Developing Disruptive Software Products with Design Thinking

Abstract

Companies today are aggressively positioning design at the center of the organization to match business practices with the complexities of modern technologies. This is particularly true of the software industry where product lifecycles are shrinking at an incredible rate due to disruptive innovations, and user experience has gained paramount importance. How can software product companies embrace this dynamism to develop next-generation software products that provide superior value to customers?

We believe that customer delight and innovation are the two most important aspects that govern the design thinking approach, and an optimal mix of these two can successfully address the challenges that software companies face in product development. The paper outlines nine design thinking principles to help software companies develop market-disruptive products.
Introduction

As technology evolves dynamically and disruptively, product lifecycles in the software industry are shrinking at a rapid pace. With user experience becoming supreme, the parameters of what makes a product successful have changed. Amid intense competition, product companies are striving to ensure that their offerings are more relevant to the consumer and deliver superior value as well. With software and platforms available as services, switching costs are quite low, making it challenging yet essential for these companies to capture the consumer mindshare with next-generation products.

How can product companies keep ahead of the disruption to keep customers happy and acquire a competitive edge? We believe that design thinking is the key to devising winning products that are successful as well as sustainable.

The first step to solving a problem is to knowing the right question, and design thinking helps with just that – asking the relevant questions for developing winning products, such as:

- Who is the target audience for the product?
- Why are we making the product?
- How are we making the product?
- What do we want the product to look like?
- What value will the product give to the end user?

Design Thinking and Product Development

In our view, design thinking depends on innovation, which is a function of the feasibility (business aspect) and viability (technology aspect) of a novel idea. Additionally, it requires a strong element of customer delight which would ensure product success. This brings us to what we think should be the guiding ‘equation’ for employing design thinking in software product development:

Design thinking in products = Customer delight X Innovation

Design thinking takes into account mindsets, principles, practices, and techniques to frame a human-centric approach that goes beyond the product’s outlook. Combining an analytical process with a creative process fosters an
environment to experiment, create and prototype models, as well as gather feedback and redesign.

Nine Design Thinking Principles that Software Product Companies Must Follow

Adopting this mindset and creating a cutting edge product isn’t easy. Imbibing design thinking isn't a one-time activity – it needs to happen throughout the lifecycle of a product. From our extensive work with software product companies and an analysis of current industry trends, we list nine tenets of design thinking that will help software companies navigate the complexities of technology to develop products that will win hearts and disrupt the market.

Customer Delight

- Understand the needs of the end user of the product
effectively
- Re-frame and synthesize the end user's needs
- Put forward multiple ideas generated for the product and its features
- Adopt these ideas in a workable form
- Implement and check these ideas with various stakeholders

Innovation

- Think by doing
- Be highly creative
- Embrace ambiguity
- Think generative
- Be optimistic
- Be Empty
- Be Full

- Visualize the bigger picture
- Be Customer-centric
- Be Ambidextrous
- Adopt a collaborative workstyle
Principles contributing to customer delight:

Visualize the bigger picture: How can companies strike a balance between the needs of the end user and the synthesized product idea? An integrative thinking with a 360-degree view will enable software developers to provide input at various levels and imagine the end product. Studying the competition, analyzing the end user’s needs, and checking in the findings with all the stakeholders will be important to not lose out on the essence and digress from the core vision of the end product, something that often happens due to delivery timeline pressures.

Be customer-centric: Empathizing with the end user while developing products helps sharpen the competitive advantage. Maslow’s Hierarchy of Needs suggests that people often go for things they need rather than the ones they want. Understanding and applying this principle will need designers and developers to be emotionally intelligent. The customer-centric culture is guided by the end user’s desires, aspirations, engagement, and experience. SAP products used to take months to get deployed in the customer environment. But, after applying design thinking into the product development processes (SAP Rapid Deployment Solution (RDS)), customers received instant access to ensure timely implementation.

Adopt a collaborative workstyle: Companies develop products that integrate with multiple environments and data sources. Design thinking suggests using the external environment to bring in newer perspectives to apply to the products. The multidisciplinary teams working on such products must be highly motivated, avid listeners, and risk takers, while being keen to share knowledge, power, and credit.

Be ambidextrous: Successful products are built by companies that exploit and explore opportunities at the same time. They experiment with the current environment even while reimagining the future. The willingness to fail and the courage to tackle risks need to be industrialized within the product engineering process. The onset of newer technologies and form factors during the development of product and the dynamic environment needs to be tackled well.
Principles contributing to innovation:

Think by doing: Ditch the conventional, sequential thinking pattern and involve multiple internal and external stakeholders to generate breakthrough ideas. The flow of numerous opinions, and even rejections, only help clarify and validate the thought process, by reducing risks and uncertainties at the early stages of product development. UberEATS, the food-delivery service app used rapid field testing wherein the prototypes were taken to restaurants, customers’ homes, and delivery vehicles. This helped the company create a new feature for users who wanted to get their food delivered ‘under 30 minutes.’

Be creative: The rapid experimentation process in product development calls for giving a free rein to imagination. As more companies compete to create disruptive products, a higher level of cognition and intuition is required to make a product stick. The concept of abductive reasoning (logical inference to an observation) can help here. In fact, not just creating, even launching products will require an out-of-the-box approach.

Embrace ambiguity: Making peace with ambiguity is the key to enduring the speed of change. This becomes even more critical for the software industry. Ambiguity helps tackle situations where user needs are not very concrete or clear, by helping develop product features that are flexible. Ideas can flow from various data sources across organizational boundaries and can be later combined and given shape.

Think generative: Who knows what tomorrow will bring, but a systematic way of thinking can get us closer to it. Generative thinking usually involves imagining or articulating a future customer experience, which triggers innovative product features. Many random ideas could be generated before an acceptable list of features is drawn up. Combining divergent and convergent thinking approaches helps product companies be ‘clairvoyant’. Google has created a linear process of brainstorming new ideas and turning them into products. This process usually starts with knowing the user, improving the idea by ten times (10x), and creating a prototype. This has led to creation of various next generation products.

Always be optimistic: Taking the conventional path to product development is almost history. Trials and errors are usual, and failures frequent, even welcome. In such a situation, it is essential to keep the faith in the end product. Software development teams must learn constructively and continuously from the testing. A positive, receptive, and open mindset never fails.
Scaling Newer Heights in Software Development with Design Thinking

A majority of the software companies today have mastered the art of agility in product development and are keen on developing disruptive, niche products. Design thinking can steer such companies toward breakthrough innovation. Using newer technologies such as machine learning, Big Data science, predictive analytics, cloud technology, artificial intelligence, and so on, deeper customer insights can be procured and applied to develop products that stick. Helping customers make sense of the complexity and making products that are intuitive and simple from the user perspective will require a change in collective attitude to product development.

Embracing design thinking is the way forward. Getting the right balance of customer delight and innovation is crucial to developing design-driven products of the future, which are successful as well as sustainable.

References
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