

Challenges in Blending of Innovation Management Systems and Quality Management Systems

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ABSTRACT

Purpose: In this highly competitive business environment components like Quality management System and Innovation Management System are highly impacting and leading to competitive advantage for the business firms. Majority of firms are given extra importance to the concept and need of innovation. Organizations are implementing the Quality Management Standard ISO9001:2015 and also innovation management standards ISO 56002:2019. Organizations are implementing the Quality Management Standard with the aim of improving their operational performance, on the other hand market conditions and competitive environment and stake holders exerting pressure for introducing innovative products and explanations to the market.

Methodology: This research aims to investigate how businesses can leverage the quality management system for implementing the innovation management system, also aims in studying the challenges and defining the relevance between innovation systems of management and quality systems of management, with the help of available literature relevant with the topic.

Findings: There is existence of some significant practices as regards to quality which can support and lubricate the formation of blend of both systems of management. In addition for ensuring a proper blend of quality management system and innovation management system the guidelines given in the ISO 56002:2019 must be followed in spirit, practices as explained by it must be implemented and key points in the initiatives and innovation process must also be introduced.

Implications: Innovation enables in providing and creating uniqueness in the processes and products leading to greater and better values for consumers and financial gains for the business organizations. Blending the innovation with quality is important for being survived in competitive business environment.

Originality: This is an original work of author which is based on review of literature. All the references are duly cited.

Keywords: Quality Management Standard, Innovation Management Standards, ISO

INTRODUCTION:

Majority of firms are giving importance to the need of innovation. The reason for this may be due to the ability of innovation in providing and creating uniqueness in the processes and product leading to greater and better values for consumers and financial gains for the business organizations. This cannot be achieved without considering and keeping higher and better quality in the organization with innovative practices, which is facilitated by implementing quality management systems and innovation management systems. Combining the quality management with innovation management for forming an integrated management system, helps in increasing the process of innovation in the firm and in turn enables an environment for innovation development of the organization. The relationship between Innovation Management System and Quality Management System is in fact collaborative but not contradictory. (Lopes, Ana, Polonia, Daniel, Gradim, Adriana, & Cunha, Jorge., 2022). This research aims to investigate how businesses can leverage the quality management system for implementing the innovation management system, also aims in studying the challenges and defining the relevance between innovation management systems and quality management systems, with the help of available literature related to the topic.

LITERATURE REVIEW:

Historical Evolution of Standards from Quality to Innovation: Today we commonly and normally use the terminology of ‘Quality’, which once was very difficult to understand, define and explain, due to many types of interpretations and perceptions people were having about this. The term quality may be related with different aspects like with the price of the product, services, appearance, aesthetics, product’s life, functioning aspects of the product or it may also include issues relevant to environment. Due to lack of similarity in defining and matters related to quality management systems, in 1987, ISO started creating a serial for quality standards in order to promoting and improving growth of the enterprises.

Table 1: ISO Standards and their objectives

ISO 9001:1987	Focus on Quality Assurance concept (<i>ISO, Quality Systems—Model for Quality Assurance in Design/Development, Production, Installation and Servicing (ISO 9001:1987), 1987</i>)
ISO 9001:1994	Updates on the basis of preventive actions concept (<i>ISO, 1994</i>)
ISO 9001:2000	Approach to improve organisational processes through Quality Management concept (<i>ISO, Quality Management Systems—Requirements (ISO 9001:2000), 2000</i>)
ISO 9001:2008	Continuous orientation and improvement by implementing and operationalising a Quality Management System
ISO 9001:2015	Aimed inserting two new components, one relevant to risk management and another to innovation management. Later on, a Technical Committee formed in this regard, dropped innovation management due to some certification issues (<i>ISO, Quality Management Systems—Requirements (ISO 9001:2015), 2015</i>)
ISO 9000:2015 ISO 9004:2018 ISO 19011:2018	These series of standards have purpose of describing, transmitting and seeking vocabularies, principles and fundamental concepts used for describing contains of 9000 standards series. (<i>International Organization for Standardization, Quality Management Systems—Fundamentals and Vocabulary (ISO 9000:2015), 2015</i>), (<i>International Organization for Standardization, Quality Management—Quality of an Organization—Guidance to Achieve Sustained Success (ISO 9004:2018), 2018</i>), (<i>ISO, Guidelines for Auditing Management Systems (ISO 19011:2018), 2018</i>)

Source: Author’s self-compilation

ISO 9001:2015 and Innovation:

ISO 9001:2008 advocated for orientation and improvement by the operationalising and implementing a quality management system. After revision of this in the 2015 version in start it aimed inserting 2 newer components, first relevant to risk management, another to innovation management. Later on, a Technical Committee formed in this regard, dropped innovation management due to some certification issues. (*Lilja, J., Hansen, D., Fredrikson, J., & Richardsson, D., 2017*) At the discussion by the ISO members, it was feared that, if with other clause related to quality in ISO 9001:2015, innovation theme related clauses are added, they will be taken as requisites of certification. Such precondition will handicap the certifications of a large number of firms who are unable to present properly prepared, unable to adapt and form the entire quality standard.

The ISO 9001:2015 standard hinted out about such enterprises can apply independent formed methods for calculating and assessing the effect some risks have for them. (*ISO, Quality Management Systems—Requirements (ISO 9001:2015), 2015*)

Innovation:

Innovation can be defined as new implementation of methods, ideas or knowledge that create new capabilities and grasp competitive sustainability. (*Kim, D. Y., Kumar, V., & Kumar, U., 2012*), (*Daft, R. L., 1978*), (*Andersson, M., Lindgren, R., & Henfridsson, O., 2008*).

Over the years various models of innovation were developed which tried to form and standardize the approaches

and thoughts in relevant to innovation. (Tidd, J. & Bessant, J. R., 2020), (Tidd, J., *Integrating technological market and organizational change*, 2005)

Kim et al. (Kim, D. Y., Kumar, V., & Kumar, U., 2012), stated five types of innovation as; radical process, radical product, incremental product, incremental process and administrative.

Process Innovation:

This refers to that technological innovation of the business enterprise which relates to innovating production processes of the enterprise.

Product Innovation:

This refers to that technological innovation of the business enterprise which relates to unique product development for consumers.

These both types i.e. process innovation and product innovation may be incremental or radical.

Incremental Innovation:

Refers to the minor changes in the present technologies while referring to quantity, price, function, design or other features for meeting the needs of present customers.

Radical Innovation is adopting new technologies for generation of demand which is not yet recognized by the market forces.

Administrative Innovation is contradictory to technological innovation which is frequently applied by internal needs for coordination and structure. It places focus on internal systems and structures in spite of focusing on customer.

Some researchers has validated types empirically. (Chandy, R. K. & Tellis, G. J., 1998), (Di Benedetto, C. A., DeSarbo, W. S., & Song, M., 2008).

Innovation possess a prolonged history of research talking about defining (Johannessen, J. A., Olsen, B., & Lumpkin, G. T., 2001) and about enhancing it, (Hurley, R. F. & Hult, G. T. M., 1998).

In more recent perspective (Barbieri, J. C. & Álvarez, A. C. T., 2016), takes a 6th generation which require an interacting role between the networks and innovation systems. In this age central concept is the “Innovative milieu”.

According to (Taferner, B., 2017), sixth generation models instead of focusing on closed networks or internal ideas rather they consider opening to the market helping in creation of ideas externally which may be coming from other enterprises functioning in the area or from customers.

Quality Management:

The concept of quality management is also defined broadly. Majority of the researchers agrees to the opinion that vital aim of the quality management is meeting and improving the needs of stakeholders with removal of insufficiencies including rework and error. (Juran, J. M. & De Feo, J. A., 2010), (Kull, T. J. & Wacker, J. G., 2010).

Whereas, number of research view the practice of quality management as a single variable. (Kull, T. J. & Wacker, J. G., 2010).

More current research outline the many practices into many types. (Zeng, J., Phan, C. A., & Matsui, Y., 2015)

Social Quality Management:

These practices are that type of quality management practice that relates to the social or behavior by nature. These practices place focus on team work, cooperation, learning, training, supplier, employees and management commitment and involvement. (Zeng, J., Phan, C. A., & Matsui, Y., 2015) Previous research have recorded the social aspect of quality management with concentrating on the external social structures like long supplier relation and also on internal social structure like cross functional cooperation.

Technical Quality Management:

These practices are that type of quality management practice that relate to mechanical methods utilized in organization by the employees. It may be defined as the practices which focus on the controlling the products and processes through tools for objective of harmonizing to and fulfilling established requirements. (Zeng, J., Phan, C. A., & Matsui, Y., 2015) Different previous literatures defined the technical quality management in manifold

types including process management (Flynn, B. B., Schroeder, R. G., & Sakakibara, S., 1995), (Saraph, J. V., Benson, P. G., & Schroeder, R. G., 1989), preventive maintenance (Arauz R., Matsuo H., & Suzuki H, 2009) and housekeeping (Schonberger, R. J. , 2007).

STRUCTURAL CONTINGENCY THEORY:

There are differences in the opinions of the researchers regarding the relationship between innovation and quality management. Due to this contradictory views the contingency factors, which may be governing the relationship must be assessed. The structural contingency theory furnishes a proper guiding theoretical base for making distinction of the specific contingency factors impacting this relationship. (Schniederjans)

Factors of Structural Contingency Theory:

Structural contingency theory possess that an enterprise must try to align the enterprise's contingencies with internal and external environmental factors. (Donaldson, L., 2001) The enterprise's success is depending on the fitting of practicing and processing with duo internal and environmental practices. (Lawrence PR & Lorsch JW, 1967), (Flynn, B. B., Huo, B., & Zhao, X., *The impact of supply chain integration on performance: A contingency and configuration approach*, 2010).

Size of Organization:

Organizational size is one of the two important factors which are considered by structural contingency theory, which can be operationalized as the probable number of employees in enterprise.

Organizational Task:

This factor is operationalized through two factors as task interdependence and task uncertainty. (Graubner, M., 2006) Task interdependence (refers to degree of individual's perception of interacting and depending on others for carrying out their job) (Lin, T. C. & Huang, C. C., 2008) and task uncertainty (refers to information deficit about performing a specific task) (Stock, G. N. & Tatikonda, M. V. , 2008).

Managerial Ethics:

This factor is relatively less represented contingency factor used for quality management assessment. It may be operationalized by deontological and teleological evaluation. These both help in determining ethical judgements.

Deontological evaluation is process of comparing by an individual, various options with a set of predetermined deontological rules presenting personal values and assumed moral obligations of an individual. (Shang, R. A., Chen, Y. C., & Chen, P. C., 2008) **Teleological evaluation** is a function of the assumed result of each option for stakeholders, the chances of each result for occurring and importance and desire of each result for the stakeholder. (Shang, R. A., Chen, Y. C., & Chen, P. C., 2008) Previous studies strongly support the relationship between individual's actions and ethical evaluations.

Blended Management Systems:

Enterprise's interest are increased in relation to ISO standards adoption. Resultantly, ISO also started paying attention towards the needs of making feasible the amalgamation and adoption of the various systems existing in its standards by the way of interpreting a basic edifice which will be common among them and is beneficial for enterprises that is able in meeting the two or more management system requirements of standards.

This interest showing by enterprises is justified on the basis of continuous search for better products or services by customers, enhanced competition between enterprises, regulations of government and enhanced concerns for reducing costs related with business models. (ISO, *ISO/IEC Directives, Part 1, Procedures for the Technical Work*, SL Annex. 2021, 2021).

This does not just requires interest and will for its implementation, but, this is also an important point that implementation of each management system must be according to standards set by ISO. Further, blending of the systems into a single one needs in having an aligned management system and structure, for coordination of organisational activities and in turn enhancing the motivation of employees and improving the sustainability of the organisation. (Bernardo, M., Gotzamani, K., Vouzas, F., & Casadesus, M., 2018).

By blending of various management systems, enterprises are capable of improving their internal process with the help of more efficient and effective performing changes emanating in enterprises, managing the dangers related to discharge of services and products for stakeholders and consumers. (Bernardo, M., Gotzamani, K., Vouzas, F., & Casadesus, M., *A qualitative study on integrated management systems in a non-leading country in*

certifications, 2018)

It is also important to note down that, the level of systems blending changes depending on the enterprises. For, the intensity of blending of a management system self-reliant in start may be binding by the elements like internal motivations, maturity, methodology and its blending strategy. (Gianni, M., Gotzamani, K., & Tsiotras, G., 2017). Researchers also point out the presence of other types of factors that can affect the expected success achievement with it, like type and size of industry, sustainability and effectiveness of systems blending with every enterprise's capacity of allocating the resources.

For blending different management systems, the following process is proposed by (Savage, C. & Nicholas, S., 2017)

1. Mapping of important business processes
2. Analysing the business processes by use of flowcharts
3. Identifying the risks related to quality, safety and health at work, environment or business.
4. Cross referencing of the clauses of Annex SL or ISO standards separately.
5. Formulating operational policies governing the processes
6. Developing methodologies for controlling every business process for defining who does how, where and what.
7. Implementing controls and communication to all parties interested
8. Evaluating processes effectiveness.
9. Reviewing and improving.

Many research studies like (Nunhes, T. V., Motta, L. C. F., & de Oliveira, O., 2016), (Blasco-Torregrosa, M., Perez-Bernabeu, E., Palacios-Guillem, M., & Gisbert-Soler, V., 2021), (Bernardo, M., Casadesus, M., Karapetrovic, S., & Heras, I., 2012) reported that the creation of blend of management systems is not so much simple and easy specially relevant to quality and environment, some hurdles in the form of lack of support of certification (Zeng, S. X., Shi, J. J., & Lou, G. X., 2007) and problems related to the management of culture of the organisation (Wilkinson, G. & Dale, B. G., 1999) driving to the need for enterprises in making sincere assessment of the expenses and benefits related with the application of blended management systems.

CONCLUSION:

In the current competitive business environment Quality Management System and Innovation Management System are highly impacting and leading to competitive advantage for the business firms. Majority of firms are given extra importance to the concept and need of innovation. The partial reason for such importance may be due to the ability of innovation in providing and creating uniqueness in the processes and product leading to greater and better values for consumers and financial gains for the business organizations. This fact is motivating the researchers in studying and identifying the forces driving towards the innovation and finding ways of generating it through quality management systems and practices. There is existence of some significant practices as regards to quality which can support and lubricate the formation of blend and integration of both management systems i.e. Quality Management System and Innovation Management System. In addition for ensuring a proper blend of quality management system and innovation management system the guidelines given in the ISO 56002:2019 must be followed in spirit, practices as explained by it must be implemented and key points in the initiatives and innovation process must also be introduced. Further, it is debatable that, can a firm simultaneously achieve both i.e. high level of efficiency and high level of innovation, this needs to be studied in detail.

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