

A Resilient Ecosystem Model to Support Targeted Prevention Plans for Occupational Safety and Health: The PMP 5.0 Project

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Abstract

Occupational Safety and Health (OSH) management is pivotal to improving workers' health and safety conditions, with economic implications for the entire company. The adoption of OSH interventions is particularly critical for Small and Medium-sized Enterprises (SMEs). SMEs are indeed often characterized by limited resources and expertise, which pose significant barriers to the implementation of OSH interventions compared to larger companies. To tackle the issue, building upon the previous study, the present study develops a techno-organizational model aimed at designing, implementing, and monitoring preventive interventions, in an efficient manner from a managerial perspective, and in an effective way in terms of risk reduction. The proposed model is conceived as a modular ecosystem of actors operating at different levels. Indeed, to foster collaboration for the optimal adoption of preventive interventions and the identification and analysis of accidents and near misses, the model allows interaction among the local (individual companies), sectoral, territorial, and national levels. The model has been empirically validated through focus groups involving a panel of stakeholders and experts engaged in the ecosystem. The current validation process has confirmed the model's utility and comprehensiveness, besides revealing valuable insights that could enhance the effectiveness of prevention strategies. Overall, an integrated design approach and meticulous post-implementation monitoring of intervention impacts emerge as critical for increasing the effectiveness of interventions, enabling timely adjustments to ongoing activities, and informing the planning of future interventions. The research has been conducted within the project "PMP 5.0: Development of Technical and Organizational Tools to Support Preventive Interventions for the Development of Resilient Network Ecosystems", funded by the Italian National Institute for Insurance against Accidents at Work (INAIL). Future actions foresee a further validation of the model through the implementation of targeted prevention plans (*Piani Mirati di Prevenzione*, PMP in Italian) at the territorial level in Italy.

Keywords

Occupational safety; occupational health; ecosystem; impact; prevention; intervention.