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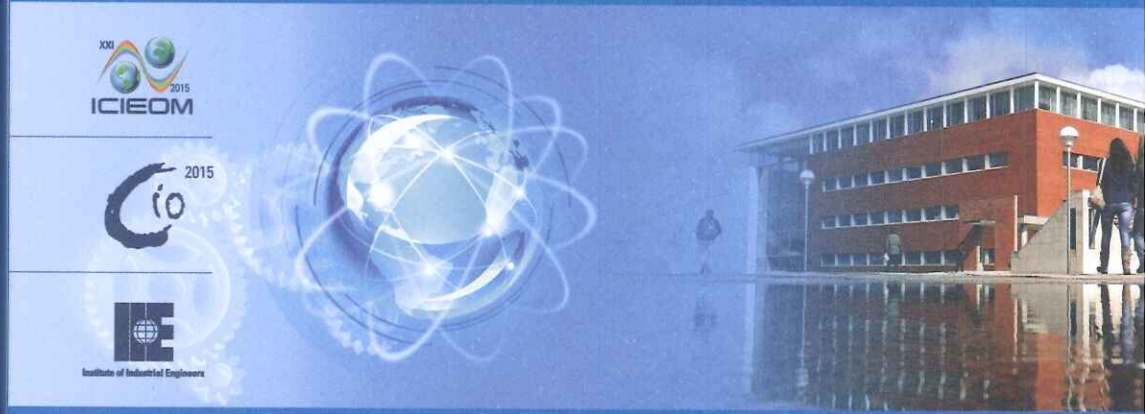
The way ahead for industrial engineering and operations management



XXI International Conference on Industrial Engineering and Operations Management
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Spare Parts Inventory Management Using Quantitative and Qualitative Classification

Oliveira[1], Vaz[2]

Abstract: This paper focuses on the spare parts inventory management of a maintenance provider of the health sector, where the commitment to ensure the agreed customer service level and the guarantee of maximum availability of the devices are relevant issues. Spare parts inventory management means handling with unpredictable consumption, since in most cases, it is impossible to know in advance when a specific spare part will be necessary or the needed amount. Determining an adequate inventory management policy for spare parts, specifically for unplanned maintenance operations is essential to provide the contracted service level. Considering that the criticality of a spare part has consequences regarding the availability of an equipment and service level agreement, the spare parts were classified in terms of quantity, value of usage and criticality. Based on this classification, differentiated service levels and inventory management policies were adopted for each group.

Keywords: Inventory management; spare part; ABC analysis; criticality analysis.

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Total Cost of Ownership in the Context of Supply Chain Management: an Instructional Case

Afonso P[1], Leite S[2]

Abstract: This paper presents and discusses an in-class exercise on Total Cost of Ownership (TCO). TCO can be included within the Supply Chain Cost Management (SCCM) framework being essentially a tool that aims to determine the true cost of buying from a specific supplier. There are some references in the literature on TCO but its dissemination in the industry has been very slow. Thus, it is important to develop and implement case studies and instructional cases to promote and disseminate this technique among both academics and practitioners. Indeed, research supports the assumption that students have varying learning styles which can be supported better by other pedagogical techniques than typical lecturing. The case presented here represents an original instrument for the understanding and dissemination of TCO. The case design and materials used are explained and discussed. This case has been applied in the format of short course but it can also be used in class in a program of several weeks. The results obtained demonstrate that this in-class exercise can be used to involve students or practitioners in a dynamic process of learning and discussion on supplier cost management.

Keywords: Total Cost of Ownership (TCO); Supply Chain Cost Management; Suppliers Management; Case Study; Instructional Case.

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Modelling and simulation of inventory level control in service operations management

Gibelati E[1], Pereira F[2]

Abstract: A discrete event simulation is one of the most used techniques in the field of operations research. It is a technique to support the decision, in which the search for a problem solution is performed by analysis of a computational model that describes the behavior of the system under study. Applications of this technique are found in several areas with very significant results. Building a model of discrete event simulation in planning the amount of material is presented in this work. The main objective is the definition of the ideal inventory level for a material at a distribution center. To this end, we propose the development of a modelling and simulation in computer system Arena of a service company supply chain. The construction of the model follows the usual steps of project planning and construction of the conceptual model. With the simulation it is possible to follow the evolution of the model variables, related or not to the queues, observe the conditions under which rupture or excess inventory occur and identify the best option for a given scenario of demand and sales forecast.

Keywords: Discrete event simulation; supply chain management; Inventory management; modelling.

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Performance Measuremen Total Productive Maintenan a Production Company

Tasan A.S[1], Boztug U.A[2]

Abstract: Total productive maintenance i important to gain and sustain competitive of service and manufacturing companies. Be the performance of total productive mainte has to be measured and considered by man In this study, an integrated performance me proposed for total productive maintenance production company based on several pe ance metrics such as; spare parts availa breakdowns, product quality and efficiency. T tegrated performance metric is formulated regression analysis.

Keywords: Performance measurement; tota productive maintenance.

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