Chapter 8
Study of Literature on Quality Management in Manufacturing and Healthcare for Information Governance

Balaji Gopalan
https://orcid.org/0000-0002-1082-5597
CMS Business School, Bangalore, India

ABSTRACT

The chapter aims to comprehend the best practices of quality management in manufacturing and healthcare services and its relevance to information governance. Quality management principles of quality gurus have contributed significantly to the manufacturing and services sector. Its implementations in manufacturing and health care services provide numerous learning opportunities. Delivery of care processes integrates quality of health and life, lean management, quality assurance, quality implementation, quality control, affordability, and satisfaction with services. These best practices in quality management are relevant across various disciplines of research including information management, psychology, business research, service quality and technology management. The study has explored the challenges of quality management in health care services and manufacturing and integrates studies that may contribute to the subject of quality management and its relevance for information governance.

INTRODUCTION

How do companies manage to manufacture quality products without compromising on performance attributes and what is the cost associated with making quality products? The resounding success of a few manufacturing companies was a perfect cause for industries to take notice and learn about incorporating quality management into their processes and practices. Quality is one of the most important reasons why firms have become profitable and sustainable. For the health care industry, value systems are the core to implementing quality management systems. Quality is also considered the best performance measure

DOI: 10.4018/979-8-3693-0472-3.ch008

across all industries. Total quality management in all their procedures, processes and techniques have transformed many industries. In manufacturing, *six sigma* quality management implementation has facilitated almost zero-defect products and in the services sector service quality has become a standard. The services industry is also setting an example in implementing quality management systems based on the quality principles of gurus such as Deming, Juran, Shewhart, Feigenbaum, Ishikawa and Crosby. The services sector has faced numerous challenges in quality management implementations because customer needs are both tangible and intangible. Research published on industries and quality management based on Toyota Production Systems' applicability to the health care sector has identified many quality objectives and quality parameters. Lean manufacturing management is identified as the core to the production management techniques of the Toyota Production System (Collins et al. 2015). In services or manufacturing, the focus is on eliminating events such as "Jidoka" or "Andon" alerts that disrupt production or services. Lean management principles in manufacturing focuses on eliminating the wastage of material, labor, energy and other resources and improving manufacturing processes, reducing delays and optimizing logistics and supply chain management in the transportation of goods.

Studies on the implementation of the Toyota production system (TPS) for quality management in the health care services have discussed the need for an integrated approach to the quality management of services with a focus on employee involvement in the work design and the setting of performance goals. TPS has become a standard in process innovation for the elimination of defects and the reduction of waste in industries and the services sector and to focus on quality, productivity, dependability, optimization of costs, market share, customer services and safety. TPS depends on organizational knowledge creation, high degree of specification of work processes, employee participation in ideas, innovation and continuous improvement.

The structure and control systems and a decentralized work culture encouraging participative design are also integrated into the TPS philosophy. It emphasized a cordial management-employees work environment facilitating a healthy work culture, customer focus and continuous improvement. It also requires leadership traits in individuals who are operation-oriented team leaders and also employee empowerment in reducing "Jidoka" or "Andon" alerts and focus on problem solving and improvement of services. How can we recognize continuous quality improvement and what are the policy implications and practicalities in quality health care and quality assurance? (Esain et al. 2011; Rubenstein et al. 2013; Claus 1991).

The research published on quality management in the context of manufacturing, service science and healthcare is dispersed taking into consideration articles published from the years 1990 to 2024. Articles published in quality engineering journals refer to Quality Management and Juran's trilogy and legacy (Bisgaard 2008; Kolesar 2008). A systematic review of literature on quality control, total quality management (TQM), service quality and service science published in a journal on quality services and service sciences has covered 30 years of TQM literature (Chen et al. 2022).

Research published on lean six sigma have focused on deployment in manufacturing SMEs, six sigma and competitive advantage with reference to TQM and excellence, six sigma implementations in the pharma sector, six sigma in healthcare, professional safety and health facilities management (Alexander et al. 2022; Collins et al., 2015; Esain et al., 2012; Halpren-Ruder 2020; de Mast 2006; González-Cebrián et al. 2022; Heuvel 2005; Kaplan et al. 2009; ReVelle 2004; Losko and Smeak 2009; Kim et al., 2016). Other articles have focused on achieving peak performance (Brown 1997), Automotive Quality and Training Excellence in manufacturing, Toyota Production Systems, Six Sigma Implementation and Quality Improvement (Cole and Flynn 2009; Entelechy Inc 2009; Collins et al., 2015). Research papers have also