

## Simpler Decision-making Processes May Work Best for Construction Risk Management

Lessons learned from financial investing and real estate site selection suggest simpler decision-making approaches may produce superior results than complicated mathematical models.

Mathematical modeling, such as multiple regression, is sometimes used to pick one optimal choice amongst competing risky possibilities. But multiple regression is better at predicting the past than the future. Nobel winning economist Harry Markowitz found that complicated mathematical models of investment asset allocation produced poorer results than allocation of equal sums to 25 to 50 stocks.

Economist Nathan Berg, at the University of Texas at Dallas, studied the investment decision behavior of Italian bank customers of substantial worth and found their process was: 1. Evaluate risks and rule out unacceptable possibilities, 2. Evaluate returns, and if all choices are approximately equal, 3. Select option with lower fees.

Berg then evaluated successful real estate developers who selected sites for new businesses in the Dallas, Texas area, and found a similarly simple decision-making process. Interviews of these developers indicated that there was neither the available information or time for more detailed quantitative analysis of all site possibilities. Developers investing small sums tended to locate near others, and developers investing larger sums located away from others, and both gained above-average returns.

Risk evaluation in construction management similarly has very short time frames and limited available information. Effective risk management decisions: 1. Rule out unacceptable possibilities, 2. Narrow remaining choices using one or two criteria, then 3. Make a decision on the remaining alternatives based on their quantitative merits. It is convenient that this simpler decision-making process mandated by information and time constraints produces superior results.

*Science news June 4, 2011 pp 26-29*