

# Exploring project portfolio management decisions: the role of intuition and entrepreneurship in project portfolio outcomes

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## 1. Introduction

The PPM literature highlights that project portfolio management (PPM) is a decision-making process [1] which involves both minimising and diversifying risk and making trade-offs [2]. For an enterprise, PPM is a critical topic since it integrates a number of key areas: project selection and prioritisation, resource allocation across projects, and implementation of the business strategy [3, 4]. A strategic decision is one which is important in terms of the actions taken, the resources committed, or the precedents set i.e. those decisions that can critically affect organisational health and survival [5]. In this context PPM decisions are strategic. Cooper et al. [6, 7, 8] note that new products are the leading edge of a firm's strategy. The product choices made today determine how the firm's product offering and market position will be in the future. This is why the PPM literature has focused on innovation or New Product Development projects. The literature regarding PPM decision making is based around the rational approach [9] even though the conditions under which executives operate may preclude this approach. Intuition has really been overlooked or discarded in the PPM decision-making process literature. Research suggests that executives do make significant use of intuition [10]. In fact intuition (business instinct) is a distinguishing characteristic of the successful performers [11]. Entrepreneurial intuition is suggested to be associated (non-exhaustively) with creativity and innovation [12]. The resulting topologies of PPM decision making have, therefore, tended to be incomplete or overlapping. None have captured the full range of content associated with the phenomenon of entrepreneurial intuition and its role in the PPM decision making process. This paper reviews the PPM literature with special emphasis on the decision-making process and the role of entrepreneurship and intuition in project portfolio outcomes and concludes with suggestions for further research. It is hoped that a deeper understanding of the PPM decision process will result in improvement in management practice and instigate changes in management thinking within the PPM field.

## 2. Project portfolio management (PPM)

The wide spread and generally accepted definition of project portfolio management is provided by Cooper, Edgett and Kleinschmidt [1]:

“Portfolio management is a dynamic decision process, whereby a business's list of active new product (and R&D) projects is constantly updated and revised. In this process, new projects are evaluated, selected, and prioritized; existing projects may be accelerated, killed, or reprioritised; and resources are allocated and reallocated to the active projects.”

Cooper et al. [6] identified three goals for PPM: maximise the value of the portfolio; select the right balance of projects; ensure projects are aligned to the enterprise strategy. Subsequently Cooper et al. [13] formulated a fourth goal of achieving the right number of projects for the resources available and a fifth goal 'to ensure portfolio sufficiency versus overall product innovation goals' [14]. It's noted [2] that many of the tools that are highlighted in the PPM literature are applied to meet one or more of the goals established for PPM [15]. For instance, financial methods will lead to higher value in the portfolio, portfolio maps will help balance the portfolio of projects and strategic methods will improve alignment of the portfolio with strategy.

## 3. Dual systems of reasoning

Entrepreneurs are somehow different from the rest of the population [16] they tend to think differentially and take bold action. Researchers have proposed two fundamentally different systems of reasoning: one that Epstein [17] called intuitive-experiential has been variously referred to as intuitive [18], natural [19],

automatic [20], heuristic [21], schematic [23], prototypical [24], narrative [25], implicit [26], imagistic–Nonverbal [27,28], mythos [29], system 1 [30] and the other Epstein [17] referred to as analytical–rational which has been variously referred to as thinking–conceptual–logical [31,23,18], deliberative–effortful–intentional–systematic [20,21,32], explicit [26], extensional [19], verbal [27,28], logos [29] and system 2 [30].

For this paper Epstein’s [17] intuitive –experiential and analytical–rational systems of reasoning will be used and will be referred to as intuitive and rational respectively. Epstein et al. [33] put forward their theory of cognitive experiential self-theory (CEST) to help explain the rational and intuitive facets of management cognition [34]. Epstein et al. [33] argued that human information processing is executed by two cognitive systems: rational and the experiential (intuitive) systems. The extent that an individual relies upon either system is thought of as the individual’s preferred way of reasoning or making decisions. Epstein [33], motivated by Cognitive-Experiential Self-Theory (CEST) [35, 36], designed a measure called the Rational-Experiential Inventory (REI) to assess preferences for information processing. Rational style, measured by an adapted Need for Cognition (NFC) scale [37], emphasizes a conscious, analytical approach. An experiential style, measured by the Faith in Intuition (FI) scale, emphasizes a pre-conscious, affective, holistic approach. The REI has been widely researched and has demonstrated validity [34].

Intuitive reasoning is characterised [38] as holistic; automatic; affective; associationistic; mediated by *vibes* from past events; concrete images, metaphors and narratives; more rapid immediate action; slower more resistant to change; changes with repetitive/intense experience. The rational system of reasoning is characterised [38] by analytic, intentional; effortful; logical; mediated by conscious appraisal of events; abstract symbols, words, numbers; slower, delayed action; changes more rapidly; changes with strength of argument. Strategic decision making researchers have made the rational mode as the centre of strategic decision making practice and theory [39]. However, there is a growing belief that making decisions using the intuitive system is a viable approach.

Intuition is a hard concept to define and at various times has been defined to be: a cognitive conclusion that is based on previous experience and emotional inputs [40], a complex, quick, non-emotional and non-biased psychological process that is based on “chunking” that an expert hones over years of specific task experience [41], a daring conclusive leap [42], a decision making process that cannot be expressed in words [43], a decision making rule or heuristic [44], a felt awareness for a situation as a whole [45], a holistic mode of consciousness [46], an integration of disparate information [45] a physiological function which transmits perceptions in an unconscious way [12], a subconscious form of intelligence not accessible through rational thought [41], hunch or gut feeling [47] and foreknowledge of a future event [48]. In this paper intuition will be defined using the Agor [47] definition: that intuition is a hunch or gut feeling.

#### **4. Entrepreneurial decision making**

Intuition may be a distinguishing characteristic of successful entrepreneurs [46]. Further, entrepreneurs use the concept of intuition to explain their actions, such as their decisions on which market to enter or decisions on which products to promote [49]. This is borne out by Dane and Pratt [50] who states that intuition may be most appropriate for executive decisions which involve strategy, investment and human management issues. Indeed, Eisenhardt and Zbaracki [51] note that studying intuition is one way to create a more realistic view of the strategic management decision process. The PPM decision making process is strategic and as such the PPM decision making team includes the senior executives or top management team (TMT) of an organisation. As Hayashi [11] noted, intuition is needed increasingly as people climb the corporate ladder. Further, Sadler-Smith and Shefy [10] state that research suggests that the proportion of executives with an intuitive preference is likely to increase with seniority and that top managers are recognized as key entrepreneurial resources of the firm [52].

These findings indicate that intuition may play an important role in the PPM process, however to our knowledge there is no study that examines the role of intuition and entrepreneurship in PPM outcomes.

## 5. Entrepreneurial characteristics

Entrepreneurs are considered to have a number of characteristics or traits that distinguish them from others; in fact Hornaday [53] listed 42 such characteristics. From a number of studies investigating the differences between entrepreneurs and non-entrepreneurs three relevant personality characteristics emerged: high need for achievement [54, 55]; internal locus of control [56]; and risk-taking propensity [57]. Koh [58] proposed a framework identifying six entrepreneurial traits: a high need for achievement, an internal locus of control, a moderate orientation towards risk taking, a high tolerance for ambiguity, a good deal of self-confidence, and are innovative. Koh's [58] view is supported by La Pira and Gillin [59] who define successful entrepreneurs as passionate innovators and risk-takers who have extraordinarily accurate hunches about the locus of new business opportunities. Hodgkinson, Sadler-Smith, Burke, Claxton and Sparrow [60] state that intuitive judgement has also been demonstrated to be related to entrepreneurs' growth intentions.

Using Koh's [58] framework of entrepreneurial traits this paper offers a number of propositions regarding the role of intuition and entrepreneurship in PPM outcomes as illustrated in Figure 1 and outlined below. Epstein's [33] REI will be used in forthcoming research to assess managers' rationality and intuition. Propositions will be tested to see whether the higher the individuals in the TMT rate on the *Faith in Intuition* scale in the REI, the more inclined these individuals will be to exhibit entrepreneurial traits.

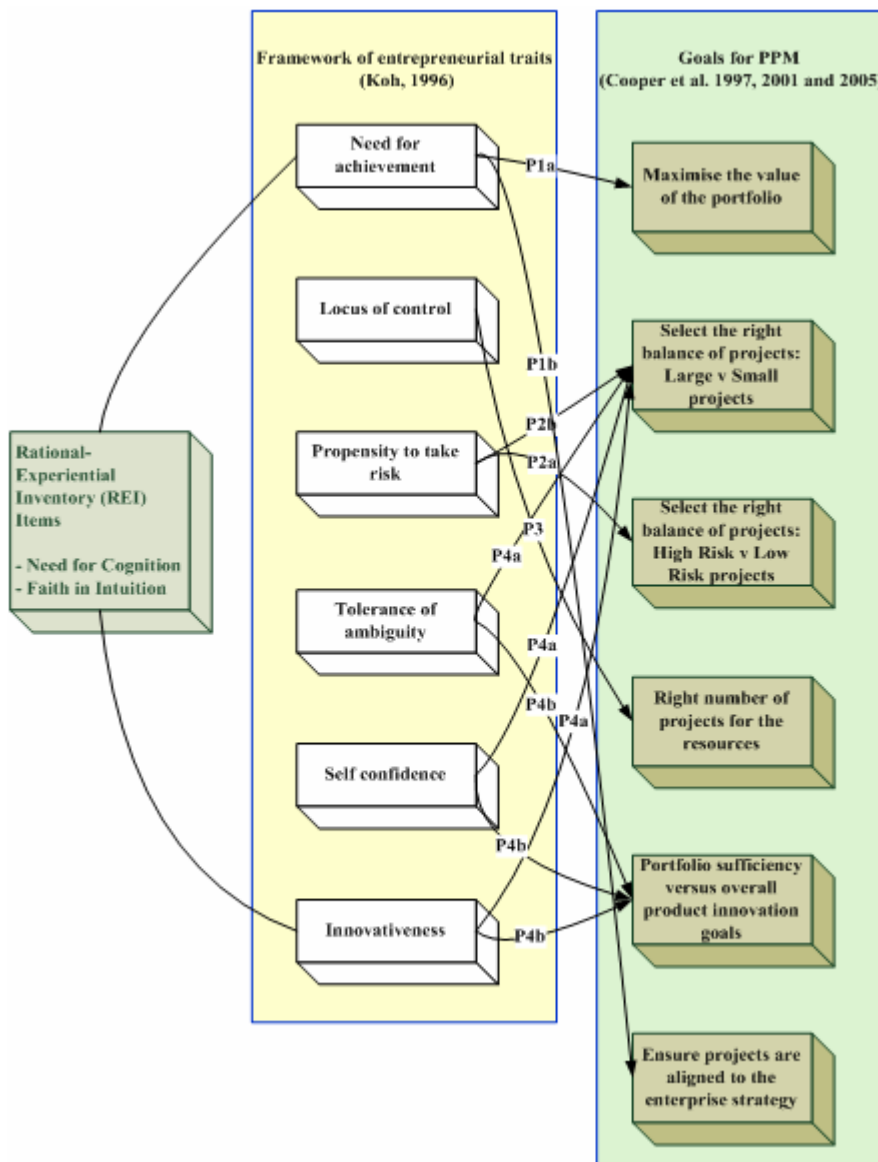


Figure 1: Propositions regarding the role of intuition and entrepreneurship in PPM outcomes

## **5.1 Need for achievement**

McClelland [61] noted that the need for achievement is a key entrepreneurial trait. This view has been supported by other researchers [62, 63]. It is believed that individuals with a high need for achievement have a strong desire to be successful and are consequently more likely to behave entrepreneurially. This implies that a TMT that is entrepreneurial will try to maximise the value of the PPM portfolio. Therefore it is proposed:

P1a: A TMT that is entrepreneurially inclined tends to maximise the value of the project portfolio.

Further, a TMT that is entrepreneurial will try to align the portfolio to the enterprise strategy which may also maximise the value of the portfolio. Given the above it is proposed:

P1b: A TMT that is entrepreneurially inclined may result in a portfolio that is aligned to the enterprise strategy.

## **5.2 Propensity to take risk**

Koh [58] noted that a person's risk-taking propensity can be defined as his/her orientation towards taking chances in uncertain decision-making contexts. Cunningham and Lischeon [64] list risk-taking as a major entrepreneurial characteristic. One of the goals of PPM is to achieve the correct balance. In this regard balance refers to the composition of the portfolio: large projects versus small projects; low risk projects versus high risk projects. A TMT that is entrepreneurially inclined with a propensity to take risks may result in a balance with a higher proportion of risky projects in the portfolio. Accordingly, the second proposition is:

P2a: A TMT that is entrepreneurially inclined may result in a higher proportion of riskier projects in the portfolio.

Further, large projects generally have a higher risk profile than smaller projects – they generally have more resources at risk. A TMT that is entrepreneurially inclined with a propensity to take risks may result in a balance of large projects in the portfolio. Accordingly, the proposition is:

P2b: A TMT that is entrepreneurially inclined may result in a higher proportion of large projects in the portfolio.

## **5.3 Locus of control**

The entrepreneurially inclined usually have an internal locus of control [66, 67]. Locus of control represents an individual's perceptions about the rewards and punishments in their life [65]. While individuals with an internal locus of control believe that they are able to control life's events, individuals with an external locus of control believe that life's events are the result of external factors. One of the goals of PPM is to have the correct number of projects for the resources available. If the internal locus of control of an entrepreneur is strong, they may over step the resource limitations and take on more projects following a belief that they can control factors such as resource availability and project resource requirements. Given the above, it is proposed that:

P3: A TMT that is entrepreneurially inclined may result in a portfolio with too many projects for the number of resources.

## **5.4 Tolerance of ambiguity, self-confidence and innovativeness**

Tolerance of ambiguity is an entrepreneurial characteristic [68] and those who are entrepreneurially inclined are expected to display more tolerance of ambiguity than others [69, 70]. Koh [58] stated that those entrepreneurs who do exhibit a high tolerance for ambiguity may also report a strong reliance on intuition as the basis for their decision-making. A number of studies in the literature have found entrepreneurs to have a

higher degree of self-confidence relative to non-entrepreneurs [66, 67]. In the seminal work by Schumpeter [71] it was noted that innovativeness is an essential entrepreneurial characteristic. Evidence reported in the entrepreneurship literature shows that entrepreneurs are significantly more innovative than non-entrepreneurs [66, 67, 72]. Given the high self-confidence, tolerance of ambiguity and innovativeness of the entrepreneurially inclined it is proposed:

P4a: A TMT that is entrepreneurially inclined may result in a higher balance of large risky innovation projects in the portfolio.

Further, a TMT that is entrepreneurial and contains members with high self-confidence, tolerance of ambiguity and innovativeness may allow product innovation goals to take precedence over ensuring resource sufficiency for the portfolio as a whole. It is proposed:

P4b: A TMT that is entrepreneurially inclined may result in a portfolio where product innovation goals take precedence over portfolio resource sufficiency.

## 6. Conclusions and further research

In conclusion, PPM is a critical topic since it integrates a number of key areas: project selection and prioritisation, resource allocation across projects, and implementation of the business strategy [3, 4]. A quality decision-making process is critical to the development of an effective portfolio strategy [73]. Epstein et al. [33] argued that human information processing is executed by two cognitive systems: experiential (intuitive) and the rational system. Intuition may be a distinguishing characteristic of successful entrepreneurs [46] and that top managers are recognized as key entrepreneurial resources of the firm [52]. Further research will aim to understand and gain insight into and explain the relationship between the role of entrepreneurial intuition in PPM decision meetings and PPM outcomes within the Australian context. Further the research is planned to include different contexts in order to evaluate differences that may relate to context. A qualitative study will be undertaken using field-based case study [74] as the strategy with interviews and documentation being the main data collection methods. The unit of analysis [74] is PPM decision meetings and processes within an organisation. The results of the study are expected to guide management practice and contribute to the ongoing development of management thinking within the PPM field.

## 7. References

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