

We have identified a need for research on organisational learning and its relations to safety in contexts where: 1) interaction patterns, knowledge creation, and information processing involve intertwining of several organisational players; 2) intertwining of work tasks expands single organisational management systems, organisational identities, and goals; and 3) learning happens across business units and in multiple hierarchies.

Keywords: Organisational learning, safety, culture, power, drift

3. Maturity models: a useful solution to assess current OHS management system

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Occupational health and safety management systems (OHSMS) are implemented worldwide and by an increasing number of companies. Usually this management sub-system is not the first one to be implemented and is seldom the only management sub-system implemented by a company. Therefore, the OHSMS performance is most appropriately assessed if one considers it within an integrated management system (IMS) and, usually co-existing, with a quality management sub-system (QMS) and/or an environmental management sub-system (EMS). Furthermore, OHSMS actions are often, if not always, constrained by quality and/or environmental requirements. The dynamics of complex systems, such as IMS, have been targeted by numerous researchers in different scientific domains. All of them pointed out that these systems are characterised by a non-linear behaviour and a large amount of variables often related to each other. Maturity models have been adopted to minimise our complexity perception over a truly complex phenomenon. In this sense, maturity models are tools based on a non-deterministic methodology, which enable the assessment by the identification of the most relevant variables that influence their outputs. Ideally, besides this identification, a maturity model should provide information concerning the qualitative and quantitative relationships between variables and how they affect the latent variable, i.e. the maturity level of the maturation object.

Regarding OHSMS (maturation object) assessment, one may assess it based solely on OHSMS indicators, but further improvement actions should also rely on the contributions of other implemented management sub-systems, thereby reflecting an integrated context. This fact reformulates the purpose of OHSMS within a company and demands a systemic vision by the OHSMS manager. Some other issues should be considered, too, such as the implementation of integrated indicators, audits and procedures, and the harmonisation through adoption of a common 'language' between the sub-systems. Some features concerning the intrinsic philosophy from each sub-system may be benchmarked for the remaining sub-systems, as the systematic risk approach that characterises the OHSMS. It is intended in this paper to report several maturity-model characteristics that enable such models to act as suitable tools for assessing management systems' maturity and, specifically, that of the OHSMS. Additionally, it is also intended to synthesise all the main features found in the literature review performed, namely: which are the key questions to consider prior to model definition; which limitations should be expected; the definition of the main relevant concepts, such as maturity, capability, maturation and maturation object; and the classification of existing maturity models. Finally, a maturity model enabling integrated management systems assessment will be presented, as well the main advantages of adopting this model, concerning OHSMS features. This model, based on front-office and back-office components, considers the key process agents (KPAs) identified through a systematic literature review, and by the conduct of several case studies of companies, as well as the qualitative and quantitative relationships between these variables and their contribution to the latent variable (IMS maturity level). Ultimately,

this model translates the OHS management sub-systems' current reality – namely, the fact that their implementation and daily management are not independent from other management sub-systems and their requirements.

Keywords: OHSMS, maturity model, maturation, maturation object, maturity levels