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Making tough decisions competently: Assessing the value of product portfolio planning methods, devil's advocacy, group discussion, weighting priorities, and evidenced-based information

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ABSTRACT

This study test the efficacy of using tools proposed to increase effective decision-making (DM) by executives. Rather than serving to increase competency, management literature relevant to the study includes claims that product portfolio planning methods (P3M) and other proposals to use tools designed to increase the quality of decisions actually serve to increase incompetency versus using alternative planning tools or no planning tools. However, the designs in these studies have telling framing and structural limitations. The study here proposes improvements in testing of the core proposition that specific aids are effective in increasing the quality of decisions. This study includes alternative executive problem-solving, scenario-experimental, treatments and problem-solving by 150 individuals processing information in groups of four persons or as individuals. The findings provide independent evidence that executives' use of certain decision/planning tools within specific contexts helps to increase decision quality other than P3M. The findings of prior studies receive support in that the use of P3M in all contexts in the present study contributes high decision incompetence.

1. Introduction

1.1. Tools for increasing in/competency in decision-making

"Strategy-making" is the combination of sensemaking in a given context, implicit and explicit selection of process tools (including algorithm and symmetric tests of reality) and using tools to conclude tentative and final decisions about taking a course of action or just waiting. The study here proposes and tests the use of configurations of decision tools–aids proposed but rarely tested formally in the management literature for increasing competency and mindfulness in evaluating and selecting among alternative actions or action versus non-action by executives. The study examines whether or not recipes of decision process tools have synergistic influences in making sound strategy making; are specific recipes of decision tools more useful than each tool as an ingredient in achieving sound judgments. The findings support the conclusion that use of specific configurations of decision aids does help increase the quality choices made in specific executive decision-making contexts, as well as supporting prior work that shows reliance on certain tools in some contexts increase decision incompetency (e.g.Armstrong & Brodie, 1994, Armstrong & Collopy, 1996, Weick, 1996, Woodside, 2013).

Relevant to these issues, management and marketing textbooks (e.g.Fleisher & Bensoussan, 2003, Thompson, Strickland, & Gamble, 2008) frequently describe and suggest the advocacy of the use of specific decision tools without reporting on any formal testing of the efficacy of doing so. For instance, some textbooks propose that focusing the firm on growing product/brand "stars" and eliminating the firm's "dogs," where stars are products or services in high-growth markets in which the firm holds a large market share, and dogs are the opposite; the discussions about stars and dogs include no evidence of the effectiveness of focusing efforts on one or the other. Stars and dogs come from the Boston Consulting Group's (BCGs) growth-share matrix. Other scholars (Anterasian, Graham, & Money, 1996; Armstrong & Brodie, 1994; Armstrong & Collopy, 1996; Armstrong & Green, 2007; Morrison & Wensley, 1991; Woodside, 2012) advocate adopting the perspective that the use of the BCG matrix often serves to increase incompetency in strategy making, and that avoiding its use frequently serves to increase competency in strategy-making. Anterasian et al. (1996, p. 74) offer the following suggestion for remedying purported BCG incompetency training, "…we suggest you find the portfolio models section and rip those pages out [of your textbooks and throw them away]."

Does the use of propositions from this BCG matrix versus other decision tools actually help or hinder sound strategy-making? The

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study here is unique in examining the efficacies of using recipes (i.e., configurations) of decisions tools on achieving competent solutions and influencing decision-makers' confidence in the solution selected. The ingredients in the recipes tested include the BCG matrix (Abell & Hammond, 1979), use of a devil's advocate (De Bono, 1985), group-interactive versus individual thinking (Schulz-Hardt, Jochims, & Frey, 2002), "simulated interaction" (Green, 2005), the "weighted-priority matrix" (Miller & Williams, 2006; Pruitt & Grudin, 2003), and knowledge-based decision-aids (Elm & Taylor, 2010). Such testing includes answering the question of whether or not the BCG matrix and the other four tools are useful in some contexts involving the use of multiple tools.

Here is a second tool and controversy about its efficacy, with some guidance on how to eliminate the controversy. Conventional wisdom holds that groups make better decisions than individuals because of their ability to accumulate information and knowledge (Sargis & Larson, 2002); deal with more information; point out other group members' errors (Schulz-Hardt et al., 2000); encourage divergent and innovative thinking (Janis & Mann, 1977; Rijnbout & McKimmie, 2012; Sargis & Larson, 2002; Schulz-Hardt et al., 2000); and reduce limitations such as bias and personal preferences (Hilmer & Dennis, 2000; Shaw, 1981; Stasser & Titus, 1985) through cognitive conflict in group decision-making. Other scholars, considering real-world settings, point out that pooling of individual perceptions and knowledge only explains improved group decision competency in part (Michaelsen, Watson, Schwartzkopf, & Black, 1992). Other factors which may explain improved decision quality, uncovered by empirical studies are interpersonal feedback and diagnostic review (Chalos & Pickard, 1985; Einhorn, Hogarth, & Klempner, 1977; Kerr, MacCoun, & Kramer, 1996) and improved meta-knowledge due to other people's critiques (Heath & Gonzalez, 1995).

In contrast to conventional wisdom, a number of scholars in the area of social cognition and social psychology uncover evidence that groups do not always outperform individuals. A study by Chalos and Pickard (1985) reveals significant differences in decision performance results between group decisions and individuals. Explanatory factors their study highlights are "quality of information selection, cue weighting and judgment consistency" (Chalos & Pickard, 1985, p. 635). Some literature on group decision-making suggests that individual and collective decisions not only differ, but can be more or less effective based on a number of cognitive, social and contextual influences (Hall & Williams, 1970). Heath and Gonzalez (1995) report that, although group interaction is likely to improve decision confidence, decision quality does not necessarily improve via these interactions. Reasons put forward include, first, "groupthink;" a dysfunctional pattern of thought and interaction during group decision-making, which is characterized by an overestimation of the group, closed-mindedness, and pressures towards uniformity (Janis, 1982; Schulz-Hardt et al., 2000). Second, biased information search (Kerr et al., 1996), where "group homogeneity" for a preferred alternative results in a predominantly biased search for information supporting the group view and, finally, underestimation of risk (Schulz-Hardt et al., 2000).

Resolving these two controversies – effectiveness of P3M use versus non-use and group versus individual problem-solving – and others is made possible by recognizing that effective applications of tools involves using recipes of one or more tools in specific contexts, and that the basic tenets of complexity theory are applicable for research on effective and ineffective decision-making applications of these tools. Complexity theory applied to the use of decision tools includes the tenet that the same tool may be functional or dysfunctional depending on the contextual recipe (i.e., the milieu of people, place, time, felt importance of the issue, prior experience of the executives, simultaneous use of multiple decision tools, the knowledge available, and additional contextual ingredients) in which the tool is applied. A second tenet is that while not all relevant ingredients occurring in a specific decision context can be explicated, this deficiency does not prevent identifying recipes that are sufficient for predicting a decision that is highly competent. Thus, certain recipes (combinations of using certain decision tools in specific contexts) work well consistently (i.e., are sufficient) without specifying/describing all details occurring in the context; the use versus non-use of a decision tool alone is an insufficient indicator (i.e., is insufficient and not necessary) of a highly in/competent decision even if the main effect of the use of a decision tool on competency is significant statistically.

Following this introduction, Section 2 describes a set of testable tenets relate to decision-making (DM) competence and incompetence. Section 3 describes the relevant literature supporting the selection of decision tools for examining the efficacy of the tenets in the current study. Section 4 describes the use of an in-basket experiment to test the tenets. Section 5 presents the findings of the experiment. Section 6 concludes with a general discussion, limitations, and implications for marketing strategy practice.

2. Testable tenets on the use of decision tools to increase competency

The study here embraces a core tenet of complexity theory, "Relationships between variables can be non-linear with abrupt switches occurring, so the same 'cause' can, in specific circumstances, produce different effects" (Urry, 2005, p. 4). Complexity theory supports the adoption of the configuration (i.e., recipe) perspective on the efficacy of individual decision tools. Thus, complexity theory and configurational analysis in combination include the following general tenets related to improving decision-making competence. First, high competence in an outcome is not a consistent finding from the presence or absence of a single decision aid; the use of any single decision aid is neither necessary nor sufficient for a high competence outcome. The use of a particular DM tool within certain recipes has an asymmetric, and not a symmetric, association with high DM competence. Second, the same decision tool may have different – even opposing – effects depending on the presence or absence of additional ingredients in the decision context; possibly the use of P3M in some decision-aid recipes helps to increase decision competence and helps to increase decision incompetence in other recipes. Third, causal asymmetry occurs; the recipes associating with increases in incompetency are unique and not the mirror opposites of the recipes associating with increases in competent DM. Fourth, equifinality occurs; so the use of a few alternative recipes, not just one, associates with highly competent DM. Similarly, the use of a few alternative recipes, not just one, associates with highly incompetent DM. The unique contributions of the present study are made through examining and supporting these four tenets.

Building from the general tenets, Table 1 summarizes a formal set of propositions that this study tests. The propositions in Table 1 appear in three subcategories: the impacts of specific training tools in context on decision quality; the impacts of decision-makers' characteristics (e.g., prior managerial experience, gender, educational level, and age), and the combination of tools and judgment and decision-making (JDM) conditions.

Rather than assuming normative statements are correct (e.g., BCG growth-share matrix and its advocacy of nurturing stars and dropping dogs; or complex prioritizing and probability assessment are more likely to result in effective or accurate decisions than are "fast and frugal" heuristics), the study makes use of in-basket in-context protocols to formally test the value of a series of well-known normative statements. This study applies Simon's (1976, 1990) wisdom that decisions (and research on decision-making) should include the study of explicit and implicit cognitive processes in specific contexts. The study empirically tests the impact of training in contextual intelligence on management decision competency and decision incompetency. The results of the study call for vigilance by trainers and development officers, to nurture the opposable minds of management protégés and to actively pursue an understanding of the impact of context in imparting decision

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