

OPINION

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# Innovating for *feeling*

How a sensory workshop can shape innovation from the inside out

BY MOLLY HIEBERT

As innovation leaders strive to create solutions that are not only effective but emotionally compelling, many are turning to the burgeoning field of neuroaesthetics – an emerging discipline within cognitive neuroscience investigating how our brains perceive and react to aesthetic stimuli. Neuroaesthetic research explores why we're drawn to certain stimuli and what occurs in the brain during aesthetic experiences. Human responses to the environment, whether to art, objects, or spaces, are not merely emotional; they're

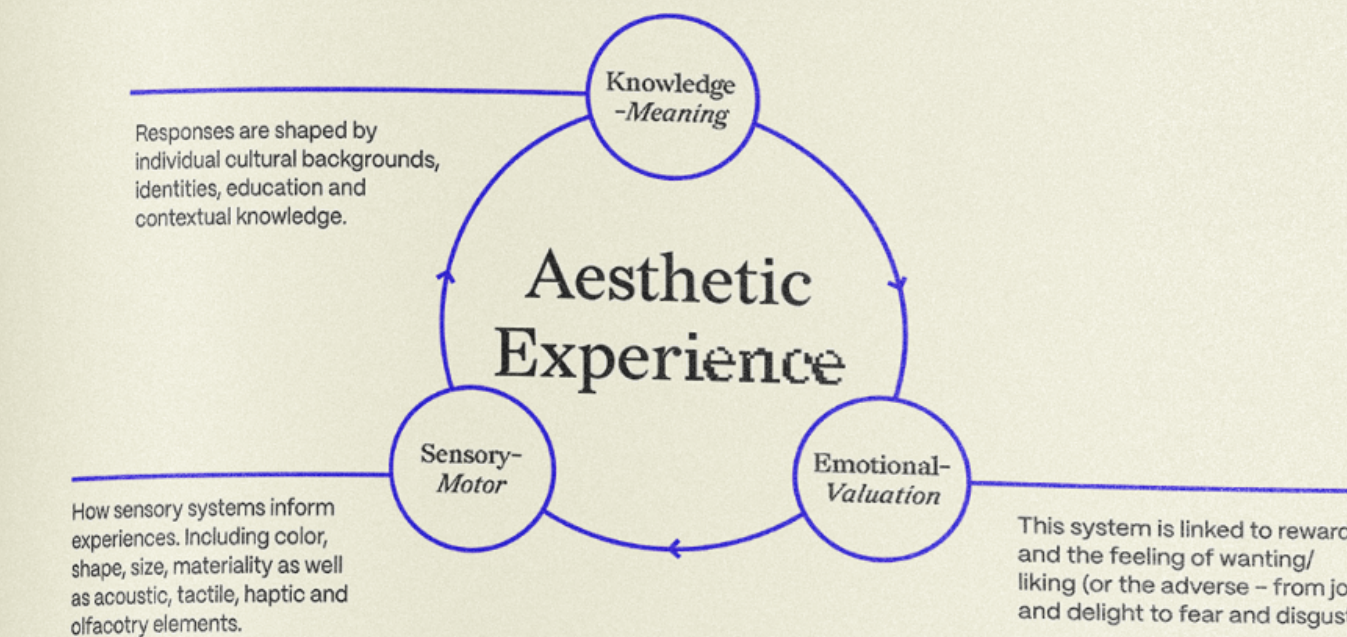
physiological. When stimulated in specific ways, the brain releases chemicals (e.g. dopamine, serotonin) that flood the body with feelings of well-being, elation, happiness, and contentment. As researchers become more attuned to physiological responses to the environment, innovation managers can leverage these insights to transform scientific knowledge into impactful innovation.



This translation of aesthetic experience into actionable insight hinges on how individuals interpret and contextualize stimuli – how they *make sense of it all*.

A foundational theory in this field that examines sensemaking of aesthetic stimuli is Anjan Chatterjee's Aesthetic Triad. Chatterjee, director of the Penn Center for Neuroaesthetics, and colleagues developed the model proposing that aesthetic experiences emerge from three interacting systems in the brain:

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|--|--|---|
| <p><b>1</b><br/>Sensory-<br/><i>motor</i><br/>How we physically experience the world</p> | <p><b>2</b><br/>Emotion-<br/><i>valuation</i><br/>How we feel about what we perceive</p> | <p><b>3</b><br/>Meaning-<br/><i>knowledge</i><br/>How we interpret and contextualize it</p> |
|--|--|---|



The model situates aesthetic experiences within broader personal or cultural narratives, and recognizes the interplay between the sensory-motor, emotion-valuation, and meaning-knowledge systems of the brain. While traditional frameworks like design thinking and

human-centered design excel at uncovering user needs, they often fall short when it comes to the subconscious, emotional, and physiological dimensions of human experience. The Aesthetic Triad makes space for these deeper sensory and emotional inputs – the gap

that this sensory workshop set out to explore. It looked at how activating the senses – beyond the visual – can reshape how teams innovate. This workshop revealed a missing tool in the innovation manager's toolkit: **embodied sensemaking**.

# Understanding neuroaesthetics

*A gateway to emotionally  
intelligent innovation design*

The young interdisciplinary field of neuroaesthetics explores how the brain responds to aesthetic experiences – not just visual beauty, but the multisensory inputs that elicit emotion, meaning, and pleasure. Traditionally rooted in the study of art and perception, neuroaesthetics draws from neuroscience, psychology, philosophy, and design to understand what happens in the brain when we encounter stimuli that evoke emotional resonance.



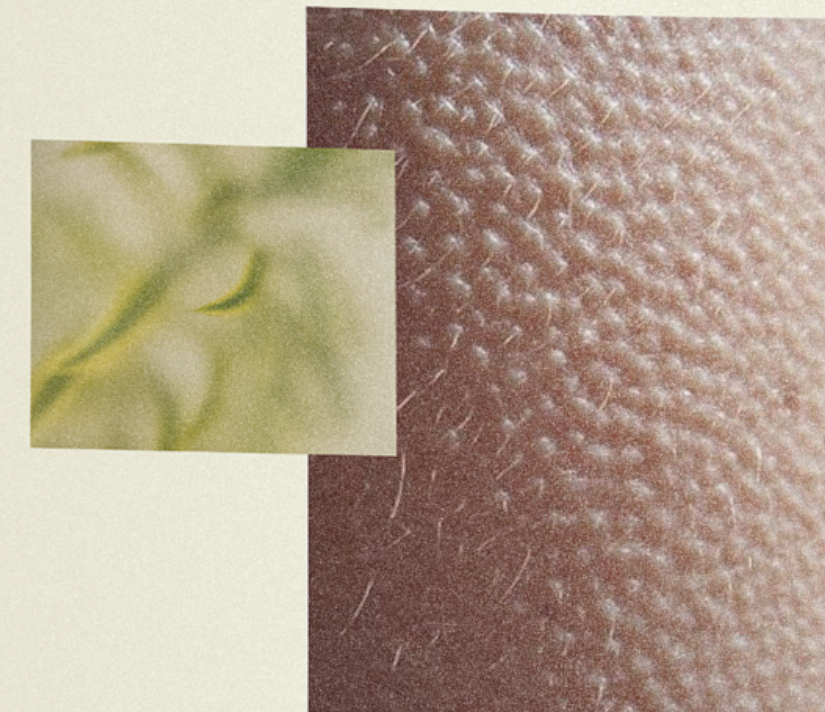
*Patrick Tosani, 'Portraits', 1985.  
An exploration of vision and perception*

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*These innovation frameworks  
and methodologies, such as design  
thinking or the double diamond,  
should not be discredited,  
but evolved to introduce  
neuroaesthetic findings.*

At its core, the field investigates how elements like color, symmetry, texture, sound, spatial layout, and pattern recognition activate specific neural circuits. These stimuli can stimulate the brain's reward systems, influence decision-making, and even improve memory and learning. Yet current innovation frameworks don't explicitly acknowledge these insights. Instead, they emphasize cognitive empathy, utility, and rational design.

Neuroaesthetics invites us to look deeper, to consider how users feel when they encounter an idea. This is where the science of sensemaking provides a channel for neuroaesthetics to be applied to innovation frameworks.





The concept of neuroaesthetics was formally introduced in the early 2000s by neuroscientist Semir Zeki, who sought to understand how the brain processes art and beauty. His research showed that viewing aesthetically pleasing images activated the brain's medial orbitofrontal cortex – a region also stimulated by experiences of reward, pleasure, and trust. This finding opened the door to rethinking aesthetics not just as subjective preference, but as a measurable and neurologically rooted response.



The recent work by Anjan Chatterjee and his colleagues has expanded the field to include not only visual stimuli, but multisensory inputs that drive cognitive and emotional outcomes. Today, neuroaesthetics is used in contexts ranging from museum curation to virtual reality, product packaging, and healthcare design. For innovation managers, it can offer a roadmap for embedding these principles into the systems and products they develop, not as decoration, but as design drivers.

This is especially relevant in a digital economy where user attention is fractured and saturated. The internet is suggested to not only have transformed the inputs to thought, but also the very processes by which we think. It has chipped away at the capacity for deep focus and sustained contemplation. Tech journalist and writer Nicholas Carr explores how digital technologies have fundamentally altered human cognitive patterns. His reflection highlights the characteristics of modern sensemaking: rapid and fragmented.

People no longer adopt innovations based solely on need. They are drawn to what feels coherent, intuitive, and emotionally validating – and what sticks within the rapid speed at which they process information. In this way, neuroaesthetics can serve as a strategic differentiator, a means of designing not just for performance, but for preference.

**...neuroaesthetics can serve as a strategic differentiator, a means of designing not just for performance, but for preference.**



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*“Whether I’m online or not, my mind now expects to take in information the same way the Net distributes it: in a swiftly moving stream of particles. Once I was a scuba diver in the sea of words. Now I zip along the surface like a guy on a Jet Ski.”*

Nicholas Carr's  
*The Shallows: What the Internet Is Doing to Our Brains*



...we make sense of the world not just through thought, but through bodily experience.



## Sensemaking

*The bridge between feeling and innovation*

Sensemaking refers to how individuals construct meaning in complex or unfamiliar situations. Classic models, such as those proposed by Karl Weick and Brenda Dervin, emphasize how people interpret events retrospectively and contextually. However, these models primarily focus on narrative reasoning – cognition through story, analysis, and logic.

Embodied sensemaking shifts this frame. It recognizes that we make sense of the world not just through thought, but through bodily experience. How we move, what we smell, hear, or touch all shape our perceptions. In overstimulated, fragmented environments, embodied sensemaking can help innovation teams recognize the felt experience of their audience.

Neuroaesthetic triggers, such as harmonious color palettes, natural textures, or soothing rhythms, aren't decoration. They're meaning anchors, guiding what users remember, trust, or adopt. This insight informed a sensory based workshop conducted as part of a wider research on implementing neuroaesthetics into innovation frameworks.

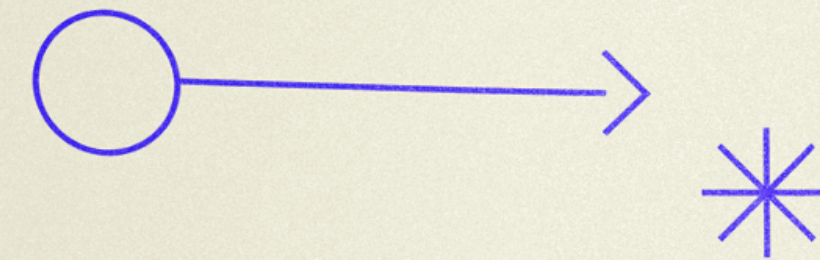
## The sensory workshop

*Translating theory into practice*

For two hours, 18 professional designers were challenged to engage all their senses and reorient their process toward embodied creativity. The workshop aimed to expand designers' creative boundaries and tap into a broader range of sensory experiences to inform design work that can enhance emotional engagement, thereby increasing potential adoption of new ideas, behaviors or products and services.

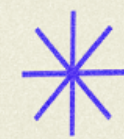
The workshop began with an introduction to neuroaesthetics and its relevance to participants' design practice. Participants were split up into groups and given tactile and olfactory stimuli at random – chia seeds in water with eucalyptus oil, steel wool with palo santo, shells with lavender. They were invited to explore these materials using touch, smell, and sound (senses they often neglect in visual design work) and document their emotional and sensory impressions. Designers were encouraged to go beyond the obvious – tapping into emotional connections, such as memories, that the stimuli provoked.

Next, each team was assigned a brand and tasked with creating a social media graphic or campaign poster. The only constraint: base the creative concept around the sensory experience, rather than assumptions they may hold of the brand.



*Images from the workshop*

## Outcomes of the workshop:



Designers reported that the approach broke their routines and gave them license to play. Many said they hadn't considered using smell or texture as a creative prompt for something visual, yet found these senses uniquely capable of unlocking emotionally compelling design. Additionally, the participatory and collaborative nature of the exercise generated more ideas to experiment and choose from. While one designer may have brought up a certain emotion but uncertain how to translate it visually, it could spark a design idea for another designer. This process illuminated the value that incorporating emotion into early-stage ideation can have on later stages of innovation and design processes.

### More emotionally resonant outputs:

By starting with sensory cues tied to memory and emotion, participants created work that felt deeply personal, not just professional.

### Deeper collaboration and group cohesion:

Removing screens and engaging the body promoted a more open, playful, and trusting group dynamic, vital for innovation.

### Richer ideation:

Using unfamiliar senses to spark ideas led to novel metaphors, bolder aesthetics, and unexpected solutions.

### Heightened engagement and reflection:

Designers reported being more invested and creatively stimulated, even though the outputs weren't for an actual client.

## A new model:

### *The Neuroaesthetic-led Innovation Framework*

The workshop served as a prototype for a new kind of innovation design framework. One that treats sensory perception not as a footnote, but as a strategic starting point. The below framework includes the following components:

### Sensory priming

Engaging with stimuli to open intuitive pathways, where teams explore smell, touch, and sound before ideating.

### Emotion mapping

Recording felt responses and metaphorical associations to translate feelings into visual or verbal languages.

### Conceptual translation

Designing based on emotion-stimulus connections, embedding principles like symmetry, texture, rhythm, and biophilia into briefs.

### Sensemaking integration

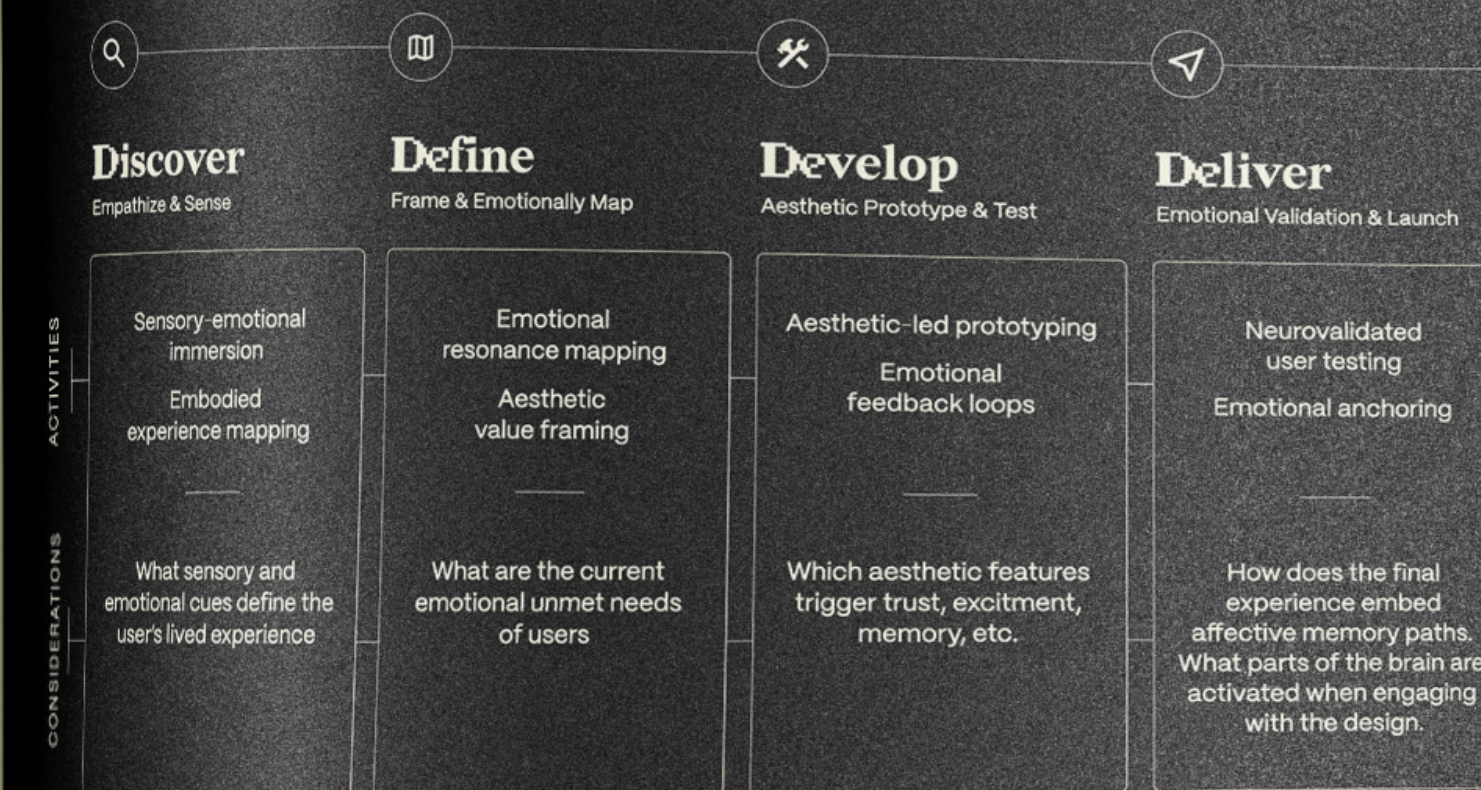
Framing user adoption through Seligman's seven properties of adoption-centered sensemaking

### Outcome evaluation

Measuring emotional resonance and subjective engagement alongside usability and feasibility.

## The framework

*Incorporating embodied sensory engagement and emotional resonance into the innovation process*



## Applying the model

*Insights innovation managers can leverage*

In today's attention-scarce world, functional design isn't enough. Ideas are adopted when they resonate cognitively, emotionally, and physiologically. By integrating neuroaesthetics, innovation leaders can:

- Create designs that feel instinctively right
- Engage deeper user memory and trust through sensory coherence
- Strengthen team creativity and collaboration
- Prototype not just for function, but for affect

Different industries can leverage neuroaesthetic principles in distinct ways:

**Branding teams** can use sensory priming to develop more emotionally consistent identities.

**UX designers** can apply embodied cognition to structure interactions that feel intuitive rather than learned.

**Architects & spatial designers** can create environments that reinforce behavioral goals through multisensory cues.

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*We really need to understand that our surroundings are not just passive backdrops. They're an active agent in our emotional, mental, and physical well-being.*

Suchi Reddy,  
Neuroaesthetic Designer

*via Design Hotels 2024 report,  
Neuroaesthetics - Design for the Mind*



## Innovating through the senses

We often think innovation starts with ideas. But in a world overloaded with information, attention and emotion are the new frontiers that innovation managers must incorporate into their processes. Innovation that makes people feel something, before they can explain why, will be more memorable, more engaging, and more likely to be adopted.

The neuroaesthetic-led framework offers a way forward: design not only from empathy, but from embodied emotion. Begin not with user personas, but with sensory priming. Use feeling as a guide, not just an output.

If we want to shape the future, we must design for the body, not just the brain.

- MOLLY HIEBERT  
DESIGN AND INNOVATION STRATEGIST

*It's important to note that this framework is in its infancy. Further development is required to ensure these claims can be validated scientifically.*