Solving production bottleneck through developed define-measure-delegate-implement-control in solving production bottleneck(Article)

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Abstract:
This study focuses on the development of a define-measure-delegate-implement-control (DMDIC) framework to solve production bottleneck where this issue causing the productivity to drop. The plan-do-check-act (PDCA) and define-measure-analyse-improve-control (DMAIC) approaches have been successfully employed in solving production issues, however each approach has its limitation to certain aspects, for example, both approaches dealing either short- or long-term solution. The PDCA approach normally proposes a short-term solution that is faster in achieving a result. While the DMAIC approach can propose a long-term solution that can find the main causes of the drop in productivity. Thus, this study introduces a newly developed framework on handling short- and long-term solution to improve production bottleneck. Based on the simulation results using DMDIC approach, the production daily output had significantly improved from 264 to 304 units which had met customer daily demand. This result showed that the developed framework could improve productivity, thereby meeting customers' requirements.

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