Bayesian networks, operational risk and organizational learning in structured finance transaction management.

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Working Abstract: Although Banks had always faced operational risks, not until recently has such a serious regard been given to their measurement and management. The inclusion of operational risk within the Basel II requirements is evidence of this increased emphasis. Although much previous research into operational risk has been directed at methods for determining sufficient economic capital to cover such risks, our research is concerned with the problems faced by the operational risk manager at the business unit level. The business unit operational risk manager must measure, record, communicate and control the operational risk within their organizational units. It has recently been suggested by finance researchers that Bayesian Network tools may support this effort. In the following research, we develop a Bayesian network to model the operational risk of a functioning structured finance unit within a major Australian bank. The research suggests that Bayesian networks can be useful for capturing and communicating the operational risks identified and quantified by management and operational experts within the domain. They can support the manager's need for predictive as well as diagnostic inferences, and serve as a tool for incorporating disparate sources of data into a single model. They also have the capacity to learn and improve as more recent and relevant data is introduced into the domain.

Keyworks: Operational risk, Bayesian networks, Human Error, Organizational Learning.

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