

Apology of the risk as the key to drive the real-estate.

Abstract

Lots of leading companies have to manage important real-estate, but usually it poses the problem of complexity. The decision-maker of real estate has to deal with a large number of participants which covers organizations, time and space scales with numerous uncertainties. It can be difficult in this context to federate every actor around a shared language allowing obtaining homogeneity information (essential to the decision). The notion of risk can solve this problem. It is a cross concept which can spread in the horizontal dimension (between the different domains of civil engineering such as electrical or structure) and in the vertical dimension (through hierarchy level). We can describe every building (and their components) in the risk form by considering the consequences (and the likelihood associated) of its state. This modelling is called "Risk State". It concerns an assess of the components of the buildings according to the risk characteristics in different domains (regulatory, technical, commercial,...). Then we simulate the evolution of the Risk State. Each action on the buildings changes the evolution of the Risk State, creating a new evolved Risk State. By comparing the different Risk States, the decision-maker can arbitrate the proposed actions to answer the building needs and to construct an action plan. The arbitrate method uses an ergonomic and dynamic process based on filters and driven by the decision-maker. The aim, for decision-makers, is to build their own solution by testing multiple angles of vision in simulation logic.

Key words: Decision support systems – Real estate - Risk management – Simulation

1 Introduction

The real-estate is a major stake for companies. Taken in a double problem –the investment return on one hand and the increase of the requirement of safety, quality or environment on the other hand– companies have the necessity to rationalize their real-estate. Thus, they have to set up an efficient real-estate management. By managing a real-estate, we intend to foresee, to adapt and to supply the property means needed by activities in the best conditions of security, use, global cost and comfort [1]. But the real-asset management raises a real problem of complexity [2] induced by the contradictory objectives (as example, the reduction of the costs and the increase of the security), by the uncertainties of the consequences, their durability (important life cycle of a building), their gravity (human, economical, etc.) and by the multidisciplinary (technical, commercial) and the multidimensional (spatial and temporal dimensions) of the real-estate management.

Furthermore, the real-estate management is strongly split up. Indeed it is constituted by numerous diversified activities. Among these activities, we find the maintenance, the construction operations, and the acquisition/sale of real-estate elements, the usage of the real estate, the security and the administration [1]. Although these various activities are strongly connected, each of them has certain autonomy and possesses the capacity of decision to insure this autonomy. Furthermore, even if they focus on a common object (the built), their approach can be very different. It is thus normal that they have each their own methods and their own tools adapted to their own problem. As a result, a global coherence has to be established to keep the efficiency of the real-estate management. It is necessary to insure a communication between these activities, allowing to share a global logic on both sides: investment return and quality of services. So, we have to reinforce the activity of piloting which should take place at the center of the real-estate management process.