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Innovation Capability Gap in Design Practice: Uncovering Organizational Constraints

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Abstract. *The potential of design professionals to drive innovation is often constrained by organizational environments, creating a gap between embedded innovation capability and its practical activation. This study develops a conceptual model to explore how organizational constraints may affect the activation of innovation capability and its translation into innovation outcomes within design practice. A descriptive conceptual approach was employed, integrating a critical analytical essay, a comparative analysis of idealized versus constraint-driven design practice, and an illustrative case simulation using hypothetical profiles and dummy data. The simulation was designed to illustrate the model's underlying logic under specified assumptions rather than to measure actual organizational conditions or establish empirical relationships. The conceptual analysis suggests that structural rigidities, risk-averse cultural norms, and centralized decision-making may constrain the translation of design capability into innovation outcomes. The illustrative simulation demonstrates how these assumed constraints could influence innovation-related processes within the proposed framework; however, the simulated patterns should not be interpreted as evidence of actual organizational behavior or causal effects. This study reframes innovation discourse from an individual-centric to a system-centric perspective by introducing an activation-based view, which conceptually distinguishes the availability of individual capability from the organizational conditions that may enable or restrict its application. The proposed framework offers a conceptual diagnostic lens for examining potential barriers to innovation in design practice, including creative studio workflows, visual communication development, design revision processes, and approval procedures. It provides a basis for further empirical investigation into how organizational conditions may shape the relationship between design capability and innovation outcomes.*

Keywords *: Design Practice, Innovation Activation, Innovation Capability Gap, Organizational Constraints, System-Centric Innovation*

INTRODUCTION

Design practice has increasingly been positioned as a strategic driver of innovation, particularly within knowledge-intensive and creative industries (Auernhammer & Roth, 2021; Kohli & Melville, 2019; Verganti et al., 2020). Organizations invest substantially in developing design capabilities, expecting that skilled designers will translate creative potential into novel products, services, and processes. However, the availability of design capabilities does not necessarily guarantee that these capabilities will be fully applied in everyday professional practice or translated into innovation outcomes. This potential discrepancy provides a conceptual starting point for examining the relationship between innovation capability and its practical activation in design work. In graphic design contexts, this discrepancy may become apparent when designers possess the skills to develop original visual concepts but work within processes that limit experimentation, creative autonomy, or the implementation of alternative design solutions.

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Within organizational settings, design professionals may encounter rigid procedural frameworks, multiple layers of approval, excessive managerial oversight, and risk-averse working environments that may restrict experimentation (Khan et al., 2020; Rodet, 2021; Yun et al., 2020). hile individuals or teams may demonstrate substantial creative thinking and technical expertise, their outputs may remain focused on incremental adjustments when opportunities to explore or implement alternative solutions are limited. These challenges suggest that organizational constraints may shape the extent to which innovation capability can be exercised, rather than necessarily indicating an absence of individual competence. In graphic design practice, for example, restrictive brand guidelines, limited revision cycles, client approval hierarchies, and production deadlines may influence how designers explore visual concepts, develop communication materials, and implement creative alternatives. These examples provide a practice-oriented basis for examining how organizational conditions may be associated with the gap between design capability and its application.

Prior research has extensively examined the determinants and enhancement of innovation capability at the firm level. Studies have explored the roles of knowledge sharing (Akram et al., 2020; Le & Lei, 2019), organizational learning (Haile, 2022; Ivaldi et al., 2021; Sancho-Zamora et al., 2022), and absorptive capacity (Daronco et al., 2022) in building capability. A separate stream has investigated innovation barriers, classifying external, organizational, group, and individual constraints (Acar et al., 2018; Hueske & Guenther, 2015). The knowledge-based view further emphasizes that the application of knowledge depends on organizational mechanisms that enable its mobilization (Alonso et al., 2021; Grant & Phene, 2021). Within design contexts, scholars have linked design thinking to cognitive bias reduction (Liedtka, 2015) and conceptualized it as a dynamic capability requiring supportive microfoundations (Magistretti et al., 2021).

Yet these streams provide an incomplete conceptual account of how organizational conditions may influence the application of existing capabilities in specific design activities. In particular, the relationship between organizational constraints and the practical activation of design capability warrants further conceptual examination. This issue is relevant to graphic design workflows, where creative decisions must be translated into visual outputs through collaboration among designers, art directors, clients, and other decision-makers. The dominant assumption in the innovation literature is that building innovation capability, supported by effective leadership and culture, leads to superior innovation outcomes (Mendoza-Silva, 2020; Shanker et al., 2017). Research on barriers typically treats them as factors that diminish capability, rather than as mechanisms that may limit the application of capabilities that already exist. Consequently, the

possibility that organizations may exhibit high capability but low innovation realization due to embedded constraints remains conceptually underexplored.

This study approaches that possibility as an innovation capability gap: a conceptual discrepancy between the innovation capability available within a design context and the extent to which that capability is activated in practice. The term is used as an analytical construct rather than as an empirically established organizational condition. This distinction allows the analysis to consider not only whether designers possess relevant creative and technical skills, but also whether working arrangements provide opportunities to apply those skills to the development and implementation of visual solutions.

Furthermore, the methodological landscape is dominated by survey-based studies examining relationships between capability constructs and innovation performance (AlTaweel & Al-Hawary, 2021; Zhen et al., 2021). Although valuable, these approaches often position organizational constraints as secondary variables rather than central explanatory drivers. A complementary conceptual approach may help articulate how such constraints could influence the relationship between existing capability and its practical application without presuming that the proposed relationships have already been empirically established.

Given the iterative and collaborative nature of design work, organizational arrangements may influence how ideas are generated, evaluated, revised, and approved (Jansson et al., 2018; Våland et al., 2021). For graphic design, these processes include concept development, visual exploration, layout refinement, campaign production, feedback integration, and final artwork approval. Constraints at these stages could affect the range of design alternatives considered and the extent to which creative proposals are carried forward. This gap in conceptual understanding provides a rationale for developing a theory-informed framework that examines organizational constraints in relation to innovation capability activation in design practice.

This study, therefore, pursues a dual objective: to conceptualize the innovation capability gap within design practice and to examine organizational constraints as potential mechanisms that may limit the practical activation of existing capabilities. It proposes a model distinguishing between possessing capability and applying it, placing structural, cultural, and decision-making constraints at the center of analysis. The model is intended to organize theoretical relationships and support conceptual exploration, rather than establish that these constraints necessarily prevent capability realization in actual organizations. The study shifts the focus from improving capability alone to understanding the organizational conditions under which capability may be more or less readily applied. Its relevance to graphic design lies in the opportunity to examine how

workflow structures, creative autonomy, feedback practices, and approval procedures may shape the development of visual communication outcomes. In doing so, it provides a conceptual basis for further discussion and empirical investigation of the relationship between organizational environments and design-driven innovation.

The novelty of this paper is threefold. Theoretically, it reframes innovation discourse from an individual-centric perspective to a system and organization-centric view, positioning the innovation capability gap as the central phenomenon. The construct is proposed as a conceptual lens for distinguishing between the availability of design capability and its activation under particular organizational conditions. Methodologically, it employs an analytical essay complemented by an illustrative case simulation with dummy data, using hypothetical profiles and assumed parameter values to demonstrate how the proposed model can be applied under specified conditions. The simulation is explanatory rather than empirical: it does not measure actual organizational behavior, test causal relationships, or independently validate the proposed framework.

Practically, it provides a conceptual tool for design managers, art directors, studio leads, and creative teams to reflect on organizational conditions that may limit the application of design capability. Potential applications include examining creative approval hierarchies, restricted visual exploration, repetitive client-driven revisions, coordination between design and marketing teams, and decisions concerning the production of campaign materials. These applications are illustrative and require empirical investigation before the framework can be used to make claims about actual organizational performance. The following sections elaborate the theoretical foundations, detail the methodological approach, present the conceptual constraint profiles and results of the hypothetical simulation, and discuss the implications and limitations of the framework for graphic design practice and future research.

LITERATURE REVIEW

Innovation capability has been conceptualized as an organization's or individual's capacity to generate and implement novel ideas that produce value (Kohli & Melville, 2019; Mendoza-Silva, 2020). Contemporary frameworks decompose this capability into propensity and ability dimensions, emphasizing that capability is not a monolithic trait but a interplay of resources, processes, and strategic orientation (Daronco et al., 2022). A substantial body of work connects innovation capability to knowledge management practices: organizational learning and

shared knowledge flows cultivate the cognitive repertoires necessary for creative recombination (Akram et al., 2020; Ivaldi et al., 2021; Lam et al., 2021). Within the knowledge-based view, innovation capability emerges from the organization's capacity to integrate, transform, and deploy specialized knowledge held by individuals (Grant & Phene, 2021). These perspectives, however, focus predominantly on capability accumulation and largely assume that once capability is in place, its activation is almost automatic, contingent only on leadership or innovation climate (Le & Lei, 2019; Shanker et al., 2017).

Organizational constraint theory offers a contrasting lens by identifying the structural, cultural, and procedural barriers that inhibit innovative behavior regardless of individuals' creative potential. A cross-disciplinary integrative review reveals that constraints can suppress creativity through evaluative pressure, resource limitations, and rigid work design, although they may paradoxically stimulate creativity under highly specific conditions (Acar et al., 2018). Systematic empirical barrier research has mapped constraints to four levels: external stakeholders, organization, groups, and individuals (Hueske & Guenther, 2015). Organizational-level barriers such as hierarchical structures, centralized decision-making, and a lack of strategic alignment are frequently cited as the most powerful suppressors because they shape the daily routines and sensemaking of professionals (Bocken & Geradts, 2020). The critical insight from this literature is that constraints do not just erode capability; they can nullify the expression of fully developed capability by blocking the translation pathways from idea generation to implementation.

The intersection of design practice and organizational work systems reveals a particularly pronounced vulnerability to constraints. Design involves iterative, ambiguous problem-solving that thrives in flat, autonomous, and psychologically safe contexts (Liedtka, 2015). Empirical studies in architectural practice, for instance, demonstrate that artistic and engineering design processes are systematically distorted when platform-based production logics impose excessive standardization (Jansson et al., 2018). Similarly, design thinking as a dynamic capability requires supporting microfoundations such as cross-functional collaboration and iterative prototyping that are easily destabilized by functional silos and bureaucratic approval layers (Magistretti et al., 2021). When the institutional logics of efficiency and risk avoidance dominate, design professionals face a structural mismatch: their innovation capability is configured for exploration, but the organization imposes an exploitation-oriented work system (Våland et al., 2021). This misalignment creates a capacity that remains latent, trapped by the very context in which it is expected to flourish.

Decision-making constraints further compound the gap by controlling the gatekeeping moments where innovative ideas are selected, transformed, or terminated. Centralized innovation governance, short-term performance metrics, and exclusion of designers from strategic decisions

systematically favor incremental improvements over radical departures (Khan et al., 2020; Yun et al., 2020). Research on leadership and creativity confirms that even visionary leaders can inadvertently constrain innovation when decision rights are concentrated and information flows are distorted (Hughes et al., 2018). The knowledge-based view emphasizes that the application of knowledge is a function of authority and coordination structures; when these structures deny designers the autonomy to act on their specialized knowledge, the capability-application link is severed (Alonso et al., 2021; Watson et al., 2018). This body of work collectively suggests that innovation capability and innovation output can vary independently because organizational constraints act as a decoupling mechanism, yet no existing study explicitly models this decoupling as an innovation capability gap.

The framing of innovation in design-oriented fields has historically been individual-centric, portraying the creative designer as the heroic source of novelty (Auernhammer & Roth, 2021). While recent scholarship has shifted toward systemic views of design-driven innovation, the underlying assumption remains that removing barriers will primarily enhance capability rather than permit its expression (Verganti et al., 2020). The notion of a capability gap compels a different analytical move: capability is treated as a necessary but insufficient condition, and the organizational context is promoted from a background factor to the central explanatory variable. The synthesis of innovation capability theory, organizational constraint theory, and knowledge-based view thus provides the conceptual architecture to theorize why design practice experiences an endemic inability to convert potential into performance, a gap that has not yet been formalized as a distinct object of inquiry.

METHODS

A. Research Design

A descriptive conceptual research design was adopted to develop the innovation capability gap model. The study was structured as a multi-component paper integrating four methodological elements: critical conceptual synthesis, comparative analysis, an illustrative case simulation, and a narrative literature review. This design was chosen because the phenomenon under investigation the gap between innovation capability and its activation cannot be isolated through a single empirical method, requiring instead a layered conceptual approach that builds the model stepwise and demonstrates its logic through constructed evidence. The entire study operated in a non-empirical, theory-building mode, as appropriate for proposing a novel framework that redefines a contemporary problem. This approach enables a systematic exploration of relationships that are difficult to capture through conventional quantitative or qualitative methods alone.

B. Conceptual Model Development

The core model construction began with a critical synthesis of innovation capability theory and organizational constraint theory. Key constructs were extracted from the propensity-ability framework of firm-level innovation capability (Daronco et al., 2022) and from barrier classifications that distinguish structural, cultural, and procedural constraints (Acar et al., 2018; Hueske & Guenther, 2015). These constructs were first defined and arranged into two main conceptual domains: latent innovation capability (the pool of knowledge, skills, and creative resources available) and organizational constraints (the filters that regulate whether capability can be deployed). The interaction between the domains was theorized as an activation function, where innovation output equals latent capability multiplied by an activation coefficient that declines as constraints tighten. This central relationship forms the analytical backbone of the model. Table 1 presents the operational definitions of the key constructs used in the model.

Table 1. Operational Definitions of Key Constructs

Construct	Definition	Theoretical Foundation
Latent Innovation Capability	The stock of knowledge, creative skills, and problem-solving resources possessed by individuals or teams, independent of its use.	(Daronco et al., 2022; Lam et al., 2021)
Organizational Constraints	Structural, cultural, and decision-making barriers that restrict the ability to apply available capability in work processes.	(Acar et al., 2018; Hueske & Guenther, 2015)
Activation Coefficient	A multiplier (0–1) expressing the proportion of latent capability that is permitted to flow into innovation output; lower values indicate stronger organizational suppression.	This study
Innovation Capability Gap	The difference between potential innovation output under full activation and the actual output constrained by organizational factors.	This study

C. Comparative Analysis of Practice Profiles

To test the internal consistency of the model, two idealized profiles of design practice were constructed: an innovation-enabled profile and a constraint-driven profile. The enabled profile was synthesized from the design thinking and dynamic capability literatures, incorporating characteristics such as flat hierarchies, decentralized decision rights, tolerance for ambiguity, and iterative experimentation cycles (Liedtka, 2015; Magistretti et al., 2021). The constraint-driven profile integrated documented organizational barriers including rigid approval processes, risk-averse performance management, functional silos, and short-term resource allocation metrics (Bocken & Geradts, 2020; Shanker et al., 2017). Each constraint element was mapped onto the corresponding activation channel, showing how it narrows the flow from capability to outcome. The comparison yielded a systematic account of the mechanisms that produce the capability gap rather than merely listing obstacles. This comparative structure also enhances the explanatory clarity of how different organizational configurations influence innovation realization.

D. Illustrative Case Simulation

A simulation using hypothetical profiles and dummy data was constructed to demonstrate how the proposed activation function operates numerically and to illustrate the conceptual gap between latent innovation capability and its potential activation. The simulation was intended solely as an explanatory illustration of the proposed model and was not designed to validate the framework empirically or represent the actual behavior of organizations or design teams. The simulation posited a hypothetical design team with a latent innovation capability score of 95 on a 100 point scale, representing an assumed high level of creative and technical capability for illustrative purposes rather than an empirically measured characteristic.

Three organizational constraint categories, namely structural, cultural, and decision making constraints, were included in the model. Each category was assigned a hypothetical severity score on a scale from 0 to 1, with higher values representing greater assumed constraint severity. The three scores were treated as equally weighted, and their unweighted mean was used to derive the activation coefficient. This equal weighting approach was adopted as a simplifying assumption because the conceptual study provides no empirical evidence to justify assigning different weights to the constraint categories.

Under this specification, the activation coefficient represents the assumed proportion of latent capability that may be translated into potential innovation output within the illustrative scenario. A coefficient of 0.28 corresponds to an average constraint severity score of 0.72. Potential innovation output was calculated by multiplying the latent capability score by the activation coefficient, yielding an illustrative output score of 26.6. These values demonstrate the arithmetic relationship between the model parameters: when the assumed activation coefficient decreases, the calculated output also decreases while the latent capability score remains constant. This relationship reflects the model's predefined assumptions and should not be interpreted as evidence that organizational constraints cause a specific reduction in actual innovation performance.

The resulting score was compared with a theoretical baseline scenario in which the activation coefficient was set to 1.0, representing full activation for comparison purposes, and a moderately constrained scenario. The baseline is a conceptual reference point rather than a claim that organizational constraints can be eliminated entirely. The parameter values for the moderately constrained scenario should be reported consistently with those presented in Table 2. The hypothetical values were selected to make the model's logic transparent and easy to follow. They were not derived from observed design

teams, organizational records, participant responses, or empirical distributions. Accordingly, the simulation should be interpreted as a numerical illustration of how the proposed framework may represent the relationship between capability, assumed organizational constraints, and potential output, rather than as a measurement, prediction, empirical validation, or confirmation of actual organizational conditions.

E. Narrative Literature Review

A narrative literature review served as the data source to validate the model's claim that constraint patterns observed in the simulation correspond to real-world evidence from professional design domains. The review scanned findings from organizational behavior, design management, and innovation barrier studies, extracting recurring constraint categories and their reported effects on creative work. Synthesized themes were used to check whether the model's structural, cultural, and decision-making constraints reflected those frequently identified in published research, ensuring that the conceptual apparatus was empirically anchored without relying on primary field data. The review followed a thematic scanning approach focusing on recurrent constraint patterns reported across studies. This approach strengthens the credibility of the model by aligning conceptual constructs with observed empirical tendencies.

F. Research Flow

The sequence of methodological steps is depicted in Figure 1. The process began with construct extraction and definition, moved to model formulation, then proceeded to construction of the two comparative profiles. The illustrative simulation was subsequently executed to generate numeric exemplars. Finally, the narrative review confirmed the model's alignment with existing empirical knowledge. This flow ensured logical coherence and transparency in the transition from abstract theory to visualized conceptual demonstration. It also clarifies how each methodological component contributes to the overall theory-building process.

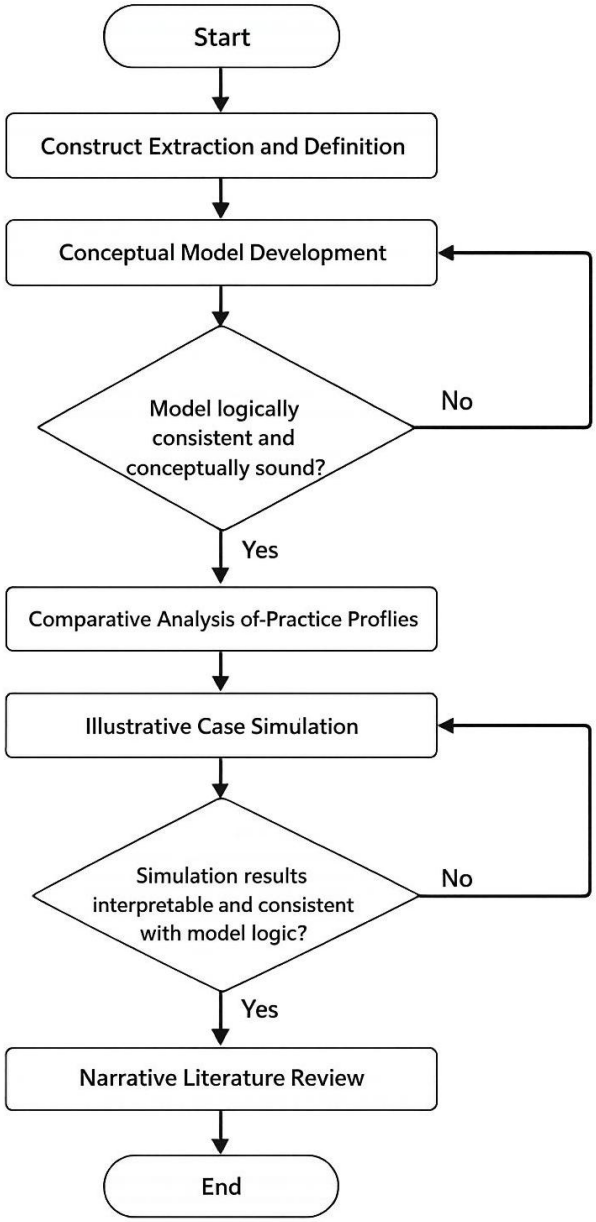


Figure 1. Research Flow for Conceptualizing the Innovation Capability Gap

G. Ethical Considerations

No human participants were involved in this study. All data were either constructed as dummy values or drawn from previously published, publicly accessible research. Therefore, ethical approval was not required. The study adheres to academic integrity standards by clearly distinguishing between simulated and sourced data. This ensures transparency and avoids misinterpretation of the illustrative results as empirical findings.

RESULTS

The comparative analysis between the innovation-enabled and constraint-driven profiles revealed three primary categories of organizational constraints that may limit the activation of

innovation capability within the proposed conceptual framework: structural constraints, cultural constraints, and decision making constraints. Structural constraints included hierarchical layering, departmental silos, and standardized workflow procedures that could limit designers' opportunities to iterate and collaborate across boundaries. In graphic design practice, these conditions may be reflected in lengthy visual approval procedures, limited collaboration between designers and marketing teams, and rigid production schedules that restrict opportunities to explore alternative layouts or visual concepts. Cultural constraints included a fear of failure, low tolerance for ambiguity, and reward systems that privileged efficient execution over experimental learning. Within a design studio, these conditions could discourage designers from testing unconventional visual approaches, proposing alternative campaign concepts, or revising initial designs in response to feedback.

Decision making constraints included centralized approval rights, stage gate processes, and a focus on short term deliverables. Conceptually, these conditions may restrict creative autonomy when visual concepts must pass through multiple approval stages or when tight campaign deadlines leave little time for experimentation and refinement. These examples illustrate possible implications of the proposed framework rather than documented observations of actual design organizations.

The illustrative simulation demonstrated how the proposed model represents the relationship between assumed organizational constraints and potential innovation output under specified hypothetical conditions. In the high constraint scenario, the activation coefficient was set to 0.32, based on an assumed average constraint severity score of 0.68. However, this coefficient and the associated constraint scores are illustrative parameters rather than empirically measured values. The hypothetical latent capability score of 95 therefore produced a calculated potential output score of 30.4. In the unconstrained baseline scenario, the activation coefficient was set to 1.0, producing a calculated output score of 95. A moderately constrained scenario with an assumed activation coefficient of 0.60 produced a calculated output score of 57.

These numerical differences illustrate how changes in the assumed activation coefficient affect the model output while the latent capability score remains constant. They do not establish that organizational constraints cause a specific reduction in actual innovation performance or demonstrate that the model has been empirically validated. Table 2 presents the hypothetical constraint severity scores and their conceptual relationship to activation.

Table 2. Organizational Constraint Categories and Simulated Activation Coefficients

Constraint Category	Key Elements	Hypothetical Severity Score (0 to 1)	Potential Implication for Design Practice
Structural	Hierarchical layering, departmental silos, rigid workflow procedures	0.30	May limit cross functional collaboration, iterative prototyping, and exploration of alternative visual concepts.
Cultural	Fear of failure, low tolerance for ambiguity, execution focused rewards	0.40	Could discourage visual experimentation, creative risk taking, and the testing of unconventional campaign ideas.
Decision making	Centralized approval, stage gate procedures, short term performance measures	0.25	May restrict designers' creative autonomy and reduce opportunities to refine visual outputs through feedback and revision.

The scores are hypothetical dummy values used to illustrate the proposed conceptual framework. Their equal weighting produces a mean constraint severity score of approximately 0.32, corresponding to an activation coefficient of approximately 0.68 according to the proposed calculation. Therefore, the scores in this table do not correspond to the activation coefficient of 0.32 used in the high constraint scenario described above. To maintain mathematical consistency, the constraint scores and activation coefficient for that scenario should be revised together or presented as separate scenarios with their respective corresponding values. The values should not be interpreted as measurements of actual organizational conditions.

The narrative literature review provided theoretical context for the structural, cultural, and decision making constraints included in the framework. Previous studies in design intensive sectors, architectural practice, and innovation management have discussed organizational conditions relevant to creative work (Hueske & Guenther, 2015; Jansson et al., 2018; Våland et al., 2021). These sources help establish the conceptual relevance of the proposed constraint categories, but they do not independently validate the numerical values used in the simulation. The literature synthesis, comparative analysis, and illustrative simulation therefore serve complementary conceptual purposes: the literature review informs the selection of constructs, the comparative profiles clarify how the constructs may be expressed in different organizational settings, and the simulation illustrates how assumed parameter values translate into calculated

outputs. Taken together, these components conceptually suggest that organizational conditions may influence how design capabilities are applied in practice. Further empirical research involving design studios, visual communication teams, campaign development workflows, and design approval processes is needed to investigate whether and how these proposed relationships occur in actual settings.

DISCUSSION

The conceptual analysis suggests that organizational constraints may act as barriers to the relationship between innovation capability and potential innovation output. This interpretation aligns with the integrative review by (Acar et al., 2018), who observed that constraints can suppress creativity when they limit autonomy and increase evaluation pressure. Rather than demonstrating that organizational constraints prevent existing capabilities from being expressed, the proposed framework offers a conceptual distinction between possessing innovation capability and having organizational conditions that may support its application. The illustrative simulation shows how this distinction can be represented numerically under specified hypothetical assumptions. This interpretation is conceptually related to the organizational barriers discussed by (Hueske & Guenther, 2015), whose barrier taxonomy highlights the relevance of organizational conditions to innovation. However, the present framework does not establish that these barriers create a measurable ceiling on innovation performance in actual organizations. Instead, it proposes the innovation capability gap as a conceptual lens for examining the possible difference between available capability and its potential activation.

The relationship between innovation capability and potential outcomes can also be discussed in relation to the propensity and ability perspective of (Daronco et al., 2022). While that framework incorporates strategic orientation and resource deployment, the present conceptual model draws attention to how organizational authority, coordination, and work procedures may shape opportunities to apply existing capabilities. A design team may possess substantial creative and technical expertise, yet its opportunities to apply that expertise could be influenced by internal approval procedures, resource allocation, or the distribution of decision making authority. This perspective is consistent with the knowledge based view discussed by (Grant & Phene, 2021). in which knowledge application is relevant to organizational coordination and authority patterns. In graphic design practice, for example, designers may develop several original visual concepts, but the range of concepts considered for production could be narrowed by centralized client approval, restrictive brand guidelines, or limited opportunities to discuss proposals with other members of the creative team. These examples illustrate how the proposed framework may be applied analytically; they are not empirical observations generated by the present study.

With respect to design specific literature, the proposed framework is conceptually related to the argument that design thinking requires supportive organizational conditions to function as a dynamic capability (Magistretti et al., 2021). The hypothetical simulation illustrates how assumed differences in capability activation can produce different calculated output scores, but it does not demonstrate why design thinking initiatives succeed or fail in actual organizations. The framework nevertheless provides a way to consider whether organizational arrangements may support or restrict iterative, exploratory, and ambiguous aspects of design work. The discussion also connects with the study of architectural practice by (Våland et al., 2021), which addresses the relationship between creative renewal and institutional constraints. In graphic design studios, similar questions could be explored by examining how designers negotiate feedback from clients, account managers, art directors, and other stakeholders while developing visual communication materials. A campaign concept, for instance, may undergo multiple rounds of revision before approval. The proposed framework could help researchers examine whether the approval structure, revision schedule, and degree of creative autonomy are relevant to the way designers apply their capabilities. Whether these conditions consistently constrain innovation requires further empirical investigation.

The findings have implications for the conceptual discussion of innovation capability. By shifting attention from capability development alone to the conditions under which capability may be applied, the framework introduces the innovation capability gap as a proposed analytical construct. The activation coefficient functions as an illustrative modeling parameter rather than an established measure of organizational effectiveness. It represents an assumed relationship between available capability and potential output under specified conditions, not a validated causal mechanism. This distinction may help future research examine capability activation as a process that depends not only on individual knowledge and skills but also on organizational arrangements. For design innovation research, the framework also offers a system oriented perspective that places the designer within a broader workflow involving creative collaboration, feedback integration, visual evaluation, and approval decisions. It therefore complements individual focused explanations by drawing attention to organizational conditions that may shape the application of design capability.

From a practical standpoint, the framework suggests that design leaders may wish to examine organizational processes alongside investments in creative and technical capability. These suggestions are conceptual implications rather than interventions whose

effectiveness has been tested in this study. In design studios, a review of approval hierarchies could help identify whether unnecessary approval stages limit designers' opportunities to explore alternatives. For example, teams could examine whether early visual concepts can be reviewed through collaborative critique sessions before a preferred direction is selected, rather than relying exclusively on sequential approval from multiple decision makers. Workflow reviews could also consider whether campaign schedules provide sufficient time for prototyping, feedback, and design revision. Where appropriate, design teams might consider reserving limited time for exploratory concepts, testing alternative visual treatments, and documenting lessons from unsuccessful iterations. Culturally, design leaders could encourage constructive responses to experimental proposals and distinguish learning oriented exploration from routine production performance. Decision making arrangements could also be reviewed to clarify which visual decisions designers can make independently and which require client or management approval. Such practices may create more supportive conditions for applying design capability, although their actual effects would need to be assessed through empirical studies.

Several limitations of this study must be acknowledged. The research is a conceptual paper without primary empirical data, and the illustrative simulation uses hypothetical dummy values to demonstrate the model's calculation rather than estimate real world effect sizes. The activation coefficients and constraint severity scores are assumed parameters and should not be interpreted as measurements of actual design organizations or as evidence of causal relationships. Consequently, the numerical scenarios cannot establish the magnitude, frequency, or generalizability of the proposed relationships. The comparative profiles were synthesized from literature and may simplify the complexity of actual organizational contexts, where conditions can simultaneously enable and restrict innovation. The focus on design practice also means that the framework's relevance to other professional domains remains a question for further research rather than an established general conclusion. These limitations define the appropriate scope of the contribution: the study proposes a conceptual framework, clarifies its underlying assumptions, and illustrates its operation through hypothetical scenarios. It does not empirically validate the framework or establish the innovation capability gap as a confirmed explanatory mechanism. Future research could examine the

framework through case studies of graphic design studios, interviews with visual communication professionals, observations of campaign development workflows, or analyses of design revision and approval processes. Such research could assess whether the proposed constructs are useful in practice and determine how organizational conditions relate to the application of design capability in different design settings.

CONCLUSION

This study develops a conceptual framework for examining the innovation capability gap in design practice, understood as the potential discrepancy between available creative and technical capabilities and their application under different organizational conditions. Rather than establishing that organizational constraints cause reduced innovation output, the framework proposes that structural, cultural, and decision making conditions may influence how design professionals apply their capabilities in practice. The conceptual analysis shifts the analytical focus from capability enhancement alone to the organizational conditions that may support or restrict capability activation. The proposed framework suggests that rigid workflows, risk averse cultures, and centralized approval procedures could constrain opportunities for creative exploration and the development of innovative visual communication outputs. For example, in graphic design studios, lengthy approval chains, restricted campaign revision schedules, and limited opportunities to test alternative visual concepts may affect how designers apply their creative and technical skills. These examples illustrate the framework's potential relevance and are not empirical findings from observed design teams.

The framework contributes theoretically by proposing the innovation capability gap as a conceptual construct and introducing the activation coefficient as an illustrative modeling parameter. The hypothetical simulation demonstrates how assumed values can be used to represent the relationship between latent capability, organizational constraints, and potential output; it does not constitute empirical validation or establish actual organizational effects. From a practical perspective, the framework offers a conceptual diagnostic lens that design managers may use to reflect on workflow arrangements, feedback processes, creative autonomy, and visual approval procedures. These implications should be treated as propositions for consideration rather than as interventions whose effectiveness has been demonstrated.

Future research should empirically examine the relevance of the proposed constructs and assess whether the activation coefficient can be operationalized using

evidence from actual design practice. Case studies, interviews, or workflow observations in graphic design studios and visual communication teams could investigate how campaign development, design revisions, feedback integration, and approval structures relate to the application of creative capabilities. Further research could also explore how these organizational conditions vary across projects and over time. Such investigation is necessary before the framework's proposed relationships can be evaluated or its practical usefulness established empirically.

AI Use Statement

The authors declare that artificial intelligence tools were employed solely for language polishing and readability enhancement. All essential components of the research, including conceptualization, methodological design, data analysis, and interpretation of findings, were carried out independently by the authors, who bear full responsibility for the accuracy, originality, and integrity of the manuscript.

REFERENCES

Acar, O., Tarakci, M., & Van Knippenberg, D. (2018). Creativity and Innovation Under Constraints: A Cross-Disciplinary Integrative Review. *Journal of Management*, *45*, 121–196. https://doi.org/10.1177/0149206318805832

Akram, T., Lei, S., Haider, M. J., & Hussain, S. T. (2020). The impact of organizational justice on employee innovative work behavior: Mediating role of knowledge sharing. *Journal of Innovation & Knowledge*. https://doi.org/10.1016/j.jik.2019.10.001

Alonso, A. D., Kok, S., Bressan, A., & O'Shea, M. (2021). Knowledge management and the business development journey: a knowledge-based view among micro firms. *Knowledge Management Research & Practice*, *20*, 279–291. https://doi.org/10.1080/14778238.2021.1919575

AlTaweel, I., & Al-Hawary, S. (2021). The Mediating Role of Innovation Capability on the Relationship between Strategic Agility and Organizational Performance. *Sustainability*. https://doi.org/10.3390/su13147564

Auernhammer, J., & Roth, B. (2021). The Origin and Evolution of Stanford University's Design Thinking: From Product Design to Design Thinking in Innovation Management. *Journal of Product Innovation Management*. https://doi.org/10.1111/jpim.12594

Bocken, N., & Geradts, T. (2020). Barriers and drivers to sustainable business model innovation: Organization design and dynamic capabilities. *Long Range Planning*, *53*, 101950. https://doi.org/10.1016/j.lrp.2019.101950

Daronco, E. L., Silva, D., Seibel, M. K., & Cortimiglia, M. (2022). A new framework of firm-level innovation capability: A propensity–ability perspective. *European Management Journal*. https://doi.org/10.1016/j.emj.2022.02.002

Grant, R., & Phene, A. (2021). The knowledge based view and global strategy: Past impact and future potential. *Global Strategy Journal*. https://doi.org/10.1002/gsj.1399

Haile, E. A. (2022). Organizational learning capability and its impact on organizational innovation. *Asia Pacific Journal of Innovation and Entrepreneurship*. https://doi.org/10.1108/apjie-03-2022-0015

Hueske, A.-K., & Guenther, E. (2015). What hampers innovation? External stakeholders, the organization, groups and individuals: a systematic review of empirical barrier research. *Management Review Quarterly*, *65*, 113–148. https://doi.org/10.1007/s11301-014-0109-5

Hughes, D., Lee, A., Tian, A., Newman, A., & Legood, A. (2018). Leadership, creativity, and innovation: A critical review and practical recommendations. *The Leadership Quarterly*. https://doi.org/10.1016/j.leaqua.2018.03.001

Ivaldi, S., Scaratti, G., & Fregnan, E. (2021). Dwelling within the fourth industrial revolution: organizational learning for new competences, processes and work cultures. *Journal of Workplace Learning*. https://doi.org/10.1108/jwl-07-2020-0127

Jansson, G., Viklund, E., & Olofsson, T. (2018). Artistic and Engineering Design of Platform-Based Production Systems: A Study of Swedish Architectural Practice. *Buildings*, *8*, 34. https://doi.org/10.3390/buildings8020034

Khan, M. A., Ismail, F., Hussain, A., & Alghazali, B. (2020). The Interplay of Leadership Styles, Innovative Work Behavior, Organizational Culture, and Organizational Citizenship Behavior. *SAGE Open*, *10*. https://doi.org/10.1177/2158244019898264

Kohli, R., & Melville, N. (2019). Digital innovation: A review and synthesis. *Information Systems Journal*, *29*, 200–223. https://doi.org/10.1111/isj.12193

Lam, L., Nguyen, P., Le, N., & Tran, K. (2021). The Relation among Organizational Culture, Knowledge Management, and Innovation Capability: Its Implication for Open Innovation. *Journal of Open Innovation: Technology, Market, and Complexity*. https://doi.org/10.3390/joitmc7010066

Le, P., & Lei, H. (2019). Determinants of innovation capability: the roles of transformational leadership, knowledge sharing and perceived organizational support. *J. Knowl. Manag.*, *23*, 527–547. https://doi.org/10.1108/jkm-09-2018-0568

Liedtka, J. (2015). Perspective: Linking Design Thinking with Innovation Outcomes through Cognitive Bias Reduction. *Journal of Product Innovation Management*, *32*, 925–938. https://doi.org/10.1111/jpim.12163

Magistretti, S., Ardito, L., & Petruzzelli, A. M. (2021). Framing the Microfoundations of Design Thinking as a Dynamic Capability for Innovation: Reconciling Theory and Practice. *Journal of Product Innovation Management*. https://doi.org/10.1111/jpim.12586

Mendoza-Silva, A. (2020). Innovation capability: a systematic literature review. *European Journal of Innovation Management*. https://doi.org/10.1108/ejim-09-2019-0263

Rodet, C. (2021). Experiments on Creativity and Optimal Work Design. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3647303

Sancho-Zamora, R., Hernández-Perlines, F., Peña-García, I., & Gutiérrez-Broncano, S. (2022). The Impact of Absorptive Capacity on Innovation: The Mediating Role of Organizational Learning. *International Journal of Environmental Research and Public Health*, *19*. https://doi.org/10.3390/ijerph19020842

Shanker, R., Bhanugopan, R., Heijden, B., & Farrell, M. (2017). Organizational climate for innovation and organizational performance: The mediating effect of innovative work behavior. *Journal of Vocational Behavior*, *100*, 67–77. https://doi.org/10.1016/j.jvb.2017.02.004

Våland, M. S., Svejenova, S., & Clausen, R. (2021). Renewing creative work for business innovation: Architectural practice in the trading zone. *European Management Review*, 1–15. https://doi.org/10.1111/emre.12464

Verganti, R., Vendraminelli, L., & Iansiti, M. (2020). Innovation and Design in the Age of Artificial Intelligence. *Journal of Product Innovation Management*. https://doi.org/10.1111/jpim.12523

Watson, R., Wilson, H., Smart, P., & Macdonald, E. (2018). Harnessing Difference: A Capability-Based Framework for Stakeholder Engagement in Environmental Innovation. *Journal of Product Innovation Management*, *35*, 254–279. https://doi.org/10.1111/jpim.12394

Yun, J., Zhao, X., Jung, K., & Yigitcanlar, T. (2020). The Culture for Open Innovation Dynamics. *Sustainability*. https://doi.org/10.3390/su12125076

Zhen, Z., Yousaf, Z., Radulescu, M., & Yasir, M. (2021). Nexus of Digital Organizational Culture, Capabilities, Organizational Readiness, and Innovation: Investigation of SMEs Operating in the Digital Economy. *Sustainability*. https://doi.org/10.3390/su13020720