

## EXECUTIVE SUMMARY

There is a huge demand for Steel related construction activities in Qatar due to the oil and gas industry and complicated architecture structures. Steel manufacturing is required skill employees and process adjustment from the project to project while adopting to make to orders manufacturing. The steel industry is labour oriented industry which required human resource control strategies to enhance productivity and achieve organization goals. HBKSF is one of leading steel fabrication company in Qatar produce steel product make to orders. The organization having issue with manhour overrun in manufacturing department and result in deduction of 4% profit margin during last four years. This project is aimed to resolve the major problem of organization by proposing suitable techniques to overcome issue related to manhour overrun and ultimately to achieve target profit of organization for sustainable growth.

Unlike traditional manufacturing units, steel fabrication manufacturing cannot have total standardized manufacturing system considering different type of product been manufactured. Therefore, process change, and human resource control is very important to enhance productivity in workplace. Problem in the production is seen after the SOWT analysis of the HBKSF and further describe using organization data and root cause analysis. Three other problems related to manhour overrun in HBKSF is identified. those issues are related to the areas of manhour overrun for materials handling in factory, low percentage of skill manpower and reworks. Root cases are for those three components identified as materials feeding and discharge process gaps, materials movement in factory process gaps, non-availability of employees work analysis and job description, training of employees, employee's motivation, SOP for Site measurement and drawings preparation process gaps.

After the analysis of the problem and root causes, literature review is conducted to gain warranted knowledge to the project. As proposed by literature, reconfiguration of manufacturing system and integrated value stream mapping is identified as manufacturing process improvement technics. Job description, Job analysis, behavioral interview, high performance working system, favorable working environmental and employees reward system are identified as technics to implement for improvement of employee's performance. SOP for site measurement, Job analysis, Job description, training need

analysis and process flow chart are identified as technics to use for improvement of quality control process.

Project Objectives were established for each project components with the use of technique identified through literature review. Main project objective is to reduce manhour overrun in factory by 68% (from 31% to 10%). Objective for the component of production process is to reduce manhour consumption for materials handling in factory by 42%. Objective for Employees performance is to reduce manhours for fabrication activity by 62%. Third objective related to quality control is to reduce reworks percentage by 96% in production. Using the proposed techniques, instructions to implement solutions are provided to the HBKSF to overcome issue with the attached appendices to this project.

Through process improvement expected to reduce QAR 1,710,072 per year from all three components. with the improvement of production process is expected to deduction of QAR 1,211,301 per year and by reducing manhours for fabrication is expected to reduce of QAR 355,907 per year by improving employee's performance. Organization is expected to reduce QAR 162,864 per year by improving quality control process in production by reducing reworks. outcomes of projects are expected to improve productivity, customer satisfaction, improve turnover, timely delivery, sustainable business, customer satisfaction and reduce waste and comply with industry environmental compliance. As estimated, for implementation of the project, HBKSF required to spend QAR 975,570 for first year and target benefit to the organization within a year's period estimated to be QAR 914,500 for first year. therefore, benefit cost ration for this project is 1.87/1.

Finding of the project is discussed with literature review on each project component to gain a strong conceptual understanding, to apply key theoretical references and to develop a practical scenario for each component by comparing theoretical findings and project implications. Recommendation is provided to management for implementation to overcome the problem of HBKSF manhour overrun which result in deduction of organization performance by reducing profit margin by 4%. Author recommended to implement technics proposed to improve production process, employee's performance, and quality control. With the implementation of proposed recommendation author expected the organization will overcome the problem and HBKSF will enhance the outcome of achieving productivity, customer satisfaction, enhance profit and sustainable business.