



Chapter IX

Optimal KM/WM Systems in Manufacturing

Issues

- To examine conventional wisdom versus an enlarged view of connecting manufacturing “points of wisdom” for what needs to be done over time
- To set forth the important elements underlying an effective manufacturing model
- To explore areas that are related to production planning and execution
- To set forth a typical optimal KM/WM system application in manufacturing

Introduction

Over the years, a number of leading management experts have stated that employing newer technologies is the key to moving the country forward in terms of improved productivity. Prominent management experts maintain that newer technologies have not come close to yielding the returns that companies had

expected, primarily because computer technologies and their related organizations are not properly aligned with business priorities or have not done enough to integrate internal business factors with external ones. Although each side offers valid points, newer information technology (IT) is indeed driving corporate productivity and GDP (gross domestic product) growth, but it is still only scratching the surface of its potential. Imagine the productivity that could be unleashed if technologists and management decision makers were all “working off the same page”. This is the potential that optimal KM/WM systems offer to business organizations of all sizes, especially in the manufacturing sector.

In light of the above comments, the first part of the chapter looks at the need to rethink manufacturing operations from a broad perspective so that optimal decision making in this area is the order of the day. Next, conventional wisdom versus an enlarged view of connecting “points of wisdom” in manufacturing are examined. The requirements for developing an effective manufacturing model for an optimal KM/WM system are explored, followed by a manufacturing model and its sub-models in optimal KM/WM systems. Due to the importance of production planning and execution in determining what should be produced daily, it is examined in detail with particular emphasis on making it an integrated part of product lifecycle management. Lastly, an optimal KM/WM system application is given for manufacturing.

Need to Rethink Manufacturing from a Very Broad Perspective

In this 21st Century, there is need to rethink the entire manufacturing process from a much broader perspective in order to make it more efficient and effective. This rethinking centers on manufacturing concepts, particularly enterprise resource planning (ERP), supply chain management (SCM), manufacturing execution systems (MESs), and advanced planning and scheduling (APS). Additionally, the rethinking process should center on utilizing the e-learning concept, optimizing e-procurement and supply chain operations, utilizing total quality management (TQM) in the manufacturing process, and employing manufacturing software useful in optimal KM/WM systems. The major shift in thinking about manufacturing operations ties-in with the product lifecycle management approach noted throughout the text. Overall, a rethinking from a new perspective about manufacturing operations gives company decision makers and their staffs an improved way to optimize their operations that is not generally found in prior information systems.

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