Errors, lies and misunderstandings: Systematic review on behavioural decision making in projects

Verena Stingl *, Joana Geraldi

Technical University of Denmark, Department of Management Engineering, 2800 Kgs. Lyngby, Denmark

Received 9 June 2016; received in revised form 3 October 2016; accepted 20 October 2016

Abstract

This paper provides a systematic review of the literature on behavioural decision making in projects. The field is blooming, and given the relevance of decisions in projects and the strong theoretical foundations of behavioural decision making, it offers to contribute to practice and theory in projects and beyond. However, the literature is fragmented and draws only on a fraction of the recent, insightful, and relevant developments on behavioural decision making. This paper organizes current research in a conceptual framework rooted in three schools of thinking—reductionist (on cognitive limitations—errors), pluralist (on political behaviour—lies), and contextualist (on social and organizational sensemaking—misunderstandings). Our review suggests avenues for future research with a wider coverage of theories in cognitive and social psychology and critical and mindful integration of findings and concepts across three schools.
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Keywords: Decision making; Behavioural decision making; Cognition; Sensemaking; Systematic review; Project studies

1. Introduction

Making decisions is integral to the management of projects. Plenty of normative guidance, including tools and methods, aid the rational decision making process (Hazır, 2015). However, the actual decision behaviour deviates strongly from the rational ideal, as abundant research in behavioural decision making demonstrates.

Behavioural decision making "*endeavours to understand the actual influences on actors on making choices*", (Mullaly 2014, p. 519). The study of behavioural decision making in projects has gained momentum in the past 15 years and allows first exploration of the actuality of project decisions (Cicmil et al., 2006), e.g. overoptimism in project forecasts (e.g. Flyvbjerg, 2007, 2013), escalation of commitment (e.g. Alvarez et al., 2011; Van Oorschot et al., 2013), or ineffective risk management (e.g. Kutsch and Hall, 2005, 2010).

The literature draws from different general theoretical foundations in organizational theory, and cognitive and behavioural sciences, including Groupthink (Hällgren, 2010), sensemaking (Musca et al., 2014), self-justification theory (Jani, 2008), risk propensity and uncertainty avoidance (Keil et al., 2000), or 'planning fallacy'(Flyvbjerg, 2013), among others. All in all, the research displays strong heterogeneity in terms of theoretical background and researched phenomena, thus reflecting the multi-faceted nature of project decision behaviour.

While theoretical pluralism is essential to grasp the complexity of decisions in projects (Winter et al., 2006), it bears the risk of falling into the '*fragmentation trap*' (Knudsen, 2003). It is only when theories are interacting with each other that we can fully benefit from theoretical plurality, as suggested in seminal publications in organization studies, e.g. the critical comparison between theories (Burrell and Morgan, 1979), and the theorizing emerging in the intersection between research perspectives (Zahra and Newey, 2009), and between research paradigms (Lewis and Grimes, 1999).

* Corresponding author.
  E-mail addresses: verst@dtu.dk, v.stingl@gmx.at (V. Stingl).

Literature reviews and conceptual frameworks can capture theoretical pluralism, offer a deliberate integration, combination, or parallel consideration of the theoretical concepts, and thereby foster cross-fertilization, new ideas and the overall development of the field (Knudsen, 2003; Shapira et al., 1994; Söderlund and Geraldi, 2012; Söderlund, 2011). However, past reviews fail to provide a comprehensive overview of the literature on behavioural decision making in projects, and focused instead on specific aspects, namely decision makers' concept of risk (Zhang et al., 2011), decisions in mega projects (Sanderson, 2012), and cognitive biases (McCray et al., 2002; Shore, 2008).

The present study will contribute to close this gap. Its purpose is to display and analyse the theoretical pluralism in the literature on behavioural decision making in projects, and point to potential future research. This article asks (1) How is behavioural decision making studied in the project literature? (2) What gaps exist in the current research on behavioural decision making in projects? (3) How does the project literature relate to the grand theories of behavioural decision making? We will address these questions by populating an established conceptual framework, considering the onto-epistemological foundations of behavioural decision making theories, with related project literature, captured through a systematic review.

Our aim is not to foster unification, but to offer a structured understanding of the current theoretical pluralism, and thereby identify gaps and opportunities for future research within and across theoretical foundations. This study contributes to the literature as it a) provides a holistic synthesis of the research on behavioural decision making in projects, b) analyses the relationship between this research and the theoretical foundations of behavioural decision making, and c) points to possibilities of integrating research findings from different theoretical backgrounds whilst carefully considering their onto-epistemological differences. The article contributes to practising decisions by suggesting how behaviours impact decisions, and reviewing coping mechanisms offered by the literature.

The next section will propose a framework of three 'schools of thought' in behavioural decision making, followed by methodology. We then will analyse the project literature within each of the three schools, and the literature following a mixed-school approach. In the discussion, we propose avenues for future research within each school, and highlight limitations and opportunities of the mixed-school approach. In conclusion, we will return to the research questions, establish contributions and limitations of current work.

2. Three schools of thought in behavioural decision making

To meet our objective, we needed to build on a framework that is holistic, strongly rooted in cognitive and behavioural sciences and is explicit about the ontological and epistemological foundations of the theories. Such a framework highlights the boundaries, assumptions, major findings, challenges, and potential future of the field (Shapira et al., 1994). We identified such a framework in Powell et al.'s (2011) three schools of thought for Behavioural Strategy.

Grouping the literature according to schools of thoughts is popular in project studies and beneficial for the development of research. The use of schools of thought enables a systematic search for gaps and competing theoretical explanations within and between schools. In consequence, making the schools explicit will illustrate the current theoretical pluralism in the field, and will assist and promote the study and integration of the individual findings. It is thereby a mean to identify both conflicts between schools, or potential overlaps and opportunities of complementation, and thereby stimulate future debate and research (Knudsen, 2003; Söderlund, 2011).

Powell et al. (2011) introduced three schools of thought to organize the research on Behavioural Strategy, that is, research on strategy management based on cognitive and behavioural science. Powell and colleagues structured the literature according to their respective onto-epistemological foundations and identified three conceptually distinct schools. These schools draw from separate theoretical foundations, are fundamentally different in their philosophies, and, in consequence, follow different methodologies. Powell et al. named the three schools: *Reductionist, Pluralist*, and *Contextualist*. We will only briefly introduce the three schools here, and examine them in relation to project literature more thoroughly later in the article.

The *Reductionist* school adopts a strictly positivist, objectivist, and realist view. As such, it analyses deviations from a 'normative ideal', i.e. a rationally right trajectory or decision. Deviations are labelled as biases and errors, and their roots and extent are analysed through mostly quantitative methods.

The *Pluralist* school is based in pragmatism and draws from multiple theoretical foundations, hence following a pluralistic approach. While still adhering to a rational, normative ideal as a reference, the reasons for 'deviations' are sought in intra-group conflicts, resulting in opportunistic behaviour, bargaining, and conflicts. Methodologically, this school builds on the same pluralism as for its theoretical foundation, using qualitative, quantitative and mixed methodologies.

Finally, the *Contextualist* school embraces a phenomenological or constructionist view. Unlike the other schools, contextualist research does not define an 'optimal' reference point for the 'right' decision. Instead, the focus is less on the decision, but the process leading to it, and the context in which it takes place. The methodologies are therefore typically qualitative.

In their paper Powell et al. argued that the identification and acknowledgement of the paradigmatic differences of these three schools of thought were a necessary starting point to adopt '*a policy of methodological pluralism and multimethod research*' (p.1380).

Their framework is a suitable starting point for organizing the literature in project studies and addressing our research questions for three reasons. First, although focussing on strategy, the presented schools are strongly linked to decisions and reflect the same types of influences that actors in project decisions are facing. Second, the proposed framework builds on the grand theories of cognitive and social sciences in behavioural decision making, and also on organizational theory and strategic management, thus providing a solid foundation for exploring missing or inaccurate connections to the grand theories. Third, the framework presents