

Cues: How power influences behaviour in project portfolio management.

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ABSTRACT: Project portfolio management (PPM) is a dynamic management activity that seeks to align an organisation's strategy with its portfolio of projects by selecting and delivering a suitable combination of projects. Though PPM processes are often adopted, outcomes vary and poor decisions are common. While there are many reasons why this might occur, we focus on the influence of power on PPM decision making, in particular the effects of indirect power. We examine models of decision making and argue that power shapes context, and provides actors with cues that encourages behaviour in frame appropriate ways. Specific behavioural cues are identified, and the need for further research is made.

Keywords: management of project-oriented organisations, strategic initiatives, power, agency

1. Introduction

PPM has been defined as a dynamic management activity whose aim is to ensure that an organisation's strategy is delivered through appropriate project selection and delivery by aligning projects with strategy, optimising the value of the portfolio, ensuring correct balance of initiatives, and sufficient resourcing (Cooper, Edgett, & Kleinschmidt, 1999). PPM has been heralded as the panacea to poor decision making in new product development and or complex projects environments (Chao & Kavadias, 2008). However, evidence to date reveals that some companies adopting PPM processes are still making decisions that result in a wide range of outcomes (Cooper, Edgett, & Kleinschmidt, 2004b). Indeed, poor project or portfolio decisions are frequent (Flyvbjerg, 2009).

There are several explanations as to why poor outcomes occur. It may be that a company's PPM processes aren't a good fit with its strategic environment (Loch, 2000), or the company's strategy is questionable (Meskendahl, 2010). Another explanation for poor decision making is that power structures can influence decisions in both direct and indirect ways. Direct influences include situations where those with power, politicians, senior management or their contractors intervene directly in decisions. Some examples include; the Sydney Opera House where the then Premier of New South Wales fast-tracked the commencement of the project before his term ended and whose final construction cost came in at 14 times that initially approved (Flyvbjerg, Garbuio, & Lovallo, 2009). Similar examples include the C5-A military transport plane where unrealistically low cost estimates were deliberately used to keep the project running and the Washington Public Supply System, which subsequently went bankrupt, because nuclear power costs and demand growth were

deliberately optimistic (Wachs, 1990). Indirect influences of power may manifest through organizational culture or, more broadly, the context in which PPM decisions are made.

While the direct influence of power on PPM decision-making has been studied (Kester, Griffin, Hultink, & Lauche, 2011), this paper focuses on indirect influences by exploring the ways in which power manifests indirectly to shape context. We begin by discussing how individuals make decisions more broadly, and then use this understanding to examine influences in organizational contexts. We explore how power shapes the context in which decisions are made and identify power-originated cues that the project portfolio management office (PPMO) may be using, overtly and less consciously, to make PPM decisions.

2. Cues influence decision making

While there are several relevant theories from philosophy, psychology, business and sociology which might be used to understand PPM decision-making, this paper will focus on the dual-processing model from psychology as it highlights the role that cues provided by context have in decision-making. As its name suggests, the dual-processing model holds that there are two ways in which actors can make decisions, either consciously and deliberately, or automatically and quickly. For example, when buying a car or a house, one is likely to take a deliberative approach to making the decision. Needs will be consciously considered, research will be carried out on what the market has to offer, budget will be reviewed carefully, and competing alternatives traded off against each other. On the other hand, when deciding what to have for lunch at a cafe, a very quick decision will be made, with minimum deliberation. Dual-processing models have a long tradition (James, 1892), and are expressed in several models and theories, such as, the Elaboration Likelihood Model (Petty & Cacioppo, 1986), mindfulness and mindlessness (Langer, 1992), the Heuristic Systematic Model (Eagly & Chaiken, 1993), system 1 and system 2 (Stanovich & West, 2000; Kahneman, 2011), habitual mind and executive mind (Martin, 2008).

Of particular interest are the elaboration likelihood model (ELM) (Petty & Cacioppo, 1986) and the heuristic systematic model (HSM) (Eagly & Chaiken, 1993), because of their focus on behavioural

cues. The ELM articulates two routes to persuasion, the central route or the peripheral route (Petty & Cacioppo, 1986). Where motivation and ability to process are present, a message may be processed through the central route in a deliberate cognitive way (elaboration). If the message is processed via the peripheral route, this happens very quickly and automatically (Petty and Cacioppo, 1986). To explain these two processes further: In order for central route processing to occur, the recipient must be motivated to process the message. Motivation is typically determined by such factors as how relevant the message is, the actor's need for cognition or the extent to which the recipient is individually responsible. In addition to motivation, the recipient must have the ability to process the message. An actor's ability to process is determined by factors such as the amount of distraction present, the extent to which the recipient has prior knowledge of the content, and message repetition. Should the recipient have both the motivation and the ability to process the message, then cognitive processing will take place and as a result, an attitude will be formed that is strong, resilient and predictive of behaviour.

During peripheral route processing, where there is a lack of motivation or ability to process, actors look for, or are open to cues to inform their judgements and to facilitate speed of processing. Following Petty and Cacioppo (1986) there are four types of peripheral cues. There are source peripheral cues such as the expertise or likeability of the message sender, message cues such as the number of arguments made, recipient cues such as the recipient's mood, or context cues such as music or audience reactions. Relying on these cues, the result of peripheral route processing is that any attitude change will be short-lived and only predictive of behaviour in the short term. In the context of the PPMO, it is likely for instance that the expertise of the sender will be judged by his or her experience in having managed large projects or programs of work. Should information about that expertise be available, for example by others referring to the work that the PPMO member has delivered successfully, or by the PPMO member referencing their own work when trying to convince someone, then it is likely that the expertise cue will be picked up and the receiver more likely to be persuaded by the message.

If there are peripheral cues present, then peripheral attitude shift will occur. If there are no peripheral cues, then the actor has neither a lack of motivation or ability to process, nor any additional information to draw from, so initial attitude will be retained.

A central thesis of this paper is that power frames context, in other words power influences which parts of the context actors should pay attention to in order to determine its meaning. Power, with its ability to frame context, and so determine meaning is not directly referenced as a peripheral cue in ELM, and so might be considered as an extension to current theory.

Another relevant individual decision-making model is the heuristic and systematic model (HSM). Like the ELM, the HSM is a dual-processing model which describes how people process communication, like ELM HSM deals with cues and so is important to this paper. According to Chen and Chaiken (Chen & Chaiken, 1999), HSM has many similarities to ELM. Similar to central and peripheral processing, HSM includes systematic processing of information, which is an analytical or cognitive approach to information processing, similar to central processing under ELM. HSM also includes heuristic processing, which relies on rules of thumb for decision making, such as “expert statements can be trusted”, and is analogous to peripheral processing under ELM. Similar to ELM, a key feature of HSM processing is the emphasis on economy of effort on the part of the message recipient. According to Chen and Chaiken (1999), making a decision under HSM involves comparing the actual confidence one has over a particular attitude towards something, with one’s desired confidence towards it. The width of the gap between these two positions determines the amount of systematic thinking. Perceivers try to balance the amount of effort required with the extent of motivation they feel to improve their confidence level. In other words, if the gap is within the range that the recipient feels comfortable with, then the processing will more likely be heuristic, whereas if the gap is greater than the message recipient feels comfortable with, then systematic processing will be preferred. The underlying assumption being that more processing will result in more confident judgements. For instance, if one is buying a house, the desired level of confidence over the decision is likely to be very high, and the gap between the actual level of confidence that a particular house is the

right one, versus the desired level of confidence one has will, according to HSM, determine the amount of motivation one has to engage in a fully considered and analytical approach to the decision.

The availability of judgement-relevant heuristics on the one hand and the availability of cognitive resources on the other are moderating factors. (Chen and Chaiken, 1999). So to return to our house buying example, if heuristics one uses for house buying are that “modern houses are better than older houses” and “double story houses are better than single story houses” then the availability of these two heuristics will help reduce the need for cognitive analysis in decision making. While there are many similarities between ELM and HSM, there are also differences.

ELM, according to Petty and Cacioppo (1986), assumes that as motivation or ability to process increases, peripheral processing becomes less important, whereas HSM assumes that both can have an impact when motivation and ability to process are high. ELM also places greater emphasis on accuracy, or the desire to understand a message objectively in an open minded way, as a motive, whereas HSM allows equally for other motives such as defense or impression management.

While the focus of this paper is dual-processing models of information processing drawn from social psychology, there are other disciplines, such as philosophy or sociology which provide support for the direction that dual-processing theory points us in. In particular, Heidegger (Heidegger, 1962), and more recently Dreyfus (Dreyfus, 2007) proposes an approach to the philosophy of mind which regards action as often unconsidered, and the actor just coping with the situation that he or she finds themselves in, dealing in the moment with the forces that apply at that time, rather than detaching themselves to make a mental calculation based on context-free models before acting.

If one tries to adapt a general model to a specific context, it requires the actor to detach him or herself from the action however temporarily, refer to the model, interpret and adapt it to suit the situation, then reengage with the action, according to Dreyfus (2007). This is a cognitivist approach to dealing with every-day action and it is prevalent in the research on decision making in PPM and portfolio design in particular. Dreyfus further argues, that the options open to one in any given situation, or “affordances” as Dreyfus describes them, only appear when one is not looking for them (Dreyfus,

2007, 104n1), in other words there are more options and better solutions available when one is not trying to refer back to a mental model before making a decision.

Building on Dreyfus (2007), if PPM is largely about coping with the forces applying at the time of managing a portfolio in a particular context, then PPM in practice has little theoretical foundation, as practitioners do not refer to a model before or while acting. Should that be the case then it is understandable that some would criticise the research in this area as not being theoretical enough (Killen, Jugdev, Drouin, & Petit, 2012), because, following Dreyfus (2007), the action is not theoretically based. It might also be that the theory of mind underlying the action being studied does not come from the same tradition as those criticising its paucity. It could be argued also that there is not so much a lack of theoretical base to PPM research, but that the theoretical base exists, just not in the way that those looking for it recognise.

There are clear similarities between Dreyfus's (Dreyfus 2007) coping in the moment and heuristic processing under HSM. Dreyfus argues that in the moment, a cognitive, or to use the HSM term, systematic approach to decision making is inappropriate, and that the actor should simply deal with the forces applying at that time, and not go through an analytical approach to resolving the situation as he or she will miss the relevant cues, in HSM terms, that the situation provides, and will make a worse decision. In HSM terms, Dreyfus is arguing for heuristic processing.

In summary, Dreyfus argues that actors favour heuristic (Eagly & Chaiken, 1993), peripheral processing (Petty & Cacioppo, 1986) when coping in context. Cues are provided to actors in context to inform their decision making, and in general, actors favour heuristic processing when dealing with those cues.

3. Context provides cues which “best practice” can describe but not explain

The context in which PPM operates has a big influence on how those processes operate, as PPM has been shown to be a situated construct and so context dependent (Killen & Hunt, 2013). Those studies show that there is no one best context-free practice, as the cues need to be interpreted in the contexts that PPM operates in. For example, one of the best practice studies found that management quality is

important to the success of PPM (Jonas, Kock, & Gemunden, 2013). While this is described in the study, how management quality operates to produce good PPM is not explained. In other words, it is not clear what managers did or why they did so to produce good PPM. So this might be evidence of an effect of good PPM, i.e. good managers doing PPM well, rather than a cause.

Additionally, even if “best practice” did exist in principle, applying it would not result in best outcomes. So while context provides cues, a key moderating influence on the effectiveness of HSM does not exist, namely the availability of heuristics, as there are no shortcut best practice principles available.

While it has been found that companies which have implemented PPM achieve better business outcomes than those who have not (Killen, Hunt, & Kleinschmidt, 2008a), the search for “best practice” PPM has proved difficult (Cooper et al., 2004b). PPM principles need to be tailored to the situation, for instance the nature of the strategic environment, for implementation to be successful (Loch, 2000). Applying Jarzabkowski and Spee’s definition of strategy as practice (Jarzabkowski & Spee, 2009), PPM is a situated, socially accomplished activity requiring us to understand the practitioners, practices and praxis or the actions taken to achieve strategy, therefore context is all important.

Despite context-free models of PPM decision-making being questionable and best-practice PPM not really existing in and of itself, PPM is regarded as a key organisational capability, providing a source of strategic differentiation for organisations, (Killen & Hunt, 2010, 2013; Killen et al., 2012; Eggers & Kaplan, 2013; Martinsuo, 2013). However, this capability is context specific. To underline this point, the competencies key to successful PPM capability were the quality and activity of the project managers, project portfolio managers and senior management (Martinsuo, 2013). In other words, actors capable of managing the variety of contextual behavioural cues were seen to be key to the success of PPM.

The development of PPM as a key organisational capability is considered path dependent. For example, a recent study found that the effectiveness of PPM in an organisation depended on how

mature the PPM processes were, and how well the organisation had tailored PPM processes to its external environment (Killen and Hunt, 2013). Organisational learning has been found to be important for PPM capability maturity development (Thiry, 2002; Killen and Hunt, 2013), post implementation reviews, and sense making, or helping those affected by the change necessary for development to make sense of the situation is a key component of the learning cycle.

So there is no one set of cues for those in PPM to focus on as contexts vary, but success depends on somehow managing those cues appropriately.

An advocate of using models to aid strategic decision-making in unstructured situations was put by Mintzberg et al (1976), a management theorist, who studied 25 instances of strategic decision-making by firms “.. thus we can conclude from the individual cases of decision-making that decision processes are programmable even if in fact they are not programmed.” (Mintzberg et al., 1976, 247). Mintzberg et al (1976) asserted that a basic structure underlay each of those 25 instances, and further that the structure had twelve elements; three phases, three supporting routines and six dynamic factors. However, the work has methodological limitations and does not seem to have gained much traction. The study was carried out by students who were instructed to deconstruct the decisions they studied so that they could be presented as flow charts, or deterministic representations as part of their course work. Second, that analysis relied on interviews with participants in the decision process who were asked to justify the process they went through. Such justification could be rationalisation or presentation of self, rather than description of what happened. Regardless of these observations, this approach does not appear to have gained much traction in management practice.

(Dreyfus, 2005) would argue with Mintzberg et al (1976), and as was discussed earlier, a study of project management behaviour found that nothing like a structured approach to decision-making was adopted (Nutt, 1984). In relation to artificial intelligence and the failure of computers to replace human decision-making, Dreyfus (2005) argues that what is missing in artificial intelligence is the ability for computers to determine which facts of the billions they can store are most important in any given situation, so computers lack the ability to arrive at a common sense definition of the situation and respond appropriately. Following Dreyfus (2005), and in contrast to Mintzberg et al (1976),

computers, despite their impressive capabilities to manage data, are powerless to frame context, and so will struggle to make appropriate decisions.

In contrast to Mintzberg's findings (Mintzberg, Raisinghani, & Théorêt, 1976), a study of 78 instances of managerial decision making found that the expected "best practice" or the expected approach to decision-making of problem definition, alternative generation, and solution selection rarely happened (Nutt, 1984). "Nothing remotely resembling the normative methods described in the literature was carried out" (Nutt, 1984, 447). Further, a study of student nurses showed that those who stuck to the rules, using a detached mental model approach to care, rarely progressed beyond being competent, whereas those who were more intuitive and became emotionally involved became experts (Benner, 1984). That highly successful project managers acquired their skills either accidentally or just by running projects, rather than relying on a formalised model or training (Konstantinou, 2015), suggests that successful project managers act in context rather than referring to a "best practice" model. So, while context influences behaviour by providing cues, "best practice" can't explain how to successfully manage those cues.

4. Power focuses actors on the important cues

One of the difficulties of decision-making is knowing which parts of the context to pay attention to before acting. This has been called "... the frame problem." or "...the problem of common-sense knowledge." (Dreyfus, 2005, 48). In other words, according to Dreyfus (2005), deciding what is going on in any strip of action, and so deciding how to act, is influenced by those facets of the action that are paid attention to. The meaning of the situation can depend on which aspects the observer decides are critical (Goffman, 1974). Power allows those who possess it to give "... official imprimatur to versions of reality" (Goffman, 1983, 17) thereby highlighting for actors which parts of the context to pay attention to. Flyvbjerg, in his study of urban planning in his native Denmark is even more direct than Goffman, stating that "power defines reality" (Flyvbjerg, 1998, 319). Deciding the frame is very important for understanding behaviour, as the same situation framed differently will produce different behavioural responses (Tversky and Kahneman, 1981).

There are several power-originated cues in PPM, among which are centrality, leadership style, funding authority, organisation structure, and employee experience and seniority.

The effect of power in large projects was studied by looking at the sources of power or centrality using three concepts borrowed from social network analysis (Pryke, Watson, & Badi, 2013). First, the concept of “betweenness”, when a person is strategically located in the middle of information flows between two or more parties, that person is considered central or powerful, e.g. a gatekeeper. Second, degree, or the extent to which an actor transmits the information that is available to them. And third, closeness, or the distance from a network perspective between the actor and all other actors (Pryke et al., 2013). The research found that in a large complex project, closeness centrality provided the ability to influence behaviour. While there is debate about the precise relationship between power and closeness, and limitations to the findings as this was a case study of two very large programs of work, the conclusions point to the ability of individuals to influence outcomes in delivering programs of work and provides an interesting framework for further research. This point is underlined by a study of 23 large Norwegian public projects which concluded, among other things, that the outcome of projects varies with political influence, even though formal decision-making processes exist (Samset & Volden, 2013).

Leadership style is related to power in that it has been defined as the extent to which leaders behave democratically (Alice H. Eagly & Johnson, 1990) or give power to others. The more democratic the management style the greater the power placed in the hands of subordinates and peers. It has been argued that leadership style influences portfolio design, in particular the weight placed on the dimensions of portfolio design, namely financial return, balance and strategic fit (McNally, Durmusoglu, Calantone, & Harmancioglu, 2009). McNally et al (2009) showed that those leaders with a more democratic or inclusive style had a more balanced approach to weighting those three dimensions, and suggested that a more even weighting of the three dimensions mentioned earlier would produce better PPM outcomes, though data for this was not shown. While the business benefit of the greater balance that a more democratic style might bring was not proven, McNally et al (2009) provides some evidence for leadership style as a power cue for project portfolio construction.

Funding authority, or the extent to which funding decisions are delegated is a power cue too and has an influence on PPM decision-making. It has been found that the lower in the hierarchy the level of funding decision-making was, the more incremental the projects in the portfolio tended to be, and vice versa (Chao, Kavadias, and Gaimon, 2009, in McNally et al, 2013).

Structure is another power cue, and the extent of centralisation has been found to influence PPM decisions, with those organisations with greater decentralisation found to have poorer information sharing, while greater collaboration has been shown to have better new product development portfolio outcomes (Moenaert, De Meyer and Deschoolmeester, 1994 in McNally et al, 2013).

Personal experience and seniority are important power cues in PPM. Senior managers in particular, wield significant power in relation to PPM decisions (McNally, Durmuşoğlu, & Calantone, 2013). Rules for decision making are treated as constructed and negotiable, this approach extending to project financial metrics, with some calculations being revised upwards during the PPM meeting to allow projects to pass a pre-determined hurdle (Christiansen and Varnes, 2008) (Martinsuo & Killen, 2014). Decision-making on project selection has been seen to be influenced by those with significant personal experience (Perks, 2007, in McNally, 2013). So we have seen that there are power-originated cues in PPM and that they frame context, in other words they let actors know what to pay attention to.

5. Actors pick up power cues and behave in frame appropriate ways

Tversky and Kahneman have shown that framing contexts differently results in different outcomes (Tversky & Kahneman, 1981). By extension, actors read the cues that are in the environment and behave in frame appropriate ways. Power-originated cues frame context and so influence behaviour. While we may infer this from Tversky and Kahneman (1981) we can also see evidence of this in PPM.

PPM meetings have been seen not so much as decision-making events, but occasions for testing appropriate behaviour (Christiansen & Varnes, 2008), that behaviour described in a three step model (Cyert and March, 1992 cited in Christiansen and Varnes, 2008). First, identity, the decision maker decides what his or her role is and who they are expected to be in the organisation. Second,

recognition, what kind of situation is the decision maker in, and third, mobilisation, what kind of decision should a certain person in a specific situation make? Signals from top management framed the context and were cues to appropriate behaviour (Christiansen & Varnes, 2008). Decisions were viewed as situated informal social constructs rather than outcomes calculated on the basis of formal procedures (Christiansen and Varnes, 2008), to the extent that apparently objective financial measures of projects such as profitability, were renegotiated so as to pass the required hurdles (Martinsuo and Killen, 2014). This is evidence of actors picking up power-originated cues, in this case senior management, and behaving in frame appropriate ways in PPM. Importantly though, while Christiansen and Varnes (2008) identify that “signals” or cues as frame context and inform actors how to behave, their study did not identify precisely what those “signals” or cues were, or how they were transmitted or processed. This points to the need for further research.

While we have seen that power frames context, context influences behaviour, and actors, preferring one form of mental processing, pick up the cues that power provides and behave in frame appropriate ways, we have not seen precisely what those cues are. For example, management quality might be considered a source of behavioural cues, and while Jonas et al (Jonas et al., 2013) found that management quality was a predictor of PPM success, and deconstructed management quality into three components of information quality, allocation quality and cooperation quality, it was not shown precisely how management quality or its components influenced the behaviour of those making PPM decisions.

Further research is needed into precisely how actors pick up on power-originated cues, and whether behaviour might be changed as a result of a better understanding. In doing so, a mixed method approach should be taken, with observation and qualitative studies of behaviour around PPM initially to identify specific behavioural cues. Modelling of the observed behaviour could then be undertaken and hypotheses generated for testing in field work, resulting in the extension of behaviour change models into PPM.

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