

Opportunity Design: what, where and how?

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Abstract

Creating and growing new businesses is basically about turning an entrepreneurial opportunity into future business. In literature the emergence of opportunities is often described as opportunity recognition or opportunity discovery, which points to the understanding that opportunities are out there just waiting to be recognized or discovered. This assumption of pre-existence also implies limited intentionality on part of the entrepreneur in proactive creation of opportunities. Even though central characteristics of the opportunity recognition process have been identified as creative or development oriented, the act of 'recognition' is still a central part of the definition. Recently the term "Opportunity Design" has been introduced, suggesting that opportunities can be proactively and intentionally designed. However, the relatedness between the opportunity recognition process and opportunity design is not clear. Furthermore, there is still a lack of approaches, methods and tools, which can support entrepreneurs in designing the entrepreneurial opportunities. In this paper, we take steps towards defining opportunity design in respect to the opportunity recognition process, and identify some of the specific approaches applicable to the design of opportunities. By looking at industrial designers working with entrepreneurial opportunities, it becomes evident that there is a set of approaches, which can turn the opportunity recognition process into an intentional and proactive process.

Introduction and conceptual background

The origin and emergence of opportunities represents an on-going theme for discussion within entrepreneurship literature (Nielsen et al, 2012). The main opposing viewpoints in the discussion are represented by Schumpeter (1934) and Kirzner (1979) respectively. In short, it is a discussion on whether opportunities exist a priori and just wait to be recognized by an entrepreneur or if opportunities are in fact created by the entrepreneurs. This discussion entails fundamentally different and apparently irreconcilable views on the origins of opportunities. However, in this paper we follow studies abandoning the discussions on the origins of opportunities as the essential

point to understand opportunities. We support the argument that opportunity emergence should be viewed as a process leading to the opportunity, and this process may be influenced in a number of different ways. As such, even if the terms ‘opportunity recognition’ or ‘opportunity recognition process’ imply that opportunities are “... *concrete realities waiting to be noticed, discovered, or observed by entrepreneurs*” (Gartner, et al., 2003: 104), this process may in fact be influenced by an interplay of factors relating to *exploiting existing* realities as well as *creating new* ones.

Focus has in several studies been on identifying the main factors influencing the opportunity recognition process (Christensen *et al.* 1989; Kaish & Gilad, 1991; Hills, Shrader and Lumpkin, 1999). One of the first process-models was introduced by Long and McMullan’s (1984). Their four-stage model of opportunity discovery included the steps: 1) pre-vision, 2) point of vision, 3) opportunity elaboration and 4) decision to proceed. Each of the four stages entails a degree of focus on the proactive and creative behavior of the entrepreneur.

Bhave (1994) identified two types of opportunity recognition processes. The first type is externally stimulated opportunity recognition, where the decision to start a venture precedes the opportunity recognition. In this type of opportunity recognition the entrepreneur actively searches for opportunities by filtering through them, massaging ideas and elaboration. The second type is internally stimulated opportunity recognition. Here the entrepreneur identifies a problem to solve or a need to fulfill however the decision to create a venture is made later in the process. The two processes show differences in the point of creating the venture as well as possibilities of viewing the opportunity emergence process in terms of both exploitation as well as exploration.

Hills, Shrader and Lumpkin (1999) argue not only for a process perspective on opportunity recognition but for a creative process perspective. They suggest a model based on Long and McMullan’s 1984-model and models of creativity (Wallas, 1926 and Csikszentmihalyi, 1996). The model is shown in Figure 1.

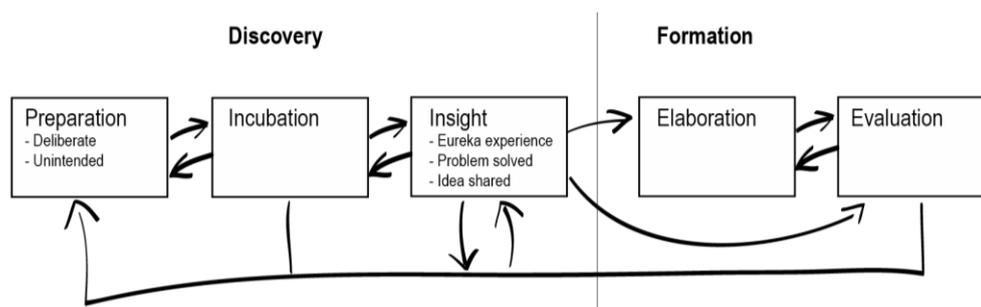


Fig.1 The opportunity recognition process (own illustration based on Hills, Shrader and Lumpkin (1999))

In this model of opportunity recognition we once again find several elements illustrating the intentional acts of the entrepreneur, in addition to the more unintended recognition of opportunities.

Ardichvili *et al.* (2003) takes the idea of the viewing opportunity recognition as a creative process one step further by introducing a process model evolving around perception, discovery and creation and argue that: “*While elements of opportunities may be “recognized,” opportunities are made, not found. Careful investigation of and sensitivity to market needs and as well as an ability to spot suboptimal deployment of resources may help an entrepreneur begin to develop an opportunity (...) But opportunity development also involves entrepreneurs' creative work. (...) The need or resource “recognized” or “perceived” cannot become a viable business without this “development.”*” (p 106).

Some studies have further pointed to the main factors influencing the opportunity recognition process. Lumpkin, Hills and Shrader (2004) made a study on opportunity recognition behavior, which implies that: 1) opportunity recognition is inherently a creative process 2) opportunity recognition involves experimentation 3) high levels of domain knowledge enhance opportunity recognition 4) “good ideas” must be formed into viable business opportunities.

In this sense, existing literature on the opportunity recognition process provides us with plenty of evidence that opportunity recognition is a dynamic process where creativity, knowledge, experimentation and business sense are important drivers.

However, even though this literature presents elements relevant to grasp the emergence of opportunities, as well as elements to define the creative nature of the opportunity recognition process, little understanding exists on how to achieve this; which concrete tools, methods or approaches are applicable to pro-actively create opportunities. In fact, although close links between creativity and opportunity recognition are assumed, remarkably little attention has been given to creativity in entrepreneurship research. The creative methods and processes of developing new opportunities remains in many ways an unsolved mystery (Gielnik *et al.* 2011).

Recently the term ‘Opportunity Design’ was introduced to remedy this lack (Nielsen *et al.*, 2012). It is through this concept suggested that opportunities can be proactively and intentionally designed in an interactive process between recognition and creative creation, and parallels to design science are in this sense drawn.

The intent of this paper is to further support this emerging conceptualization, and show examples of how the opportunity recognition process can be proactive and intentionally approached, thereby turning the opportunity recognition process into a process of ‘opportunity design’. Furthermore the paper will focus directly on the lack of tangible tools, methods and approaches leading to entrepreneurial opportunity design.

Methodology

We address the conceptualization of opportunity design based on a qualitative case study. The case is purposively chosen based on the following selection criteria.

The case must:

- be an entrepreneurial venture
- have a clearly distinguishable innovation project (opportunity)
- provide us with access to key players involved in the process of opportunity recognition, and the key players are able to explicitly address the methods and approaches applied throughout the process.

The data for the case study is collected through qualitative in-depth interviews conducted based on an interview protocol developed with the specific purpose of highlighting the specificities of the process of opportunity recognition.

By conducting a case study of a project developed in collaboration between a technology-based venture and an industrial designer we are able to identify a set of tools and approaches, which can be applied in order to specify the opportunity recognition process as a process of opportunity design.

This paper is a first milestone towards developing a coherent research agenda on opportunity design. As such, the paper builds upon the initial conceptual framing of opportunity design and outlines the positioning hereof in relation to existing knowledge on opportunities. It is a clear objective of this research effort to point towards tools, methods and approaches used in opportunity design.

The paper is divided into three parts. First the case study is presented. This gives an overview how a process of opportunity design took place. This is followed by an analysis of the case with focus on the tools, methods and approaches used by the designer. The paper concludes with a framing of opportunity design in relation to the opportunity recognition process, as well as introducing an initial list of tools, methods and approaches for doing opportunity design.

Empirical context

Libratone is a high-end airplay sound systems company. But it is also a story of how an entrepreneurial opportunity with a competitive edge was partly discovered, partly designed.

Initiating idea based on technology and market analysis

The initial idea behind Libratone was based on the fact that the market for docking station was rising but at the same time the sound quality and performance of these docking stations in general was poor. Accordingly, the idea was to create a wireless docking-station for iPads or iPhones, but with hi-fi oriented sound quality. Not surprisingly, the idea came from two sound-technicians. One of them was working in the high-end sound system industry; the other in the hearing aid industry working with wireless technology. The idea was technology driven and focused on creating one speaker-unit, which would send sound in all directions of the room and use the room's

reflection to create the 360 degree stereo sound experience (later patented: FullRoom® technology). After the first number of iterations on the technological development an investor accompanied the two sound technicians. Their shared aim became to develop a technological platform, which could be sold to different existing hi-fi brands.

Prototyping the technology to prove the concept

To exemplify the idea and business potential, the entrepreneurial team created a full-functioning prototype and asked a design consultancy to create an exemplary design. The design-brief included the design of two units: a stand-alone unit and a unit to be placed under the television. The units were defined by the physical volumes of the components and for the stand-alone unit, the design brief also included a triangular shape to ensure that sound could be dispersed in different directions using open baffles on two sides for treble and midrange. However since the idea was to sell the technological platform to all-ready existing brands, the user understanding and positioning in the market was limited. The team had had some initial ideas about focusing the design on females and iPhone users. Further, it was agreed that the design consultancy would make only one concept, due to timely and financial limits.

Deciding to rely on hunch and experience

At the design-consultancy, the design brief was given to two experienced hi-fi designers with extensive insight into the consumer electronics market. Both of them had worked with design assignments for several of the large consumer electronic brands. Since both time and resources limited the assignment for the entrepreneurial team, the design approach turned out to a combination of the designers' intuition, and capitalization of earlier experiences. As one of the designer recalls it: *'We had had a lot of [consumer electronic] clients [at the design consultancy] (...) and we had tried to [provide them] with a number of good concepts (...), but they didn't get it. This [the assignment for Libratone] was like an oasis. (...) They said: we do not have a lot of money and we do not have a lot of time. – Okay then, we will do it our way. We will not make 5 different concepts. We will make what we believe in. Fundamentally it is a backlash against everything we have made for the traditionally thinking industry.'*

In the concept development, the design brief's focus on design for females and pleasing the iPhone users, was reframed and new perspectives were added to it.

Positioning Libratone to compete on new parameters

First of all, the designers focused on developing a design that would differentiate from the majority of the market. The intention was to *'get away from piano black'* or out of the *'electronic/PC'* reference and into a *'home'* reference. This strategy was inspired

by how Apple in the early days tried to differentiate themselves from the PC dominated market, by competing on other aspects than the typical technological features. Accordingly the sound system was designed as a piece of furniture – with visual reference to some of the contemporary Scandinavian interior and furniture designs. As one of the designers explains it: *'[Piano black] was just a trend that had stayed too long (...) the world has changed in regards to the economy. The gadget-race, where you buy updates just to consume and without using it [is over]. Also nobody makes 'piano' that is nice. The bigger the surface, the bigger the problem (...) Further, if you are a new company, and you do not have any money, you have to do something different –strategically (...) if 1% loves your product, you have a huge market. (...) There is no need to satisfy the 99% (...) and compete with 2000 other brands. (...) Those who step out of it [the traditional market] is not loved by everyone, but they are very visible and some loves them. And being loved can bring a brand ahead, especially through the social medias, where it is easy to get ambassadors working for you.*

Designing for interior decoration

Secondly, the initial idea about designing for females was reframed into designing a unisex sound system, which would balance between being discreet and at the same time being bold. The designers did not identify females as the main target group for the product. However, they did identify the tendency of expensive hi-fi systems ending up in the basement, because it was not 'allowed' into the living room by the female occupant. And accordingly they found it important to develop a unisex design that at least would not be repulsive to females.

Music consumption changing

And finally, the designers had identified a tendency of people using music as a soundtrack to other activities i.e. cooking, working or relaxing, rather than using music as the main focus of attention. At the same time music storage is often digital (computers), portable (e.g. phones) or streamed (i.e. Last FM, Spotify) and since consumption often is done on the move and through portable devices using headphones there was a need for music to break free of the headphones but still use the phone (portable device) as source and control (e.g. app). This pointed to a portable design including a handle that would make it easy to bring the speaker unit with you anywhere in the house and be controlled by a phone or mobile device.

The outcome of the design process was very, very close to the final product.

Market entering through Apple Universe

In the meantime, the Libratone team discovered that the potential in the FullRoom® technology was higher than first expected, and therefore they decided not only to develop a technological platform for existing brands, but to build and develop their own brand. Part of this strategic shift included an invitation to one of the designers from the consultancy to join the team at Libratone.

In the new constellation, the positioning and image of the sound system - included in the product design and developed by the designer - soon became directly influential on the company strategy as well. Since Libratone's product design already related to the product understanding and principles behind many Apple products and could be used together with a phone through an App, Libratone decided to enter the market through the Apple Universe and target iOS devices and App Store. The designer explains the reasoning behind this as follows: *'If you are a small company without any marketing resources and you have to sell worldwide and you have a product that cost a lot of money – the Apple Universe it really smart. It is one sale. It is worldwide. (...) It is building your brand. And it is easy to reach with something new, because it as a global community with very few entrances.'*

In practice this meant exchanging the existing wireless technology with airplay technology in the Libratone products and, as well as convincing Apple to select Libratone as one of the products/brands to use airplay. After numerous struggles and product delays Libratone's quest succeeded, and as a result they were able to market their products through Apple Store and the Apple community resulting in a lot of free publicity.

Analysis and Discussion

Similarly to the discussion on the emergence of opportunities the Libratone opportunity can be viewed from several different angles. It could be argued that the opportunity arises in the initial technological idea created by the sound technicians – and it could also be argued that many essential parts of the opportunity emerged under the designers' influence. In line with the process view on opportunities recognition outlined earlier in this paper, we view the opportunity recognition in the Libratone case as a dynamic combination of several aspects, which will be discussed in the following.

The iterations in the opportunity recognition process

When analyzing the Libratone case in the light of opportunity recognition process models, it becomes clear that the opportunity builds on several '*recognitions*' or '*discoveries*'. It is possible to identify at least three loops or iterations.

The first iteration is the initial '*recognitions*' made by the sound technicians. Their technical knowledge about high quality sound can be seen as the preparation and incubation, which leads to the insight and development of the FullRoom® technology.

The second iteration happens at the design consultancy. The designers' knowledge about the consumer electronics market (from earlier projects in that area), understanding of music used as soundtracks rather than focus point (mainly based on their own experiences) as well as insights into contemporary Scandinavian furniture and interior design can be seen as the preparation and incubation, which leads to the insight on how to create a sound system design, which differentiates from the other brands in the market and accommodates some of the new trends and tendencies in relation to music.

And finally, the idea of introducing Libratone through the Apple Universe can be seen as the third iteration. Here one of the designers' interest and idolizing of Apple (especially in the early days) both from a personal as well as from a professional perspective created the knowledge about Apple's brand, communication and social network, which became the preparation and incubation leading to the insight, that this was the perfect platform for entering the market, if you are a small company with very little resources.

Proactive conceptualizing in the opportunity recognition process

It is furthermore evident that not only does the opportunity recognition process build on several '*recognitions*' or '*discoveries*', but also that several of these are proactively and intentionally brought into existence.

If we focus primarily on the designers' work in the first part of opportunity recognition process, it is evident that the approach to the 'opportunity recognition process' is far more proactive than the steps of: 1) preparation 2) incubation 3) insight.

This can for instance be seen in the iterations at the design consultancy. The designer reflects on the creation of the physical design preceding the insights about the market tendencies and user context in the following way: '*We just made a product. I think we had all these hunches, but it was unsaid (...) unacknowledged in many ways*'

This means that the designers approach to the 'opportunity recognition process' was proactive. Rather than waiting for a 'mental' process leading to the insight i.e. on how to make a product that would differentiate from other products in the market, they actively enter the opportunity process by working with the giving shape and body to the solution before the insights had been acknowledged. The process of conceptualizing provided a space, where the unacknowledged insights could take physical form which lead to development of knowledge about the opportunities related to this.

Using experience to transfer knowledge across different domains

Another example, where the designers' work in the first part of the opportunity recognition process is proactive, is in the first step of preparation. As part of the

industrial design culture it is natural to attain knowledge about product, technologies, services, communication etc. across different domains – in the Libratone case this is exemplified in the designer's knowledge about Apple, contemporary Scandinavian furniture design, as well as consumer electronics. This shows ability to link knowledge from a range of different domains.

In other words the designers have in their years of practice developed '*mental inspiration libraries*', which they proactively use in the conceptualization process i.e. by transferring knowledge across different product domains and combining it in new ways like it was done in the first conceptualization at the design consultancy.

Maintaining clear principles while elaborating new aspects

In the last part of the opportunity recognition process: 4) elaboration and 5) evaluation, there is also evidence of the designers approaching the opportunity recognition process proactively. At this point in the process the team was working with all sorts of different aspects of the 'emerging business' including sales, positioning, branding, product development, distribution and strategy. And since the designers were the *do'ers*' (as they called themselves) they were very active and proactive in this process as well. This also gave them access to work with some of the areas, which typically did not include designer: '*We had a problem (...) we said that [our product] is a piece of furniture, but in furniture trade they earn a lot more on their things. This meant that if we were to sell [our product] through i.e. Illums Bolighus (a leading Danish furniture retailer), they would have to sell it for twice as much as they do in the Apple stores. Otherwise they would not earn any money on it. This meant that we had a problem, because on one hand we really wanted to enter the lifestyle segment, but on the other hand our distribution strategy did not support it. (...) The solution was actually to make a product, which we could sell at a higher price. That is the colored versions with Kashmir. It is a very low-practical solution, but we are aiming at a high static goal: to enter the lifestyle retail environment, which is both positioning and brand creating.*'

The designers approach to last part of the 'opportunity recognition process' was to build holistic principles across different areas of the 'emerging business'. If the product was seen as a piece of furniture, it would be pictured in a home environment and also sold through furniture retailers (even if this was mainly a branding strategy). And if the visions or strategies created problems, the designers would try to solve them by working '*across the traditional organizational silos*' - meaning that the search for the solution of a distribution problem was not only made in the distribution- context but across the whole 'emerging business' and in the situation described above: solved in the product-design context.

Conclusion

Through the analysis of the case we have shown that 1) the designers at Libratone had a highly proactive and intentional approach to the opportunity recognition process and 2) there are at least three significant approaches, which they used. The three approaches are:

1. Conceptualization
2. Domain Transfer (mental inspiration library)
3. Building principles and solutions

Similarities across the approaches

The designers' three proactive approaches have one thing in common; they are all holistic, in the sense that they address several aspects and are based on iterations. The conceptualization approach is holistic because it allows a number of different aspects of the product including positioning, market understanding, user understanding as well as production limitations to come together. Likewise is the domain transfer approach is holistic because the 'Mental Inspiration Libraries' builds on insights, understandings and principles from very different domains, and allow these to be transferred into the product. And finally the 'Building principles and solutions' approach is holistic because the principles and solutions are made across the traditional organizational silos, not limiting the human resource base to their functional areas, but making full use of the joint knowledge base to actively design the process from product design to business design.

In figure 2, the proactive and holistic approaches are added to Hills, Shrader and Lumpkins (1999) model of the opportunity recognition process. As such, we illustrate how this process can be seen as an opportunity design process based on insights into the actual processes and approaches applied.

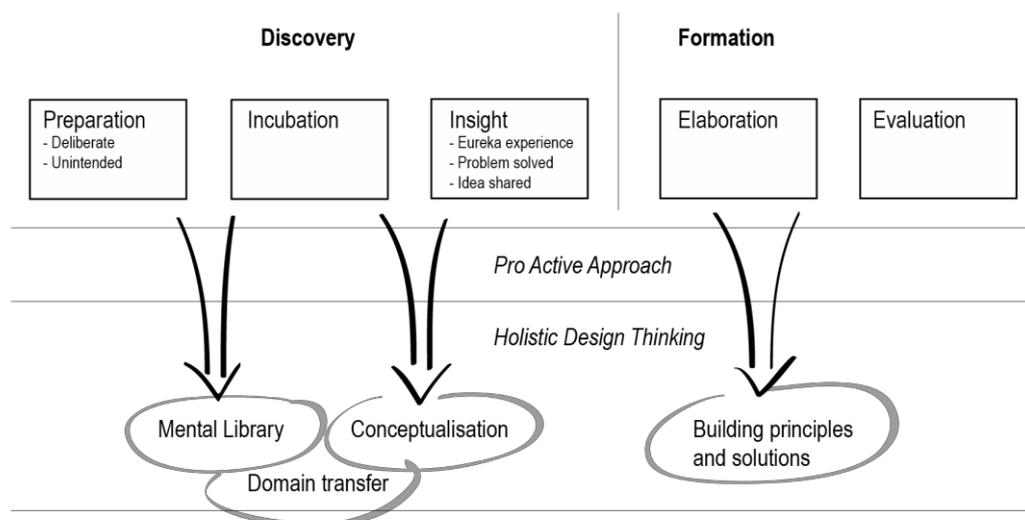


Fig. 2. From opportunity recognition to opportunity design

We suggest the definition: *Opportunity design is to engage proactively in an opportunity recognition process, through a number of holistic design practices.* We argue the understanding of opportunities can benefit from more research on ‘opportunity design’, because it can provide essential knowledge about the approaches, methods and tools entrepreneurs can benefit from in their work with opportunities.

Future steps include; establishing a deeper insight into the range and application of specific methods and approaches related to opportunity design and test and clarification of how such insights benefit the pursuit of opportunities.

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