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Management Insights

Airlines as Baseball Players: Another Approach for Evaluating an Equal-Safety Hypothesis

David Czerwinski, Arnold Barnett

Business leaders routinely seek to apply best practices, but they want clear evidence that a particular practice is superior to available alternatives. However, in the context of safety among entities like airlines or chemical plants, major disasters are extremely rare, which is making it difficult to verify that some organizations (and their procedures) genuinely outperform their competitors. In this paper, we address this issue by adapting to aviation safety a technique used by the Oakland Athletics Major League baseball team to evaluate baseball players. Used in conjunction with other methods, the “baseball” analysis provides insight into the safety of U.S. airlines. Similar analyses might be helpful in other domains such as industrial production, land transportation, and natural hazards.

Risk Assessment for Banking Systems

Helmut Elsinger, Alfred Lehar, Martin Summer

In addition to achieving and maintaining price stability, most modern central banks have a mandate to safeguard and maintain systemic financial stability. The assessment of the risks from systemic disturbances to the banking system plays a key role in this task. However, there is a lack of adequate quantitative tools to support decision makers in the assessment of systemic risk. In this paper we develop measures of systemic risk that allow central banks to assess systemic financial stability of the banking system and help analyze the threat of a possible crisis.

Entrepreneurial Risk and Market Entry

Brian Wu, Anne Marie Knott

Most people think of entrepreneurs as risk takers. However, a long-standing puzzle is that risk-taking behavior doesn't show up in entrepreneurs' personality tests. In fact, these tests show that entrepreneurs are risk averse, and in many tests they are even *more* risk averse than employees and managers. This paper tries to sort out the puzzle. We find that entrepreneurs are actually facing two types of uncertainty: (1) uncertainty about the level of total demand in the market (something they cannot control) and (2) uncertainty about how good their firm will be (something

they believe they can control). Our results show that entrepreneurs are risk averse with respect to the former, but “risk seeking” (actually overconfident) with respect to the latter. This suggests that entrepreneurs can be “tricked” into bearing market risk when there is wide variance in firm efficiency, and hence opportunity for overconfidence.

Opportunity Recognition as the Detection of Meaningful Patterns: Evidence from Comparisons of Novice and Experienced Entrepreneurs

Robert A. Baron, Michael D. Ensley

Identifying potentially profitable opportunities is a crucial, initial step in the entrepreneurial process. Hence, it is important to understand why some persons recognize specific business opportunities and others do not. The interpretation offered here is that opportunity recognition is closely related to pattern recognition—the basic cognitive process through which individuals identify meaningful patterns in highly varied events or trends. According to this view, cognitive frameworks acquired by individuals through experience act as guides or templates, and help them to perceive patterns in external events or trends. These perceived patterns, in turn, often point the way to new products or services. Evidence for this reasoning is provided by the finding that the cognitive frameworks used to identify new business opportunities by highly experienced entrepreneurs are better developed and more directly focused on factors related to starting a new venture than the corresponding frameworks used by novice entrepreneurs. This suggests that specific persons identify particular opportunities because, in a sense, they possess the “cognitive equipment” (i.e., frameworks) necessary for doing so; in contrast, persons lacking such frameworks are far less likely to identify these opportunities. From a practical perspective, these results suggest that individuals can, through appropriate training, acquire enhanced capacity to identify opportunities.

Project Assignments When Budget Padding Taints Resource Allocation

Anil Arya, Brian Mittendorf

It is well known that the rotation of employee assignments can alter employee attitudes toward their workplace. This paper stresses that routine switching

of assignments also affects the information environment of a firm. Rather than having each employee hold a depth of knowledge in their particular expertise, a firm that relies on rotation is characterized by employees with greater breadth of knowledge. A consequence is that employees share similar experiences and are on a more level footing in terms of their learning. This can make it easier for a firm to deal with issues such as budget padding by eliminating extreme information advantages held by a handful of entrenched specialists.

Value Implications of Investments in Information Technology

Mark C. Anderson, Rajiv D. Banker, Sury Ravindran

This study addresses the question whether information technology (IT) matters by looking at the value implications of investments in IT made by companies as they prepared for the year 2000 (Y2K). The Y2K case provides a unique opportunity to evaluate the contribution of new IT to firm value and future earnings because companies had to publicly report information about the cost of their Y2K preparations. Contrary to reports that companies overspent on IT during this period, we find that firm value and future earnings increased with spending on IT for Y2K, particularly for firms in industries where IT was having a transforming impact by significantly changing business processes and practices. Our interpretation of these findings is that companies can realize sustained benefits from investments in IT in industries where IT is altering the way firms do business.

Market Valuation and Employee Stock Options

Ge Zhang

This paper argues that one reason for firms to issue employee stock options is to sell overvalued equity indirectly. When the firm is overvalued or mildly undervalued, employee stock options may increase the firm value. The intuition is based on the fact that stock prices are highly volatile and may deviate from the true fundamental values. When stock prices are higher than strike prices, employees exercise their options. Firms can issue new shares to employees, and employees sell these new shares to the market. As long as the strike prices of options are high enough, it is more likely that stocks are overvalued when options are exercised. Therefore, future investors who buy overvalued stocks are indirectly buying new shares issued by the firm and paying part of employee compensation. Hence, when managers perceive the firm to be overvalued or when the firm's stock is highly volatile, it is in the best interest of long-term shareholders to pay employees with cash plus options.

Methodologies and Algorithms for Group-Rankings Decision

Dorit S. Hochbaum, Asaf Levin

Many qualitative decisions, such as assessing new product introductions or predicting trends in long term demand, are addressed via group rankings of available options. In this paper we describe a method for reaching an optimal decision with respect to specific performance measures. The procedure is unique in allowing the use of nonhomogeneous and disparate sources for judgments, such as economic experts or customer surveys that can be expressed either in terms of pairwise comparisons or as absolute rank assessment. Each opinion can be included with a specified level of confidence that depends on the assessed expertise of the source. The performance measure takes into account the level of confidence in each particular assessment and generates an optimal decision, along with an indication of major deviations from the input opinions. This indication highlights the major discrepancies between the assessments, which can be used to focus further assessment on these disagreements to achieve an improved decision process.

Stochastic Dominance and Cumulative Prospect Theory

Manel Baucells, Franz H. Heukamp

Descriptive theories of decision making, particularly prospect theory, have been very successful at explaining the actual behavior of decision makers. These theories are based on a set of psychological insights that can help decision makers improve the quality of their decisions. This paper offers a framework of conditions and guidelines for an experimental assessment of a decision maker's risk preferences. Based on a comparison between monetary prospects, a manager can see whether her preferences follow prospect theory or other related descriptive decision models. The results can reveal inconsistencies in the decision making process and help managers apply consistent risk attitudes in their decisions.

Discounting by Intervals: A Generalized Model of Intertemporal Choice

Marc Scholten, Daniel Read

In this paper we model how decision makers, when separated from their spreadsheets and financial calculators, discount future cash flows. That is, we consider intuitive, rather than mechanical, time discounting. Because intuitive discounting is used in most real-world decisions, we need an accurate model of the process to understand and predict those decisions, as well as to reduce the influence of bias and error. It is well known that intuitive rates are typically much higher than textbook ones, and that they vary depending on factors such as the interval over which

people are discounting, the delay to that interval, and the amounts of money in question. The model we propose accounts for these phenomena. We believe that it moves decision scientists closer to a definitive understanding of the intuitive discounting process.

Sequential Observation and Selection with Rank-Dependent Payoffs: An Experimental Study

[J. Neil Bearden](#), [Amnon Rapoport](#), [Ryan O. Murphy](#)

Managers must often make selection decisions among options that are encountered sequentially. For example, when making hiring decisions, one often interviews individual applicants over some period of time. Failing to make an offer to a high-quality applicant early during the search process may mean that the applicant will be unavailable later on, as she is likely to be hired by another firm. On the other hand, offering a position to an early applicant may cause one to miss out on a better applicant who has yet to be interviewed. Our experimental results show that people have a strong bias to give up their searches too soon: They do not interview enough applicants before making a selection decision. This bias is driven by a propensity to strongly overvalue early applicants and to give insufficient consideration to the number

of applicants who are still available for interviews. Therefore, to make better decisions, managers should carefully consider the future opportunities they may forego by making binding offers early in their search process.

Enhancing a Branch-and-Bound Algorithm for Two-Stage Stochastic Integer Network Design-Based Models

[Rafael Andrade](#), [Abdel Lisser](#), [Nelson Maculan](#),
[G rard Plateau](#)

Rapid technological developments have raised the prospect of greatly expanded services in the transmission of voice, video, and other information. However, the challenge of providing sufficient bandwidth in the face of recently intensified competition among telecommunication companies poses the problem of finding optimized solutions for network expansion. In this paper we address the capacity expansion decision problem, present improvements on existing solution techniques, and perform computational experiments on real telecommunication networks. We propose a stochastic and discrete optimization model for the problem. It deals with uncertain demands, as well as the novel, indivisible character of very high speed transmission equipments.