EFFECT of TECHNOLOGICAL INNOVATION on the GROWTH of SMALL ENTERPRISES, a Study of SMALL SCALE COIR MILLS in PUTTALAM DISTRICT in SRI LANKA

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ABSTRACT

The prime aim of this research study is to identify the impact of Technological innovation (Technopreneurship) on the Small Enterprises growth. The study primarily contemplates on four types of technological innovations based on Machine Technology, Computerized Operations, Mobile Technologies and Other Communication Media

Technologies of Small scale coir mills in Puttalam district of Sri Lanka.

Results depict, the growth of these four types of technologies based innovation (Technopreneurship) lead for enterprise growth. Moreover, it explains that higher(up to date) the extents of these technologies, higher the positive contribution for technological innovation performance.

Inadequate finance, lack of the knowledge are identified as the main reasons for the lower orientation of small scale coir mills on technology based innovation performance.

To promote technology based more value addition small scale coir mills in Sri Lanka, emphasis on „Technopreneurship" is essential where there is a requirement of coir industry and SEs category aspects specific Business Incubator (BI) model in Sri Lanka. ***Keywords:*** Enterprise Growth, Small scale coir mills, Technological innovation

Introduction and research problem/issue

Background of the study

Though there is a highly globalized and technologized scenario in the world holistically, the individual countries contributions to the improvement of the technology are varied from continent to continent, region to region and country to country. Concerning on the innovation perspective, the same scenario applies as nation to nation, region to region, the extent of innovation is different. When it takes these two terms of „technology‟ and

„innovation‟ to „technology‟ plus „innovation‟, it derives the modern term

„Technopreneurship‟ where it can be concisely denoted as „Technological innovation‟.

Problem Statement of the study

The level of Technological innovation(Technopreneurship) of Sri Lankan small scale coir mills contribute to the enterprise growth

In this research study, it provided its deep insight mainly on Machine Technological

Innovation, Computerized Operations based Technological innovation, Mobile Technological innovation and Other Communication Media based Technological innovation (Dutse et al., 2013) on Sri Lankan small scale coir mill‟s Growth.

Research Objectives

1) Identification of the present level of Technological innovation

   (Technopreneurship) of small scale coir mills in Puttalam district.
2) To explain the relationship of Technological innovation (Technopreneurship) on Sri Lankan small scale coir mills growth.
3) To identify whether there is any effect from the different extents of technologies for Technological innovation performance of small scale coir mills.
4) Identify the reasons for the lower orientation of Sri Lankan small scale coir mills towards the technology based innovation.
5) How to promote technology based more value addition to Technopreneurial small scale coir mills in Puttalam district in Sri Lanka.

Research Methodology

Scope of the Study

Theoretical scope – Technological innovation (Technopreneurship), Small scale coir mills Growth

Geographical/ Empirical scope – small scale coir mills exist in Puttalam district.

Research Design

- **Survey Research Approach.**

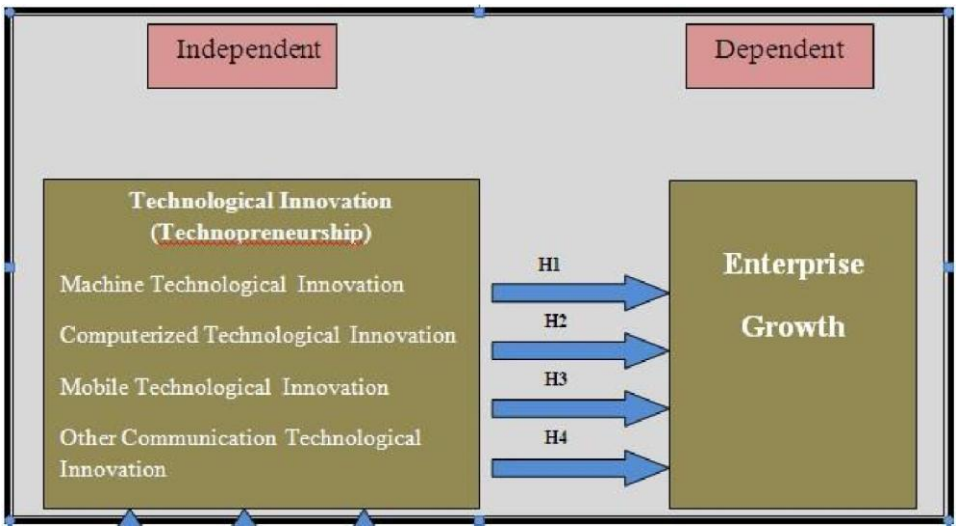
  Primary data had been collected from the sample to test the hypothesis.

- **Sampling Plan.**
  - ✓ **Target Population and Sample Unit–** To measure the technological innovation and enterprise growth, the unit of analysis is the entrepreneurs (owners) of coir SEs in Puttalam district.
  - ✓ **Sample size –** The total population of the small scale coir mills in Puttalam district which are coming under the above category of employees 5-24 is 133(„Sampath Pathikada‟ resource base). Sample size is 100 which is drawn from the small scale coir mills out of total 16 Divisional Secretariat divisions in Puttalam district.
  - ✓ **Sampling Method-** Simple Random Sampling had been used to take the sample of 100 from the small scale coir mills in Puttalam district.
  - ✓ **Sample -** The sample is drawn from the small scale coir mills in Puttalam district coming under the category of employees 5-24 according to the NonAgricultural activities in Sri Lanka -2013/14 Economic census Research Instrument.
  - ✓ An Administrative Questionnaire is used to collect primary data.

Data Analysis

An Ordered Logistic Regression Analysis is used as per the Inferential (Multivariate) Statistical analysis.

Conceptual Framework of the Study



Source: Author developed Model Based on Literature Survey

Results and Findings

In accordance with the identification of the present level of technological innovation of small scale coir mills in Puttalam district, according with the research results, the Machine

Technology Usage of small scale Coir Mill owners in Puttalm district is 100%. The innovation performed from the Machine Technology Usage by the small scale coir mill owners is 48% while 52% has not performed any innovation. Derives that, though the machine technology usage is high, the innovation performance based on machine technology usage is almost half in the small scale coir mills in Puttalam district.

Moving on to the innovation from Usage of Computerized Operations by the small scale coir mill owners in Puttalm district, as per the research results, Computerized Operations Usage of small scale coir mill owners in Puttalm district is 43%. Accordingly, from the 44% of computerized operations users, 74% performed innovation using Computerized

Operations while 26% has not performed any innovation. It concludes that, the Computerized Operations Usage is low in small scale coir mills in Puttalam district thus among the computerized operations users, the innovation performance is at a higher level. When it comes to the innovation from mobile technologies usage by the small scale Coir mill owners in Puttalm district, the mobile technologies usage is 100%. The innovation performed by the mobile technologies users of Small scale coir mills category in Puttalam district, from the 100% of mobile technology users, 57% performed innovation using mobile technologies while 43% has not performed any innovation. Derives that albeit the mobile technologies usage is high, the innovation performance based on mobile technologies Usage is almost 60% of the small scale coir mills in Puttalam district.

Emphasizing on the innovation from the other communication media usage by the small scale coir mill owners in Puttalm district, the other communication media usage is 100%. The innovation performance by the small scale coir mills in Puttalam district, from the 100% of other communication media users, a 56% of small scale Coir Mill owners performed innovation while 44% has not performed any innovation.

Moving on to the machine technology usage, higher the extent of machine technology usage, higher the performance of machine technology based innovation (Technological innovation) thus lower the extent of machine technology usage, lower the performance of machine technology based innovation (Technological innovation).

In sighting on the computerized operations usage, higher the extent of computerized operations usage, higher the performance of computerized operation based Innovation (Technological innovation) thus lower the Extent of Computerized Operations Usage, lower the performance of computerized operations based innovation (technological innovation).

Considering on the Mobile Technologies Usage, higher the extent of mobile technologies usage, higher the performance of mobile technologies based Innovation (Technological innovation) thus lower the extent of mobile technologies usage, lower the performance of mobile technologies based Innovation (Technological innovation).

When analyzing the other communication media usage, the higher the extent of other communication media usage, higher the performance of other communication media based innovation (technological innovation) thus lower the extent of other communication media usage, lower the performance of other communication media based innovation (Technological innovation).

Conclusions, implications and significance

The growth of machine technological innovation (Technopreneurship) leads to enterprise growth thus the growth of computerized operations based technological innovation (Technopreneurship) leads to enterprise growth. Moreover, the growth of mobile technological innovation (Technopreneurship) leads to enterprise growth while the growth of other communication media based technological innovation

(Technopreneurship) leads to enterprise growth. Therefore, the growth of technological innovation (Technopreneurship) of small scale coir mills lead for enterprise growth.

The higher (up to date) extents of above machine, computerized operations, mobile and other communication technologies lead to provide more positive contribution for technological innovation performance thus lower the extents of machine, computerized operations, mobile

and other communication technologies lead to minimize the positive contribution for technological innovation performance of small scale coir mills in Puttalam district.

When identifying the reasons for the lower orientation of Sri Lankan small scale coir mills towards technology based innovation, inadequate financial position, lack of knowledge on most of the new technologies, lower awareness plus trust worthiness and lack of infrastructure are existing as serious issues.

Concerning on the promotion of technology based more value addition technopreneurial small scale coir mills in Puttalam district, it is very important to promote not only entrepreneurship but also Technopreneurship among micro/ small scale coir mill owners. The implementation of a vibrant national policy to effect on technology based Coir and other SEs in Sri Lanka can be done by the government. It is essential to provide practical technoeducation and on the field training for small scale coir mill owners thus the encouragement of small scale coir mill owners to adopt up to date relevant technologies and technological advancements will also be beneficial.

References (Selected)

Chesbrough, H. (2003) "Open Innovation: The New Imperative for Creating and Profiting from Technology" The Journal of Business and Economics. Volume 1, Issue 1, pp. 227-270.

Dolawatta, N.(2012) " Identification of the critical factors affecting the development of export competitiveness of the small and medium scale enterprises in Sri Lanka: A case study based on the Gem &Jewelry sector", Department of Management of Technology, Faculty of Engineering, University of Moratuwa-Sri Lanka.

Dutse, A. Y.,NIngi, S. I., Abubakar, S.(2013) "Technopreneurship and Enterprise Growth in Nigeria: An Exploration into the Latent Role of Microfinance Banks" Journal of Business and Management, Volume 12, Issue 2, PP 25-32.

Lalkaka, R. (2002) "Technology Business Incubators to Help Build an Innovation-Based Economy" Journal of Change Management, Volume2, Issue5, pp.167 – 176

Selvarani, A., Kanagaraj, V.(2015) "A study of technoprepeurship in Small and Medium Industry. Technopreneurship as a firm strategy: Links to innovation, creation and performance", International Journal of Management, Volume 6, Issue 1, pp. 401-408

Non Agricultural Economic Activities In Sri Lanka, Department of Census and Statistics, 2013/2014

SME Competitiveness Outlook, 2015