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ABSTRACT

Integrated Management System Implementation in Indian SMEs

The ever increasing customer demand for improved quality and the introduction of various industry specific management systems has given rise to the concept of Integrated Management System (IMS). The underlying proposition behind IMS is to reduce several individual management systems such as Quality Management System (QMS) and Environmental Management System (EMS) into one integrated management system supporting efficient operations. Most of the research in IMS implementation focuses on the large firms and the literature suggests that the implementation of larger enterprise concepts straight to SMEs might lead to failure as the small businesses are not 'little' large businesses. Also, taking into account the role played by SMEs to the economic well-being around the globe, it becomes increasingly important to study the implementation of the Integrated Management Systems in SMEs in order to improve the operational performance of the SMEs.

The objective of this study is manifold. Firstly, the study aims to identify the critical success factors, motivations, benefits and the challenges for implementing IMS through a review of the extant literature on IMS. Then, a measurement model to measure the impact of the antecedents of IMS implementation (such as challenges and motivation) on the integration level of IMS (IMS maturity) and its subsequent impact on SMEs' operational performance is proposed. Finally, the second measurement model examines the mediating role of supply chain integration moderated by environmental uncertainty on the relationship between IMS maturity level and operational performance of SMEs.

The study involved the systematic review process suggested by Tranfield et al. (2003) in order to fulfill the first objective. 74 papers from 29 peer-reviewed journals were identified on the basis of the inclusion and exclusion criteria. The findings suggest that the most important (in terms of frequency in literature) success factor for IMS implementation is cultural change followed by tailor-made IMS design and support from key users and suppliers. Also, top management commitment along with skilled employees leads to successful IMS implementation. The most common motivations behind IMS implementation are to improve internal communication, to improve company image and visibility, to respond to customer pressure and to reduce cost. The analysis shows that the most common benefits are the elimination of conflict between system and employees, reduction in a number of internal and external audits and elimination of waste at the bureaucracy level. The other benefits observed are high coordination, better utilization of resources, improved image and culture, high employee motivation and performance, cost reduction, better communication and improved relation with customers. The most common organizational limitation are the lack of resources, lack of culture and resistance or lack of support from employees and management. The difficulties and limitations in integrating the management systems such as lack of standardized strategy, model methodology, different scope and structure of individual systems, misunderstanding of what integration means, continuous change of regulations and guidelines, high cost and too much of paperwork points towards the lack of studies in the field of integrating management systems. The study identifies several gaps in the literature such as most of the studies on IMS implementation are exploratory in nature and studies confirming the impact of aspects such as challenges and motivation on IMS maturity remains a missing link. Also, the impact of IMS maturity on operational performance is a missing link in the literature.

The present study addresses these gaps and proposes a measurement model to measure the impact of challenges and motivation on IMS maturity and its subsequent effect on the operational performance of SMEs. This empirical study is based on the literature review and interviews held with the owners and production or quality head of SMEs. This research focuses on SMEs from India where little research has been done in this field. The data was collected from 144 SMEs in India through both online surveys (the links sent through emails) and offline surveys (through hardcopies). The study used confirmatory factor analysis and structural equation modeling in order to test the research hypotheses.

It was found that challenges to implementing IMS were negatively associated with IMS maturity. In the case of motivation, it was observed that intrinsic motivation leads to higher IMS maturity in comparison to extrinsic motivation. Also, this is the first study to the best of our knowledge that empirically establishes the relationship between IMS maturity and operational performance and shows that IMS maturity leads to better operational performance. In addition to measuring the impact of challenges and motivation on IMS maturity and its subsequent effect on the operational performance of the SMEs, this study identifies Supply Chain Integration (SCI) as a mediator acting on the relation between IMS maturity and operational performance. The results suggest that SCI partially mediated the relationship between IMS maturity and operational performance. Also, it was observed that Environmental Uncertainty (EU) did not moderate the relationship between IMS maturity and operational performance. These findings can be attributed to the flat and informal structure of SMEs which makes them react better to change in requirements.

The study primarily contributes to the IMS literature and is the first empirical study to the best of our knowledge that measures the impact of IMS antecedents on IMS maturity and its subsequent effect on operational performance. The study also contributes to SME literature as it combines the theoretical framework of SMEs, QMS, EMS, and IMS in one study.

This study holds high relevance for IMS practitioners, consultants, and quality managers as it would improve their understanding of the subject matter and help them realize the importance of IMS implementation in SMEs. Also, the results of this study might help quality managers and practitioners convince top management regarding the relevance and importance of integrating various management systems. The results will aid top management in SMEs to make better decisions related to IMS implementation as it is observed that the benefits derived from IMS implementation are contingent on challenges and motivation. The results show that mere certification does not lead to better operational performance and firms need to be intrinsically motivated in order to realize the benefits of QMS, EMS or IMS.