



# Determinants of manufacturing productivity: pilot study on labor-intensive industries

Determinants of  
manufacturing  
productivity

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Received February 2010  
Revised September 2010  
Accepted September 2010

## Abstract

**Purpose** – The purpose of this study is to address the impact of three issues: degree of skills, favorable working environment and R&D on manufacturing productivity of labor-intensive industries.

**Design/methodology/approach** – Convenience sampling method has been used to conduct this study. Three categories of labor-intensive manufacturing industries (A, B and C) have been chosen to perform this research. Industrial category A represents the manufacturing operations which are based on skill of labor. Category B is a group of industries which provides a favorable working environment to utilize the potential of skill in manufacturing process. Category C is a specialized group of industries and its manufacturing process is dependent on R&D. Input–output data for manufacturing operations of the sample industries have been analyzed by using standard statistical techniques to establish the relationship between dependent and independent variables.

**Findings** – The degree of skill and productivity is positively correlated, but not strongly ( $r < 0.5$ ). The study found that productivity is positively ( $r > 0.5$ ) associated with favorable working environment. However, a significantly positive correlation ( $r > 0.7$ ) is found between R&D expenditure and productivity. The study concludes that a higher degree of skills, favorable working environment and R&D are important inputs to a labor-intensive manufacturing process, which is positively associated with productivity.

**Research limitations/implications** – Manufacturing productivity is an important parameter of industrial growth, and this paper addresses this issue. The current work addresses the garments sector, i.e. a part of the labor-intensive industries. Though this work is focused on only one part of this sector; the findings of this study have significant policy implications. The results would be useful for manufacturing business executives and policy makers.

**Originality/value** – This study addresses the important issue of productivity of labor-intensive manufacturing industries, and generates quantitative evidence of the impact of degree of skills, favorable working environment and R&D on productivity. The generated information enriches the present knowledge stock of manufacturing systems. The findings could be the basis for further academic research on manufacturing systems.

**Keywords** Manufacturing productivity, R&D knowledge, Skills, Working environment, Research and development, Manufacturing industries, Manufacturing systems, Costs, Labour, Working conditions

**Paper type** Research paper



## 1. Introduction

The labor-intensive manufacturing industries are generally defined as industries where labor costs are more important than capital costs. More specifically, labor-intensive means use of manpower in the production process with little support of technology. Labor-intensive companies generally have greater earning stability compared to capital-intensive ones due to their lower capital intensity. It is also evident that the