User Frustrations as Opportunities

Michael Weiss

> *" In the middle of difficulty lies opportunity. "*

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Albert Einstein
Theoretical Physicist (1879–1955)

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User frustrations are an excellent source of new product ideas. Starting with this observation, this article describes an approach that entrepreneurs can use to discover business opportunities. Opportunity discovery starts with a problem that the user has, but may not be able to articulate. User-centered design techniques can help elicit those latent needs. The entrepreneur should then try to understand how users are solving their problem today, before proposing a solution that draws on the unique skills and technical capabilities available to the entrepreneur. Finally, an in-depth understanding of the user allows the entrepreneur to hone in on the points of difference and resonance that are the foundation of a strong customer value proposition.

Introduction

Any business opportunity starts with a good understanding of the current or potential user of a product. As an entrepreneur, you need to understand what problems the user faces, and how you can use your skills and technical capabilities to solve them. It is critical to keep those two aspects of developing a new opportunity apart. On one hand, users are just looking for a solution to their problem. They are not interested in the technology underlying your solution. On the other hand, you can only solve problems that match your skills. Often, entrepreneurs make one of two mistakes: they either assume that their technical solution will "wow" the customer or they target an opportunity on which they cannot deliver, because they do not have access to the required skills and capabilities.

To learn about your users, you should answer these questions:

1. What problem are you solving for your user?

2. What frustrations do users experience with current solutions?

3. How are users solving their problem today?

4. What better ways are there to solve the user's problem? Do you have the required skills?

5. How is your solution different from other solutions on the market?

What problem are you solving?

If we could just ask customers what they need, developing new products would be simple. Traditional market research relies on customer input obtained through surveys and focus groups. However, users often cannot articulate their needs, and their imagination of what solutions can be provided to their problems is limited by what they have come to know. Asking customers about their needs will lead to incremental improvements, not new ways of solving their problems.

In order to understand what problem the user faces, you need to put yourself into the user's shoes. From the user's perspective, your product needs to address needs the user has. User needs come in two types. Needs that the user can articulate are also known as perceived needs. An example of a perceived need is a user looking for a faster portable scanner or one with greater memory capacity. Most needs, however, are difficult to articulate. For example, the user's experience

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with current products may limit their ability to imagine a different type of solution. These needs are called latent needs. An example of a latent need is that users really want to limit the number of gadgets they have to carry with them.

Continuing with the scanner example, we note that currently, most portable gadgets have a single purpose. So, an industrial designer may need to take a potpourri of gadgets wherever he goes, including a digital camera for taking photos, a voice recorder for conducting interviews or sampling sounds, a portable scanner to scan photos and articles, a sketchbook for capturing ideas when the inspiration strikes, and a collection of pencils of different strength. I happened to sit next to a well-known designer once at an event, when he emptied his bag on the table to make this very point. Our designer's latent need is: there are too many gadgets to carry, but if he leaves one of them at home, it may be the one he needs most. So, he has learned to live with this constraint; he is not content, but he lacks a viable alternative.

What frustrations do users experience with current solutions?

To discover latent needs, look for frustrations that the user experiences. They are often hiding behind work-arounds that the users have adopted to make do with current solutions. Users may also simply be unaware of which alternatives are technically feasible and have come to except the limitations of current products. Their experience with existing products also frames how they can articulate their needs (Leonard and Rayport, 1997; tinyurl.com/7qvfakd). Thus, for discovering latent needs, a different approach from surveying users is required.

User-centered design techniques can help elicit those latent needs (Holtzblatt and Beyer, 2012, tinyurl.com/bpu77ow). User-centered design takes the view that the user's needs can be best understood by observing the user in their work environment. It provides a set of techniques that cover the front end of product development – including who the users are and how they do their work today – to detailed user interface design. It starts with observation and inquiry in the user's work context. The goal here is to capture what users actually do and not what they self-report as doing. This stage provides insights into what prompts users to use existing products and may uncover unexpected ways that users are using them.

Some of the techniques available through user-centered design approaches include shadowing and work modeling (Stickdorn and Schneider, 2012: tinyurl.com/8796tr4; Katzen, 2011: tinyurl.com/6v6fut5). When shadowing users, product developers spend time with users in their environment and try to observe them in an unobtrusive manner. This allows developers to experience problems as they occur. Often the users involved may not recognize problems as such, or have accepted them as "how things work". Work modeling involves mapping the users' activities into a visual representation of how they interact with the products they use. From this, the developer can derive problem areas and opportunities for improvement.

Intuit (intuit.com), the developer of the Quicken personal financial software, requires its developers to spend a few days each year shadowing new users using the software. From this exercise, not only does Intuit learn how to improve the documentation and usability of its software, it also gains insights into the environment in which users are using Quicken. One of the lessons for Intuit from its "Follow Me Home" program (tinyurl.com/32u7pxr) was that small business owners were using Quicken to keep their books. As a result of this observation, Intuit created the QuickBooks financial software product for small businesses, which allowed the company to enter a lucrative new market.

How are users solving their problem today?

Understanding how users help themselves when they face a problem also makes you aware of the alternative solutions available to them. Additionally, the Internet is an excellent resource for finding information about competing solutions, not only in terms of their features, but in terms of user feedback and the frustrations users experience using those competing solutions. Many entrepreneurs limit their attention to products that directly compete with their solution. Doing so, they fail to recognize what the user is trying to achieve, in other words, what job the user would be "hiring" their product to do (Christensen and Raynor, 2003: tinyurl.com/7n7x5rd; Christensen, 2006, tinyurl.com/mdazmc).

For example, if your product is a portable scanner, you might just be comparing it to other portable scanners on the market. However, your real competition may be far broader than originally conceived, but so are your solutions. A new solution to a problem that the customer faces may involve another type of technology or an

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alternative approach. Solutions competing with a portable scanner include copiers (if one is nearby), the user's memory (often unreliable), pen and paper (slow and tedious), as well as a camera-equipped smartphone (a very viable alternative, as we will see).

What better ways are there to solve the problem?

What you bring to the table as an entrepreneur are skills and technical capabilities. When you learn about the customer's problem, you are actually constantly looking for opportunities to match your skills and technical capabilities to the user's needs. This process enables you to imagine solutions that users cannot conceive, given that their experience is limited to products that exist. Users may not be able to imagine solutions that are within your reach. In other words, you are a peddler of possibilities.

For example, users like our industrial designer may need to scan documents on the go. Existing solutions to this problem have been cumbersome (e.g., are difficult to use, force the user to carry an extra piece of equipment, require battery power, produce low-quality results, require transferring scanned images to other computers). Using a smartphone as a scanner is an effective alternative. It is a device users already carry with them, so no extra equipment is required. The user already keeps it charged regularly. Smartphones have built-in cameras that are often of high-enough quality to capture a sufficient level of detail. The functionality of a scanner can be emulated by an application on the smartphone. The smartphone solution makes a trade-off between quality (high-resolution scans) and convenience (many devices in one).

How is your solution different from other solutions on the market?

However, it is not enough merely to solve the problem as effectively as other solutions. Your solution must excel in some dimensions. Look for points of difference that set you apart from your competition. In fact, if you are doing this well, what you want to emphasize are the points of difference where you demonstrate an intimate understanding of your customer. You can do this through a resonating focus on just the dimensions that matter most (Anderson et al., 2006: tinyurl.com/6tmrqvv; see also Shankar, 2012: timreview.ca/article/525, in the February issue of the *TIM Review*). The time you spent earlier, observing users and trying to understand their latent needs, will pay off handsomely now. The better you understand your customer, the better you will be able to identify just what features and attributes of your product matter to them most, which is why they will want to buy the product from you rather than your competition.

The first company to offer a smartphone application that effectively turns a smartphone into a portable scanner demonstrated a superior understanding of one of the most pressing user needs. Rather than innovating, as its competitors did, on dimensions that customers were well-aware of, such as modifying the design of a portable scanner so it can operate independently from a computer, this company recognized something important that had eluded its competitors. It understood that, for many users, carrying a separate piece of equipment that they did not use regularly, and keeping it charged at all times, was a major nuisance. This understanding could only be obtained by close observation of users in their working environment. Armed with the knowledge of the frustration that existing solutions created, the company was able to recalibrate the trade-off between quality and convenience in its favour.

Conclusion

This article described an approach that entrepreneurs can use to discover business opportunities. In summary, to learn about your (current or potential) users, answer these questions:

1. What problem are you solving for my user?

2. What frustrations do users experience with current solutions?

3. How are users solving their problem today?

4. What better ways are there to solve the user's problem? Do you have the required skills?

5. How is your solution different from other solutions on the market?

Your answers to the first three questions will tell you whether the problem is big enough to become the foundation of a new business. Your solution needs to be a significant improvement over the solutions currently available to users on the market. Your answers to

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the fourth and fifth questions will tell you whether the opportunity you discovered is something that you can and want to act on. If there is no match with your skills or future goals, the opportunity may not be the right one for you. Finally, your answer to the last question will give you insights into why users will buy the solution from you. If you are a new player, you cannot build on an existing relationship with your users, but you need to demonstrate a level of understanding of your users' needs that surpasses the competition. Once you have the answers to these questions, you are well-prepared to create a compelling customer value proposition, which will be the centrepiece of your business opportunity.

About the Author

Michael Weiss holds a faculty appointment in the Department of Systems and Computer Engineering at Carleton University, and he is a member of the Technology Innovation Management program. His research interests include open source business models, collective innovation, mashups and end-user development, product line engineering, and business patterns. Michael has published over 100 papers in conferences and journals.