6 Conclusions

Manufacturing Planning and Control (MPC) served as the foundation of today's solutions. MPC helped manufacturers to easily create detailed plans that efficiently integrate products, operations, and resources. However, with the time flow, the MPC system started to have limitations, which led to kick start of ERP systems. ERP has the same logic backbone but it is more integrated and capable of doing more complex tasks. ERP systems have significantly developed from their roots in the 1950s with the help of bill-of-material processors (BOMPs). In the 1960s, this evolution was followed by Material Requirements Planning (MRP). It added inventory and lead time management to the basic BOM logic. By the 1970s, closed-loop MRP (CL-MRP) systems integrated production routes and work centers which were helping with the capacity resource planning (CRP). In the 1980s there was a new system having the same logic, but working on more complex aspects named Manufacturing Resource Planning II (MRPII). Nowadays, ERP systems are using the advantage of cloud technology, artificial intelligence, and machine learning. These new tools are helping to offer even more solutions so enterprises from different industries that implement ERP can meet their business needs. This research explored how Enterprise Resource Planning (ERP) software addresses challenges in modern industry advancements, specifically the role of ERP software in manufacturing modules. By examining existing literature on ERP functionalities and its applications in production planning and execution with the help of MONITOR ERP it became obvious that this tool is a great solution that helps to easily manage all of the production processes. ERP systems went beyond production planning, by integrating different functionalities across diverse departments. To test the theoretical background, in the practical part, a simulated workflow using MONITOR ERP for an end product - Portable Grill was created. ERP replaced manual processes, helping with data management and a smooth production flow. This research demonstrates the significant advantages of ERP software in manufacturing, Monitor G5 calculated the overall price precisely, helped to save time, and it allows to access all the data only by mentioning registered parts' ranges. Overall, ERP systems provide an infrastructure that collects information and business data across an enterprise/organization, with the help of which it is possible to make informed decisions that boost efficiency. While completing the research part autor observed the full history of the Manufacturing Planing and Control tools, gain new practical skills, specifically how to work in the Monitor G5 inviroment, how to test the software and analyze it. This study can contribute to understand the evolution of ERP, the backbone of Monitor how the software works and how accurate it is.