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DOES IMPROVISATION ACCELERATE NEW PRODUCT DEVELOPMENT? THE CONTINGENT ROLE OF TEAM EXPERTISE

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SUMMARY

Competing on speed is an important priority as researchers and managers focus on just-in-time, time-to-market, or timeliness for some time now (e.g., Fang 2008; Davis, Eisenhardt, and Bingham 2009). Product innovation is a key business process through which teams compete against time (Brown and Eisenhardt 1997; Griffin 1997) as firms are extolled to be flexible, agile, and adaptive. Though speed is associated with pitfalls (e.g., Chandy, Hopstaken, Narasimhan, and Prabhu 2006), fast-paced product development tends to be more productive and less costly as firms cut waste and preempt competition (Eisenhardt and Tabrizi 1995).

Earlier research has emphasized the need for stage gate or compression models (e.g., Cooper and Kleinschmidt 1994; Eisenhardt and Tabrizi 1995) to accelerate product innovation. Recently, researchers have increasingly turned to improvisation, i.e., real-time, emergent action in which planning and execution concur, as a promising way for swift adaptation in turbulent and uncertain markets (e.g., Moorman and Miner 1998a; Weick 1998).

The inherent emphasis of improvisation on the ability to “think on your feet” (Vera and Crossan 2005) has created the impression that improvisation speeds up product innovation. For example, real-time action is argued to save time and resources (Eisenhardt and Tabrizi 1995; Samra, Lynn, and Reilly 2008). Other research, however, implies that improvisation can lead to delays as firms deviate from well-exercised routines and thorough plans (e.g., Cooper and Kleinschmidt 1994); specifically, the attention-consuming nature of improvisation increases the likelihood of errors affecting the overall speed of new product development (NPD) process (Miner, Bassoff, and Moorman 2001). These conflicting claims indicate the presence of other factors (e.g., external conditions, team and firm traits) influencing whether improvisation has a positive or a negative effect on NPD speed, consistent with the view that improvisation is a conditional asset (Miner et al. 2001). Research has explored the role of memory or *expertise* (i.e., stored knowledge possessed by team members (Faraj and Sproull 2000; Kyriakopoulos and de Ruyter 2004) in shaping the value of improvisation

for various outcomes such as creativity, product quality, or team efficiency (Moorman and Miner 1998a, 1998b).

We seek to follow this contingent view and expand our understanding of how various types of team expertise shape the speed outcomes of improvisation and thereby improving our understanding of how firms deal with the challenges of fast-paced NPD. In attacking this broad research problem, our objectives are twofold. First, while research has conceptualized and tested the direct impact of expertise on NPD performance (e.g., Kyriakopoulos and de Ruyter 2004; Faraj and Sproull 2000), we, instead, explore its moderating impact on the improvisation-NPD speed relationship. Second, despite its potential, improvisation has been the focus of very few quantitative studies in marketing and organization science, examining the occurrence and value of improvisation in the area of product innovation (e.g., Moorman and Miner 1998b; Samra et al. 2008). Moreover, this prior work tends to rely on small samples limiting the robustness of their results (e.g., Moorman and Miner 1998b).

Our conceptual framework begins with improvisation, defined as the substantive merger of planning and execution *outside* the formal cycle of planning, following recent empirical research (Kyriakopoulos 2011; Miner et al. 2001; Vera and Crossan 2004). Given the crucial role of knowledge in NPD process, we offer three hypotheses to explore the moderating role of 3 facets of NPD team expertise: diversity of expertise, declarative expertise, and transactive expertise. *Expertise diversity* refers to the cross-functional diversity of teams indicated by whether personnel from specific functions is involved in the product development team. We propose that as improvisation is a fragile process in which teams are challenged to take quick decisions outside formal planning, the diversity of expertise will hurt the effect of improvisation on speed because of interpretation and integration difficulties associated with diversity.

To test our hypotheses, we collected survey data from 118 industrial Dutch firms with marketing managers as key informants focusing on a NPD project that had been completed in the last 12 months. Our key finding is that improvisation can speed up NPD *when* the product team

has strong transactive expertise *but* low levels of cross-functional diversity and declarative expertise. This is a crucial finding as firms increasingly rely on cross-functional teams and invest in knowledge systems and processes to increase access to expertise. However, without

the coordinating mechanisms of transactive expertise, teams cannot benefit from these organizational and IT investments when they need to act in real-time to cope swiftly with market surprises and unplanned contingencies.

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