

The Value of Behavioral Economics in Information Systems Research

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I . Introduction

Behavioral economics is concerned with studying the economic decisions of individuals. Contrary to neoclassical economics which assumes that an “economic” agent is a rational decision maker and capable of maximizing his or her utility or profit, behavioral economics assumes the bounded rationality of economic agents. Herbert Simon of Carnegie Mellon University was the thought leader who put forward the concept of “bounded rationality,” and argued that rational logics alone cannot explain human decision-making (Simon, 1955). Further, in 1979 Daniel Kahneman and Amos Tversky created prospect theory (Kahneman and Tversky, 1979) and in their seminal paper they described how people make decisions under the uncertainty and risks. Since the initial and seminal work by Simon and Kahneman and Tversky, behavioral economics has become a reputable and well-respected research paradigm over past few decades, discovering new decision errors that people make and producing a number of useful

theories. Insights and theories generated by behavioral economics have been applied in many business and organization disciplines, including information systems research.

While in recent years IS research has become more diverse in terms of research methods and paradigms (for example, data analytics, econometrics, and design science research have received much attention and become more popular among IS researchers in recent years), behavioral economics continues to be recognized as an important research paradigm (Goes, 2013). We believe that behavioral economics can be particularly valuable for IS research largely in ways. First, behavioral economics offers many theories that can be useful for understanding the way people make decisions regarding various IS issues, such as IT adoption, IT investment, IT implementation, etc. For example, Since the mid-1990’s, information systems (IS) researchers have focused attention on the problem of escalation of commitment (Staw, 1976; Staw, 1981) to Information Technology (IT) projects (Keil, 1995; Newman and

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Sabherwal, 1996) due to frequent media reports (Willbern, 1993) of runaway IT projects that seem to take on a life of their own. IS researchers turned to behavioral economics theories, such as prospect theory, to offer theoretical explanations as to why decision makers (such as project manager or project sponsor) continue to invest in an IT project that is in trouble (Keil et al., 2000). We believe that IS researchers can continue to benefit from the plurality of behavioral economic theories when attempting to better understand decision errors and problems that people make in IS contexts.

Second, we believe that behavioral economics offers IS researchers an opportunity to create theories for unique IS phenomena. The IS field constantly faces new decision problems and challenges due to the advances in technology. Every few years, we run into new technological phenomena (e.g., e-commerce in 2000's and big data in 2010's). Decision problems that occur in such settings, we believe, can be best addressed and understood by IS researchers and by drawing from a behavioral economics perspective. For example, crowd sourcing, a modern business and technological phenomenon, was enabled by the advances in web technologies. The most famous crowd sourcing site - Amazon Mechanical Turk - has grown significantly. A number of workers get paid on this site by completing work tasks posted by requesters. There are many interesting behavioral economics insights that can be discovered in such online settings, both from worker's and requester's perspectives. Yet, very little is known about the way individuals make decisions in this crowd sourcing setting. We believe IS researchers will continue to face new decision problems caused by technological advances and are best positioned to create useful theories for such IS specific decision problems drawing from a behavioral economics perspective.

Overall, we believe that IS researchers have done an excellent job of applying behavioral economics theories in understanding a variety of phenomena that occur in IS contexts, but there has been a relatively little effort to create behavioral economics theories for unique IS phenomenon. We encourage the continued effort to bring behavioral economics theories in IS contexts and more new effort to create unique IS theories that are rooted in behavioral economics.

II. In This Issue

In this issue, we included four articles that demonstrate and discuss the value of behavioral economics in information systems research. In the article entitled "Cognitive Bias and Information Security Research: Research Trends and Opportunities," authors present three cognitive biases (affect heuristic, goal framing, and optimistic bias) and discuss how these cognitive biases have been applied in IS security research. Furthermore, the authors of this article present research opportunities for new areas where these cognitive biases can be applied, such as designing in security awareness stimulus, & software updates for security protection, and neurosecurity.

In the article entitled "The Role of Internal and Network Constraints on Alliance on Ambidexterity Decisions in Technology Intensive Industries," authors investigate how an organization's knowledge capabilities (knowledge breadth and knowledge depth) and the roles in alliance networks (organization closeness centrality and organization structural holes) influence the organizational alliance ambidexterity. Further, this article investigates the moderating effects of business routine of an organization on the relationships between knowledge breadth and alliance

ambidexterity and between knowledge depth and alliance ambidexterity. Authors compiled an impressive data set that consists of information about 2,219 organizations in US telecommunications and information services industries based on multiple data sources, including SDC Platinum database, Standard & Poor's Compustat, and WIPO's PatentScope. The results of their analyses show that knowledge breadth negatively influences alliance ambidexterity, and business routine moderates the relationship between organization structural holes and alliance ambidexterity.

In the article entitled "The Dark Side of Emotional Involvement in Software Development: A Behavioral Economics Perspective," authors aim to understand why people get emotionally attached to software features that they developed. Authors draw on three cognitive biases, namely the endowment effect, I-designed-it-myself, and the IKEA effect, to offer theoretical insights into why people get emotionally attached to software features. Through an experiment, authors found that all psychological factors (the endowment effect, I-designed-it-myself, and the IKEA effect) positively influenced participants' perceived value of a feature that they were responsible for specifying or

constructing.

In the article entitled "Deciding to Update Mobile Applications: Reasons and Consequences of Inertia," authors offer a new theoretical lens based on dual information processing theory and status quo bias, aimed at understanding why individuals do not update software applications. Further, authors conceptualize individuals' unwillingness to update software applications as "inertia." Based on a survey of 186 smart phone users, authors found that both a sunk cost associated with the previous version of an application and habit negatively influenced individuals' willingness to update a software application. Authors discuss the implications of their work for both theory and practice in their article.

III. Conclusion

We hope readers of APJIS will enjoy the four articles included in this special issue. Lastly, we thank the editors and reviewers that took the time to review the articles submitted for this special issue and offered valuable feedback.

<References>

- [1] Goes, P. B. (2013). Information Systems Research and Behavioral Economics. *MIS Quarterly*, 37(3), iii-viii.
- [2] Kahneman, D., and Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica*, 47(2), 263-292.
- [3] Keil, M. (1995). Pulling the Plug: Software Project Management and the Problem of Project Escalation. *MIS Quarterly*, 19(4), 421-447.
- [4] Keil, M., Mann, J., and Rai, A. 2000. Why Software Projects Escalate: An Empirical Analysis and Test of Four Theoretical Models. *MIS Quarterly*, 24(4), 67-87.
- [5] Newman, M., and Sabherwal, R. (1996). Determinants of Commitment to Information Systems Development: A Longitudinal Investigation. *MIS Quarterly*, 20(1), 23-54.
- [6] Simon, H. A. (1955). A Behavioral Model of Rational Choice. *The Quarterly Journal of Economics*, 69(1), 99-118.
- [7] Staw, B. M. (1976). Knee-Deep in the Big Muddy: A Study of Escalating Commitment to a Chosen

- Course of Action. *Organizational Behavior and Human Performance*, 16(1), 27-44.
- [8] Staw, B. M. (1981). The Escalation of Commitment to a Course of Action. *The Academy of Management Review*, 6(4), 577-587.
- [9] Willbern, J. A. (1993). Before Disaster Strikes. in: *CIO Magazine*. 26-28.

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