World Academy of Science, Engineering and Technology
International Journal of Industrial and Manufacturing Engineering
Vol:12, No:10, 2018

Classification Framework of Production Planning and Scheduling Solutions from Supply Chain Management Perspective

Authors : Kwan Hee Han

Abstract : In today's business environments, frequent change of customer requirements is a tough challenge to manufacturing company. To cope with these challenges, a production planning and scheduling (PP&S) function might be established to provide accountability for both customer service and operational efficiency. Nowadays, many manufacturing firms have utilized PP&S software solutions to generate a realistic production plan and schedule to adapt to external changes efficiently. However, companies which consider the introduction of PP&S software solution, still have difficulties for selecting adequate solution to meet their specific needs. Since the task of PP&S is the one of major building blocks of SCM (Supply Chain Management) architecture, which deals with short term decision making in the production process of SCM, it is needed that the functionalities of PP&S should be analysed within the whole SCM process. The aim of this paper is to analyse the PP&S functionalities and its system architecture from the SCM perspective by using the criteria of level of planning hierarchy, major 4 SCM processes and problem-solving approaches, and finally propose a classification framework of PP&S solutions to facilitate the comparison among various commercial software solutions. By using proposed framework, several major PP&S solutions are classified and positioned according to their functional characteristics in this paper. By using this framework, practitioners who consider the introduction of computerized PP&S solutions in manufacturing firms can prepare evaluation and benchmarking sheets for selecting the most suitable solution with ease and in less time.

Keywords : production planning, production scheduling, supply chain management, the advanced planning system
Conference Title : ICIIE 2018 : International Conference on Industrial and Information Engineering
Conference Location : Paris, France
Conference Dates : October 29-30, 2018

Open Science Index, Industrial and Manufacturing Engineering Vol:12, No:10, 2018 publications.waset.org/abstracts/96837.pdf