

On the dependency of material flows on quality and the configuration of the inspection system

Moshe Eben-Chaime

Department of Industrial Engineering & Management

Ben Gurion University of the Negev

Be'er Sheva, Israel

even@bgu.ac.il

Abstract

The flow of materials is a major constituent of in-plant logistics and the material handling system is a key factor in the performance of production/manufacturing system. Similar factors govern resource requirements and material flows. In particular, quality factors and the configuration of the quality assurance – the inspections' system. Nonetheless, only recently has the association between material flows, quality levels and the configuration of the inspections' system been noticed. Consequently, the dependencies of material flows on quality levels and the configuration of the inspections' system can be examined. The quality levels, the configuration of the inspections' system, and inspection error rates significantly affect the volumes of material flows. In addition, the configuration of the inspections' system affects the structure of the material flow network by adding nodes – inspection stations, to it and changing the flow paths, accordingly. These effects are demonstrated, examined and discussed in this talk.

Keywords

material flow, material handling, quality, inspection errors, yield rates

Biography

Moshe Eben-Chaime is a professor in the Department of Industrial Engineering and Management, Ben-Gurion University of the Negev, Israel. He received the Ph.D. degree from the School of Industrial and Systems Engineering, Georgia Institute of Technology where he studied as a Fulbright student. His research interests are in core IE and productivity improvement through better design of production/manufacturing systems, work methods, work stations and facilities.