Graphical description of processes as a tool for the integration of standardized management systems

Omar J. Purata;
Universidad de Guanajuato, Guanajuato, México;
opurata@ugto.mx

Dr. Purata is a Lecturer in the Organizational Studies Department at the Universidad de Guanajuato, México. His research interests are industrial metrology and visual integration of management systems. He has almost fifteen years of experience as a graduate and undergraduate teacher in subjects related with quality and statistics. His non-academic experience includes more than ten years in several industries, usually in charge of management systems.

Keywords
OSSAD, OPRL, integrated management systems, ISO 9001:2015

Paper type
Conceptual paper

Abstract
Purpose – Nowadays is undeniably the trend of companies to certify their management systems under the internationally recognized standards, and is also increasingly frequent the need to integrate such management systems. This paper illustrates how a graphical description of systems, processes, procedures and work instructions can be a useful tool for an effective integration of standardized management systems (SMS). The SMS studied had a process-based approach, a PDCA-cycle approach or even a risk-based approach. The approaches of graphical description that were applied were the proposed by the methodologies OSSAD (Office Support Systems Analysis and Design) and OPRL (Office Process Redesign Language).

Methodology/Approach – A real case of study of a Mexican company where an environmental SMS (ISO 14001:2004) and an occupational health and safety SMS (OHSAS 18001:2007) were integrated with a pre-existing quality SMS (ISO 9001:2008) using graphical descriptors is presented.

Findings – Some of the results obtained from applying the methods of graphical description in order to integrate the SMS were: 1- A robust integrated management system (IMS), ready for later integrations of additional SMS from specific sectors (e.gr. automotive, food, IT, laboratory management, etc.) 2- An IMS easy-to-use, highly suitable for training purposes versus an IMS documented only textually. 3- A clear process mapping that is naturally inclusive for all the SMS involved. On the other hand, the use of graphical description for the documentation of SMS with high level structure standards seems to be a great help for mapping the organizational, compliance and operational risks inside the IMS documentation. These findings will be a valuable reference for practitioners who are searching for visual and flexible documentation schemes or even e-documentation options, and also for the academic research about the integration of SMS either with a process-approach, a PDCA-cycle approach or even with a risk-based approach inside a high level structure format.
Originality/Value of paper – This is a primer study as no other research has found showing the relationship between graphical description of processes and the integration of SMS. The primary audience of this paper will be both practitioners and academic researchers interested in SMS integration even if this includes standards with a high level structure, like ISO 9001:2015.

Introduction
Management systems (MSs) have grown-up shoulder to shoulder with the needs of the industry, at least conceptually. Since the launch of the ISO 9000 series of quality management standards in the 1980s, which caused a strong emphasis on documentation, to the revision of ISO 9001 in 2015, which promotes the use of a systems-process-risk-based approach in the organizations, the evolution is notorious.

The need to implement MSs to meet, in an orderly and disciplined way, the requirements of all stakeholders of an organization became relevant when accounts for example: the monetary burden caused by an increased risk premium, resulting from industrial accidents; fines, penalties and adverse image derived from negative environmental impacts such as significant spill of a hazardous substance; or the globalized and highly competitive market in which today are almost every company, regardless of size, industrial sector or location. The situations mentioned point out that it is increasingly necessary to implement various MSs that drive the requirements of different stakeholders. Even several awards and business excellence models related formerly only with quality, now are true promoters of the importance of another MSs, like the related with: environment, health and safety, social responsibility, business risk, security of information, etc.

In Mexico, two of the best known guides for the integration of MSs are: UNE 66177 Management systems. Guide for the integration of management systems (AENOR, 2005); and PAS 99 Specification of common management system requirements as a framework for the integration (BSI, 2012). UNE 66177 is Spanish non-certifiable standard which MSs” integration process is based on the known PDCA (Plan-Do-Check-Act) cycle and includes three stages: development of the integration plan (P); implementation of the integration plan (D); and review and improvement of the integrated management system (CA). The standard proposes three methods of integration named basic, advanced and expert, which are sequential. The choice of the adequate integration method depends on the level of maturity of the organization’s process-based approach and the context of the organization. PAS 99 is British non-certifiable publicly available specification that aims at the specification of certain common MSs” elements which can be managed in an integrated way. PAS 99 takes account of the newer principles of MSs outlined in ISO/IEC Annex SL (2012), and follows the so-called high level structure. The structure of PAS 99 could be adapted, as UNE 66177, to the PDCA cycle as follows: context of the organization, leadership, planning and support (P); operation (D); performance evaluation (C); and improvement (A).

In both UNE 66177 (AENOR, 2005) and PAS 99 (BSI, 2012) the importance of process-based approach management is highlighted as a key element of the integration process of MSs. This is a natural assumption, if it is not clear how many and which processes are involved in the systems of an organization the integration of these will be inadequate or ineffective. Additionally, another key aspect of successful integration is the correct mapping of the processes that integrates the MSs to be used. Pretend to achieve an effective integration of MSs which information structure is based on mainly textual manuals, procedures and instructions is a losing bet. It is a daunting and inefficient task, and generation of duplicated documents and lack of interest of the main actors in the processes could be caused. At most, you end with MSs that coexist but are not integrated.