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### **RESEARCH ARTICLE**



# **Impact of Information Technology on Production Management in Small and Medium Sized industries**

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### **Abstract**

small and medium industries in many countries play a major role in employment and national production. These firms for more participation in the economy need to optimal organize and strengthen the technical bases for the competition, for the desired degree of evolution in their business. This study have been investigated the use of information technology to improve production management in small and medium industries.

This research is causal or after events that tries to answer the question whether the use of information technology effects on the management of small and medium industries work or not?

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In other words, the use of information technology in small and medium industries leads to better management in the industry or not. The population for this study was intended, by the small and medium manufacturing industry and type of sampling is random. Data were collected through a questionnaire and analyzed using software SPSS19. According to the results obtained with the 5% level of confidence, information technology effect on the availability of small and medium industries to new tools for marketing.

**Keywords:** Information technology, management, small and medium industries

## **Introduction**

Industry improved in three aspects of production inputs, outputs and products can be investigated this means that any company can improve the efficiency of production inputs, improve production processes by reducing costs and time or increase product quality in a better place [1, 2].

One of the ways to improve the manufacturing process in this context is the use of appropriate tools. In today's world, information is the most valuable asset of any organization so that the importance of information technology and its effects has grown tremendously and sense its growth and development [3].

Scholar named Robert Simons, in his famous book entitled “measurement systems and performance control” tells daily hordes of operational data recorded and stored in information systems that all of them are not important for management. Acquisition of key information that helps managers to make good decisions for corrective measures is the main task of a measurement systems and performance control [4].

Research results by Malaysian banks on success factors for small and medium companies shown that increasing the capacity of management and coordination, creation of business culture, prudent financial management, providing high quality products and effective programs for human resource development can be effective of the company's success factors in global competition [5]. Much research by various people about the challenges facing small and medium industries has been done. According to the study, these industries with problems such as lack of adequate administrative capacity, lack of funding, are facing the problem of access to appropriate technology [6, 7, 8, 9, 10, and 11].

On the other hand, the boom raising in collecting data due to the growth of the global market and customizing, the decision process need to quickly and more accurately. As the organization grows data needed for decision-making in the organization becomes more widespread and the collection and analysis of vast amounts of information can be overwhelming [12]. It seems to use information technology can be as part of the challenges facing small and medium industries in the management through data management and coordination between the different parts. Among the tools that will help managers in the management can noted to CRM ERP, CAM, CAD, CIM and BI.

#### **A review of previous work:**

In the world there are several ways to assess the impact of information technology in small and medium industries. Including the research, the following can be noted.

- The results of research on the discovery and study of Information Technology Assessment and benefits management practices in the small construction industry also represents a positive impact of the IT on industry [19].

- The results of a survey by Olugbode et al in 2007 as IT achieve organizations' strategic objectives; shows the IT systems that have been implemented to achieve the strategic goals of the organization will help [13].
- The results of a study by Martin and Milo in his study in 2007 entitled the small and medium enterprises to increase productivity through greater use of ICT shown the use of information technology can dramatically increase the ability of these companies to be flexible [14].

## **Methods**

Methods to identify the three main factors in this study are defined.

ICT: Hamlnyk Information and communication technology, including the latest technologies being

the ability to information and facilitate different forms of electronic communication between the human and the electronic system [15].

Kotelnikov these technologies in the form of simple and advanced information and communication technologies introduced and indicators on the use of information and communication technology, such as computers with simple and advanced IT applications and preliminary hardware and computers with advanced software such as databases and ERP and CRM introduced [16].

Small and medium industries: industrial and service sectors (urban and rural) that are less than 50 workers [17].

Management: process to provide effective and efficient use of human and material resources in the planning, organizing, mobilizing resources, guidance and control to achieve organizational goals and values accepted by the system takes place.

Definition has the following key concepts:

1. Management is a process.
2. The concept of latent management is conducting humanitarian organization.
3. Effective management made good decisions, and the desired result is achieved.
4. Efficiently manage is the allocation and wise use.
5. Management focuses on purposeful activities[18].

This research is causal or after event to answer the question whether the use of information technology in the management of small and medium industries is effective or not?

To answer this question using Morgan table and according to the statistical population of small and medium manufacturing enterprises in a number of 380 samples were selected. In order to enhance the credibility of the study a total of 400 companies were selected using random sampling. Data was gathered by questionnaire. To evaluate the reliability of the 30 members of the target population that was not sample selection and questionnaires given them and after collecting the questionnaires, the data were entered into SPSS software and the reliability was calculated using Cronbach's alpha. Because more than 60% alpha coefficient was calculated any item not removed.

Through the mail questionnaire was provided to organizations after receiving the questionnaire were reviewed and 385 organizations through the mail questionnaire was accepted. Questions were coded and entered into the software SPSS19. Test data normality using the Kolmogorov - Smirnov to select the appropriate statistical test to confirm or refute hypotheses to investigate the impact of information technology on management of small and medium industries done, the data were normal. The descriptive statistics were used to test the hypothesis.

The results of the spss output variables were as follows:

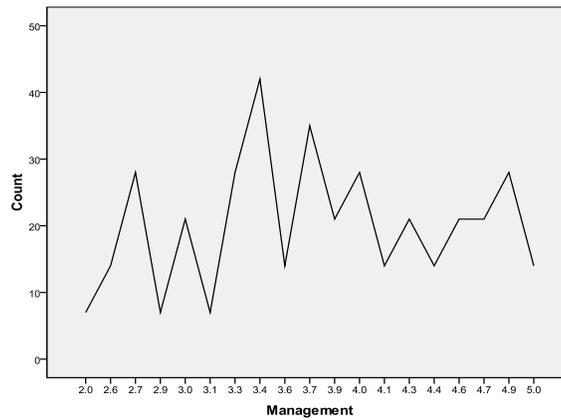


Table 1

One-Sample Statistics				
	Number	Average	Standard deflection	Average standard error
management	385	3.771	.7412	.0378

$$\left. \begin{array}{l} \mu - 3 = 0 : H_0 \\ \mu - 3 \neq 0 : H_1 \end{array} \right\}$$

Table 2 : One-Sample Test

	Test value = 3					
	Rate of t	Freedom degree	Rate of P in both sides	Differential average	95% فاصله اطمینان	
					Low limit	High limit
management	20.409	384	.000	.7709	.697	.845

To test the hypothesis, we assume that if the average data from the questionnaires 3 is more than 3 above hypothesis is accepted. As Table 1 and 2 show, according to the respondents, the average IT to manage small and medium industries significantly from the average Mean = 3 is more and t calculated at significant level 0.05 is more than  $p = 0$ .

## Results

With the necessary data collection and performance analysis of the results of research findings confirm the hypothesis it mean the use of information technologies will lead to better management of small and medium industries. This is very valuable for small and medium industries. This leads to a competitive advantage for the industry, development agencies, and appropriate reaction against competitors and make good use of the opportunities and threats, identify organization's strengths and weaknesses. The results of the research is compatible with the results of the research that was conducted in 2007.

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