

# User-Centered Soft Innovation in Established Business Fields

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**Abstract.** Developments in open and user-centered innovation are usually being discussed in the context of exploration of uncontested market space rather than exploitation of business potentials for established products. The substantial effort to acquire and utilize valid and specific insights from potential users keeps especially small and medium sized companies from taking sidesteps in the shoes of their customers. This paper presents a focused user-centered soft innovation (FUSION) framework that combines discounted user-centered innovation methods with radical steps beyond the innovation funnel in order to substantially and sustainably improve established business with minimal effort. Stepping back into the past, ahead into potential futures, and integrating perspectives from stakeholders beyond the usual suspects help to focus on success critical potentials for soft innovation and tweaks in the offering. A project case dealing with the optimization of entertainment offerings demonstrates the application of the framework.

**Keywords:** User-Centered Optimization, Soft Innovation, Exploration and Exploitation, Design Thinking, Customer Touchpoints, Detour, Triangulation.

## 1 Introduction to User-Centered Soft Innovation

How to strengthen the market position of established offerings without substantial expenses? This paper reports on our struggle to answer this question through research and innovation and presents preliminary results. Avoiding the risks and investments of introducing new product lines we investigated the untapped business potential of core products, and looked into suitable approaches to trigger subtle changes making substantial differences. We identified and tried to address three major weaknesses of predominant approaches to innovation management: Its obsession with new, radical, or greenfield innovation, its costs in terms of time and effort, and its conservative thinking within the toolbox of presence-oriented and user-centered methods. Within a pilot project named user-driven optimization we developed a blueprint for the fast and low-cost implementation of highly Focused, USer-centered, Soft InnovatiON (FUSION). The approach is exemplified through a project targeting a renewed marketing approach focusing on the early customer touchpoints, but the basic approach of “stepping beyond” is suitable to identify and specify potentials for optimization in

various fields of business, ranging from internal processes and communication to marketing activities and product design. Building on low-cost methodologies and processes it should be of value for small and medium sized enterprises that cannot afford substantial investments in user-centered innovation.

We start with considerations how to narrow down the focus of intervention in order to apply discount methods of user-centered and soft innovation. We differentiate between three ways of stepping beyond the funnel of closed or open innovation by stepping back to reframe the problem, stepping aside to include radical perspectives or stepping ahead into the future. Reframing the established marketing approach and changing customer touchpoints of a new media product, the framework was applied, specified and reviewed. Sharing insights and lessons learned we hope to help marketers to increase the customer value of their propositions with reasonable effort.

## 2 Related Works on Soft Innovation and User Centered Design

Developments in open and user-centered innovation are usually being discussed in the context of exploration (March 1991) of uncontested market space. Academic literature describes and analyzes their potential to inspire and specify “greenfield”, research based or radical innovation. On the contrary, exploitation of business potentials for established products by means of a more elaborated integration of the customer’s perspective has been neglected. How may user-centered innovation methodology be adapted to maximize business potential of established products with minimal effort?

Since the 1980ies research and practices in human-computer interaction (a synthesis of psychology and computer science) professionalized user-centricity and in the 1990ies introduced iterative development as a standard of systems design and development. “User-centered design” and “design thinking” (e.g. Martin 2009) continue this multidisciplinary approach in order to create products that fulfill people’s needs. Brown (2009) describes design thinking “as a discipline that uses the designer’s sensibility and methods to match people’s needs with what is technologically feasible and what a viable business strategy can convert into customer value and market opportunity”. Still, substantial effort is required to obtain insights into user requirements and desirability of solutions whose feasibility remains to be proven. Lean venturing (Breuer & Mahdjour 2012) and management methodologies working with iterative low-cost experimentation intend to evaluate desired solutions. Failing early and often in this process increases the chance to reach outstanding solutions in the end.

Usually these approaches are used to inform “hard innovation” of new products and services. On the contrary soft innovation is “primarily concerned with changes in the product (or processes), which are mostly of aesthetical or intellectual nature” (Stoneman 2010). Resulting changes thus “have an impact on sensory or intellectual perception or aesthetic appeal rather than functional performance” (Nesta Research Report, 2009). In our view the relatively low effort to achieve soft innovation is prototypical for narrowing down the focus of innovative intervention: The better the lever fits, the lower the effort to lift the potentials. Focusing on the early customer touchpoints such as raising awareness of a product or enhancing the startup phase

through packaging and instruction may help to focus interventions. This idea that small changes can yield great differences in results is also known from systemic approaches that promote techniques such as circular questioning and reframing.

In addition to peripheral intervention and reframing discount methods can be applied to optimize offerings. In service-design and usability engineering, discount methodologies have proven effective for creation and evaluation. Landauer and Nielsen (1993) showed that less than a dozen users can be sufficient to evaluate a system exhaustively. Similarly, the system usability scale (SUS / Brooke, 1996) allows for low-cost assessments of a system's perceived usability by applying a simple ten-item attitude Likert scale. Though SUS largely generalizes over different contexts of use, it has proven as a reliable and widely used tool for broad general measures and comparisons of usability (e.g. Bangor, Kortum & Miller 2008).

### 3 User-Centered Soft Innovation to Exploit Business Potentials

This paper discusses how to improve efficiency and effectiveness of research and ideation through discount methods and taking radical steps into the extremes beyond the typical research and development funnel. Three types of measures are viable in order to obtain unconventional results: Focus on suitable triggers for intervention (e.g. customer touchpoints), discountization of methods and alterations in time or radicalization of perspectives through detour to the edges of the project scope to generate valuable insights. Such focus, discount and detour set the cornerstones for our framework for user-centered soft innovation or optimization.

#### 3.1 Focus and Customer Touchpoints

Defining goals, scope and focus is essential for any kind of project. The better you weaknesses and levers for success are known the better you know what to work on. The user-driven optimization project first narrowed down focus to the non-functional aspects of the customer journey. While soft innovation usually deals with aesthetical rather than functional characteristics of a product we refer to three related dimensions: The product itself (product dimensions, e.g. features and their configuration), its handling by the organization and partners (e.g. distribution channels) and the encounters of the user with the product and/or the manufacturer or distributor (customer journey). The customer journey can be described along seven touchpoints (Breuer et al. 2009).

1. **Awareness:** Customers become aware and focus attention on a product or type of product. Initial learning about the product and its value proposition takes place.
2. **Selection:** Once a customer is generally interested in a product (type) she aligns available offers with personal requirements and chooses a preferred candidate.
3. **Buy:** With the buying decision customers traverse the process of buying: The purchasing process (who, where, when) is clarified; the product is paid and received.
4. **Start-Up:** Unpacking the product, first impressions are aligned with customer expectations. The customer discovers the product more or less exhaustively until first usage routines are established.

5. **Usage:** After main parts of learning are completed, the usage of the product as a part of daily routine begins. Usability engineering is mainly concerned with optimizing this touchpoint.
6. **Changing:** Varying needs during usage give rise to changes and modifications of the product, initiated by the user.
7. **Renewing:** The product and/or contract is renewed, changed or the contract ends, and the product is being disposed.

Each touchpoint creates potential bottlenecks for the market success of products and services, as well as opportunities for optimization. Weak touchpoints are oftentimes known within the organization, and focusing on just one or two may suffice to enhance the offering. In our experience this user-driven approach is superior to product-driven focus on dimensions such as core product, real product and extended product (Kotler 2011) since it prioritizes customer value over modification options.

### 3.2 Discounting User-Centered Methodology for Optimization

While traditional customer integration methods typically require substantial effort, agile variations and discount counterparts to the full-blown methods may be applied in the different phases of analysis, exploration and evaluation. Highly efficient “discount methods” apply the principles of established methods, often within an iterative process – a mere reduction in scope is not considered as discount method here. Several discount methods are available, all of which have been used for soft innovation projects:

- **Secondary Data Analysis:** User-centered optimization can be based on existing research data that is reinterpreted under a new point of view. For example, we reinterpreted responses of customers on their product experiences during the different touchpoints with respect to the basic needs and values (such as longing for safety or social recognition) motivating them. A special case of reutilization is the review of strategic decisions in the light of future scenarios. Scenarios from related fields may suffice to spot potential innovations or evaluate a variety of options.
- **Guerilla Observation:** If first hand insight is required, guerilla methods to obtain authentic field data may be applied. In Guerilla Observation, certain consumer groups are observed undercover in a natural and relevant environment. Additionally, unstructured or half-structured interviews with selected persons should be collected for deeper investigation.
- **Persona Creation:** In software development, personas (fictional user archetypes) have proven as a useful tool to elaborate upon and illustrate user requirements (Cooper 1998). While personas are usually derived from first hand field research, personas created ad hoc may suffice to render target groups as individuals in tangible ways, and to inspire ideation. Personas then may provide the stepping shoes to walk through the product- or service-experience from the customer’s point of view.
- **Mini-Workshops:** Brainstorming methods such as “*Heaven & Hell*” ask participants to think of the best and worst possible encounter with or related to a

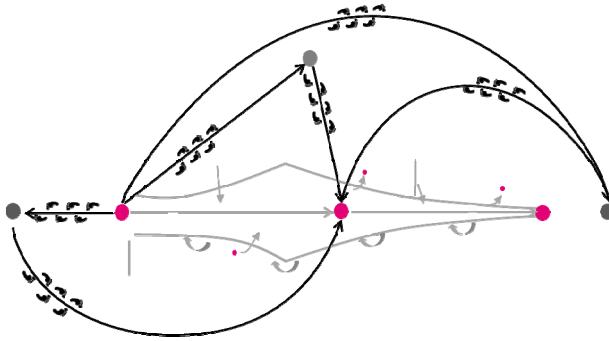
product or service - and helps to transcend everyday experiences. Similar to the format of futures workshops that usually take three days to work through critique, normative utopian visions and realization, the common ground for ideation is widened.

- **Low fidelity prototypes:** Mockups, as paper-prototypes or service-role-play, can be realized quickly and with low effort. They illustrate design ideas and can be used for evaluation and redesign. The low fidelity realization allows changing ideas through sketching on the flight, integration feedback from users and stakeholder into optimized solutions. Depending on the specific purpose they are “just-enough prototypes” for tailored experimentation.
- **Expert Inspection Methods:** Instead of conducting empirical evaluations, customer touchpoints can be analyzed analytically (an alternative evaluation approach rather than a discounted version of a comprehensive approach). Inspection methods such as cognitive walkthrough and heuristic evaluation can gain more significance, when conducted by multiple experts independently (triangulation).
- **Formative Testing:** Usability-Testing with a limited number of participants, focusing on qualitative output, usually working with thinking-aloud protocols. According to Nielsen and Landauer (1993) a number of less than a dozen users normally is sufficient to evaluate a system exhaustively.
- **Quick polls:** Well-informed selection of the best ideas and optimizations and the (mostly iterative) evaluation of concepts require substantial effort. Quick polls have been used to gather valuable feedback with minimum effort. Short crowd-sourcing exercises may seek solutions in a group-speed-dating setting.

Discount or “guerilla” methods should be applied with caution. For example, discounting the time spent in a workshop may change the character of an interaction from a co-creative elaboration of new results to the joint externalization of individual ideas. For each discount method the project team should develop a clear understanding, in how far discounting the method just creates a different, but suitable type of process or results, and in how far discounting creates weaknesses that should be addressed with dedicated countermeasures.

### 3.3 Stepping Beyond the Funnel

Innovation and new product development are usually visualized in the form of a funnel where an initially large number of options is filtered and refined until a fit product is released on the market place. Project proceed by setting a goal in the near future, defining milestones and a roadmap how to get there, including feedback from selected customers along the way. Advanced methodology steps outside this rather narrow path that only allows for sidesteps into the world of the customer and instead promotes serious detour in three directions. It therefore follows the same move that moderation of creative processes takes participants through a detour off the topic in order to get back from a different viewpoint.



**Fig. 1.** Detour through fundamental, peripheral or future / utopian points of view by stepping back to the basics, taking sidesteps or jumping ahead

### **Stepping Ahead.** Detouring into alter

**Stepping Ahead.** Detouring into alternative futures native futures has long been used to inform decisions and to develop plan for action. Futures workshops for instance start with critique and detour through utopian future imagination in order to derive measures to be taken in the presence. Futures studies explore probable, possible, desirable, and preferable futures. Even short brainstorming exercises like “Heaven & Hell” apply the same principle to work through the extremes of critique or fears and utopia or wishes. Stepping beyond the immediate project scope into the future helps to challenge assumptions, and to reframe and alternate the given set of options. While the identification of search fields for innovation through scenario analysis usually takes several months with numerous participants, available scenarios may be used to think through strategic options. Or a futures workshop may be conducted as lightweight alternative to come up with modifications in processes and services. Robust measures to be taken, new business opportunities and product requirements can be identified, and translated back into the present.

**Stepping Back.** Instead of heading for the goal, take a step behind the starting point and reflect upon fundamental values and assumptions applying critical thinking. Design Thinking applies similar techniques for investigations of ill-defined problems. But also the development of solutions to apparently defined problems may profit from such re-contextualization. E.g. instead of asking how to sell more insurances we may ask what makes people feel secure or unsafe, in order to return to insurance business with these insights. Similarly, systemic consulting applies circular questions and introduces new perspectives e.g. by asking “what do you think how our customers perceive our department”? And referring to the renewal of corporate strategy Kim and Mauborgne (2005, 218) remark that “value innovation is about redefining the problem an industry focuses on, rather than finding solutions to existing problems”.

**Stepping Aside.** While usually users or experts with rather low cognitive distance (Nooteboom 2009) to the design space are selected in order to contribute ideas and feedback, non-users or dedicated opponents may contribute insights that usually

reside out of sight. Hewing (2013) recently showed that persons with minor or no experience in a certain domain, when collaborating with users with high experience, clearly generate the most novel ideas.

Instead of relying on interviews with questions foreclosing the legitimate realm of answers, ethnographic observation and empathy tools such as cultural probes may be applied to extend exploration of a domain beyond the usual suspects, and to feedback insights from the outside back into the project. Still, ethnographic exploration of the domain and the empirically grounded generation of new ideas will typically take months. Discount methods to integrate first hand insights include utilization of already available documentations, short “guerilla observation” in the field, and co-creation workshops e.g. with non-users (Christensen 2006).

Step back	x	x		x				x
Step aside	x	x	x		x	x	x	x
Step ahead	x		x	x	x	x		x
	Secondary Data	Persona Creation	Guerilla Observation	Mini-Workshops	Low-Fi Prototypes	Expert Inspection	Formative Testing	Quick Polls

**Fig. 2.** Suitable discount methods for stepping back, aside and ahead of the innovation funnel

Each of the seven touchpoints provides an entry point to step back, aside or ahead in order to look at the situation from a different angle. Methods as described above can be applied to identify potentials for user-centered soft innovation.

## 4 Exemplary Case Study: User-Driven Optimization

The FUSION approach was applied in a pilot project, which aimed at the optimization of an established multimedia product. The project was conducted by the core team (marketing specialists, product managers and user researchers), supported by internal experts, who were acquainted with the product and the complexity and resources of the company.

Starting off with a secondary data analysis, already existing data of former research projects were reanalyzed with regard to the first four customer touch points (awareness, selection, buy, start-up). Based on the gained insights, various personas were created in a mini-workshop. The personas served as an empathy tool (see above: “step aside”) helping to integrate the user’s perspective. In a follow-up ideation workshop, the expert team developed first ideas for product optimization from a user’s perspective, represented by the personas. These ideas were further refined in a subsequent co-creation session with potential users.

**Secondary data Analysis.** Existing marketing- and user research data provided a solid basis for secondary data analysis. Through the reinterpretation of these qualitative data, new insights concerning the customers’ experiences and motivations could be obtained – without the conduction of a new, extensive field research.

**Persona-Workshop.** In a mini-workshop with internal experts, relevant personas were created by using basic drivers – elements, representing fundamental, universal human needs (e.g. “belong to so. or a group”), which can be further decomposed into different sub-drivers (e.g. “belong to family”). Based on the results of the secondary data analysis, the relevant subdrivers could be identified. These subdrivers were combined to pairs to generate characters. Three of them were selected, based on criteria like expected customer value or customer retention. One persona was named “John Head” – a young, social multiplicator, who is highly emotional but not technically savvy. Another persona was named “Miss Heart” – a successful woman in her 30ies, strongly depending of external esteem. After these personas were enriched with demographic and psychographic information, their customer journey along the touch points was created. Persona-specific highlights and pain-points were identified.

**Ideation-Workshop.** Based on the personas and their individual customer journeys, first ideas for product optimization were developed in an ideation session with internal experts. A “Heaven & Hell” exercise encouraged participants to think in extremes, focusing on the most desirable (heaven) and disappointing (hell) customer experiences for each of the three selected personas. By acting out the customer journey for each of the personas through informances (short role-plays), ideas could be illustrated clearly and feedback from other participants was provoked.

Additionally, the method “learning from other brands” was applied: Favored brands of the personas were determined in order to identify relevant factors of success that could be transferred to the product in question. Brands that were associated with persona Miss Heart included an ecommerce offering “Parlando” (try & buy service) and “Best-cat” (indulging and treating yourself). Twenty rough concepts resulted from this workshop, addressing pain points and highlights along the customer journey. In a follow-up meeting, these concepts were aligned with ongoing and past activities as well as current strategies of the company to select most promising options:

- VIP (special customer status and further extras)
- First Contact (delivery and unpacking of the product)
- Unexpected Acts of Kindness (surprising the customer with unexpected offers and gifts)
- Visual Identity (rough ideas on which visual identity the product could have)

**Co-Creation Workshop.** In order to refine the generated concepts, a co-creation workshop was initiated. Internal experts and potential customers, who corresponded to the characteristics of the personas, were invited to generate ideas and to create further concepts for soft innovation. The selected concepts were assigned to different work streams, which were mainly persona-specific, e.g.: VIP (persona: John Head), First Contact (persona: Miss Heart). Topic-specific gadgets and mood boards (inspiring pictures and wallpapers that represent various aspects of a topic or target group) constituted the atmosphere for ideation and creation.

First a brainstorming session took place to gather the experiences of the users with this topic. After that, the method Heaven & Hell was applied: Participants were asked to exaggerate, to imagine the perfect situation and setting their worst case scenario.



After the participants were aware of the preferences and dislikes of the respective group members, the development of concepts was initiated: Using the method Shift of Perspective, participants were asked to create a soft innovation for one other member of the group. This task was supported with an “idea napkin” – a structured template, which helps to formulate ideas and trigger creative thinking. Each concept was presented to the group and first discussed by the other participants. Then, the person for whom the concept was created had the chance to provide feedback for concept tuning. An exemplary concept developed in the VIP work stream was Try & Buy on Recommendation: Try&Buy is a powerful tool to convince unsure customers, but on the other hand the risk of abuse is relatively high. With Try & Buy on Recommendation, the product could be tested before buying exclusively by persons, who were invited by a group of special customers (VIPs). This could help to prevent abuse, since the person testing the product feels obligated to the person, who recommended the product. In addition to that, especially people who pay special attention to recommendations of friends (like Miss Heart) are more likely to be acquired as customers with this concept. In total, 31 concepts were developed and presented to the relevant stakeholders – and the most promising ones were chosen for further, statistically representative evaluation or directly for implementation.

**Lessons Learned.** In practice, the success of soft innovation largely depends on two main issues: The gathering and structuring of relevant information and the commitment of stakeholders and decision makers.

In our case study, the reanalysis of empirical data from past user studies (secondary data analysis) set a clear focus. Additionally, the focus for soft innovation can be sharpened by collecting further information about ongoing, planned or past projects and lessons learned. This prevents from creating solutions, which are not practicable (for technical or organizational reasons) or which already exist. Here, especially stakeholders and their commitment to the project play an important role, since they can provide the relevant information, which often is not documented explicitly.

In order to innovate in a sufficiently free space, a bottom-up approach may be preferred above a top-down approach. That is, innovation could start without commitment of decision makers and managers, only driven by experts and stakeholders. At a certain stage of the project, when concepts for soft innovation haven been carved out sufficiently, decision makers and managers must be included, of course.

## 5 Conclusions, Limitations and Potentials of Soft Innovation

Innovation as a crucial competitive advantage usually requires substantial time and money. The FUSION framework describes how to foster ideation for optimization with efficient tools. Detouring into extremes – such as fundamental considerations, peripheral and utopian viewpoints – helps to foster radical innovation with reasonable effort. Triangulation (of researchers, methods, and data – Denzin 1970) prevents from conducting one-sided studies and performing too narrow analysis, resulting in invalid conclusions. In a similar vein detour profits from changes in perspectives through the integration of highly specifically participants (like the non-users in stepping aside or persona representatives in the case study), or the consideration of peripheral data.

The lightweight approach is useful especially for small and medium-sized companies with limited financial and temporal capabilities. Saving time and budget also allows repeating efforts in the pursuit of triangulation or iterative detour. Iterative collection of small empirical probes and focused ideation sessions allow product management teams to keep in touch with pulse of their customers and prepare the empirically informed ground for continuous innovation, and ongoing exploration within the exploitation of established products.

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