

EVALUATION OF A SUPPLY CHAIN SYSTEM THROUGH RELIABILITY ANALYSIS - A CASE STUDY

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Abstract

Reliability is defined as the ability of a system or component to perform its required functions under stated conditions for a specified period of time. Good reliability levels are considered as a major determinant of systems performance. Modern Supply Chains are vulnerable to disruptions. Supply Chain disruptions is a combination of (1) an unintended, anomalous triggering event that materializes somewhere in the Supply Chain or its environment, and (2) a consequential situation which significantly threatens normal business operations of the firms in a Supply chain. The disruptions have a certain probability of occurrence and are characterized both by its severity and by its direct and indirect effects. Nevertheless the complexity and also the vulnerability of modern Supply Chains due to their extended activities, multiplied partners and spread entities over the world, imply that the reliability of those systems must be evaluated significantly. This paper proposes a model and a case study for evaluating the reliability in order to select the suppliers.

Key works: Reliability, Disruptions, Supply Chain.