Innovating While Scaling: The Neuroscience and ROI Forecast of the Brainnovation Framework

An evidence-based approach to strengthening creative capability and forecasting its economic value

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Abstract

Organizations today face a fundamental challenge: how to stay innovative while continuing to grow, scale, and operate efficiently. Creative problem-solving is increasingly essential, yet traditional approaches often rely too heavily on deliberate, conscious effort. Recent neuroscientific evidence shows that breakthrough ideas emerge when the brain effectively switches between unconscious associative processing and focused evaluation.

The Brainnovation Six Step Cycle of Creativity is specifically designed to leverage this neurological interplay. Steps such as *detached thinking*, *stop thinking (mental incubation)*, and even *sleep-based integration* align directly with current scientific insights into how creative breakthroughs occur. A controlled experiment (Ritter et al., 2020) demonstrated that the method produces significant improvements in core creative-cognitive skills, including fluency ($d \approx 0.64$), flexibility ($d \approx 0.62$), and insight-based problem solving ($d \approx 0.43$).

Pilot results reinforce this scientific foundation: participants reported faster idea generation, greater creative confidence, and more structured approaches to complex challenges, attributing an average of 31% of their performance improvement directly to the training. These findings confirm that creativity is not a personality trait but a trainable cognitive capability with measurable behavioral effects.

Using the ROI Institute methodology, this white paper presents a forecast ROI range that reflects both the scientific evidence and pilot data:

- Conservative ROI: –33%
- Realistic ROI: +738%
- Optimistic ROI: +4,369%

Taken together, the neuroscientific foundation, effect sizes, behavioral outcomes, and ROI scenarios show that Brainnovation is more than a training program: it is a strategic, evidence-based capability framework that strengthens the creative performance organizations need to remain competitive in a fast-changing world.

Table of Contents

Executive Summary

In today's rapidly changing and highly competitive environment, organizations face a persistent and increasingly acute challenge: how to remain innovative while continuing to grow, scale, and operate efficiently. As organizations mature, structures, processes, and decision-making frameworks that once enabled success often begin to constrain exploration, slow down creative problem-solving, and favor safe, incremental solutions over meaningful innovation.

At the same time, scientific evidence increasingly shows that creativity is not a rare talent possessed by a few, but a trainable cognitive capability that directly drives innovation performance. The Brainnovation Six Step Cycle of Creativity offers a practical framework for developing this capability. High-quality innovation requires professionals to move deliberately between exploration and evaluation rather than remaining stuck in either mode. Brainnovation enables teams to practice this shift in a structured way, restoring creative flow while maintaining focus, speed, and operational discipline.

The scientific evidence supporting Brainnovation is reinforced by a controlled study (Ritter et al., 2020), which found significant improvements in core creative-cognitive competencies among participants trained in the method:

- Fluency (Cohen's d ≈ 0.64)
- Cognitive flexibility (d ≈ 0.62)
- Insight-based problem solving (d ≈ 0.43)

These effects form a robust foundation for understanding how the program strengthens creative performance at the individual level.

Pilot evaluations with two cohorts (n=20) further show that participants experience meaningful changes in their daily work:

- faster and more confident idea generation,
- more structured approaches to complex challenges, and
- improved creative capacity overall.

On average, participants attributed 31% of their performance improvements directly to the training. Some participants also reported concrete business results, ranging from €3,000 in efficiency gains to €100,000 in strategic value from a breakthrough idea.

To translate these outcomes into economic terms, the ROI Institute framework was applied. Based on scientific effect sizes, behavioral data, attribution, and monetary estimates, a forecast ROI range was developed:

- Conservative scenario: –33%
- Realistic scenario: +738%
- Optimistic scenario: +4,369%

These results show that when applied consistently and supported by leadership, Brainnovation functions not as a standalone training intervention but as a strategic capability-building system that strengthens creative performance and innovation throughput.

This white paper brings together the neuroscientific evidence, behavioral outcomes, and economic modelling to provide a clear and evidence-based answer to the central question facing organizations today: how to sustain innovation while continuing to grow and scale. The findings indicate that developing creative capability through Brainnovation is not only possible but also economically valuable, offering a structured, scientifically grounded pathway to improving problem-solving speed, idea quality, and organizational adaptability.

The chapters that follow detail:

- the scientific foundations of Brainnovation,
- its alignment with business, performance, and learning needs,
- the evaluation and isolation methodology,
- the data sources and calculation process,
- the resulting ROI scenarios, and
- strategic recommendations for strengthening future measurement and scaling.

In a world where innovation is no longer optional, but essential for survival and growth, Brainnovation offers a rigorous, evidence-based pathway to developing the creative capabilities that organizations need to stay ahead.

The Innovation Imperative

In today's rapidly changing and highly competitive environment, organizations face a structural challenge: how to remain innovative while simultaneously growing, scaling, and operating efficiently. As companies expand, they tend to build structures, processes, and governance systems that increase reliability and reduce operational risk. While these mechanisms support scalability, they often create unintended friction for creativity, experimentation, and exploration, precisely the drivers of innovation.

The central question for leadership therefore becomes:
How can a company remain innovative while scaling in a highly competitive market?

Long-term competitiveness increasingly depends on the capacity of individuals and teams to generate new ideas, reframe complex problems, and integrate information in unconventional ways. Research by Amabile and colleagues (1996, 2016) demonstrates that creativity is not a rare talent, but a developable capability shaped by cognitive processes, motivation, and organizational environment. Forrester Consulting (2014) further reports that companies that actively cultivate creativity outperform their peers in revenue growth, innovation cycle speed, and adaptability, confirming that creativity is a strategic priority rather than a luxury.

Taken together, insights from psychological and market research point to a shared conclusion: creativity is both essential and trainable, and organizations must intentionally create the conditions that allow creative thinking to flourish. Yet many innovation approaches focus either on idea generation or on evaluation and execution. In practice, this leads to fragmented efforts that produce incremental improvements but rarely result in sustained creative performance.

The Brainnovation Six Step Cycle of Creativity responds directly to this challenge by offering a structured approach to developing creative capability across the full innovation cycle. Rather than relying on spontaneous inspiration, it supports deliberate movement between exploration and evaluation, enabling organizations to innovate in a more consistent and scalable way.

This perspective also aligns with modern learning-impact research from the ROI Institute (Phillips & Phillips, 2020), which emphasizes that capability-building interventions contribute directly to organizational performance and should therefore be evaluated rigorously. This creates a natural bridge to the ROI methodology applied later in this report.

In a competitive landscape where innovation is no longer optional but essential, the imperative is clear: organizations must develop the cognitive and organizational conditions that enable creative thinking. Not as an ad hoc activity, but as a repeatable, scalable capability. These insights explain why traditional innovation methods often fall short: they emphasize either idea generation or evaluation, but rarely support the full cognitive cycle required for sustained creative performance.

The Brainnovation Framework

Organizations often view creativity as an unpredictable talent or a spontaneous spark that occurs in moments of inspiration. However, research increasingly shows that creativity can be deliberately developed and applied in structured ways. The Brainnovation Framework is built on this understanding. It offers a systematic method, the Six Step Cycle of Creativity, that aligns directly with how individuals explore, generate, integrate, and evaluate new ideas.

At its core, Brainnovation develops creativity as a capability, not a personality trait. The framework is designed to support deliberate movement between exploration, evaluation, detachment, and insight, enabling professionals to work more effectively across the full creative cycle.

The Six Step Cycle

The Brainnovation framework, developed by Crijns et al. (2025), describes six interconnected stages that alternate between conscious analysis and unconscious incubation. This scientifically grounded cycle makes creativity a repeatable and trainable process.

Fig 1 Six Step Cycle of Creativity

1. **Understand the Problem**
   Creativity begins with a clear and accurate understanding of the problem or challenge. Defining the challenge, exploring constraints, questioning assumptions, and gathering relevant information. Managing cognitive bias and fear enhances openness and intrinsic motivation, key predictors of creative performance (Dijksterhuis and Nordgren, 2006; Lewis et al., 2018).

2. **Convergent Thinking**
   In this phase, analytical reasoning is applied to organize and evaluate available knowledge. Convergent thinking narrows the focus to viable directions and prepares the cognitive field for broader exploration (Schäfer et al., 2024).

3. **Divergent Thinking**
   Here, participants deliberately generate multiple ideas and perspectives. Divergent thinking consciously expands associative networks and supports flexible cognition.

4. **Detached Thinking**
   Conscious control is temporarily reduced to activate unconscious processing. Light, low-effort activities such as walking or daydreaming promote neural recombination and idea incubation (Chrysikou et al., 2014; Storoni, 2024).

5. **Stop Thinking**
   Participants intentionally step away from the problem. Complete disengagement facilitates the reorganization of prior knowledge and the emergence of spontaneous insights (Ellwood et al., 2009; Ritter & Dijksterhuis, 2014).

6. **Sleeping**
   Sleep consolidates and reorganizes information at a deep neural level; a mechanism strongly linked to insight formation. REM sleep in particular supports novel associations and breakthrough insights (Marguilho et al., 2015; Barrett, 2011).

Through this Six Step Cycle, Brainnovation bridges neuroscience and practice, demonstrating that creativity follows a structured, trainable rhythm that organizations can intentionally cultivate.

Scientific foundation of the Brainnovation framework

The Brainnovation framework is grounded in decades of scientific research on creativity, cognition, and neural functioning. Its Six Step Cycle of Creativity integrates established theories of divergent and convergent thinking with recent neuroscientific insights into the unconscious processes that drive creative breakthroughs.

1. **Empirical evidence of effectiveness**
   The underlying creative cycle has been empirically validated in a controlled research setting by Ritter et al. (2020). In their study, participants who completed the Brainnovation training, which applies the structured Six Step Cycle of Creativity, showed that training participants in this cycle produced statistically significant improvements compared to the control group in these cognitive competencies:

   - Fluency ($d \approx 0.64$)
   - Cognitive flexibility ($d \approx 0.62$)
   - Insight problem solving ($d \approx 0.43$)

These findings demonstrate that the brain networks involved in creative capacity can be deliberately developed through guided cognitive training.

2. **Neurological mechanisms and the role of the unconscious**
   Recent research (Crijns et al., 2025) further explains how creative insights emerge when individuals alternate between focused and defocused attention. This process, referred to in Brainnovation as *detached thinking*, supports unconscious association and integration, leading to more original yet feasible ideas.

3. **Unified framework for structuring existing creativity techniques**
   While many creativity models emphasize either idea generation or evaluation, the Brainnovation framework functions as an umbrella structure that positions other creativity methods within a broader learning cycle. Classic approaches such as *Brainstorming*, *SCAMPER*, or *Six Thinking Hats* can each be mapped to specific stages of the Six-Step Cycle, from problem exploration and divergent thinking to incubation, selection, and implementation. This integration ensures that organizations can align existing innovation tools under a single, evidence-based mental model that enhances coherence and transferability across teams.

	Six Step Method					
	Conscious thinking			Switching	Unconscious thinking	
Creative Techniques	Step 1 Understand	Step 2 Convergent	Step 3 Divergent	Step 4 Detached	Step 5 Stop	Step 6 Sleep
Brainnovation	X	X	X	X	X	X
5-I Method	X	X	X		X	X
Schema violation		X	X			
SCAMPER		X	X			
Six thinking hats	X	X				
Crowdsourcing	X					
Broadcast search mode	X					
Simple ideation			X			
Crazy 8			X			
Random connections			X			
Remote association			X			
Brainstorming			X			
Brain writing			X			

Table 1 Six Step template for other creativity methods

4. **Implications for organizational impact**
   Unlike ad-hoc brainstorming or one-off innovation workshops, the Brainnovation Framework offers a repeatable cognitive process that can be applied to real business challenges. Participants learn to:

   - frame problems more precisely,
   - explore ideas more effectively,
   - evaluate options with greater clarity,
   - and leverage unconscious processing to unlock deeper insights.

As creativity becomes increasingly central to strategic performance, organizations need methods that are scientifically grounded, scalable, and directly applicable to business challenges. The Brainnovation Framework meets these requirements by translating research insights into a coherent and actionable capability-building approach.

In the chapters that follow, the scientific foundations, behavioral outcomes, and economic value of this framework are examined in detail, demonstrating how Brainnovation supports the broader organizational imperative to innovate while scaling.

Scientific Validity & Effect Sizes

The Brainnovation approach is grounded in a robust body of scientific evidence. Two domains of research are particularly relevant for understanding its effectiveness: neuroscience and experimental creativity research. Together, they demonstrate that creativity is not a mysterious talent, but a trainable cognitive system supported by identifiable brain networks and measurable skill improvements. This scientific evidence forms an important foundation for the forecast ROI presented in this report.

Neuroscientific foundations of creative thinking

Recent studies in cognitive neuroscience show that creative thought emerges from the dynamic interaction of three large-scale brain networks: Default Mode Network, Executive Control Network and Salience Network (Beaty et al. 2018). These networks operate in a dynamic cycle that alternates between conscious focus and unconscious integration (Goulden et al., 2014; Menon, 2011):

- The Default Mode Network (DMN), responsible for associative, spontaneous, and unconscious idea generation (unconscious).
- The Executive Control Network (ECN), which supports focused attention and structured evaluation (conscious).
- The Salience Network (SN), which detects promising ideas and enables switching between unconscious exploration (DMN) and deliberate reasoning (ECN).

These networks do not operate in isolation. Instead, creativity arises when the brain transitions fluidly between unconstrained (unconscious) associative exploration and deliberate focused evaluation, a process described as the *creative cycle*. Moments of detachment, incubation, and sleep are especially important, as they allow unconscious integration mechanisms within the DMN to reorganize information in novel ways (Bartoli et al., 2024). These insights support the core design of the Brainnovation Six Step Cycle, which intentionally includes phases of convergence, divergence, detachment, incubation (stop thinking), and sleep-based integration.

From neural mechanisms to measurable learning effects

The creative processes described above are not abstract neurological phenomena, but directly reflected in measurable learning outcomes. Scientific studies assessing creativity training, including the Brainnovation-based intervention studied by Ritter et al. (2020), demonstrate significant improvements in fluency, cognitive flexibility, and insight problem solving. These effect sizes capture how effectively participants learn to navigate the cycle between unconscious exploration and conscious evaluation, providing empirical evidence that the underlying creative mechanisms can be deliberately strengthened through training.

Experimental evidence: measurable improvements in creative cognition

To evaluate the learning impact of the Brainnovation method, Ritter et al. (2020) conducted a controlled experiment using tasks that measure core elements of creative cognition. Their study compared participants trained in the Six Step Cycle with those who received no creativity training. Across multiple tasks, participants in the Brainnovation condition demonstrated statistically significant gains in skills directly linked to innovation performance.

The results were expressed as effect sizes, a standard metric in behavioral science that quantifies how much a training intervention improves performance compared to a control group (Cohen's d). Higher values indicate stronger improvements.

Effect Size Overview

Creative Skill	Effect Size (Cohen's d)	Interpretation	Underlying Neural Mechanism
Fluency (number of ideas)	**≈ 0.64**	Large	DMN activation and associative spread
Cognitive Flexibility (shifting perspectives)	**≈ 0.62**	Large	SN–DMN switching and reframing capability
Insight Problem Solving	**≈ 0.43**	Medium	Unconscious recombination and right temporal gamma activity

Table 2 Significant improvements in cognitive skills as a result of Brainnovation training

In plain terms:

- Participants generate more ideas,
- Switch between perspectives more flexibly, and
- Solve associative problems more effectively
  after training with the Brainnovation cycle.

These skills represent the core cognitive mechanisms of creative problem-solving and form the backbone of innovation capability in organizations.

How effect sizes connect to neuroscience

The scientific creativity tasks used in the Ritter study (e.g., divergent thinking tasks, Remote Associates Test) are closely linked to known neural markers of creativity:

- Fluency improvements reflect increased access to associative networks in the DMN (Steps 1, 2, 3).
- Flexibility improvements arise from more effective switching between the ECN (conscious evaluation) and DMN (unconscious exploration), coordinated by the SN (Step 4).
- Insight problem solving is associated with sudden reorganization of information in the temporal cortex, consistent with periods of detachment and incubation (Steps 4, 5, 6).

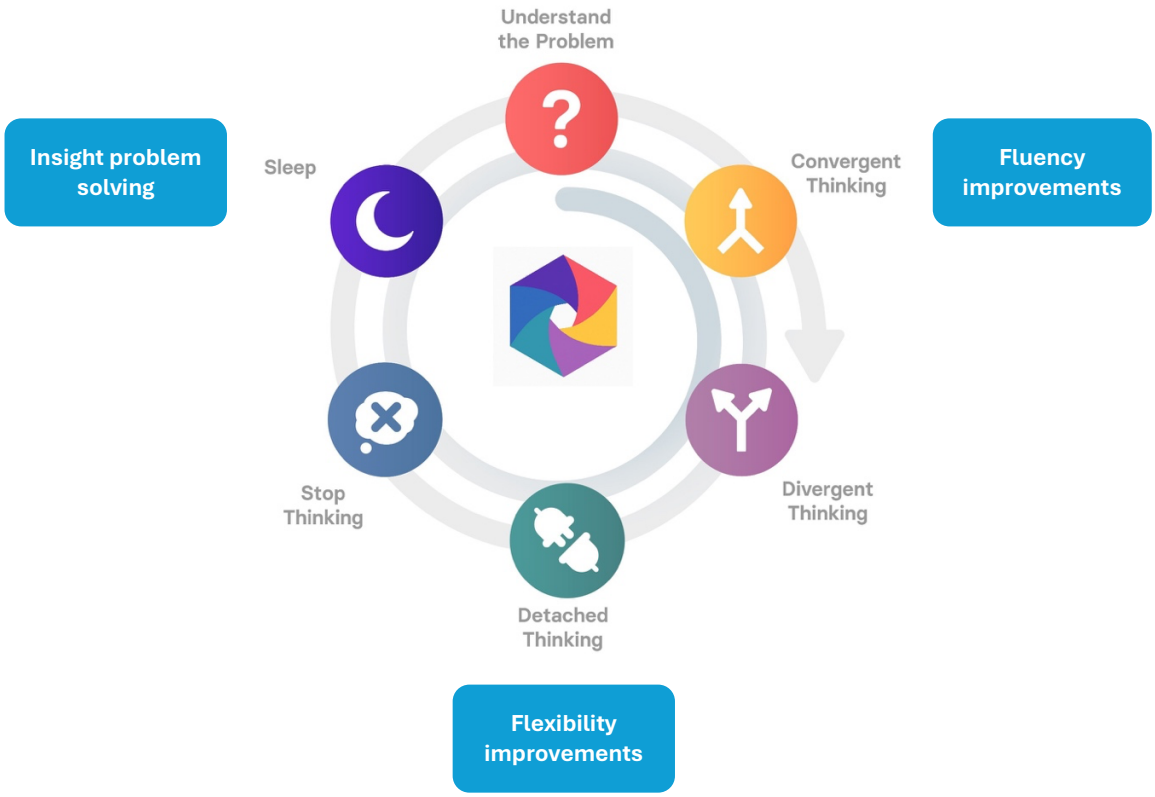

Fig 2 Neural markers linked to Six Step Cycle of Creativity

These connections demonstrate that the Brainnovation method is behaviorally and neurologically aligned with the mechanisms of creative insight.

Why these findings matter for organizations

The effect sizes described above provide a scientific foundation for understanding how the Brainnovation method strengthens creative capability. When teams generate more ideas, shift perspectives more flexibly, and uncover insights more effectively, they become better equipped to address complex, ambiguous, or high-uncertainty challenges.

Because creativity operates through both conscious and unconscious pathways, structured methods that leverage these mechanisms can:

- improve problem-solving speed,
- increase idea quality,
- enhance iteration cycles,
- and reduce cognitive bottlenecks.

Because these improvements are both measurable and well-understood at the neural level, they form a credible foundation for linking learning outcomes to business impact.

How effect sizes support the ROI forecast

The forecast ROI in this white paper is based on pilot outcomes, attribution, and monetary

estimates provided by participants. However, the scientific effect sizes strengthen this analysis in an important way. Effect sizes demonstrate that Brainnovation reliably improves the competencies that drive innovative behavior. This creates a validated causal link:

1. Scientific effect (measurable improvement in creativity skills)
2. Behavioral effect (participants apply the Six Step Cycle in real work, shown in the pilot)
3. Business effect (faster problem-solving, more ideas, higher innovation throughput)
4. Economic effect (competitive advantage and forecasted financial gain expressed in the ROI)

Because these learning improvements are robust, consistent, and scientifically demonstrated, the ROI presented in this paper is not speculative. It is grounded in evidence about how much participants actually improve as a result of the training.

A clearer foundation for value modelling

The economic ROI model developed by Jansen (2016) emphasizes the importance of using effect sizes to understand how much learning contributes to performance gains. By incorporating scientifically measured effect sizes, this white paper aligns with that approach and ensures that the ROI forecast rests on a solid and credible foundation.

In summary, the scientific effect sizes:

- Confirm that Brainnovation produces measurable, significant learning impact
- Clarify *how much* participants improve on key innovation skills
- Strengthen the logical chain from learning → behavior → performance → economic value
- Enhance the credibility of the ROI forecast presented later in this paper

This combination of scientific validation and pilot-based application data makes the ROI estimation both rigorous and particularly relevant.

Business Alignment & Strategic Fit

To generate meaningful value, a creativity program must be aligned with the organization's strategic objectives, performance challenges, and innovation ambitions. The Brainnovation framework is designed with this principle in mind. Rather than functioning as a standalone training activity, it acts as a capability-building intervention that strengthens the behaviors needed to improve innovation performance.

This section outlines how Brainnovation aligns with the ROI Institute's Alignment Model, which connects creativity development to organizational payoff through five layers of need: payoff, business, performance, learning, and preference. This structure ensures that the subsequent ROI calculations rest on a clear, strategic foundation.

Strategic payoff needs: why creativity capability matters

Fast-growing organizations often experience a paradox: as processes become more efficient and predictable, the space for experimentation and unconventional thinking becomes narrower. This can slow down innovation cycles and reduce adaptability.

Brainnovation directly addresses this strategic challenge by supporting outcomes such as:

- Faster problem-solving in complex contexts
- Greater innovation throughput
- Higher-quality ideas entering development pipelines
- Increased creative confidence among employees

These outcomes connect creativity capability directly to strategic resilience and competitive advantage.

Business needs: the metrics Brainnovation can influence

Although creativity is sometimes perceived as intangible, its effects manifest in measurable performance indicators. Based on the nature of the training and insights from the pilot, Brainnovation is positioned to influence metrics such as:

- Time-to-solution in project teams
- Number and diversity of ideas generated
- Quality and feasibility of proposed concepts
- Efficiency in iteration cycles
- Collaboration effectiveness in cross-functional work

These indicators mirror the outcomes participants referenced when describing improvements in creative capacity, efficiency, and confidence in tackling complex challenges.

Performance needs: behavioral changes required to influence innovation

Pilot participants reported several meaningful changes in how they approached creative and complex work tasks. Qualitative comments referenced:

- faster idea generation,
- greater confidence in approaching novel challenges, and
- a more structured approach to problem-solving.

These self-reported changes map closely onto the scientifically validated outcomes of the Brainnovation Six Step Cycle. In the controlled study by Ritter et al. (2020), participants in the Brainnovation condition showed significant improvements in:

- idea fluency,
- cognitive flexibility, and
- insight-based problem solving.

Together, the pilot observations and scientific findings support a coherent behavioral profile characterized by:

- generating more ideas, more quickly;
- exploring a broader range of options through improved flexibility;
- applying more systematic approaches when dealing with complex tasks.

These behavioral changes are consistent with neuroscientific evidence on how creative cognition improves through enhanced DMN–SN–ECN coordination. This shows that faster idea generation and improved cognitive flexibility reflect increased coordination between the brain's Default Mode and Salience Networks.

Learning needs: skills required to enable performance improvements

The scientific effect sizes described earlier demonstrate that Brainnovation strengthens several core creativity skills that underpin innovative behavior:

- Fluency – producing more ideas in less time
- Flexibility – shifting perspectives and exploring diverse conceptual paths
- Insight problem solving – overcoming cognitive fixedness; combining concepts and identifying unconventional connections

These cognitive gains serve as the foundation for the behavioral changes reported in the pilot and form the learning basis for the ROI model.

Preference needs: delivery format that supports real transfer

The three-session Brainnovation structure, combined with reflection tools and post-training application, supports behavioral transfer without requiring heavy time investment. Participants

are encouraged to apply elements of the Six Step Cycle in real work contexts, strengthening retention and improving usability.

From alignment to ROI

By addressing payoff, business, performance, learning, and preference needs, Brainnovation establishes a clear chain of value creation:

- Scientific learning gains provide measurable improvements in creativity skills.
- Pilot participants report behavioral changes consistent with these gains.
- These behaviors influence business metrics such as speed and idea quality.
- These business effects create economic value, modelled as forecast ROI.

By aligning with the neurological mechanisms behind scalable creative performance, the ROI calculations in this paper are firmly grounded in scientific evidence and real-world participant feedback, not in abstract modelling alone. Brainnovation can therefore be positioned not as an innovation training, but as a strategically aligned capability framework that supports measurable innovation performance.

From Strategic Alignment to ROI Evaluation

The preceding sections have shown how Brainnovation aligns with organizational priorities, strengthens the cognitive skills that drive creative performance, and supports the behaviors linked to innovation outcomes. The scientific effect sizes provide evidence of measurable learning gains, while the pilot findings indicate that these gains translate into meaningful shifts in how participants approach complex and creative work. Together, this establishes a clear conceptual chain from learning to behavior to business relevance.

To understand the financial implications of these developments, the next step is to examine how such improvements can be reliably evaluated and expressed in economic terms. Creativity does not automatically translate into business value; the link must be made explicit through a structured evaluation process that isolates the training's contribution and quantifies its potential impact.

The ROI Institute's evaluation framework provides this structure. By connecting learning outcomes to application, business impact, and financial return, it offers a rigorous yet practical method for assessing the value of capability-building programs such as Brainnovation. The next section outlines how this framework was applied to the Brainnovation pilots and how the resulting data forms the basis for the forecast ROI presented in this report.

The ROI Evaluation Framework

Evaluating the impact of creativity training requires more than documenting satisfaction scores or knowledge acquisition. Creative capability manifests itself through changes in how people approach complex challenges, generate ideas, and collaborate on solutions. These effects often emerge indirectly and evolve over time. For this reason, Brainnovation's evaluation strategy adopts a multi-level, evidence-based approach that connects learning outcomes to behavioral change, business impact, and ultimately financial value.

To ensure methodological rigor and comparability, the Brainnovation pilots were evaluated using the internationally recognized ROI Institute methodology (Phillips & Phillips, 2016). This framework is specifically designed to measure the value of learning and development programs and aligns closely with the alignment principles and scientific effect sizes described in the previous sections. It also supports the use of both quantitative and qualitative data, which is an important requirement for creativity-focused interventions. The neuroscientific foundation of the Brainnovation method strengthens this framework by clarifying why improvements in fluency, flexibility, and insight can translate into business impact.

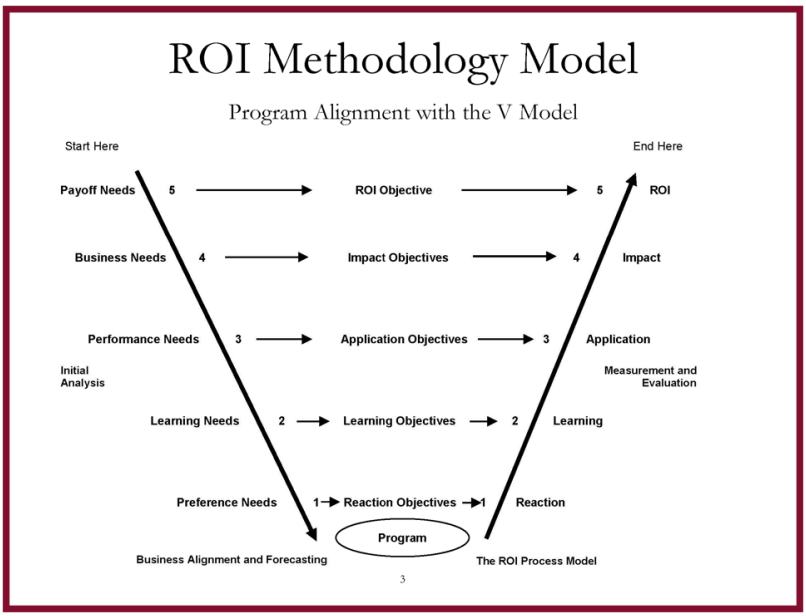

Fig 2 ROI Methodology Model

The five levels of ROI evaluation

The ROI model assesses learning interventions through five progressive levels of evidence:

1. **Reaction and Satisfaction** – Participants' immediate perceptions of the program's relevance, quality, and engagement.
   This level helps verify whether the conditions for learning and future application are in place.

2. **Learning** – The extent to which knowledge, skills, and attitudes have been acquired. For Brainnovation, this includes understanding the Six Step Cycle of Creativity and the cognitive principles behind it.
   The scientific effect sizes (fluency, flexibility, insight problem solving) provide an additional layer of validated learning evidence.
   The learning improvements identified in the scientific study correspond to cognitive functions supported by the DMN–ECN–SN system, making them strong predictors of long-term innovation performance.

3. **Application and Implementation** – The degree to which participants apply the methods and cognitive strategies in their real work.
   Brainnovation pilot data showed qualitative examples of faster idea generation, more structured problem-solving, and increased confidence in addressing complex challenges.
   These insights indicate that participants are translating the learning into practical behaviors.

4. **Business Impact** – The measurable organizational effects that result from behavioral change, such as improved problem-solving efficiency, reduced cycle times, or increased idea throughput.
   While the Brainnovation pilots provided limited quantitative business data, participants did identify specific improvements that they attributed, with varying degrees of certainty, to the training.

5. **Return on Investment (ROI)** – The conversion of business impact into financial value, weighed against the total cost of the program.
   In the Brainnovation pilots, the ROI outcome is expressed as a forecast range, reflecting both the small sample size and the context-dependent nature of creative performance.

Why this framework fits Brainnovation

Brainnovation combines cognitive skills training with a capability-based approach that strengthens the underlying mechanisms of sustained creative performance. Its value is expressed not only in immediate performance gains but in the behavioral and business effects that unfold over time. The ROI Institute framework is particularly suited to this type of intervention because it:

- Recognizes indirect and delayed effects typical of creative processes
- Allows for the integration of scientific effect sizes to strengthen learning impact
- Incorporates participant-reported attribution to isolate the program's contribution
- Supports scenario-based modelling, essential for early-stage creativity programs
- Aligns with the strategic alignment chain established in the previous chapter

This makes it possible to create a credible and transparent forecast of Brainnovation's economic value, even at a pilot stage.

Ensuring conceptual alignment

In accordance with the ROI Institute's Alignment Framework (Phillips & Phillips, 2016; i4cp, 2020), Brainnovation's evaluation approach was designed "backwards": starting from the intended business payoff and mapping backward through performance, learning, and reaction outcomes. This alignment chain ensured that each measurement focus was conceptually linked to organizational objectives, providing a logical foundation for assessing potential business impact rather than isolated training effects.

Alignment Chain	Focus Question	Example for Brainnovation
Payoff	What strategic or financial result should be influenced?	Increased innovation efficiency, faster problem solving
Business Impact	What operational indicators will show improvement?	Time to solution, number of implemented ideas
Performance	What participant behaviors must change?	Applying Six-Step Cycle in real projects
Learning	What new skills or insights must be developed?	Fluency, flexibility, insight problem solving
Reaction	What drives participant engagement and intent to apply?	Relevance of training to daily work

Table 3 ROI Alignment Framework

By establishing this chain upfront, the evaluation ensures that the data collected, both from the pilot and from the scientific literature, can be logically connected to the ROI calculations presented later.

From framework to forecast

The ROI Institute framework creates the methodological foundation for translating:

- scientific improvements in creativity skills,
- self-reported behavioral application, and
- qualitative and monetary pilot feedback

into a structured assessment of Brainnovation's potential business value.

The following sections describe the data sources used, the attribution methodology applied, and the scenario-based ROI calculation process that integrates these evidence streams into a credible financial forecast.

Data Sources and Research Design

The ROI evaluation of Brainnovation was based on data collected from two pilot cohorts who completed the program between 2024 and 2025. Each cohort followed the same three-session format, combining structured exercises, guided reflection, and opportunities for real-world application of the Six Step Cycle of Creativity. The purpose of this data collection was not to produce definitive statistical findings, but to establish an evidence-based foundation for a forecast ROI anchored in participant experience, behavioral shifts, and attribution.

Sample Overview

- Total participants: 20
- Evaluation survey responses: 15 (75%)
- Post-measurement responses: 12 (60%)

This level of participation provides a solid basis for a pilot-phase ROI assessment and aligns with ROI Institute guidance for early-stage capability-building programs.

Response Profile and Context

The pilot data underpinning this ROI forecast were collected across two distinct participant groups. The first pilot cohort consisted of educators from a University of Applied Sciences (Engineering), operating in a context where complex problem-solving, applied innovation, and instructional design are central to daily work. This group provided insight into how Brainnovation supports creative capability development in structured, knowledge-intensive educational environments.

The second cohort represented a more heterogeneous group of professionals with backgrounds spanning business development, IT, product management, supply chain, UX design and research, instructional design, learning architecture, and creative disciplines. Many participants combined technical expertise with design, learning, or innovation-oriented roles, and operated in contexts where idea generation, reframing, and cross-disciplinary collaboration are critical to performance.

Across both cohorts, participants were well positioned to apply the Brainnovation method directly to real-world challenges. While the sample size is exploratory in nature, the response profile closely aligns with the intended target audience for Brainnovation: professionals working in knowledge-intensive environments whose behavior and decision-making directly influence innovation outcomes. This strengthens the relevance of the observed behavioral changes and attributed business effects for broader application in similar organizational contexts.

Survey Instruments

Data were collected through an evaluation survey and a post-measurement survey, each using a structured questionnaire. Two complementary instruments were used to capture both learning and impact:

1. **Evaluation Survey (immediate post-training)**
   Focused on levels 1-3 of the ROI framework:
   - Reaction and satisfaction
   - Learning insights
   - Intended application of the Six Step Cycle

   This survey captured participants' impressions of the training's usefulness and their motivation to apply the method in their work.

2. **Post-Measurement Survey (3–6 months later)**
   Targeted Levels 4–5:
   - Actual behavioral application
   - Perceived changes in creative capacity
   - Attributed impact
   - Monetary outcomes when available

   This instrument provided qualitative and quantitative data needed for isolating the training's contribution to outcomes.

The full questionnaires used in both surveys are included in Appendix A and Appendix B.

Core measurement items

The post-measurement survey focused on three key variables designed to support ROI modelling:

Focus Area	Example Question	Purpose
Innovativeness	"How much has your innovativeness increased as a direct result of the Brainnovation training?	Measures self-perceived improvement in creative capacity
Attribution Certainty	"How certain are you about this estimate (0-100%)?"	Quantifies confidence behind reported improvements
Monetary Impact	"What results have you achieved as a consequence of the training? If possible, please estimate the monetary value"	Anchors the ROI scenarios in tangible outcomes where available.

Table 4 Three key variables designed to support ROI modelling

Calculating the attribution factor

To ensure transparency and consistency, the attribution factor for each respondent was calculated by multiplying the reported *increase in innovativeness* by their *certainty level*, divided by 100. For example, a participant reporting a 50% increase in innovativeness with 80% certainty yields an attribution factor of 40%.

This simple yet robust weighting mechanism prevents overestimation of impact and aligns with the ROI Institute's recommended practice of self-assessed isolation when managerial verification is not yet available.

The average attribution factor across all post-measurement respondents was 31%, indicating that roughly one-third of participants perceived improvement in innovativeness could confidently be attributed to Brainnovation.

Monetary Data Input

Although qualitative improvements were widely reported, only two participants provided explicit monetary estimates.

Qualitative Insights

Across the cohort, participants described improvements such as:

- faster idea generation,
- increased creative confidence, and
- a more structured approach to complex problem-solving.

These reported changes are consistent with neuroscientific evidence showing that creativity develops through improved interplay between associative (DMN) and evaluative (ECN) processing, regulated by the Salience Network.

While not quantified, these insights support the behavioral patterns identified in the scientific effect size literature (fluency, flexibility, and insight problem solving) and strengthen the conceptual link between learning and business impact.

Data integrity and limitations

To ensure data quality:

- All responses were anonymized
- Duplicate or incomplete entries were removed
- Qualitative comments were reviewed to illustrate patterns but not formally coded
- Scientific effect sizes were used to validate the learning impact underlying the behavioral findings

Given the small sample size and limited monetary data, all ROI outcomes should therefore be interpreted as indicative ranges, not definitive results. Future implementations will incorporate:

- larger sample sizes,
- manager validation,
- objective KPI tracking, and
- longitudinal follow-ups at 6–12 months.

From data to forecast

Together, the scientific evidence, pilot feedback, attribution factors, and monetary estimates create a coherent basis for the scenario-based ROI forecast presented in the following sections. The next chapter describes how these data inputs were combined into a structured ROI Calculation Process, following ROI Institute standards and the strategic alignment framework outlined earlier in this report.

ROI Calculation Process

The calculation of the Return on Investment (ROI) for the Brainnovation program followed the standard methodology of the ROI Institute (Phillips & Phillips, 2016). This methodology provides a transparent and internationally recognized approach for translating learning outcomes into financial value. Because the Brainnovation pilots were exploratory in nature, the purpose of the analysis was not to produce a single definitive ROI figure, but to create a credible forecast range that reflects different levels of adoption, attribution, and realized benefits.

The ROI calculation integrates several evidence streams introduced in the previous chapters:

- scientific effect sizes (learning impact),
- pilot self-reports of behavioral change (application),
- participant attribution factors (isolation), and
- monetary estimates where provided (business impact).

These inputs are combined through the ROI Institute's structured process, outlined below.

Step 1 - Establishing the pre-training baseline
Before the training, participants reflected on their creative behavior and innovation performance during the intake session. No monetary baseline was imposed.

Instead, the evaluation examined change relative to participants' own experience, captured through the post-measurement survey.

This approach is consistent with ROI Institute guidance for early-stage innovation and creativity programs, where outcomes manifest in diverse forms such as improved idea generation, more efficient problem-solving, or increased confidence.

Step 2 - Estimating creative performance gains
Post-measurement respondents assessed:

1. their perceived increase in innovativeness (0–100%), and
2. their certainty about that increase (0–100%).

These two inputs form the basis for isolating the training's contribution.
The scientific effect sizes described earlier provide an additional layer of validation by confirming the skills that can plausibly underlie the self-reported performance improvements (e.g., fluency, flexibility, insight problem solving).

Step 3 - Isolating Brainnovation's contribution (attribution factor)
To avoid overstating impact, each participant's reported improvement was weighted by their certainty score, using the ROI Institute's recommended formula:

Attribution Factor = Innovativeness × Certainty / 100

The resulting attribution factors ranged from 20% to 80%, with an average of 31% across respondents. This means that participants attributed roughly one-third of their perceived improvement in creative performance confidently to the training.

This transparent isolation step is crucial in creativity-focused ROI work, where many contextual variables can also influence outcomes.

Step 4 - Translating creative gains into monetary value
Participants were invited to estimate the financial value of results they attributed to the training.

Of the 12 respondents in the post-measurement survey:

- Two provided explicit monetary estimates:
  - €3,000 (through faster problem-solving and reduced testing cycles)
  - €100,000 (broader perceived strategic value of a creative breakthrough)

Rather than dismissing the higher estimate as an outlier, both values were used as lower and upper bounds for ROI scenario modelling. This approach aligns with ROI Institute guidance for pilot programs with small samples, especially in innovation contexts where value can vary significantly across cases.

Step 5 - Cost Structure
Total program cost for a three-session Brainnovation training (20 participants) was estimated at €17,900, including:

- Trainer's fee (€8,000, fixed rate)
- Materials and digital tools (€1,000)
- Facility and logistics (€900)
- Participant time (20 × 6 hours × €50/hour = €6,000)
- Reflection and follow-up (€2,000)

This comprehensive cost model aligns with ROI Institute guidance to include both direct and indirect (opportunity) costs.

Step 6 - ROI formula
ROI was calculated using the standard ROI Institute formula:

$$ROI\ (\%) = \frac{(Total\ Benefits - Total\ Costs)}{Total\ Costs} \times 100$$

Where:

- Total Benefits = (Monetary Benefit per Participant × Number of Participants) × Attribution Rate
- Total Costs = €17,900 (all-inclusive estimate for a 3-session training of 20 participants).

This formula allows creativity-related outcomes to be converted into a financial range that reflects variation in organizational context, application level, and benefit realization.

Step 7 - Scenario-based ROI modelling

Because creativity outcomes are context-dependent and often non-linear, ROI was expressed as a range of scenarios rather than a single number. The three scenarios reflect different levels of realized benefit and attribution:

Scenario	Benefit per participant	Attribution	Weighted benefit	Total Benefit (20 participants)	ROI
Conservative	€3,000	20 %	€600	€12,000	–33 %
Realistic	€25,000	30 %	€7,500	€150 000	+738 %
Optimistic	€100,000	40 %	€40,000	€800,000	+4369 %

Table 5 ROI Scenarios

The conservative scenario reflects minimal application and shows that insufficient follow-up or lack of managerial reinforcement can result in suboptimal value realization.

The realistic scenario represents the most probable outcome based on typical adoption levels and average attribution from the pilot.

The optimistic scenario reflects high application and breakthrough-level outcomes, demonstrating the upper potential of the training under strong organizational support.

Variability across scenarios also reflects the inherently non-linear nature of creative insight, which neuroscience attributes to unconscious integration processes during detachment, incubation, and sleep.

Why ROI is presented as a forecast

Given the limited pilot size, variability in monetary data, and the contextual nature of creativity outcomes, all ROI results are framed as indicative forecasts. This respects both the strengths and limits of the available evidence.

However, because these forecasts rest on:

- validated scientific effect sizes,
- self-reported behavioral change,
- explicit attribution factors, and

- transparent scenario modelling,

the resulting ROI can be considered credible, conservative, and strategically informative for organizations evaluating investments in creative capability.

The next chapter presents the full ROI scenarios and their implications for innovation performance and organizational value.

Results and ROI Scenarios

The ROI scenarios presented in this chapter illustrate how the Brainnovation training can translate learning and behavioral gains into measurable economic value. These scenarios combine three essential evidence streams: the scientific effect sizes that validate the learning impact, the behavioral changes reported by pilot participants, and the monetary estimates provided in the post-measurement survey. As outlined in the previous chapter, the analysis uses a scenario-based approach recommended by the ROI Institute for small-sample and innovation-focused programs, ensuring a credible and transparent forecast.

Forecast ROI range

Using the ROI Institute formula and the full cost structure (€17,900), three scenarios were generated to reflect conservative, realistic, and optimistic levels of benefit realization and attribution.

1. Conservative Scenario

- Benefit per participant: €3,000
- Attribution: 20%
- Total Benefit (20 participants): 3,000 x 0.20 x 20 = €12,000
- ROI: (12,000 - 17,900) / 17,900 x 100 = –33%

This scenario represents minimal application and limited organizational support. Under such conditions, creative benefits are likely to remain modest and may not offset the program's investment cost.

2. Realistic Scenario

- Benefit per participant: €25,000
- Attribution: 30%
- Total Benefit (20 participants): 25,000 x 0.30 x 20 = €150,000
- ROI: (150,000 – 17,900) / 17,900 x 100 = +738%

This scenario reflects typical adoption patterns observed in the pilot, with participants applying the Six Step principles regularly and attributing a meaningful share of their performance improvements to the training. Under these conditions, Brainnovation offers a strong financial return.

3. Optimistic Scenario

- Benefit per participant: €100,000
- Attribution: 40%
- Total Benefit (20 participants): 100,000 x 0.40 x 20 = €800,000
- ROI: (800,000 – 17,900) / 17,900 x 100 = +4,369%

This scenario illustrates the upper boundary of potential impact, based on cases where creative breakthroughs lead to substantial performance or strategic gains. While exceptional, such outcomes demonstrate the program's potential, especially in teams where creative breakthroughs have disproportionate strategic value.

Interpreting the ROI range

The wide ROI range is consistent with the nature of creativity-centered interventions, where business impact depends on factors such as:

- the degree of behavioral application,
- leadership and managerial reinforcement,
- cross-team collaboration,
- and organizational readiness for adopting creative methods.

Even under conservative assumptions, participants reported improved creative capacity and problem-solving efficiency. At realistic levels of adoption, the program surpasses breakeven by a substantial margin, demonstrating that structured creative capability development can serve as a strategic investment rather than a cost center.

The optimistic scenario provides a compelling illustration of what is possible when creative methods are fully integrated into daily work processes and strategic objectives.

The differences between the conservative, realistic, and optimistic scenarios largely reflect the presence or absence of organizational enablers, such as leadership support, process integration, and psychological safety, and the degree to which barriers constrain application.

Summary of Results

- The pilot demonstrated consistent behavioral improvements aligned with scientific effect sizes.
- Participant attribution data provided a credible basis for isolating the training's impact.
- Monetary insights, although limited, offered clear boundaries for value estimation.
- Scenario-based modelling produced a forecast ROI range from –33% to +4,369%.
- At realistic adoption levels, Brainnovation delivers a strong positive return and supports innovation efficiency, problem-solving speed, and organizational adaptability.

The next chapter discusses the limitations of the analysis and provides strategic recommendations for strengthening future ROI evaluations and scaling the Brainnovation method across organizational contexts.

Interpretation, Limitations, and Strategic Recommendations

Interpretation

The ROI outcomes of the Brainnovation program demonstrate that creativity can be deliberately strengthened and that these improvements translate into meaningful performance benefits when applied in real work contexts. Even under conservative assumptions, participants reported gains in creative confidence, faster idea generation, and more structured problem-solving approaches. These behavioral shifts reflect the validated gains in fluency, flexibility, and insight, and align with neuroscientific evidence that creativity training strengthens the cognitive networks that support high-impact insights.

At realistic levels of adoption and attribution, the training produces a strong positive return. This suggests that creativity capability development can evolve from a developmental initiative into a strategic driver of innovation efficiency, adaptability, and long-term organizational resilience.

The optimistic scenario illustrates that when Brainnovation is strongly embedded and supported, the potential organizational value can be substantial. While such outcomes are exceptional, they highlight the program's capacity to accelerate innovation cycles and unlock high-impact insights when conditions for application are favorable.

Overall, the results confirm that investing in cognitive creativity skills is not a peripheral expense but a value-creating capability that directly supports innovation performance.

Barriers and enablers for successful application

The ROI scenarios presented in this white paper are not abstract projections; they reflect the extent to which specific organizational conditions either enable or constrain the application of the Brainnovation method.

Key barriers identified include:

- Limited organizational support: Leadership and managerial reinforcement are critical. The ROI scenarios show that without strong support, creative benefits remain modest and may not offset investment.
- Unsupportive workplace environments: Rigid processes, low psychological safety, or limited openness to experimentation can inhibit creative application.
- Lack of process integration: When the Six Step Cycle is not embedded into daily workflows, learning remains episodic rather than sustained.
- Low confidence in unconscious processes: Participants' willingness to apply new methods, experiment, and trust unconscious processes (like incubation and detachment) is vital. The program builds creative confidence, but ongoing encouragement is needed.

- Insufficient measurement and feedback: The use of surveys, attribution factors, and ROI tracking enables continuous improvement and demonstrates value, but requires organizational commitment to data collection and follow-up.

At the same time, the pilots and ROI analysis highlight several critical enablers:

- Strong leadership and managerial support, reinforcing application in real projects.
- Psychological safety and experimentation-friendly culture, allowing ideas to be explored without premature evaluation.
- Integration of the Six Step Cycle into routines, meetings, and project workflows.
- Ongoing reinforcement of creative confidence, supporting participants in applying unconscious techniques.
- Structured measurement and feedback loops, linking creative behavior to business outcomes and ROI.

These barriers and enablers help explain the ROI scenarios observed:

- The conservative scenario reflects environments where barriers dominate, and application remains minimal.
- The realistic scenario reflects typical organizational conditions with partial support and adoption.
- The optimistic scenario represents contexts where enablers are actively strengthened, unlocking breakthrough-level impact.

In this sense, the ROI forecast does not merely estimate financial return, but it functions as a diagnostic tool, illustrating how organizational conditions shape the economic value of creative capability development.

Limitations

While the pilot findings are promising, several methodological constraints must be acknowledged to ensure transparency and maintain the integrity of the forecast ROI.

- Sample size and early-stage data
  The analysis is based on two pilot cohorts (20 participants in total), with 15 evaluation responses and 12 post-measurement responses. This is sufficient for an exploratory ROI forecast but not for statistical generalization. Future cycles should expand the dataset to improve reliability and enable segmentation across teams or business units.

- Limited monetary data
  Only two participants provided explicit financial estimates (€3,000 and €100,000). These values were used as lower and upper bounds for scenario modelling, following ROI Institute guidance for small-sample programs, but they are not representative of the full participant group.

- Self-reported attribution
  Attribution percentages (20–80%, average 31%) were based on participants' own certainty levels. While this is an accepted isolation technique in early-stage ROI

analysis, future assessments should incorporate manager validation and, where possible, objective business KPIs to strengthen causal inference.

- Short measurement window
  The post-measurement survey captured results within 3–6 months of the training. Some creativity-driven business impacts require longer to materialize. Longitudinal follow-up at 6–12 months is needed to assess sustained behavioral application and long-term ROI potential.

- Contextual dependency
  Creative performance is influenced by organizational factors such as leadership support, workload, team culture, and cross-functional collaboration. Outcomes may therefore vary across teams or contexts. Embedding the Six Step Cycle into workflows and routines will be essential to improve consistency and scalability.

Strategic recommendations

Based on the insights from the pilots, the scientific evidence, and the ROI analysis, several strategic recommendations emerge to strengthen future evaluation cycles and increase the organizational impact of Brainnovation.

1. Expand data collection and sample size
   Collect a broader dataset across multiple cohorts and organizational contexts. A larger sample will increase confidence in behavioral and financial estimates and enable benchmarking across teams.

2. Introduce manager validation
   Add a short manager survey to confirm observed behavioral changes and business effects. This elevates the reliability of attribution and aligns with ROI Institute best practices.

3. Track ROI longitudinally
   Extend measurement windows to 6–12 months to capture the full lifecycle of creative contributions, including idea maturation, problem-solving efficiency, and operational improvements.

4. Embed the Six Step Cycle in daily routines
   Support ongoing application through micro-practices, prompts, and cross-team reflection moments. Embedding converts a training event into a sustained capability.

5. Develop internal champions
   Train and certify internal facilitators who can guide teams, reinforce learning, and support behavioral transfer. This decentralizes capability-building and accelerates cultural adoption.

6. Strengthen KPI integration
   Align Brainnovation with existing innovation and performance metrics such as time-to-solution, concept throughput, or experimentation speed. This enables more objective and repeatable ROI calculations.

From forecast ROI to measured impact

The ROI figures presented in this white paper represent a forecast, grounded in scientific evidence, pilot data, attribution, and conservative scenario modelling. To ensure that this forecast can be validated and refined over time, future Brainnovation implementations will follow a structured measurement and analysis approach aligned with ROI Institute standards.

Two practical planning instruments support this transition from forecast to realized ROI:

- Data Collection Plan
- ROI Analysis Plan

These instruments specify what data will be collected, when, by whom, and for what purpose, ensuring that creative capability development is monitored with the same rigor as other strategic investments.

Validating the forecast in practice

In future cohorts, the forecast ROI will be validated through:

- repeated post-measurement surveys at 3, 6, and 12 months,
- manager validation of observed behavioral and business effects,
- integration of objective performance indicators where available (e.g. time-to-solution, iteration speed), and
- longitudinal tracking of attribution and realized benefits.

This approach enables organizations to move from indicative ranges toward increasingly precise ROI estimates over successive cycles.

Using and reporting results

ROI results will be reported at multiple levels:

- Operational level: feedback to participants and teams to reinforce application,
- Management level: scenario-based ROI summaries to inform investment decisions,
- Strategic level: aggregated insights to guide capability development, scaling, and innovation strategy.

By embedding this evaluation logic into future implementations, Brainnovation becomes not only a creativity intervention, but a managed, measurable capability system.

The full Data Collection Plan and ROI Analysis Plan are included in the appendices as practical templates to guide implementation.

Strategic Outlook

The combined evidence from scientific research, pilot feedback, and ROI scenario modelling indicates that Brainnovation has the potential to evolve into a scalable innovation capability framework. Its strong cognitive and neuroscientific foundation, coupled with measurable

behavioral and financial impact, makes it an asset for organizations seeking to enhance innovation performance in high-pressure or fast-changing environments.

Future ROI cycles will build on this foundation by expanding datasets, validating attribution, capturing long-term effects, and deepening organizational integration. As these elements mature, the ROI forecast will become increasingly precise, enabling organizations to manage creativity capability with the same level of rigor as other strategic competencies.

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Appendix A: Evaluation Questionnaire - Brainnovation

1. Attendance - The training consisted of three sessions. How many of the sessions did you attend?

2. Overall Experience - How would you rate your overall experience with the Brainnovation training?
    a. Excellent
    b. Good
    c. Fair
    d. Poor

3. Motivation - What motivated you to attend this training?

4. Understanding of the Method - How well do you understand the Six Step Cycle and its application to creative problem-solving?

5. Key Takeaways - What are the most valuable insights or techniques you gained from the training?

6. Application Intent - Have you applied, or do you plan to apply any Brainnovation techniques in your work or personal life?

7. Perceived Change - If yes, please describe briefly: What changes (if any) have you noticed in how you approach complex problems?

8. Expected Impact - How do you expect this training to impact your performance, creativity, or innovation at work?

9. Expected Benefits - If you were to estimate your potential benefits of this training, what would it be based on? (e.g., time saved, better ideas, improved collaboration)

10. Recommendation - Would you recommend this training to others? Why or why not?

Appendix B: Post-Measurement Questionnaire - Brainnovation

Dear former participant,

Before the summer holiday, you took part in the Brainnovation training at Stadslab. Thanks to your participation and feedback, we've been able to further develop the program.

Although some time has passed, we'd love to hear more about your experience. What do you still remember from the training, and what—if anything—do you continue to use today?

We would greatly appreciate it if you could take a few minutes to complete a short questionnaire. It won't take more than five minutes, and your input will help us improve Brainnovation even further.

Thank you very much in advance for your time and contribution!

Best regards,
Peter Biekens

1. Attendance - The training consisted of three sessions. How many of the sessions did you attend?

2. Application in Practice - What aspects of the training have you actively applied in your daily work or life?

3. Attribution - Which of these new applications or habits can be directly attributed to the training?

4. Innovativeness (Self-assessment) - By what percentage would you say your innovativeness has increased as a direct consequence of participating in the Brainnovation training?

5. Certainty of Estimate - How certain are you about this percentage? Please express your level of certainty as a percentage (0-100%).

6. Results and Value - Can you indicate what kind of results you have achieved from this training? If possible, please express this in a monetary value. There is no right or wrong answer—only your personal assessment matters.

Appendix C: Data Collection Plan - Brainnovation

This Data Collection Plan outlines how data will be collected during and after future Brainnovation implementations to validate and refine the forecast ROI presented in this white paper. The plan follows the ROI Institute's five-level evaluation framework and serves as a practical guide for ongoing measurement and governance.

Evaluation Purpose: Validation and refinement of forecast ROI

Program: Brainnovation **Responsibility:** Program owner / L&D / Innovation lead (per implementation) **Date:**

Level	Broad Program Objective(s)	Measures	Data Collection Method/Instruments	Data Sources	Timing	Responsibilities
1	**REACTION AND PLANNED ACTION**					
2	**LEARNING**					
3	**APPLICATION AND IMPLEMENTATION** Application of the Six Step Cycle in real work contexts	Frequency and quality of application	Post-measurement questionnaire	Brainnovation participants	3-6 months after training	Program owner / facilitator

4	**BUSINESS IMPACT** Improved problem-solving speed and innovation outcomes	Self-reported performance improvement	Post-measurement questionnaire	Brainnovation participants	3-6 months after training	Program owner / L&D
5	**ROI**	Baseline Data:				
		Comments:				

Appendix D: ROI Analysis Plan - Brainnovation

This ROI Analysis Plan outlines how data collected during and after future Brainnovation implementations will be analyzed, isolated, and translated into business and financial impact. The plan supports the validation and refinement of the forecast ROI presented in this white paper and follows ROI Institute standards.

ROI ANALYSIS PLAN

PURPOSE OF THIS EVALUATION: Validation and refinement of forecast ROI

Program/Project: Brainnovation

Responsibility: Program owner / L&D / Innovation lead

Date:

Data Items (Usually Level 4)	Methods for Isolating the Effects of the Program/ Process	Methods of Converting Data to Monetary Values	Cost Categories	Intangible Benefits	Communication Targets for Final Report	Other Influences/ Issues During Application	Comments
	Self-assessed attribution combined with certainty weighting,	Participant-provided monetary estimates and conservative	Program development Facilitation	Increased creative confidence Improved collaboratio n	Program sponsors Senior management	Organizational support Degree of integration into daily work	

Self-reported improvements in problem-solving speed, creative output, and innovation-related performance.	supplemented by manager validation where available.	scenario modelling based on reported benefits.	Materials, and Participant time	enhanced problem framing	Innovation leadership	Team context	