MRP II

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Planning for Manufacturing Excellence

John W. Toomey

Principal, John Toomey & Associates, Arlington Heights Illinois

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Preface

After attending the International American Production and Inventory Control Conference in 1972, I became part of the “MRP Crusade.” For the next 2 years, I directed a program at my company to install material requirements planning, and following that, an additional 2 years was devoted to the implementation of capacity requirements planning. The results, although successful, were not good enough to qualify us as a “Class A” user, nor did our manufacturing performance meet the present-day requirements of a world-class manufacturer.

In the intervening years, our understanding of the role of planning and its relationship to manufacturing execution has expanded and clarified. Competition from abroad as well as domestic competitors has hastened the increased body of knowledge necessary for efficient manufacturing. The relationship of the manufacturing system to the increased emphasis on concepts such as improved customer service, continuous improvement, and employee empowerment must be considered.

This book is an organized collection of material I have used in teaching at community colleges and management seminars. It is an extension of the basic logic of MRP in Joseph Orlicky’s *Material Requirements Planning* (1975), coupled with the increased understanding of materials management requirements as well as the availability of more sophisticated software. This book will explain the principles of MRP and how they can be utilized in distribution, job shop, and repetitive and process manufacturing environments.

The object of the book is to meet the training need of MRP courses offered at 4-year colleges, community colleges, and company in-house programs. It is also directed to material and manufacturing practitioners who require in-depth knowledge of MRP or who would use it as a reference book to assist them in APICS certification.

The material is organized to first present the perspective of materials management (Chapters 1 and 2). Defining the product and process is then specified (Chapter 3). The planning functions for demand management, MRP, capacity planning, and distribution planning follow (Chapters 4–8). Executing the plan for job shop, process, and just-in-time operations is then detailed (Chapters 9–11). Finally, system implementation including organization and measurements are discussed (Chapter 12). Simple case studies and solutions are presented in each chapter with the exception of Chapter 1. Each chapter

concludes with a 10-question quiz. The answers to the quizzes can be found in Appendix C.

I have learned from this effort that writing a book is no easy task. Jim Nolan describes the experience as similar to writing a 400-page homework assignment. I would like to acknowledge the assistance and encouragement from Eugene Magad of Harper College as well as the benefits received from manuscript reviews by Jack Gips of Jack Gips Inc., Gary Midkiff of Friedman & Associates, Tom Setlik of Tempel Steel Company, and Larry Sutherland of System Software Associates. It is amazing how critical points can be overlooked or, worse, misstated due to the wrong word in the right place. The above reviewers have been invaluable in their suggestions and corrections.

Finally, I would like to thank the personnel at Letter Perfect Secretarial Service, Inc., who had to put up with my penmanship, and my wife Joan, who had to put up with me.

John W. Toomey

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