The performance effects of combining rational and intuitive approaches in making new product idea evaluation decisions

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Identifying and selecting just those ideas during the execution of the fuzzy front end of new product development (NPD) that have the highest potential to be developed into a successful new product is crucial to new product success. However, despite the importance of within-stage idea evaluation decisions, little research has focused on how best to make these more informal NPD decisions to date.

Two different decision-making approaches may be used in making such decisions: a rational approach or an intuitive approach. A rational approach processes the information relevant for the decision problem in the conscious mind, resulting in logical reasons supporting a particular new product idea or a rank-ordering of a number of ideas. Intuitive decision-making, in contrast, analyzes the decision problem in the unconscious mind, while the conscious is disengaged. The resulting intuition is a seemingly unsubstantiated attitude toward a new product idea that communicates the result of unconscious processing to the conscious mind of the decision maker.

Both approaches have advantages and disadvantages and previous research, therefore, suggests that combining rational and intuitive approaches in making idea evaluation decisions may allow NPD team members to benefit from the advantages of both. However, empirical research on the performance effects of combining these two approaches in making individual decisions is lacking. To begin addressing this gap in the literature, this research empirically explored whether and how rational and intuitive decision-making approaches may be best combined in making idea evaluation decisions in the fuzzy front end of NPD to improve decision-making quality and speed.

To achieve this objective, an experiment with experienced NPD practitioners was conducted that manipulated the decision-making approach combinations used by individuals for the two idea evaluation decision-making process stages of (i) idea analysis and (ii) final decision-making, resulting in four approach Combinations: i.e. combining intuitive analysis with intuitive final decision-making; rational analysis with rational final decision-making; or intuition with rationality in both sequences. The experimental design followed two established methods to manipulate each of the two stages, resulting in a 2 (intuitive vs. rational analysis) \( \times 2 \) (intuitive vs. rational final decision) between-subjects design. The decision problem consisted of evaluating four abstract new product ideas, which were designed to have different potentials to be developed into a successful new product.

The results of the experiment show that when the potentials of new product ideas are obviously dissimilar, all combinations of decision-making approaches lead to the same level of decision quality. However, when there is high similarity between the potential of the ideas, both combinations of rational and intuitive decision-making approaches significantly increase decision-making quality. This finding supports and complements previous claims and findings on combining both decision-making approaches. With regard to decision-making speed, the experimental results reveal that, as expected, decision-making speed is highest when the decision maker starts with an intuitive analysis of the new product ideas, no matter how the
final decision is made. This finding further explains the results of previous research and resolves earlier discussions on the speed of intuitive decision-making.

Together the results show that only one decision-making approach combination leads to the highest overall idea evaluation decision-making performance. By starting with an intuitive analysis of the ideas and then rationally reflecting on the resulting intuition in making the final decision, the decision maker is able to correctly and quickly identify the idea with the highest potential to become a successful new product. By using this combination, a quality-speed trade-off does not appear to exist for making idea evaluation decisions.

This finding has important implications for practice and theory. NPD practitioners may want to make a more deliberate choice with regard to how rational and intuitive decision-making approaches are used in making idea evaluation decisions. Although any combination of the different approaches will lead to high decision-making quality, decision speed will only be highest when starting with an intuitive analysis. Effective and efficient idea evaluation decision-making, thus requires ‘incubation’ (unconscious analysis) time and the acceptance of intuition use in decision-making during the execution of the fuzzy front end. Managers may facilitate and support intuition use by providing education and training to make team members more aware of their intuition and the advantages of intuition, and to teach them how to allow for unconscious analysis and how to combine intuition with rational decision-making.

The most important theoretical implications are as follows. First, since this research focused on making idea evaluation decisions by individuals only, a next logical step would be to investigate the effectiveness and efficiency of combining rational and intuitive approaches in team decision-making. Additionally, relating the findings of this research with earlier research findings suggests that combining rational and intuitive decision-making approaches also may be beneficial for making other within-stage NPD decisions and perhaps even for making NPD gate decisions (i.e., idea screening). Future research should explore this possibility. Moreover, future research should investigate the extent to which using certain combinations of decision-making approaches for different NPD decisions contributes to shorter development cycle times and, ultimately, to new product success.

AIM OF THE PAPER

In recent years there has been an increase in the front-end of organizations for customer engagement and the key role of firms is to offer value propositions by means of developing products and services. NPD practitioners argue that customers, frontline employees (FLEs) of organizations, play a significant role in decision-making processes. FLEs are the ones who identify and develop new product ideas and engage in the creation and development of these value propositions. However, how FLEs renew and develop their practices is a research gap. Furthermore, how FLEs renew and develop innovation and how bricolage innovation, i.e., development of value propositions, engages which are the elements contributed to the paper.

CONTRIBUTIONS

The study focuses on how FLEs develop understandings (i.e., knowledge) and primarily two main contributions to the field. First, the paper explores how FLEs develop and create the elements of their work practices, their innovation, i.e., development of value propositions and how bricolage innovation elements of their work practices, their innovation, i.e., development of value propositions and how these processes engaged in and create new product success.

METODOLOGY

The paper is based on a multiple case study of front-line employees within two organizations. The data consists of 29 interviews and 20 observations. FLEs develop and create the elements of their work practices, their innovation, i.e., development of value propositions and how these processes engaged in and create new product success.
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