

# The value of the ERM philosophy for a Sustainable City : the development of a Sustainable City Risk Management approach

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**Extended abstract:** The need for integrating global risk management practices in the tools used for sustainable governance of cities considered as complex and hybrid organizations is now recognised and accepted in the literature (Lafond, 2015) (Le Masson, Gaillard, Texier, 2010). But studies, researches or methodologies allowing to translate this intent into action are still missing. In this study, we rely on an in-depth analysis of the current literature about risk management in complex organizations and on information drawn from a first field experience in the implementation of an ERM approach in a Public University context with strong sustainable requirements to discuss the interest of developing a Sustainable City Risk Management methodology in a sustainable city management perspective and to identify the benefits of ERM for such cities.

To reach these objectives we therefore answer the following questions :

- For which reasons should a sustainable city implement an ERM approach ?
- How is it possible to link global risk management and sustainability in such a context ?

These two questions are discussed in the conceptual approach of this paper.

Then we question which ERM protocol would be efficient to encourage the creation of sustainable value in a sustainable city from a global managerial perspective.

This third question is discussed in the last part of this paper, dedicated to the development of a specific protocol allowing to implement an ERM approach in a sustainable city context.

## A. Conceptual approach

At the crossroads of safety science and management science, Enterprise Risk Management (ERM) is largely presented as a solution for filling the many gaps that are present in the management of risks by homogeneous silos (technical risk, legal risk, financial risk, environmental risk, ...) when dealing with high inter-dependencies between risks (such as in cities considered as hybrid and complex organizations).

This "philosophy" for risk management is defined by the Committee of the Sponsoring Organizations of the Treadway Commission (COSO, 2004) as " a process affected by an entity's board of directors, management and other personnel, applied in strategy setting and across the organization, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives" (COSO, 2004, p.). So, unlike a traditional silo approach, ERM is an integrated approach for managing organizational-wide risks, including risk inter-dependencies and aggregations (Lam, 2006).

In complex and hybrid organizations (such as cities), it has progressively emerged as the most appropriate approach for managing in an integrated way the portfolio of risks that each organization face.

Studies have shown however that the practical implementations of ERM diverge largely both in their configurations and in the roles they allocate to field actors in different organizational contexts. The analysis of the literature about specific objectives and strategy in sustainable cities allows also to understand that these operate in a highly constrained, complex and risky environment.

A specific ERM approach (that we call then "Sustainable City Risk Management" approach or SCRM) is then logically needed to :

- Manage risk more effectively in an integrated manner to address the many risk compliance requirements and eliminate all threats for the achievement of city governance' objectives;
- Reduce the costs of risk management and insurance by acting on the synergy between the various activities of effective risk management practices and by insuring only residual risk;
- Improve the decision making process inside the city by a systematic analysis of emerging and strategic risks and opportunities prior to any decision making.

In an organizational behavioral perspective and in a resource-based view of the organization (Barney, Wernerfeld, 1991), cities are considered as complex organizations whose the main resources are intellectual capital, human resources and technical infrastructures and in which the basic governance and management processes are dominated by professionals with considerable autonomy (Abernethy and Stoelwinder, 1995). The complexity of cities is reinforced by the multiplicity of organizational entities that are traditionally present in any governance structure, with different organizational characteristics that are only partially common and with strong cultural differentiation factors. Simultaneously, cities create essentially a non-financial and social value for its citizens and its stakeholders : inside stakeholders are mainly multiple and complementary professional actors with frequently conflicting expectations and outside stakeholders are pursuing essentially societal goals and expecting public benefits.

So, the main governance goal of an URM approach at the city level is to reconcile the many different objectives that are allocated to the city and to reach this major objective in a balanced way by capitalizing on 2 complementary management systems : a Quality Management System in order to balance the Institutional (or City) Performance Objectives with the Citizenships Objectives imposed by the public nature of the city and a

Safety and Security Management System in order to balance the organizational and economic objectives imposed by the Management Board of the city and the Compliance Objectives and Requirements imposed by the external stakeholders of city.

*B. Translating the SCRM philosophy into practice : the design of an SCRM protocol*

Based on the considerations developed in the previous section, we aim now to develop the design of a SCRM protocol that could be suitable for translating this SCRM philosophy into practice.

To support this design and wishing to respect the most fundamental cultural and organizational characteristics of sustainable cities (i.e. a very large diversity of experts with a large decision autonomy and simultaneously strong budgetary and compliance constraints), we choose for the elaboration of an "holistic ERM", such as described by Mikes (2009). This protocol is based on the development of a strong culture of risk and on the search for a progressive adaptation of human behaviors and capabilities rather than on sophisticated numerical techniques allowing to reduce the potential consequences of adverse risks.

So, based on Like, Wilson, Negoï and Bathnagar (2010), we define SCRM as "*A strategic process supported by the governance structure of the City and its management and administration functions, which is designed to:*

- *Help to identify globally the local and holistic risks that could affect the City*
- *Manage the risks that are identified by focusing on their causal factors and by acting primarily on the most impacting ones*
- *Provide reasonable assurance as to the City's ability to achieve its objectives with respect to the constraints imposed by its internal and external stakeholders".*

This protocol emphasizes the importance of risk culture and the involvement of senior management (elected representatives, professional managers and senior middle-managers) to set the tone and share the culture of risk within their impact zone. It also emphasizes the importance of a clear definition of roles and responsibilities in terms of risk management, presented and discussed as a moral and normal obligation for any people with social responsibilities. Finally, due to the diversity of risks we describe above, it emphasizes the importance of "risk ownership" practices and act essentially at the local level, so that risks are controlled in specialized areas of the city. In that context, the Sustainable City Risk Management unit that monitors globally the protocol in an holistic perspective is essentially needed to stimulate action and ensure effective and coherent global action through process monitoring, reports and meetings.

*C. Conclusion*

As a complex and hybrid organization that confronts a large and diversified range of risks and by a strong decision autonomy, the city (and especially a sustainable city) has to develop a specific and adapted risk management philosophy and approach in order to gain a

reasonable assurance that its objectives can be reached by respecting the strong financial, social and environmental constraints imposed by its internal and external environments.

In that context, a risk management protocol based on an ERM approach appears as being particularly suitable, due to its ability to integrate both the complexity of the organizational structure of a typical City and the very autonomous nature of the people involved into its management practices. By focusing the attention and the actions on the human and organizational behaviours that underlays risky attitudes and daily behaviours, this protocol allows to act rapidly on the true causes of potential incidents and so allows to reduce the global level of risk that the sustainable city confronts.