost.

Table - 4: The technological innovation on SMEs Sales in Coimbatore

| Innovation activity | Process | Change/Increase in Sales (No. Of respondents) | Percentage |
|---|-------------------------------------|--|------------|
| Introduction of advanced machinery and equipments | Transportation, Packing and storage | 12 | 24 |
| Digitalisation | Advertisements | 26 | 52 |
| Skill development activities | Sales Training & development | 05 | 10 |
| Implementation of new techniques and methodology | Branding, Packing and warehousing | 07 | 14 |
| Total | 50 | 100 | |

Source: Primary data

Table 4 shows that 24 per cent of the respondents have opined that the introduction of advanced machinery and equipments in transportation, packing and storage change/increase in SMEs sales, 52 per cent of the respondents have opined that the digitalisation in advertisements change/increase in SMEs sales, 14 per cent of the respondents have opined that the implementation of new techniques and methodology in branding, packing and warehousing change/increase in SMEs sales and 10 per cent of the respondents have opined that the skill development activities in sales training and development change/increase in SMEs sales.

Table - 5: The technological innovation on Investment on SMEs in Coimbatore

| Innovation activity | Process | Change/Increase in Investment opportunity on SMEs (No. Of respondents) | Percentage |
|---|-----------------------------------|--|------------|
| Introduction of advanced machinery and equipments | Production and process | 12 | 24 |
| Digitalisation | Production, process and training | 22 | 44 |
| Skill development activities | Training & development | 06 | 12 |
| Implementation of new techniques and methodology | Production, process and marketing | 10 | 20 |
| Total | | 50 | 100 |

Source: Primary data

Table 5 shows that 24 per cent of the respondents have opined that the introduction of advanced machinery and equipments in production process change/increase investment on SMEs, 44 per cent of the respondents have opined that the digitalisation in production, process and training change/increase investment on SMEs, 20 per cent of the respondents have opined that the implementation of new techniques and methodology in production, process and marketing change/increase investment on SMEs and 12 per cent of the respondents have opined that the skill development activities in training and development change/increase investment on SMEs.

Table-6: The impact of technological innovation on SMEs Employment opportunities in Coimbatore

| Innovation activity | Change/Increase in employment opportunities in SMEs (No. Of respondents) | Percentage |
|---|--|------------|
| Introduction of advanced machinery and equipments | 10 | 20 |
| Digitalisation | 18 | 36 |
| Skill development activities | 14 | 28 |
| Implementation of new techniques and methodology | 08 | 16 |
| Total | 50 | 100 |

Source: Primary data

Table 6 shows that 20 per cent of the respondents have opined that the introduction of advanced machinery and equipments change/increase employment opportunities in SMEs, 36 per cent of the respondents have opined that the digitalisation change/increase employment opportunities in SMEs, 16 per cent of the respondents have opined that the implementation of new techniques and methodology change/increase employment opportunities in SMEs and 28 per cent of the respondents have opined that the skill development activities change/increase employment opportunities in SMEs.

CONCLUSION

Entrepreneurship is not only an important driver of economic growth, productivity, innovation and employment. It also is a key player in the life cycle of businesses, giving rise to new firms to take the place of those whose influence and relevance are waning. But as anyone who has started a business

knows well, being an entrepreneur is not easy. Entrepreneurs often must fight an uphill battle to get their new ventures off the ground, and many never succeed.

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