The Front End of Innovation: Implications for Design and Learning

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Presentation Abstract

While the importance of innovation as a dominant driver of societal and economic progress is well established, the processes and outcomes of innovation remain distressingly ad-hoc and unpredictable. In particular, the Front End of Innovation (FEI) provides many open questions as innovators are challenged to understand the opportunity context, generate novel ideas, and evaluate these ideas for the implementation of solutions. We propose an original model of the FEI with a nascent theory base drawn from recent perspectives in the areas of innovation, creativity, knowledge, and design science research (DSR). A key insight is the application of a knowledge maturity lens to distinguish four categories of innovation – invention, exaptation, advancement, and exploitation – with distinctive innovation patterns, processes, and outcomes. Organizations that are multidextrous, engaging to a higher degree in all the innovation categories, are proposed to have superior innovation performance than those that are not multidextrous. An agenda is developed for future research to extend innovation theories and with actionable advice for improving current practices of innovation.

References
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Speaker Biography

Alan R. Hevner is an Eminent Scholar and Professor in the Information Systems and Decision Sciences Department in the Muma College of Business at the University of South Florida. He holds the Citigroup/Hidden River Chair of Distributed Technology. Dr. Hevner's areas of research interest include design science research, information systems development, software engineering, distributed database systems, healthcare systems, and service-oriented computing. He has published over 200 research papers on these topics and has consulted for a number of Fortune 500 companies. Dr. Hevner received a Ph.D. in Computer Science from Purdue University. He has held faculty positions at the University of Maryland and the University of Minnesota. Dr. Hevner is a Fellow of the American Association for the Advancement of Science (AAAS) and a Fellow of the Association for Information Systems (AIS). He is a member of ACM, IEEE, and INFORMS. Additional honors include being named a Schoeller Senior Fellow at Friedrich Alexander University in Germany, receiving the Design Science Research Lifetime Achievement Award, and being inducted into the Purdue University ROTC Hall of Fame. From 2006 to 2009, he served as a program manager at the U.S. National Science Foundation (NSF) in the Computer and Information Science and Engineering (CISE) Directorate.