Integration of Enterprise Standard System and Professional Management System

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Abstract: In order to optimize the internal planning, resource allocation, and complementary goals of the enterprise, the overall efficiency of the enterprise is maximized. There is no doubt that the application of the integrated management system is undoubtedly an excellent choice. The use of an integrated management system can greatly improve the effectiveness and efficiency of business operations and reduce business costs. To this end, this paper studies the feasibility and requirements of the integration of the professional management systems of the new national standards and the old national standards. At the same time, it sorts out the integration ideas and requirements of the enterprise standard system and various professional management systems, compares the different standards and different documents between the two, proposes the file integration function that the enterprise standard system table should have, and finally provides an integrated framework for the relevant organizations. From this, it can be concluded that the integration of diversified management system standards to make them compatible with each other is the future development trend.

1. Introduction

2.11 GB/T19000-2008: "The various parts of an organization's management system, together with the quality management system, can be integrated into a whole, thus forming a single management system using common elements. This will facilitate planning, resource allocation, identifying complementary goals and evaluating the overall effectiveness of the organization."

This integration requirement is even more pronounced in the new version. GB/T19001-2016/ISO9001: GB/T19001-2016/ISO9001:2015 pointed out in "0.4 Relationship with other management system standards" that "this standard adopts the ISO system's management system standard framework to improve coordination with other management system standards. This standard enables organizations to use process methods and combine their PDCA and risk-based thinking to coordinate or integrate their quality management systems with other management system standards [1].

GB/T19001-2016 "Preface" states that "this standard is drafted in accordance with the rules given in GB/T1.1-2009" [1]. It can be seen that the new version of the quality management system standard follows the structure and writing rules of the standard in GB/T1.1. This provides convenience and possibility for the integration of various standards.

2. Introduction Integration Ideas and Requirements

The various professional management systems of enterprises have different concerns. The quality management system pays attention to the "quality" requirements of customers for products [1];the environmental management system pays attention to the impact of enterprises on the "environment" of the society[2]; the occupational health and safety management system pays attention to the "occupational health" and "life safety" of the employees[3]; The enterprise standard system pays attention to whether the various "standards" required by enterprises become a scientific

and organic whole. The management system mentioned above is only representative of various management systems of enterprises. There are many management systems of actual enterprises, such as production management, financial management, marketing management, energy management, cost management, technology management, and resource management. However, these systems are sub-systems of the overall management system of the enterprise. They are interconnected and mutually constrained, and each bears the key content of the different areas of the enterprise.

Starting from the enterprise as a whole, if a standard can be used to establish an integrated management system, it will undoubtedly greatly reduce the cost of the enterprise and improve its effectiveness and efficiency. Therefore, the International Organization for Standardization has been working hard to develop integration work for many years, and then changed "integration" to "compatibility". "Compatibility" means that an organization can implement common elements of multiple standards in a fully or partially Shared manner without multiple requirements .Because multiple demands inevitably lead to conflict. The use of the definition of ISO/IEC Guide 2:1996 to explain "compatibility" is: "Under specific conditions, many products, processes or services are used together, each meeting the corresponding requirements, and the ability to adapt to each other without causing unacceptable mutual interference". Integrating diversified management system standards to make them compatible with each other is the future development trend.

All management systems need to be expressed in the form of "files." To this end, each professional management system standard will establish and improve the system, and put forward their filed requirements. As a whole enterprise management, these documents with their own system as the core are bound to face an issue of integration and coordination. At this time, it is impossible to ask each professional management system to consider, co-ordinate and integrate the overall problems in various parts.

GB/T15496 "Enterprise Standard System Requirements" 5.2 further elaborates the relationship between them: "The enterprise standard system is the basis of other management systems of the enterprise, such as quality management, production management, technology management, financial cost management, environmental management, occupational health and safety management system, etc. The establishment of an enterprise standard system should fully meet the requirements of other management systems according to the characteristics of the enterprise, and promote the establishment of a complete, coordinated and self-improved management system and operational mechanism [4].

The document system formed by the enterprise standard system basically contains the documents of most professional management systems of the enterprise, which lays a foundation for the enterprise to realize the integration of the overall management system of the enterprise. However, the enterprise standard system serves as the foundation to support other professional management systems, but it cannot replace other professional management systems. Various professional management systems can be developed in depth. The method of document integration is to "simplify, unify, coordinate and optimize" all the normative documents of the enterprise in accordance with the principle of standardization, continuously integrate various system documents, and transform them into enterprise standards as much as possible, classifying them according to technical standards, management standards and work standards, to form a scientific and orderly document management system.

3. Comparison between Different Documents in the Professional Management System and Different Standards in the Enterprise Standard System

3.1 Program Files and Management Standards

A file containing an activity or process is called a "program file." GB/T19023 Quality Management System Documentation Guide 4.5.1: The program documentation should include the necessary information (including title, purpose, scope, responsibilities and authority, description of the activity, records, Appendices). "Program files usually describe cross-functional activities,"

"Defining what to do, who or what function to do, why, when, where and how to do it" (i.e., 5W1H), etc.

The GB/T15498 standard states "management matters" in the definition of "management standards", "Mainly refers to the business management, design development and innovation management, quality management, equipment and infrastructure management, human resources management, safety management, occupational health management, environmental management, information management and other repetitive things and concepts related to technical standards involved in enterprise management activities". It can be seen that all of these "management matters" can be a single management system, which is a set of elements that are related or interact with each other. Coordinating and unifying the management standards set by these management issues requires "clarifying who works in each process, what to do, how to do it, when to do it, where to do it, how to do it (i.e. 5W1H) and how to control it to meet the requirements" (GB/T15498-6.3. 5) [5].

According to the above analysis, it is not difficult to see that the "procedural documents" required by each professional management system and the "management standards" required by the enterprise standard system are similar in content requirements. However, the "procedural documents" required by each professional management system are more oriented to go deeper into their respective professions; the "management standards" required by the standard system are more focused on the coordination and comprehensiveness of the various system documents.

Since the organizations that have passed the quality management system certification are "by consensus and approved by recognized institutions" before the release of the program files, the program files specified in GB/T19001 are a form of management standards.

In summary, the program files required by each management system are included in each management standard sub-system during integration.

When the enterprise develops the standard system table, the title of these program files should be taken apart and listed in each standard category in the form of separate standards. For example, it can be listed in quality management, equipment management, continuous improvement, human resources, environmental management, occupational health or safety production, etc. Taking the program files of the quality management system as an example, some of the program files may be beyond the scope of quality management, such as the program files related to "human resources" are placed in the "human resources category", and the documents related to equipment maintenance are placed in the "Device Management Class", not in the "Quality Management Class". This not only maintains the independence and particularity of the system documents, but also satisfies the systemic and coordination of enterprise management documents [6].

3.2 Working Documents and Operating Standards

The operation documents of the quality management system refer to: "Working instructions and other documents in the quality management system", "There are detailed working documents." The work instruction book is a document for the work activities in a certain department or a certain position, focusing on how to operate. It is a supplement or materialization of the program file.

In the standard classification, the technical procedures, work orders, operating procedures and so on are all technical standards category. Therefore, it can be stated that the "technical standard" is included in the operation file of the quality management system, and certainly not limited to the "technical standard". There are also a lot of "management documents" and "post work documents" in this layer of documents.

Since each organization that conducts quality management system certification is "by consensus and approved by a recognized organization" before the publication of the operation documents, the operation documents specified in GB/T19001 are a form of operation standards.

It is not difficult to see that the standards that the enterprise standard system focuses on or the normative documents that have not yet become the standards are mostly in the operating documents. These documents are included in the respective sub-systems of relevant technical, managerial or working standards depending on their nature.

Whether the contents of the three-tiered documents are reasonable, appropriate, scientific and

effective, these issues are crucial for the effective operation of various professional systems. Enterprises should use the standardization principle to simplify, unify, coordinate and optimize the three-tier documents, and carefully review and classify the existing three-tier documents. In this way, it is easy to smoothly transfer the "three-tier document" of the quality management system to the "three types of standards" of the enterprise standard body. When all the normative documents of the enterprise are roughly divided according to the "technical normative documents", "management normative documents" and "post work normative documents", it also prepares for the establishment of various standards for the "technical standard system", "management standard system" and "work standard system" required by the enterprise standard system[6].

4. File Integration Function of the Enterprise Standard System Table

Incorporating all kinds of separately formed professional management system documents into the overall management document system of the enterprise, we first need to have a "platform" that can accommodate various systems. Other management systems have their own concerns because of their limited functions. Most of them do not have the function of focusing on the overall document. Therefore, most other professional management systems do not have the carrier of integration. This integrated carrier is only available in the enterprise standard system.

The focus of the enterprise standard system is "standards", and of course, the predecessor normative documents (Such as procedures, specifications, and program files, etc.) of standards or standards formed by other types of professional management systems. Therefore, the documents of the enterprise standard system are inevitably very inclusive and integrated with the documents of other systems.

The enterprise standard system table is a form of expression of the enterprise standard system, a set of "enterprise standard system structure diagram", a set of "enterprise technical standards table", a set of "enterprise management standards table", and a set of enterprise work standards table constitutes the enterprise standard system table. It will co-ordinate all the technical matters, management matters and work matters elements of the enterprise, and play the role of "outline". The enterprise standard system table is an important means to promote the scientific, complete, reasonable and orderly standard composition of enterprises [7].

When establishing an enterprise standard system according to the national standards of the "Enterprise Standard System" series, at the same time, the standard list should be drawn up with reference to the requirements of relevant professional management standards, and standards should be prepared; to ensure that the enterprise standard system can cover the contents of other management systems. Such as: quality management system, environmental management system, occupational health management system, measurement management system.

Standard file Settings can be used to support multiple system documentation. In particular, the technical standard in the "technical standard system" has made technical requirements, method requirements, test requirements and quality requirements around the "things". In other management systems, it is only mentioned in terms of technical specifications and so on, and only exists as the "subject" in the enterprise standard system. The management standard in the "management standard system", which has procedural requirements around "things", is actually the "program file" required by various management systems. The working standard in the "Working Standard System", which makes post requirements around "people" or "posts", answered the "5W1H" question relatively completely. This shows that the documents of the enterprise standard system form the basis of other professional management system documents.

5. Integrated Framework for the Enterprise Standard Architecture of the Sector Model

The plate mode structure diagram in GB/T 13017-2018 adopts the "four major plates" expression form combining functional return-to-mouth structure and hierarchical structure. It consists of the "Strategic Policy Top Level Design" section, the "Resource Management" section, the "Product Implementation or Service Delivery" section, and the "Testing and Evaluation Improvement and

Innovation" section to form four kinds of function respectively centralized structure. It covers the required technical standards, management standards and work standards respectively.

The structure diagram refers to GB/ t19004-2011, which provides the "four sections" as expressed in the process-based quality management system model diagram, and the objects of attention are also extended from customers to relevant parties. Seven types of resources are provided in "resource management", which makes it possible to realize the overall management of an enterprise. Therefore, it provides a reference for the wider range of target cooperation of the enterprise quality management system and the enterprise standard system; it provides an integrated framework for the organization that establishes and implements the professional management system according to the "process management" ideas and methods.

5.1 "Strategic Policy Top Level Design" Section

"Strategic Policy Top Level Design" includes overall planning, full participation in job standards, and others.

The working standards include the work standards for each position of "decision level", "management level" and "operation level", and the "all-purpose" work standard, which is included in the "Strategic Policy Top-Level Design" section. This is because "full participation" and "people-oriented" are the needs of corporate strategy. It can be seen that the idea of total quality management is fully reflected.

5.2 "Resource Management" Section

"Resource Management" is divided into seven types of resources: human resources, equipment and facilities, work environment, knowledge information and technology, suppliers and partnerships, natural resources, and financial resources.

5.3 "Product Realization or Service Delivery" Section

The "Product realization or service delivery" section includes planning for product realization or service provision, customer-related processes, design and development, procurement, production and service provision, control of test equipment and responsibility and authority of process responsible person.

5.4 "Test and Evaluation Improvement and Innovation" Section

The "Test Review Improvement Innovation" section includes key performance indicators (KPIs) and monitoring methods, various types of monitoring and measurement, non-conforming product control, data analysis, continuous improvement, and innovation and learning.

References

[1] GB/T19001-2016 Quality Management System Requirements

[2] GB/T24001-2015 Environmental Management System Specification and User Guide

[3] GB/T28001-2011 Occupational Health and Safety Management System Specification

[4] GB/T15496-2003 Enterprise Standard System Requirements

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[6] Zhao Zuming. Multi-system file integration strategy—ISO9000 and other standards and enterprise standards application integration theory [M]. Beijing: China Standard Press, 2018.

[7] GB/T13017-2018 enterprise standard system table preparation guide