

How Design Occurs in Theory and Reality

Yi Wang

Indiana University, Bloomington

Abstract

When designing, there are always some differences between theory and reality. By reflecting on what I have learned in this semester's HCI/d program, I try to analyze my experience and knowledge on how design occurs in theory and reality. In this paper, I also try to match some real-life examples of how some designs success or fail, in order to better illustrate how we should deal with the relationship between design theories and reality. Although we have design theories to guide our way forward, in reality, there is no right or wrong way to go with design, and we need to utilize our design theories dynamically towards reality.

Keywords: design theory, match, reality, Human-Computer Interaction Design

How Design Occurs in Theory and Reality

Nokia, one of the most “famous” and “innovative” tech companies once, how did it fail so quickly just in a few years? I still remember around 2010, Nokia was the biggest cellphone company in the world, while, eight years later, Nokia's market share has fallen to negligible, which is mysterious and astonishing to me.

I am always curious about this question from a few years ago. Back then, I barely had experience in UX design, and I did not understand how Nokia failed. Now, since I have been exposed to the HCI design world, I want to try to solve my confusion from what I have learned from the HCI/d program so far.

From my understanding, there were many factors contributed to their failures such as unsustainable business models, Internal affairs, unhealthy operation strategies, and design failures. Take Nokia, in their best times, they had brought several classic products to the market, and they had all the brilliant developers, engineers, and designers. They had followed all the necessary design process such as intensive User Experience Research, they had so-called “insights” to guide their concepts, and those built those “concepts” into prototypes, then they came to design iterations. However, from the year 2007, they did not take it as a dangerous signal to the rise of iPhone and Android phones. Gradually, they were falling in the cellphone market. Although they tried with several rounds attempts, touchscreen Symbian Nokia phones(Lin & Ye, 2009), a new operating system named MeeGo, then united with Microsoft Windows Phones, but those was not enough, Nokia failed eventually. From Nokia's failure, I see a difference between how design occurs in theory and realities.

In theory, a traditional design process consists of several stages which contain but not limited to Research, Insights, Concepts, and Prototype, and they are mutually recurring all the time. In school, we always assume that if one product follows this kind of design process, it must have its place in the world. We believe in the western scientific User Experience design model, we apply those design methods to each single design process, and we think we are designing in the right way.

However, in reality, I find that many products which I am familiar with and loved are not designed the same way which I have mentioned above. Especially, when comparing how design occurs in developing countries and developed countries, or different regions and religions, or the same company's different design preferences and marketing strategies in different markets, I find many excellent and successful designs in reality often occur in a much more dynamic, unusual and sometimes unexpected way.

Thus, we should understand the difference between how design occurs in theory and reality and design towards reality by what we have learned from theory.

How design occurs in theory

Technically speaking, the history of Human-Computer Interaction Design only has a few decades, and most of the practice happened in the western world. Although we already have some vague design and innovation models such as design guidelines, design methods, design strategies, and business models, we could say that we are still exploring the possibilities of HCI design.

I am always impressed by all these theories brought up by researchers. Take this semester, I have read about a lot of theories of users, technology, and designers. Most papers have brought new perspectives to me. However, in reality, do these theories always work? Take Dorst's(2011) paper "The core of 'design thinking' and its application", according to sciencedirect.com, this paper only have 1640 readers, with ten times shares, likes & comments on social media, thirteen mentions on Twitter (although the data might be inaccurate).

Considering there are so many designers outside the academic world, my question is that: do those theories apply to the real world designers? Moreover, some of the designers might have their design philosophy which is more suitable to solve real-world problems, that philosophy might be worthy to discuss, but they are not academic persons, so their voice could not speak for themselves in front of the world.

Another thing I want to discuss is the theory-practice gap. Thinking is crucial to our design world, however, as humans, we have limited energy and time, and differing interests, so, we have designers and researchers. We cannot say that researchers' exploration is leading

designers' direction, and vice versa, we cannot say designers' practice is retroacting on researchers' theory. They are completing each other. However, for the gap between these two groups, I had some thoughts before, and after I have read Jordan and Ekbias's (2016) paper, I got answers to some of my questions. They propose researchers and practitioners could build a library of strong bridges between the two groups, and to frame practice as a kind of theorizing. Other than that, I think that there could be some "Research designers" who plays the role of bridges or translators between researchers and designers, to build better communication between the two groups. We have many excellent design theories, I wish more and more of them could be applied in our design practices in the future.

In Avle & Lindtner's (2016) paper Design(ing) 'Here' and 'There', By presenting a 5-year research result on the design practices have been happening in Accra, Ghana and Shenzhen, China, Avle and Lindtner tries to interpret how design is happening outside the western cultures and argued that seemingly local design is actually entangled with global design and also related to the global economy. By "there", they are referring to the traditional western world; by "here", they mean other areas outside the western world.

Especially, what they have presented designing "there" raised my attention. Here I try to summarize some design related knowledge and experience happening in "there" since I have learned how design occurs "there" this semester. Usually, when we start a design process, we will follow a process of four stages: research, insights, concepts, and prototype. They after one design process, we might continue new rounds of iterations if necessary. This design process seems pretty scientific sometimes that we are prone to follow this specific process when designing, and we take it for granted that if we follow this kind of design process exactly, we will get a great result.

However, is that true? Relate to our topic here, which make me think that what is good design and remind me to think out of my fixed mindset when talking about how design occurs exactly. So-called human-centered design and systematically design process created by the western world are the correct and best direction of HCI design? Maybe not. We should be constantly reflexive.

How design occurs in reality

From my experience and perspective, compared to designing in theories, sometimes it is entirely another story designing in reality.

The first thing I have noticed is that many design process in reality starts from insights but not research. Take the first generation iPhone, it did not go through many rounds of research, while its rival, Nokia, was always busy conducting user researches that time, trying to figure out what users needed most and built cellphones by the guidance of their research insights. While, Nokia failed, Apple succeeded. The lessons I have learned here is that starting from insights not research is not a bad idea sometimes, and too much user researches might be misleading on some occasions.

The second thing I want to mention here is that outside western countries, there are other kinds of design process, and they are doing great. Take Chinese tech products, they might not have these comprehensive design philosophy context as western countries do, but their digital products nowadays are welcomed by our world, even some so-called leading Technology/IT companies from western developed countries are learning from those Chinese companies. In China, many tech companies are operating like “lean startups”, they would practice with rapid development and test their products in the market, then use the feedback from the market to improve their products by design iterations. Some Chinese companies even run a kind of copycat way of manufacturing, which is called “shanzhai.” Basically, they are copying other big companies concepts, then go to the prototype stage directly, without research and insights stages. It is not a healthy way to go; however, they bring in some opportunity to China’s tech world(Zhu & Shi, 2010), this is also how design occurred in reality. Apparently, many Chinese companies do not follow the western design philosophy context while they are successful. Are they designing in a wrong way? Maybe they are not. We have to think about it.

The final point I want to make here is that design in reality is often more dynamic than in theories. Design is always involved with economy, business model and strategies, even the same company’s might have different marketing and designing strategies in different regions, for example, Haagen-Dazs is an ice-cream maker company, since they have

different design strategies in Asia countries and America, they are delivering differing user experience in the two areas, in Asia countries, they are not only selling ice-creams but also creating their unique culture by creating more engaged user experience. Other times, there are some independent design products who are breaking the rules, take Tesla, it is leading by totally a different design strategy comparing to traditional car manufacturers. However, Tesla is doing great.

In reality, there are always more dynamic and diverse regarding design process, it is more like a situated design way, sometimes we are limited by many aspects in reality and we have to consider those limitations. Design occurs differently in theory and reality.

Conclusion

Now back to the question, why and how Nokia failed? In my opinion, they had several deadly moves, but the most severe one was that they failed to match their design theories to reality.

Design is not only about User Experience design, from a broader perspective, but it is also how a company delivers its imaginative products to its end users and how the process is going. While, design often occurs in different ways between theory and reality, we need to learn theories, but most importantly, we need to apply theories to reality cautiously and wisely in order to achieve our design goals.

There is no right or wrong way to go with design, and we need to utilize our design theories dynamically towards reality.

References

- Avle, S., & Lindtner, S. (2016, May). Design (ing)'Here'and'There': Tech Entrepreneurs, Global Markets, and Reflexivity in Design Processes. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems* (pp. 2233-2245). ACM.
- Beck, J., & Ekbja, H. R. (2018, April). The Theory-Practice Gap as Generative Metaphor. In *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems* (p. 620). ACM.
- BDorst, K. (2011). The core of 'design thinking'and its application. *Design studies*, 32(6), 521-532.
- Lin, F., & Ye, W. (2009, May). Operating system battle in the ecosystem of smartphone industry. In 2009 international symposium on information engineering and electronic commerce (pp. 617-621). IEEE.
- Zhu, S., & Shi, Y. (2010). Shanzhai manufacturing—an alternative innovation phenomenon in China: its value chain and implications for Chinese science and technology policies. *Journal of Science and Technology Policy in China*, 1(1), 29-49.