

Early Product Development – AI & Robotics

Pioneering Emotional Intelligence for Smart Home Devices

The Challenge

In 2015, the burgeoning AI & IoT home device market was ripe for innovation beyond basic utility. My client sought to differentiate their product by embedding emotional intelligence and diverse personality profiling, aiming to create a device capable of developing intuitive and personalised interactions. This ambitious mandate required a deep dive into behavioural and cultural sciences to inform the design of an AI that could not only recognise human emotions but also respond in a manner perceived as genuinely empathetic and engaging, reflecting an understanding of diverse user needs and cultural nuances.

My Contribution

I played a pivotal role in the early product development phase, specifically focusing on the integration of emotional interaction capacities. My work involved extensive research into emotional personality recognition strategies, translating complex behavioural science insights into tangible AI design principles. This included prototyping interaction models, devising algorithms for emotional state detection, and advising on data acquisition methods to train the AI. My contribution was critical in establishing a scientific and technological framework that would enable the device to offer a truly unique and emotionally responsive user experience.

Impact & Outcomes



Advanced AI Framework

Developed a robust, foundational framework capable of processing and interpreting complex emotional and behavioural cues, a significant step towards truly intelligent interaction.



Innovation in User Experience

Pioneered a novel approach to human-AI interaction, defining a new standard for empathetic and culturally aware responses in consumer electronics.



Enabled Future Growth & Funding

The sophisticated emotional AI capabilities proved instrumental in attracting subsequent investment and facilitating the technology's scale-up for broader market adoption.



Strategic Product Direction

Provided crucial insights that shaped the product's strategic roadmap, positioning it as a leader in emotionally intelligent and user-centric IoT home devices.



Open Innovation Research & Thought Leadership

Leading a Think Tank on Collaborative Innovation

The Challenge

In 2014, corporations grappled with the paradigm shift towards open innovation, yet many struggled with practical implementation. The client mandated a think tank project to delve into the complexities of integrating external knowledge, partnerships, and crowdsourcing within traditional corporate structures. Key challenges included overcoming internal resistance to change, safeguarding intellectual property, fostering a culture of collaboration, and ensuring that external ideas could be effectively assimilated and scaled. The goal was to move beyond theoretical discussions to identify actionable insights and mitigate the inherent risks.

My Contribution

I spearheaded this pivotal initiative, leading a team of five dedicated volunteers in a comprehensive research effort. My role encompassed designing and executing a series of in-depth expert interviews with industry leaders, academics, and innovation practitioners. I directed the rigorous analysis of qualitative and quantitative data, synthesising complex findings into clear, concise, and actionable recommendations. Furthermore, I led the elaboration of the final presentation for key stakeholders and authored a detailed report for the yearly think tank publication, ensuring our findings contributed significantly to the discourse on corporate open innovation.

Key Metrics & Engagement

5

Volunteer Team Led
Directed a dedicated team of experienced professionals.

20+

Expert Interviews Conducted
Gathered insights from a diverse range of industry leaders.

2014

Project Year
Timely completion for annual publication.

Impact & Outcomes



Actionable Insights Delivered

Provided practical, evidence-based strategies that enabled client corporations to transition from theoretical understanding to effective implementation of open innovation practices.



Enhanced Collaboration Frameworks

Developed guidelines for fostering robust internal and external partnerships, significantly reducing friction in knowledge exchange and co-creation efforts.



Thought Leadership Established

Contributed a comprehensive report and presentation that advanced the global understanding of open innovation challenges and best practices within corporate environments.



Mitigated Implementation Risks

Identified critical risks associated with open innovation and proposed effective mitigation strategies, ensuring more secure and successful project outcomes.

Sustainable Engineering Methodology – Circular Products

Developing Circular & Repairable Product Design

The Challenge

In an era of increasing environmental awareness and stringent regulations, a prominent client in machinery and household devices sought to fundamentally shift its R&D engineering processes. The mandate was to move beyond traditional linear product lifecycles and embed circularity, repairability, and extended product lifespan into the core design philosophy. This required a re-evaluation of existing methodologies to ensure new products were not only high-performing but also designed for disassembly, material recovery, and ease of repair, posing a significant challenge to conventional engineering practices and necessitating a deep integration of various disciplines from concept to end-of-life planning.

My Contribution

I took the lead in designing and implementing comprehensive mechanical and electrical engineering methodologies tailored for circular product design. This involved developing new frameworks that seamlessly integrated principles of repairability, modularity, and resource efficiency. A key aspect of my work was fostering a collaborative environment where design, material science, and R&D engineering teams could converge their expertise. By introducing iterative design-for-circularity thinking methods, I enabled a multi-expertise based optimisation approach, ensuring that material selection, component standardisation, and end-of-life strategies were considered from the earliest stages of product development.

Impact & Outcomes



Systematic Circular Product Development

Established robust, repeatable engineering processes that enable the consistent development of products with embedded circular economy principles, significantly reducing waste and environmental impact.



Enhanced Product Repairability & Longevity

Successfully integrated design-for-repair and modularity concepts, leading to products that are easier and more cost-effective to maintain, extending their useful life and customer value.



Thought Leadership & Recognition

Our innovative methodologies were recognised and referenced at the International Society for Professional Innovation Management (ISPIM) conferences in both 2021 and 2023, showcasing pioneering work in sustainable engineering.



Co-Creation of Sustainable Habits – Global Executive Community

Fostering Sustainable Behaviour in Global Executives

The Challenge

In an era of increasing environmental awareness and stringent regulations, a prominent client in machinery and household devices sought to fundamentally shift its R&D engineering processes. The mandate was to move beyond traditional linear product lifecycles and embed circularity, repairability, and extended product lifespan into the core design philosophy. This required a re-evaluation of existing methodologies to ensure new products were not only high-performing but also designed for disassembly, material recovery, and ease of repair, posing a significant challenge to conventional engineering practices and necessitating a deep integration of various disciplines from concept to end-of-life planning.

My Contribution

I conceptualised, initiated, and led this ambitious global online co-creation community, leveraging collective intelligence principles as the solution oriented appreciative inquiry & 5-D cycle to drive behavioural change. My role involved designing the entire engagement framework, including the interactive digital platform, structured discussion forums, and collaborative ideation challenges. I was responsible for facilitating cross-cultural dialogue, curating content, and synthesising diverse executive perspectives into actionable strategies. Through break-out groups collaborations and collective workshops, coaching sessions with the team leaders and the deployment of agile co-creation methodologies, I ensured a dynamic and results-oriented environment where executives could not only learn but also actively contribute to the development of practical sustainable habits and leadership models tailored to their operational contexts.

Key Metrics & Engagement

80+

Active Participants

Engaged directly in co-creation activities and discussions.

300+

Community Observers

Learned from and contributed indirectly to the initiative.

2

Months of Engagement

Sustained a dynamic co-creation process during covid pandemics.

Impact & Outcomes



Scalable Leadership Model Developed

Successfully created and piloted a replicable and scalable model for sustainability-oriented leadership development, applicable across diverse organisational structures and global regions.



Enhanced Executive Collaboration

Fostered unprecedented levels of cross-functional and cross-geographical collaboration among executives, breaking down silos and promoting a unified approach to sustainability challenges.



Tangible Behavioural Change

Inspired and facilitated concrete shifts in executive behaviours and decision-making processes, leading to the integration of sustainable habits into daily life, operations and strategic planning.



Global Sustainability Impact

The insights and methodologies developed directly informed the client's global sustainability strategy, driving meaningful environmental and social impact across its operations and stakeholder network.