

Interpretive Structural Modeling of Interactive Risks

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Abstract

The typical firm is subject to a wide variety of risks. Understanding and quantifying the interrelationships between individual risk elements is a significantly important but complex challenge. If we view all the risks in a firm as an integrated system, we can apply a computer-assisted learning process called Interpretive Structural Modeling (ISM) to construct a structural graph and illustrate those risk interrelationships. In this paper, we use ISM concepts and techniques to better understand a company's overall risk profile. Delphi techniques can be used to "parameterize" this process according to group consensus regarding risk elements and interrelationships. An Analytical Hierarchy Process (AHP) can then be used to quantify relationships and weigh the significance of different risks. Such a modeling approach can be of great value to a firm's enterprise risk management (ERM) process.