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Resource Utilisation and Availability Analysis as a Productivity Improvement Tool: A Case Study of a Food Manufacturing Company

Vilasini, N., U. P. Kahangamage and J. R. Gamage

Abstract

The purpose of this paper is to elaborate how resource utilisation concept influences to the overall productivity of a manufacturing organisation. Effective resource utilisation increases profitability by optimising utilisation and minimising bench time and generates goodwill and loyalty among staff that translates to competitive advantages in recruiting and retaining the best talent in the future.

A manufacturing company uses resources of various kinds such as manufacturing resources (machines, material handlers, tools, Energy etc.), storage resources (warehouses, automated storage and retrieval systems), logistics resources (trucks, rail transport, air-cargo carriers, etc.), human resources (labour, scientific and technical personnel) and financial (working capital, stocks, etc.). The objective is to utilise these assets or resources efficiently so that the overall productivity of the organisation can be maximised.

Resource utilisation is the percentage of time that a resource component is actually occupied, as compared to the total time that the resource component is available for use. In order to apply the resource utilisation concept, generic losses adhered to the various work centres were identified and categorised according to the above mentioned resource categories. This generic loss structure was then applied to selected work centres of a food manufacturing plant. The generic loss structure for work centre was categorised in to two major categories, equipment losses and man power losses. Several Industrial Engineering tools were used to identify prevailing losses and to quantify them. The results show that when resource utilisation concept is applied according to the generic model, the productivity of the work centres has been improved. The resultant productivity improvement has been estimated and presented.

Keywords

Productivity, Generic losses, Resource utilisation ratio