

Executive Summary – Project Management Under Various Industries

Operations management (OM) is defined as a systematic approach and control of processes that changes the input to finished goods and services. Project management is an important element of OM that aids all these processes ensuring finished goods are delivered on time with high quality. The team has been tasked to study project management in various industries and underline some of the best practices of project management generally and in the field of aerospace, construction, consulting, automobile, start-up and software industry. It was found that the core practices that control the success of a project is dependent on how well the practices are executed by a project manager. Those practices include defining scope, objectives and deliverables, project planning, communication, tracking and reporting progress, adhering to change management and risk management.

Engineer-To-Order (ETO) manufacturing projects are found to be complex in nature due to its demand for sophisticated finished goods and services and undergoes 6 phases of project management - conception, planning, designing, development, implementation and review. Enterprise Resource Planning (ERP) systems is a project management software tool which is seen to be very demanding in manufacturing sectors due to its capability of providing real time data of project progress and continuously utilizes lean manufacturing principles to eliminate non-value added resulting in increasing efficiency.

New technologies such as AI, IoT and blockchain is also impacting project management in several ways. Artificial intelligence and machine learning enable project managers to analyze

huge set of data before making decisions. They should be implemented in the construction industry as project managers can make use of data analytics in order to conduct more accurate analogous estimation. IoT also enables hyper speed communication it connects several devices in a network who can interact with each other. This would be very beneficial in the pharmaceutical industries where several devices can act in a closed loop. Furthermore, blockchain allows secured and encrypted communication channel, thus lowering uncertainty for highly agile companies like start-ups.

In order to achieve best practices of project management, it is advised for the project manager to undergo Project Management Professional (PMP) certification to have various theoretical and practical knowledge and apply them in the industry. Organizations should conduct weekly meetings and ensure project members are up to speed every week through clear transparent communication and status updates. ETO manufacturers should organize an internal corporate project management development program and train all personnel to understand how PM is applied within the departments to prevent chaos management. All organization practicing PM should integrate ERP system software by hiring a consultant who can create the database based on customer demands within the industry while applying lean principles. However, there still exists many challenges in project management that involves scope creep, risk management, insufficient team skills, project management software and unrealistic deadlines. By accurately following appropriate methodology and implementing best practices, operation and project managers will be able to successfully overcome these challenges.