RETHINKING ESCALATION OF COMMITMENT IN NEW PRODUCT DEVELOPMENT : DRIVERS AND GOVERNANCE

Fajar Mahesa Adhyaksa
Universitas Surabaya, Surabaya
Email : fajaradhyaksa@outlook.com

ABSTRACT

New product development (NPD) projects are highly vulnerable to escalation of commitment due to behavioral biases and agency incentives. Integrating Behavioral Decision Theory and Agency Theory, this study identifies that escalation is driven by past experiences (prior failures, ownership), cognitive biases (confirmation bias, overconfidence), and agency conflicts (reputation, compensation, emotional attachment). To mitigate this behavior and improve innovation governance, firms can implement open innovation, leadership changes, and failure-recognition systems. In conclusion, this study bridges theory and practice by offering actionable organizational solutions to mitigate costly escalation in under performing projects.

Keywords : *Escalation of Commitment; New Product Development; Behavioral Decision Theory; Agency Theor*

ABSTRAK

Proyek pengembangan produk baru (NPD) sangat rentan terhadap eskalasi komitmen akibat bias perilaku dan insentif keagenan. Dengan mengintegrasikan Teori Keputusan Perilaku dan Teori Keagenan, studi ini mengidentifikasi bahwa eskalasi didorong oleh pengalaman masa lalu (kegagalan sebelumnya, kepemilikan), bias kognitif (bias konfirmasi, kepercayaan diri berlebihan), dan konflik keagenan (reputasi, kompensasi, keterikatan emosional). Untuk memitigasi perilaku ini dan meningkatkan tata kelola inovasi, perusahaan dapat menerapkan inovasi terbuka, pergantian kepemimpinan, dan sistem pengakuan kegagalan. Kesimpulannya, studi ini menjembatani teori dan praktik dengan menawarkan solusi organisasional yang aplikatif untuk memitigasi eskalasi yang merugikan pada proyek-proyek yang berkinerja buruk.

Keywords : *Eskalasi Komitmen; Pengembangan Produk Baru; Teori Keputusan Perilaku; Teori Keagenan*

INTRODUCTION

Innovation is a critical source of competitive advantage, leading firms to invest heavily in new product development (NPD) despite its inherent risk and uncertainty (De Jong et al, 2025). Meta Platforms illustrates this pattern. Following its 2021 rebrand, Meta prioritized metaverse products via Reality Labs, with its CEO stating, "I am dedicating our energy to this, more than any other company in the world" (Zuckerberg, 2021). Yet Reality Labs incurred cumulative losses exceeding USD 75 billion between 2021 and 2025 (Meta, 2023; 2025; 2026), with substantial further losses anticipated as investment remains at peak levels (Meta, 2026).

Such persistence is consistent with escalation of commitment, the tendency to continue failing courses of action despite negative feedback and declining prospects of success (Sleesman et al., 2018). NPD is particularly susceptible due to high upfront investment and uncertainty, which complicate project evaluation and termination (Schmidt & Calantone, 2002). When performance signals are ambiguous, continuation decisions increasingly reflect managerial judgment and incentives rather than project performance alone.

Recent evidence links CEO incentives to excessive commitment, especially when the CEO is responsible for the initiative and receive stock-based compensation (Guenzel & Liu, 2026). This condition suggests agency conflicts matter, as initiative success can improve stock performance and substantially increase CEO bonuses. However, prior work has focused predominantly on behavioral explanations, leaving the interaction between behavioral biases and agency conflicts underexplored in NPD.

This study addresses this gap by integrating Behavioral Decision Theory and Agency Theory to develop a conceptual framework explaining escalation of commitment in NPD and informing strategic decision making and governance.

LITERATURE REVIEW

Escalation of Commitment

Organizations frequently face continuation versus termination dilemmas for underperforming initiatives. While the sunk cost fallacy is the most cited explanation, escalation requires three conditions: sunk costs, negative feedback indicating deviation from expectations, and a choice between escalation and de-escalation. Shifting focus from sunk costs, Feldman & Wong (2018) argue that negative feedback triggers an action bias grounded in the inaction effect, so framing escalation as action and de-escalation as inaction increases escalation tendencies.

Beyond individual biases, escalation is shaped by managerial motives. Executives may persist due to self-justification and reputational concerns, using continued commitment as impression management to avoid admitting poor judgment, while successor managers with less psychological attachment are more likely to initiate de-escalation (Chulkov, 2024).

To mitigate this, Yang et al. (2023) propose greater transparency throughout development and the use of open innovation to expose assumptions to external scrutiny and counter overly optimistic beliefs. This risk is amplified in NPD, where high uncertainty and substantial upfront investment make it difficult to distinguish temporary setbacks from genuine failure, increasing the likelihood of inefficient persistence and suboptimal innovation outcomes.

New Product Development

NPD is a critical capability through which firms convert market opportunities into commercially viable offerings, driving growth, competitiveness and long-term value creation, which explains sustained investment despite high uncertainty. A central challenge is balancing two objectives: developing the right product, identifying genuine customer needs, and developing the product right, managing the process efficiently and effectively (Yang et al., 2018). Both are essential, but disciplined execution is often decisive for success.

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To improve decision quality for NPD success, firms adopt formal governance models like the Stage-Gate model as shown in **Fig 1**. The model divides development into stages separated by evaluation gates, where projects are continued, revised, or terminated to increase visibility and prevent overcommitment to weak concepts (Sarangee et al., 2019).

Despite such mechanisms, NPD remains highly uncertain and complex. Falahat et al. (2024) note that outcomes are shaped by internal factors including cross functional coordination, temporary team membership and organizational structure, and external factors such as technological issues, pricing and capital constraints, while NPD success depends on top management commitment, cross functional involvement, well-structured process, project management capability and innovative ideas.

These factors highlight the complexity of NPD, where managerial characteristics also influence continuation and termination decisions. Schmidt & Calantone (2002) find that project initiators are less likely to recognize failure and more likely to continue investing, indicating that psychological attachment shapes continuation decisions beyond objective performance. Understanding these behavioral mechanisms is therefore central to explaining escalation in NPD.

Key Behavioral Biases in New Product Development

NPD decisions occur under high uncertainty, incomplete information and substantial resource commitments, prompting reliance on cognitive shortcuts that can distort judgment and shape continuation and termination choices.

Three biases are particularly relevant: confirmation bias, overconfidence, and escalation bias. Confirmation bias is the tendency to seek and emphasize information that supports existing beliefs while ignoring contradictory evidence (Bazerman, 2012). In NPD, managers may focus on favorable feedback and market trends while overlooking early warning signals. Persistent confirmation bias can reinforce overconfidence, described as the mother of all biases, which reflects inflated belief in judgment and ability to predict outcomes Bazerman (2012). Overconfident managers tend to overestimate success and underestimate technological, market and execution risks.

Evidence on the relationship between overconfidence and escalation is mixed. Overconfident managers may allocate innovation resources inefficiently and reduce firm value (Zavertiaeva et al., 2018), yet the effect of managerial overconfidence on corporate innovation depends on corporate effectiveness (Wen et al., 2023). However, the study also suggests that, in developing economies, recruiting confident managers can affect firm-level innovation.

Therefore, overconfidence does not automatically lead to escalation. Krastev et al. (2022) find that escalation depends on the source of overconfidence and on felt responsibility. Correct decisions alone do not produce escalation, only correct decisions that yield positive outcomes do, and positive framing of probability information increases overconfidence without increasing escalation. Responsibility for the project, however, is linked to escalation.

This aligns with Schmidt & Calantone (2002), who find initiators are less likely to recognize failure and more likely to persist. Together, confirmation bias, overconfidence and personal responsibility can interact to increase escalation risk, leading firms to persist with projects that should be terminated.

Limitations of Previous Research

Despite extensive studies on escalation of commitment, research examining its relationship with agency conflicts within the context of NPD remains limited.

First, prior work focuses mainly on behavioral explanations, including sunk costs (Feldman & Wong, 2018), self-justification (Chulkov, 2024), confirmation bias (Bazerman, 2012) and managerial overconfidence (Zavertiaeva et al., 2018; Wen et al., 2023). Proposed remedies such as improving transparency through open innovation (Yang et al., 2023) and identifying prior failure patterns (Nickel et al., 2026) also remain centered on individual decision processes.

Second, agency incentives are still underexplored. Current literature largely attributes escalation to behavioral bias. However, managers may persist to protect reputation (Chulkov, 2024) and to secure performance-based compensation (Guenzel & Liu, 2026), thereby continuing to escalate their initiatives. This indicates potential agency conflicts during the NPD process that can intensify commitment.

Finally, behavioral biases and agency conflicts are typically examined separately, leaving no comprehensive explanation for why firms continue to escalate underperforming NPD projects. This is particularly relevant in NPD, where process complexity makes it difficult for managers to decide whether to continue or terminate. Therefore, an integrated understanding of escalation and agency conflicts in NPD is needed.

Theoretical Foundation

Behavioral Decision Theory

Behavioral Decision Theory explains how individuals actually make judgments under uncertainty, incomplete information, and cognitive limitations, in contrast to normative models of how decisions should be made (Takemura, 2020). Its central premise is bounded rationality, that rationality is constrained by situational factors and cognitive capacity, leading decision makers to rely on simplified mental processes rather than comprehensive evaluation (Bazerman & Sezer 2016).

Bazerman & Sezer (2016) frame this as a dual process model. System 1 is intuitive, automatic and fast, while System 2 is deliberate, analytical and effortful. In NPD, complexity makes it difficult to determine when to rely on System 1 or System 2. Liang et al. (2014) show that analytical thinking associated with System 2 reduces escalation relative to holistic thinking associated with System 1. Managerial decisions are also influenced by past experiences, which shape whether managers seek to reduce risk or pursue gains (Nickel et al., 2026).

Mechanisms that encourage self-awareness, such as trait mindfulness, can further mitigate escalation, with more consistent effects on reduced escalation Schmitzer-Torbert (2020). This fits mindfulness practice, which helps people not get stuck in the past and not focus too much on the future. Together, these insights position Behavioral Decision Theory as a foundation for explaining how confirmation bias and overconfidence contribute to escalation in NPD.

Agency Theory

Agency Theory explains decision-making within contractual relationships where the principal delegates decision-making authority to an agent (Jensen & Meckling, 1976). Core agency conflicts arise from two foundational conditions: divergence of interests and information asymmetry between principals (shareholders/boards) and agents (project managers). While principals seek firm value maximization, agents act to maximize their personal utility, creating incentive misalignments when project outcomes deteriorate.

In NPD contexts, information asymmetry is particularly pronounced because project managers possess private, superior knowledge regarding true technical feasibility and commercial prospects. When performance feedback signals project failure, managers leverage this information asymmetry to protect their personal utility rather than acting in the firm's best interest. To establish construct validity, agency conflicts must be explicitly distinguished from project ownership and personal commitment, which stem from personal ego involvement and emotional attachment formed during project initiation (Schmidt & Calantone, 2002).

At its core, Agency Theory isolates rational-opportunistic choices driven by interest divergence rather than emotional ties. To reliably establish the presence of an agency conflict, it is essential to first identify clear interest divergence between both parties, such as evaluating managerial continuation choices across multi-project pipelines (Guenzel & Liu, 2026). Once interest divergence is established, conflict dynamics are reinforced through specific structural incentive mechanisms, including reputational concerns (Dorison et al., 2022) and stock-based compensation (Miller et al., 2002; Guenzel & Liu, 2026).

PROPOSED CONCEPTUAL MODEL

Framework Components

The proposed conceptual model integrates insights from Behavioral Decision Theory and Agency Theory into a three-tiered structural framework comprising antecedent constructs, a mediating construct, and an outcome construct. The unit of analysis in this framework is explicitly defined at the NPD project decision level (managerial level). Consequently, decision outcomes are operationalized as the efficiency and timeliness of project-level evaluation choices, rather than aggregate firm-level performance

1. Antecedent Constructs

Antecedent constructs represent the foundational driving factors comprising past experiences, cognitive biases, dan agency conflict, that shape managerial information processing and judgment before a project continuation decision is made.

A. Past Experiences

Past experiences operate strictly as a historical antecedent construct that shapes managerial cognitive frames and information processing prior to a decision. Rather than representing persistence itself, past experiences reflect accumulated historical events. To avoid conceptual overbreadth, this construct is narrowingly operationalized into two distinct historical antecedents: project ownership/initiation and prior decision failure types (commission vs. omission errors).

These historical inputs influence how managers interpret incoming negative performance signals, triggering psychological mechanisms such as anticipated regret or self-justification motives before any continuation choice is made (Schmidt & Calantone, 2002; Nickel et al., 2026):

1) **Project Ownership**: Managers who initiated or held prior ownership of an NPD project develop strong psychological attachment and self-justification motives. Schmidt & Calantone (2002) found that initiating managers are less likely to recognize project failure and more prone to continuing investment in underperforming initiatives, as de-escalation is perceived as an admission of poor initial judgment.
2) **Prior Decision Failures**: Rather than exerting a direct or uniform effect, prior decision failures influence escalation conditionally based on managerial motivational orientations and anticipated regret (Nickel et al., 2026):
   a) Commission Error (Continuing a failing project): When managers adopt a prevention focus (emphasizing loss avoidance) and anticipate regret from continuing a poor decision (anticipated keep regret), prior commission errors decrease current escalation tendencies.
   b) Omission Error (Terminating a potentially successful project too early): When managers adopt a promotion focus (emphasizing gain pursuit) and anticipate regret from abandoning future opportunities (anticipated drop regret), prior omission errors increase current escalation tendencies.

In summary, past experiences represent historical input constructs, comprising project ownership and prior decision failure types, that shape subsequent cognitive processes and information interpretation.

B. Cognitive Biases

Behavioral Decision Theory suggests that managerial decisions under uncertainty are boundedly rational and heavily reliant on heuristic thinking (Bazerman & Sezer, 2016; Takemura, 2020). In high-uncertainty environments like NPD, performance feedback is often ambiguous or delayed, making project evaluations vulnerable to systematic cognitive distortions.

Rather than treating cognitive biases as a single monolithic construct, this framework explicitly distinguishes between confirmation bias and overconfidence as two distinct antecedent constructs operating through different cognitive mechanisms (Bazerman, 2012; Midtgård & Selart, 2025):

1) **Confirmation Bias** (Selective Information Processing): Operationalized as the systematic cognitive tendency of managers to actively seek, emphasize, and over-weight information that confirms their initial optimistic beliefs regarding an NPD project, while filtering out, discounting, or ignoring contradictory performance feedback and early failure signals (Bazerman, 2012).
2) **Overconfidence** (Excessive Certainty in Prediction & Ability): Operationalized as the managerial tendency to exhibit excessive certainty regarding their accuracy in predicting future project outcomes and overestimating their personal or team capabilities to overcome technical, execution, or market obstacles (Zavertiaeva et al., 2018; Krastev et al., 2022).

While persistent confirmation bias can reinforce managerial overconfidence over time, as positively framed or selectively processed project information inflates confidence in project viability, each bias exerts an independent influence on project evaluation decisions (Zavertiaeva et al., 2018; Krastev et al., 2022; Wen et al., 2023).

C. Agency Conflicts

Within the proposed framework, agency conflicts capture the rational-opportunistic drivers that reinforce managerial persistence when project performance deteriorates. Building on recent empirical insights, this construct is operationalized through three concrete indicator mechanisms that directly link interest divergence to project evaluation outcomes:

1) **Interest Divergence:** Early-stage firms may distort continuation decisions primarily because they possess limited project pipelines, leading to escalation driven by organizational survival motives (Guedj & Scharfstein, 2004). In contrast, mature firms with abundant project pipelines (>10 active initiatives) face lower survival pressure and should rationally discontinue failing projects. When managers in multi-project firms nevertheless continue

delayed, low-quality initiatives, it empirically demonstrates interest divergence, as private managerial utility overrides shareholder value creation (Guenzel & Liu, 2026).

2) **Reputational Concerns:** Strategic managerial efforts to protect professional standing and avoid signaling incompetence to executive labor markets. Empirically, this is captured by managerial project initiation responsibility, comparing a project-initiating executive with a successor executive (Guenzel & Liu, 2026). Executives who personally initiated a project face heightened reputational damage upon cancellation, driving them to persist with underperforming initiatives to shield their professional standing.

3) **Stock-Based Compensation:** Contractual compensation structures such as stock options, or executive equity exposure, that motivate managers to shield deteriorating projects to prevent immediate compensation loss. Empirically, this is captured by executive wealth sensitivity to stock price fluctuations (pay-for-performance sensitivity or CEO Delta) (Guenzel & Liu, 2026).

By anchoring agency conflicts strictly on interest divergence and information asymmetry, this construct isolates the rational-calculative mechanisms that reinforce managerial escalation behavior.

2. Mediating Construct

The mediating construct captures escalation of commitment as the central behavioral mechanism, representing the managerial choice to persist with an underperforming course of action despite negative feedback and declining prospects of success.

A. Escalation of Commitment

Escalation of commitment serves as the central mediating construct of the proposed framework, bridging managerial antecedents to project decision outcomes. Sleesman et al. (2018) define escalation as the behavioral tendency to persist with an underperforming course of action despite negative feedback and declining prospects of success.

Distinct from historical antecedents and cognitive frames, escalation represents the dynamic behavioral choice and actual decision to deploy additional organizational resources to failing initiatives. While antecedents shape managerial judgment and information processing, escalation is the physical act of persistence—manifesting as extended project timelines, budget expansions, or explicit refusals to terminate non-viable concepts.

In NPD environments, this behavioral mechanism is particularly critical. Managers and gatekeepers who initiated or endorsed early project stages frequently maintain ongoing commitment, allowing sunk-cost motives, cognitive biases, and agency incentives to translate into continued project funding (Schmidt & Calantone, 2002; van der Pas & van der Pas, 2019).

Consequently, escalation of commitment functions as the core behavioral channel through which managerial biases and incentives directly influence project evaluation efficiency.

3. Outcome Construct

The outcome construct focuses on NPD project decision performance at the managerial level, evaluating the quality and efficiency of project termination choices and subsequent resource reallocation

A. NPD Decision Outcome

The primary outcome construct of this framework centers on the NPD Decision Outcome, evaluated directly at the project decision level rather than through aggregate firm performance or lagging financial metrics. Escalation of commitment directly degrades decision outcomes by causing delays in project cancellation and overriding established evaluation criteria (Chulkov, 2024).

To enable clear empirical measurement, the NPD decision outcome construct is anchored on Termination Adherence: the extent to which project discontinuation decisions strictly comply with predefined performance thresholds, technical milestones, and stage-gate failure signals upon receiving negative feedback. High adherence reflects managerial discipline in capping sunk-cost accumulation and preventing unscheduled budget or timeline extensions.

Grounding the outcome around termination adherence provides a precise, measurable construct that captures how cognitive biases and agency motives undermine managerial evaluation discipline in NPD projects.

Framework Relationships

As depicted in **Fig. 3**, the proposed conceptual framework establishes a sequential causal pathway where managerial antecedents influence NPD decision outcomes through the mediating mechanism of escalation of commitment.

1. Antecedent Relationships to Escalation of Commitment

A. Past Experiences

1) **Project Ownership:** Direct involvement in project initiation creates psychological attachment, prompting managers to resist early failure signals to avoid perceived competence loss (Schmidt & Calantone, 2002).

   Proposition 1a (P_{1a}): Prior project ownership and direct managerial involvement in project initiation positively influence escalation of commitment in underperforming NPD projects.

2) **Prior Decision Failures:** The effect of prior failures depends on managerial motivational orientations and anticipated regret (Nickel et al., 2026). Prior commission errors decrease

escalation under a prevention focus, whereas prior omission errors increase escalation under a promotion focus.

Proposition 1b (P_{1b}): The effect of prior decision failures on escalation of commitment is conditional upon managerial cognitive interpretation, such that prior commission errors under a prevention focus decrease escalation, whereas prior omission errors under a promotion focus increase escalation.

B. Cognitive Biases

1) **Confirmation Bias:** Managers selectively process performance feedback, filtering out warning signals while over-weighting favorable data (Bazerman, 2012).

   Proposition 2a (P_{2a}): Confirmation bias positively influences managerial escalation of commitment in underperforming NPD projects by inducing selective processing of performance feedback.

2) **Overconfidence:** Driven by excessive certainty in personal capabilities and future outcomes, overconfident managers underestimate execution risks and overestimate turnaround potential (Zavertiaeva et al., 2018; Krastev et al., 2022).

   Proposition 2b (P_{2b}): Overconfidence positively influences managerial escalation of commitment in underperforming NPD projects by inducing excessive certainty in future project outcomes and turnaround capabilities.

C. Agency Conflicts

1) **Interest Divergence:** When faced with project delays and negative performance signals, managers exploit their private information regarding true project viability to maintain low-prospect initiatives. In mature firms with abundant project pipelines (>10 active initiatives), managers rationally choose to persist with underperforming projects even when doing so crowds out higher-NPV opportunities, prioritizing individual utility over shareholder value creation (Guedj & Scharfstein, 2004; Guenzel & Liu, 2026).

   Proposition 3a (P_{3a}): Interest divergence between managers and shareholders positively influences managerial escalation of commitment in underperforming NPD projects.

2) **Reputational Concerns:** Leveraging information asymmetry, managers persist with failing initiatives to avoid signaling incompetence to executive labor markets and to safeguard career prospects, a vulnerability particularly pronounced when the project-initiating manager remains in control (Dorison et al., 2022; Chulkov, 2024; Guenzel & Liu, 2026).

   Proposition 3b (P_{3b}): Reputational concerns and career protection motives positively influence managerial escalation of commitment in underperforming NPD projects.

3) **Compensation Motives:** Structural incentive arrangements—such as milestone-contingent bonuses, stock options, or high pay-for-performance sensitivity—motivate managers to defend deteriorating projects to protect executive equity value and secure short-term financial rewards (Miller et al., 2002; Guenzel & Liu, 2026).

Proposition 3c (P_{3c}): Compensation structures tied to project milestones or stock options positively influence managerial escalation of commitment in underperforming NPD projects.

2. Mediating & Interaction Relationships

1) **Escalation of commitment**: The tendency to persist with failing courses of action despite negative feedback, directly degrades decision outcomes by causing delays in project cancellation, bypassing established failure criteria, and allowing sunk costs to accumulate (Sleesman et al., 2018; Chulkov, 2024). This negative effect occurs because persistent managers misallocate vital company resources to unviable initiatives instead of reallocating capital to higher-value opportunities.

   Proposition 4a (P_{4a}): Escalation of commitment reduces NPD decision outcomes by lowering managers' adherence to stopping underperforming projects.

2) **Mediation**: Managerial antecedents do not directly alter decision outcomes; their systemic impact is transmitted through escalation behavior (Sleesman et al., 2018; Chulkov, 2024). Specifically, cognitive biases, past experiences, and agency conflicts drive managers to persist with failing projects, which in turn reduces termination adherence and delays cancellation.

Proposition 4b (P_{4b}): Escalation of commitment mediates the relationship between managerial antecedents (past experiences, cognitive biases, and agency conflicts) and NPD decision outcomes.

By structuring these relationships into a sequential pathway, the framework demonstrates how individual behavioral biases and agency incentives translate into project evaluation discipline.

RESULT AND DISCUSSION

The synthesis of the proposed framework reveals how individual psychological vulnerabilities, cognitive distortions, and structural agency incentives interlock to drive project continuation failure. Rather than operating in isolation, these antecedents form a compounding causal web where personal attachments and cognitive blind spots are strategically amplified by agency conflicts, ultimately manifesting as behavioral escalation that degrades decision discipline.

Initial distortion in NPD decision-making begins with a manager's past experiences and psychological attachment (P_{1a}–P_{1b}). Psychological ownership rooted in project initiation acts as an emotional anchor, compelling executives to resist early failure signals to safeguard their perceived professional competence (Schmidt & Calantone, 2002).

However, this psychological attachment is conditioned by how managers process past decision failures; while prevention-focused managers learn from prior commission errors to exercise greater caution, promotion-focused managers interpret prior omission errors as missed opportunities, leading them to aggressively double down on failing initiatives to chase turnaround rewards (Nickel et al., 2026).

This experiential foundation is further distorted by systematic cognitive biases ($P_{2a}-P_{2b}$). Confirmation bias creates a selective cognitive filter that overweights favorable progress indicators while systematically ignoring stage-gate red flags (Bazerman, 2012). Overconfidence directly compounds this error by instilling excessive certainty in internal capabilities, leading managers to underestimate technical execution risks and overestimate turnaround potential (Zavertiaeva et al., 2018). Together, psychological ownership and cognitive biases distort how managers process negative performance signals.

When private information is present, agency dynamics transform these psychological tendencies into strategic persistence ($P_{3a}-P_{3c}$). In mature firms managing multi-project pipelines (>10 active initiatives), managers exploit information asymmetry to conceal true project viability, strategically persisting with low-prospect projects even when they crowd out higher-NPV opportunities (Guedj & Scharfstein, 2004; Guenzel & Liu, 2026). This opportunism is reinforced by reputational concerns in executive labor markets (Dorison et al., 2022) and stock rewards (Miller et al., 2002), which incentivize managers to shield deteriorating initiatives to protect their professional standing and compensation.

Ultimately, these combined antecedents do not impair project evaluation outcomes directly; rather, their systemic impact is transmitted through escalation of commitment as the central behavioral bridge (P_5). By triggering persistent resource allocation to failing initiatives, escalation directly degrades NPD decision outcomes (P_4) by lowering managers' adherence to stopping underperforming projects (Sleesman et al., 2018; Chulkov, 2024).

Crucially, this behavioral persistence directly erodes Termination Adherence. the degree to which managers strictly enforce predefined failure thresholds and stage-gate rules. When escalation takes hold, managers actively bypass these stopping criteria, causing critical delays in project cancellation and misallocating corporate capital away from value-accretive opportunities. Consequently, restoring project evaluation rigor requires governance structures that do not merely monitor financial metrics, but actively enforce structural boundaries to preserve termination adherence against behavioral and opportunistic distortions.

CONCLUDING REMARKS

Conclusions

This study advances NPD research by explaining how cognitive biases, past experiences, and agency incentives jointly undermine project evaluation discipline. Rather than viewing project continuation failure as merely an emotional misstep or a strategic governance breach, our framework demonstrates that these drivers interlock to trigger escalation of commitment, which systematically degrades decision outcomes by lowering managers' adherence to stopping underperforming projects.

By anchoring the primary outcome on Termination Adherence, this research provides a measurable, decision-level metric that highlights how internal biases and incentive misalignments impede timely project cancellation and capital reallocation. Ultimately, mitigating escalation requires moving beyond passive performance monitoring toward active structural safeguards. such as objective stage-gate enforcement, decision-rights rotation, and aligned incentive structures, that enforce evaluation rigor across corporate innovation portfolios.

Implications

1. Theoretical Implications

This study advances the escalation of commitment and NPD decision-making literature by proposing an integrated framework that bridges Behavioral Decision Theory and Agency Theory. Rather than viewing escalation through isolated theoretical lenses, our framework demonstrates that underperforming project persistence is driven by a compounding interaction between cognitive biases, past experiences, and structural agency incentives.

By establishing Termination Adherence as the primary decision-level outcome construct, this research shifts the theoretical focus from aggregate firm financial performance to the micro-foundations of project evaluation discipline. Furthermore, framing escalation of commitment as a central behavioral mediator explains the specific causal pathway through which individual psychological drivers and opportunistic motives degrade capital allocation rigor in innovation portfolios.

2. Practical Implications

From a managerial and governance perspective, this framework provides boards of directors, innovation leaders, and gatekeepers with actionable mechanisms to detect escalation risks early and enforce decision discipline. Rather than relying solely on passive financial tracking or treating project termination as a discretionary judgment call, organizations can implement three targeted structural safeguards:

1) **Open Innovation Frameworks:** Integrating external partners and open innovation channels introduces objective validation into the evaluation pipeline. Exposing internal

progress assumptions to external market scrutiny counteracts individual confirmation bias and overconfidence, ensuring that stage-gate reviews rely on realistic technical and commercial signals (Yang et al., 2023).

2) **Leadership and Gatekeeper Rotation:** Implementing systematic rotation of project leaders or stage-gate evaluators severs psychological attachment and self-justification cycles. Successor managers and neutral gatekeepers, unburdened by prior project ownership or original initiation choices, evaluate project viability with greater objectivity and lower reputational risk (Chulkov, 2024; Kalmanovich-Cohen et al., 2018; van der Pas & van der Pas, 2019)

3) **Failure-Recognition Systems:** To realign agency conflicts, organizations should restructure incentive systems by formally recognizing and rewarding the timely termination of unviable projects. Rewarding early de-escalation removes the career-ending stigma associated with project cancellation, directly aligning managerial self-interest with optimal firm-level capital reallocation (Sabel et al., 2022).

Limitations

This study has several limitations that should be acknowledged. First, the proposed framework focuses on NPD projects in a general context and does not explicitly distinguish between different levels of innovation. NPD projects involving radical innovations or emerging technologies, may be subject to unique sources of uncertainty and managerial behavior that are not fully captured by the current framework.

Second, the framework does not consider the role of country-specific innovation incentives, particularly R&D tax credits and innovation-related tax policies. Such incentives may create additional agency-related motivations, whereby managers continue pursuing innovation projects not solely for their strategic value but also to maintain access to external financial benefits.

Third, the framework does not explicitly account for differences in company types. The escalation mechanisms observed in startups may differ substantially from those in mature corporations due to variations in governance structures, resource availability, ownership concentration, and managerial discretion. Consequently, the proposed relationships may not be equally applicable across all organizational contexts.

Future Research Recommendations

Future research can extend the framework by integrating additional factors. First, perceived product innovativeness should be considered, as Liang et al. (2014) show that differing perspectives on innovativeness impact escalation, especially in specific NPD projects such as AI projects that are currently booming.

Second, researchers could explore corporate incentives such as R&D tax credits and subsidies that may mitigate or intensify escalation beyond reputation, compensation, and emotional involvement (Chulkov, 2024; Guenzel & Liu, 2026; Devigne et al., 2016).

Third, firm size and life cycle may shape escalation dynamics. Governance mechanisms such as leadership change (Kalmanovich-Cohen et al., 2018), stage-gate structures (van der Pas & van der Pas, 2019), and failure recognition mechanisms (Sabel et al., 2022) may operate differently in startup companies compared with mature firms. Examining these contextual differences would contribute to a more nuanced understanding of escalation of commitment in NPD environments.

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FIGURES

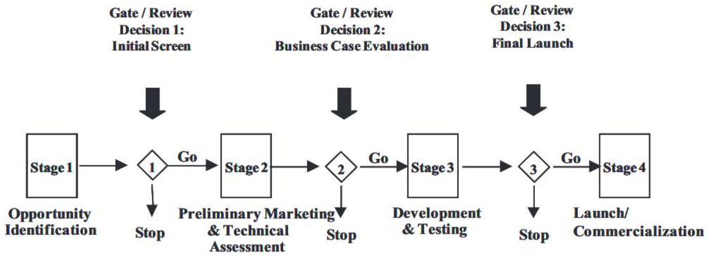

Fig.1. Stage-Gate New Product Development Process
Source: Sarangee et al., (2019)

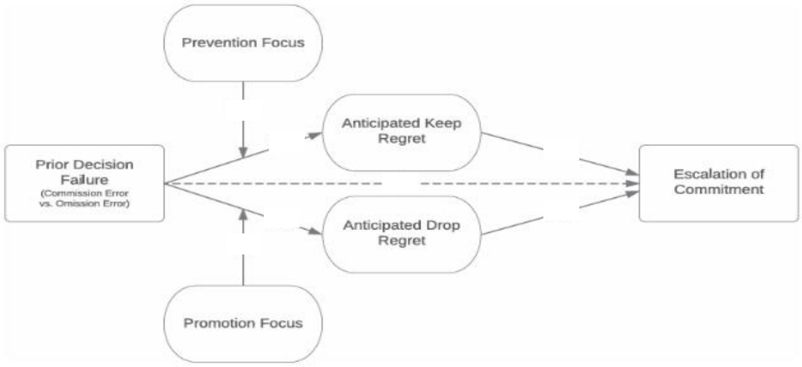

Fig. 2 Prior Decision Model
Source: Nickel et al. (2026)

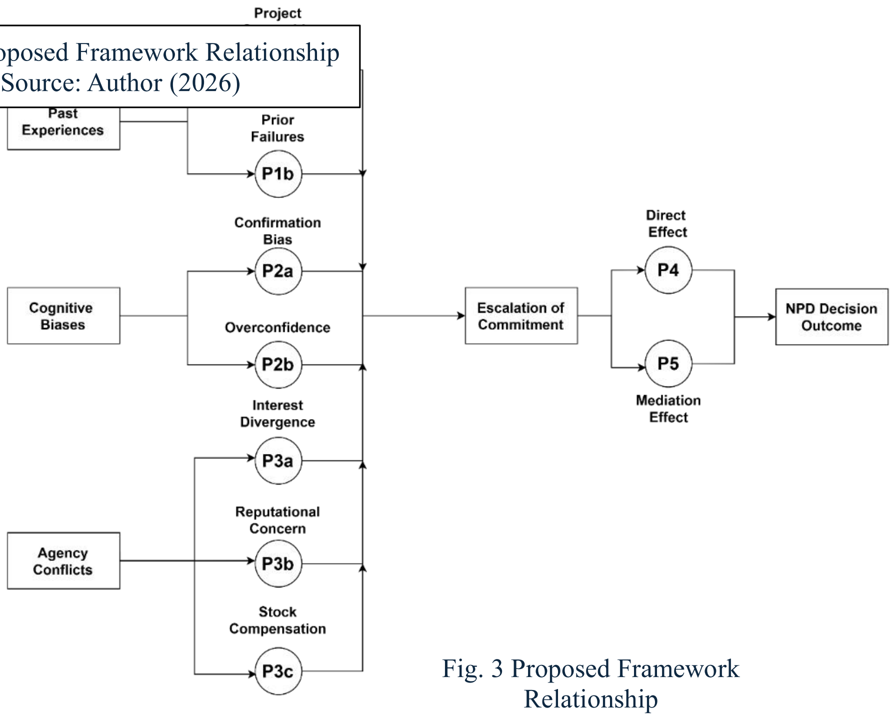

Fig. 3 Proposed Framework Relationship
Source: Author (2026)

Fig. 3 Proposed Framework Relationship