Emotion-Driven Innovation: an inside out process to create emotion-focused new product ideas

Author: Teresa Alaniz

1. Abstract

It is already known that interaction with a product can be the cause of emotional experiences, as any social interaction between people (Desmet et al., 2016). Emotions establish a person's position in a given situation: negative emotions move us away from products that do not represent a benefit, while positive emotions bring us closer to products that represent a benefit for our well-being (Desmet and Hekkert, 2007). Positive or negative emotions can be triggered by all designed products, services, technologies, and systems (Desmet, 2012). Emotions can affect human cognition and behaviours: memory, attention, decision making, and actions are guided by emotions (Coppin and Sander, 2016).

The perceptions and thinking of consumers and their behaviours can be influenced in a favourable way when the understandings of the nuances of the different emotions are applied strategically (Norman, 2003). In particular, positive emotions stimulate purchase intentions, and products that provoke positive emotions are bought more often and are more enjoyable to use (Desmet, 2012). In the design process, the knowledge of emotions can play an important role: emotions influence how human minds solve problems, stimulate creativity, help to define design goals, and support communication between design team members (Norman, 2003; Desmet et al., 2016).

Professionals responsible for designing and developing new products should be able **to understand** the differences in emotions. It is not enough to understand emotions at a basic level. In order to obtain benefits that the knowledge of emotions can bring when it is integrated into the design process, professionals need to be assisted with approaches **to apply the knowledge of emotions systematically and strategically.**

2. Emotion-Driven Innovation the process

Emotion-Driven Innovation (E-DI) is a process that supports the front-end of the innovation process. It aims to foster the development of new product ideas applying the knowledge of positive emotions.

The outcome of E-DI process is to Generate a holistic ideas that contain enough characteristics based upon a deep reflection on the meaning of specific emotions to achieve specific emotional effects. The structure of E-DI process is composed of three phases that are explained below, five methods with its guidelines, and several different interaction patterns (see figure 1).
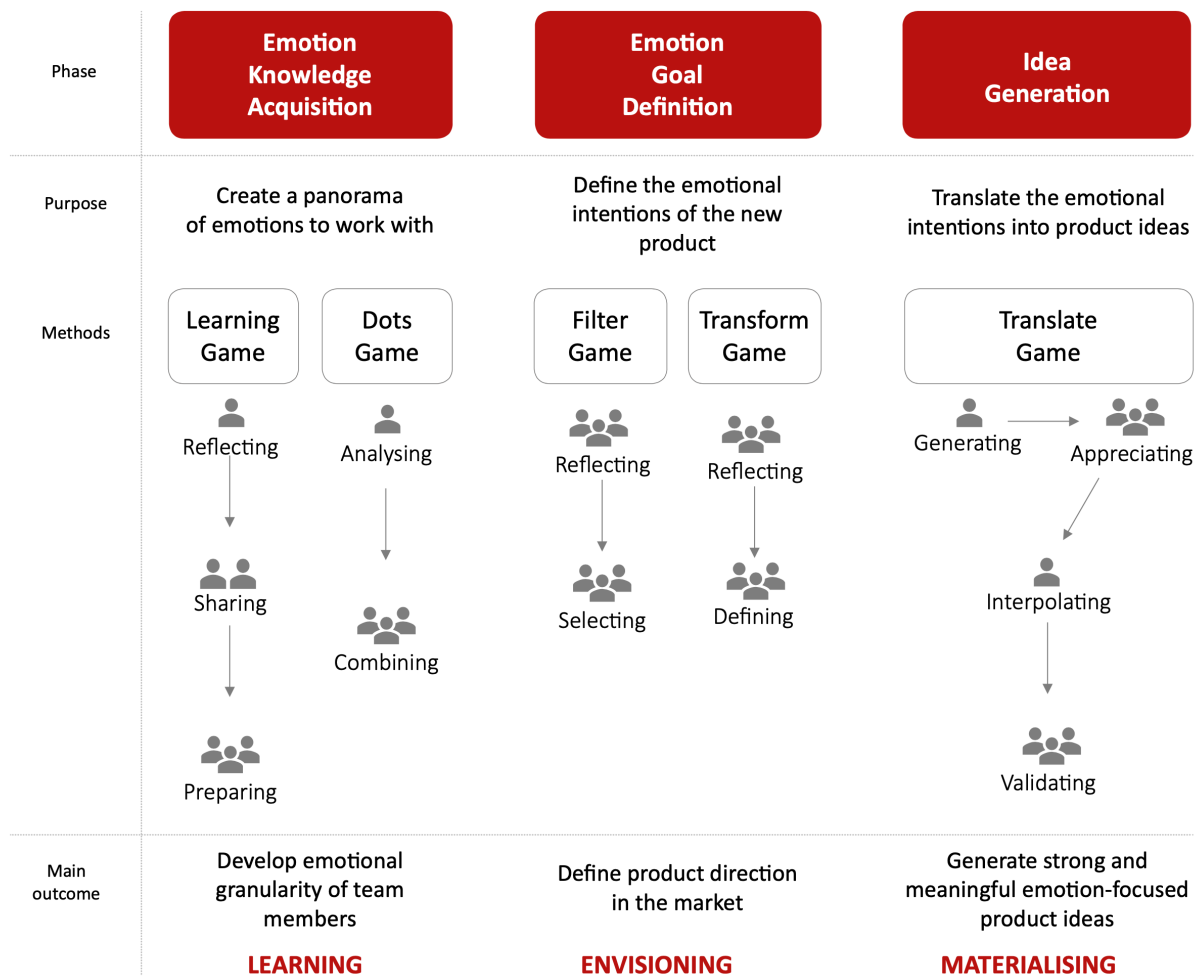
Phase	Emotion Knowledge Acquisition		Emotion Goal Definition		Idea Generation
Purpose	Create a panorama of emotions to work with		Define the emotional intentions of the new product		Translate the emotional intentions into product ideas
Methods	Learning Game	Dots Game	Filter Game	Transform Game	Translate Game
	Reflecting	Analysing	Reflecting	Reflecting	Generating → Appreciating
	Sharing	Combining	Selecting	Defining	Interpolating
	Preparing				Validating
Main outcome	Develop emotional granularity of team members		Define product direction in the market		Generate strong and meaningful emotion-focused product ideas
	LEARNING		**ENVISIONING**		**MATERIALISING**

Figure 1. Emotion-Driven Innovation process

The nature of E-DI process is an "inside out process" since it stimulates the new product ideas based on the skills, expertise, and crucially on the emotions of the people involved in the process. Apart from develop the competence of emotional granularity (the ability in which an individual can interpret and articulate her/his own and others emotional states (Yoon, Pohlmeyer, and Desmet, 2016) on team members, E-DI process stimulates relevant competences when designing a new product in team, such as systemic, strategic and reflective thinking. The process is designed to have different types of interactions between team members, in order to stimulate individual reflective thinking, knowledge sharing between team members, and achieving goals as one entity "the team".

Emotion Knowledge Acquisition

The first phase of the process pursues to develop the competence of emotional granularity by introducing a vocabulary to discuss emotions in product innovation. This phase aims to support the team in creating a panorama of emotions to work with the new product (the panorama of emotions is the shared view of how the 19 positive emotions are experienced in a selected sample of the products in the market). Two methods support the first phase the Learning Game and Dots Game.

Learning Game method is a series of cards that introduces the three elements to discuss emotions in product innovation. The first concept is the framework of positive emotions, which represent the general manifestation of positive emotions between people, other persons, situation and objects.

The second elements is the emotional-jobs-to-be-done, this concept aims to create a link between the general knowledge of positive emotions and the practices of designing new products. Emotional jobs inform how users want to feel or avoid feeling, and help to formulate the value proposition of a new product. The emotional jobs are the elements that help to understand, differentiate, and identify the positive emotions.

The third element is the Human-product emotional interactions are the situations in which the appearance of the product, functions of the product, and meanings of the product) elicit emotions to people.

Dots Game method, is a matrix to perform an emotional analysis of product that are currently present in the market. The analysis help to build the panorama of emotions, which is the main input of the second phase of the process.

Emotion Goal Definition

The second phase of Emotion-Driven Innovation process is the crucial of the process. This phase stimulates strategic thinking. Strategic thinking is a way to look at your work with a broader focus and longer time frame than usual. This phase defines the emotional intentions of the new product, by defining the direction of the product in the market. Two methods support this phase: the Filter Game method, and the Transform Game method.

Filter Game method correlates the panorama of emotions with three categories of innovation in order to define the select the emotions to design the new product "the emotional strategy". The three categories of innovation are: incremental innovation, radical innovation and MAYA design principle.

New product ideas pursuing incremental innovation will be products that follow an existing model, aligned to cultural and aesthetic dominant archetypes (Rampino, 2011) New product ideas moving towards radical innovation will be products with big alterations to the typical product configuration (Henderson and Clark, 1990). Radical product innovation can offer products with new archetypes and domains (Norman and Verganti, 2003).

MAYA (most advanced yet acceptable) is design principle that combines a correlation between novelty and typicality; a design following the design principle MAYA will maintain the typicality of the existing design model, as much as possible, while pursuing to innovate, as much as possible (Hekkert, Snelders, and Van Wieringen, 2003).

Translate Game method takes "the emotional strategy" to create a design brief. The method applies the human-product emotional interactions to itemise the selected emotions. The method help the development of systemic thinking by visualising and establishing holistic statements to be achievable with the new product.

Idea Generation

The third phase of the process is responsible to generate the new emotion-focused ideas based on the design brief created before. The method supporting this phase is Translate Game, which encourages divergent and convergent thinking.

This methods is supported by the human-product emotional interactions. Thanks to this element, the new product ideas generated are beyond the functionality of the product. The ideas came from a deep reflection of what the selected emotions mean to the team, and what those emotions could signify for the possible consumer or user.

3. Conclusions

Emotion-Driven Innovation is aligned with the innovation that stimulate products with new meanings. There is evidence that products with new meaning can lead to economic success, in the same way that selling products with cutting-edge technology and functionality may lea to market dominance ()

4. References

Alaniz, Teresa, and Stefano Biazzo. "Emotional design: the development of a process to envision emotion-centric new product ideas." *Procedia Computer Science* 158 (2019): 474-484.

Coppin, G., & Sander, D. (2016). Theoretical approaches to emotion and its measurement. In *Emotion measurement* (pp. 3-30). Woodhead Publishing.

Desmet, P. (2012). Faces of product pleasure: 25 positive emotions in human-product interactions. *International Journal of Design*, 6(2).

Desmet, P., & Hekkert, P. (2007). Framework of product experience. *International journal of design*, 1(1), 57-66.

Desmet, P., Vastenburg, M. H., & Romero, N. (2016). Mood measurement with Pick-A-Mood: review of current methods and design of a pictorial self-report scale. J*ournal of Design Research*, 14(3), 241-279.

Hekkert, P., & van Dijk, M. (2011). *ViP-Vision in design: A guidebook for innovators.* The Netherlands: BIS publishers.

Hekkert, P., Snelders, D., & Van Wieringen, P. C. (2003). 'Most advanced, yet acceptable': Typicality and novelty as joint predictors of aesthetic preference in industrial design. *British journal of Psychology*, 94(1), 111-124.

Henderson, R. M., & Clark, K. B. (1990). Architectural innovation: The reconfiguration of existing. *Administrative science quarterly,* 35(1), 9-30.

Norman, D. A. (2003). *Emotional design: Why we love (or hate) everyday things.* Basic Civitas Books.

Rampino, L. (2011). The innovation pyramid: A categorization of the innovation phenomenon in the product-design field. *International Journal of Design,* 5(1).

Ulwick, A. W. (2016). *Jobs to be done: theory to practice.* Idea Bite Press.

Verganti, R. (2003). Design as brokering of languages. The role of designers in the innovation strategy of Italian firms.

Yoon, J., Pohlmeyer, A. E., & Desmet, P. M. (2016). When 'feeling good'is not good enough: Seven key opportunities for emotional granularity in product development. *International Journal of Design*, 10(3), 1-15.

Teresa Alaniz
teresa.alaniz.n@gmail.com