A Research Study on How Project Management Can Help Improve Lean Six Sigma: A Proposed Approach

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ABSTRACT

Today, project managers are challenged with improving efficiency and overall productivity while working on certain tasks. They must be flexible and understand how to use tools and methods to improve results. While Lean Six Sigma (LSS) provides an overall data driven process to detect and improve system defects, project management has tools to evaluate and create a defined plan and manage a project. This article examines LSS alongside Project Management. It breaks down Six Sigma’s DMAIC process, and shows incorporate both LSS and project management tools. If LSS only focuses on minimizing defects, then time management, cost reduction, and overall project planning must be incorporated to achieve successful project completion. This research demonstrates how that is possible. Finally, the research answers a key question: Can project management benefit LSS?

KEYWORDS

Continuous Improvement, Lean, Lean Six Sigma, Project Management, Six Sigma

1. INTRODUCTION

1.1. What is Project Management?

When starting or initiating new projects, teams are usually assembled and roles are distributed to ensure successful completion and goal achievement. The discipline of planning, executing, overseeing/controlling, and completing/closing a project is the project management process.

A project is a task that is set to produce a final product, service, or experience. It has a defined set of beginning-to-end goals. Project management is the idea of producing the project’s product/service to have some effect on change in the organization. There are various ways that projects can be approached, and a host of methodologies, frameworks, and processes have been made available, in the past 60 years, to facilitate project completion (Newton, 2015).

A project spectrum can be as small as a one-day task or can span multiple years, depending on the outcome the team is aiming to achieve. The core component of project management is to define and justify the reason why a project is necessary, and then to act upon it, while monitoring progress with a defined plan (Modi & Desai, 2017).

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A project has defined outputs that will signal successful completion. Everything that an organization does can be categorized either as a project or process. A process happens continuously, and has a low risk association. A project, on the other hand, is not continuous and has a relatively high level of risk (Newton, 2015). When starting a project, multiple factors play a role in successful completion, beginning with the main project scope or project charter.

The project scope or charter provides preliminary information about what the project entails. It defines roles and responsibilities, main project objectives, identifies and clarifies stakeholders, and serves as a reference point during the project lifecycle. One beneficial technique to make the right choices is engaging stakeholders and project participants in brainstorming to define the project scope (Staff, 2016). After defining the project scope, the team moves to the next project management aspects, starting with project time.

The preeminent factor of project management is time, which is a major issue in overall project management. A manager has the critical task of deciding the life of the overall project, including how long it will take to produce a successful and qualitative deliverable (Rabbani et al., 2016). Time plays a key role in project management since it will decide the overall project cost (Newton, 2015). The amount of time it takes to complete a project also has an effect on the amount of funds required. Generally, the longer a project is, the greater the overall cost will be. It is up to the project manager to find ways to reduce costs by identifying when and where they can crash or compress the project to significantly reduce the overall time. Time, as established, is directly related to project costs, but the final factor in a successful project is quality (Ramasarma, 2017). Figure 1 highlights the balance and relationship between cost, time, scope, and quality in project environments.

To be successful, the project must be finished and achieve a high-quality product. If the project lacks quality, then the entire project may be deemed a complete failure, resulting in wasted resources including time, investors, and potential customers. Because of this, a project manager must have a wide range of skills including technical, people, management, economical, team building, and timing, as well as a great business sense, to accomplish a project successfully.

1.2. What is LSS?

A key component that should be greatly emphasized when dealing with project management is LSS. Six Sigma is a methodology that equips an organization with specific tools they can use to improve their overall capability of business processes (Harver, 2015). The primary focus of Six Sigma is to reduce of defects in processes and to improve profits and quality of products and services. Six Sigma is a rigorous, focused, and highly effective implementation of proven quality principles. Incorporating
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