

Justyna Starostka, Kozminski University

Design Thinking at Play – Invoice Redesign¹

About the company

Play, P4, is a mobile operator and Internet provider. The company started its operations in Poland in 2007 and grew to have more than 11 million customers in 2014. The company has been very innovative since the very beginning, competing against the 3 big operators in Poland. *“This is a company that was founded by two people and in the beginning, the first two years, it was like a start-up opened in a garage, even though it was actually in a building. We had this attitude from the beginning that everything is possible and then we began to attract similar people. We have a totally flat organizational structure; directors and board member share offices with other employees in the open-spaces, for example”* – says Marcin Piotrowski, head of the User Experience Design.

Since the beginning the company is dedicated to innovations and innovative ways of solving problems. In 2012 Play started the User Experience Design – an interdisciplinary team that is devoted to improve user experience. *“In Poland the term User Experience means something different than how we at Play understand it. Most people think about UX in the category of computer or phone interface, screen and equipment only, and to us it is more about the overall experience that somebody has with the device, and not just what is on the screen”.*

¹ Thanks to Marcin Piotrowski, head of the User Experience Design team at Play, for providing information that led to the preparation of this case study.

The team works in the area of experience design, service design, often cooperating with designers and regularly using the design thinking methodology. *“We act like an internal design consulting agency, you could say. We do a lot of very different projects, within very different areas. Sometimes it is a project that relates directly to the customers, like some service for example, sometimes it is support of the research process. To a very large extent, we act as facilitators of processes and very often we are redesigning internal processes within the company”* – says Marcin Piotrowski.

When asking what the role is of this unit within the company, it is very hard to specify that clearly. As Piotrowski said, some time ago, the team conducted a research study among other Play employees on the role that the User Experience Design team should play. The results were very interesting, as different people expected quite diverse activities:

“According to some people we should do things that are very mundane, ordinary. As one man said – improving everyday reality, small things to live better every day. On the other hand, another group of people expects visionary, bold projects from us, for example how something will look like in five, ten years from now”.

The team attempts to balance the flow of projects, but always looks for solutions that can be useful and ready for implementation.

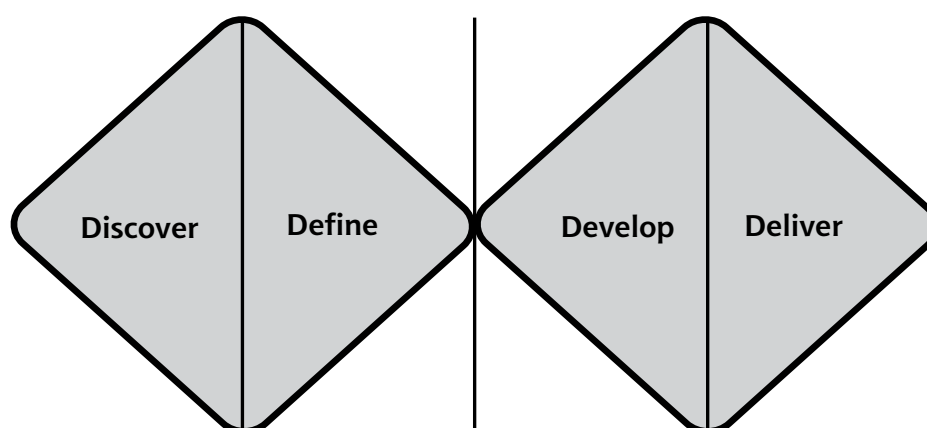
The challenge

The challenge described in this case study is the “invoice project” – a venture aimed to redesign the company’s invoices that are issued to its customers. The project started quite unusually: *“The issue was that someone came to our team to hang instructions on how to read our invoices. And some people started working on this, to make instructions, like a manual, on how to read the information there. And I stood somewhere near and said, you know the problem is not in the manual, but rather in the invoice itself, and this problem should be solved differently. Well, so we created a team, and started to work on this. This project seemed very interesting to us, as it was to influence the lives of several millions of our users.”* – Piotrowski admits.

The whole project was conducted by the interdisciplinary team, and it was divided into different phases. In this case study we will present the project using the Double Diamond model, describing the following

project phases: discover, define, develop and deliver. This model maps how the design process passes from points where thinking and possibilities are as broad as possible to situations where they are deliberately narrowed down and focused on distinct objectives (Figure 1).

Figure 1. Overview of the Double Diamond phases



Source: “Design methods for developing services”, Design Council.

Source: <https://www.innovateuk.org>

Phase 1 – Discover

The first quarter of the double diamond model covers the start of the project. This is a time of **discovery**, gathering inspiration and insights, identifying user needs and developing initial ideas. Team members try to look at the problem in a fresh way, noticing new things and seeking inspiration².

In the first phase, the team conducted a very extensive research. The first step was to look for insights inside the company. The team reviewed and analyzed market research data that was already collected internally. More than 2.5 thousand different opinions about invoices were selected for further analysis. The team took more than 2 days to analyze those opinions. As a tool to understand some patterns, affinity diagramming analysis was conducted. That helped to see some clusters of options related to different topics. Affinity diagramming is a business tool that allows large numbers of ideas to be sorted into

² “Design methods for developing services”, Design Council, Source: <https://www.innovateuk.org>

groups, based on their natural relationships. This process was organized in the following steps:

- Record each idea on cards (post-it notes);
- Look for ideas that seem to be related;
- Sort cards into groups until all cards have been used.

That exercise helped the team to see the first basic issues associated with how difficult it is for some people to handle invoices. After that, external research was conducted.

In the first phase the team carried out different types of in-depth interviews among very diverse user groups: accountants, small businesses owners, individual customers and others. After the interviews, participatory workshops were organized. During those workshops selected groups of customers were asked to bring their different invoices and then the whole group worked on those particular invoices. People were asked to describe and show what they like about the invoices, what works and what does not work for them. During the workshops the participants evaluated the company invoices, they were asked to redesign them, cut out unnecessary information; basically to design the invoices themselves.

At some point the team decided to do a more ethnographic research and use the cultural probes research technique³. By using this cultural probes method the company could gain a wider context of the topic. 30 customers were selected and asked to participate in this study. The assumption was to give those participants different kinds of tasks, one for each day. In this case, these probes were designed by a group of students from the Warsaw Academy of Fine Arts.

“In these cultural probes there is a specific task, one for each day. Every day, the participants had to spend 30 minutes on one task that was designed specifically for that day. This research lasted for 7 days and after the last day we had a workshop summary. So there is, for example, package number 4, and this is for them to open on the 4th day. For the whole process there was a manual, with detailed instructions for the

³ “Cultural probes (or design probes) is a technique used to inspire ideas in a design process. It serves as a means of gathering inspirational data about people’s lives, values and thoughts. The probes are small packages that can include any sort of artefact (like a map, postcard, camera or diary) along with evocative tasks, which are given to participants to allow them to record specific events, feelings or interactions. The aim is to elicit inspirational responses from people, in order to understand their culture, thoughts and values better, and thus stimulate the designers’ imaginations.” Source: Wikipedia.

participants. The tasks were a little bit abstract, but all related to the topic of invoices. The aim was to make our participants think about the invoices on a daily basis. In general, we have created a story around traveling, so everything revolved around that theme; it was designed to make people feel more involved. Well, I can say that it worked, because they were very engaged. Of those 30 people, only one person withdrew, but as it came to rest – they were all very involved. It was a fantastic result, because normally people are shedding on research projects like that. What’s more, they really liked how it was done, and the fact that it was specially designed for them by some design students from the Academy of Fine Arts was very inspiring and they were very glad about that.” – says Marcin Piotrowski.

This research resulted in gaining a lot of inspirational, qualitative data, which was summarized in the participatory workshop on the last day. That was the beginning of the works on the first solutions.

Phase 2 – Define

The first phase of looking for insights and conducting research, as described above, lasted for about 3 months and resulted in gaining a lot of qualitative data. That was followed by the second stage of the project – the **definition** phase. In this phase team members, along with the designers, tried to make sense of all the possibilities identified in the Discover phase.

During this phase an external agency was invited for cooperation, from which 2 designers were assigned to this project. The designers participated in the last phase of the cultural probes workshops with the users, and they were also handed all the research materials gathered during the research phase.

“In fact, what we have found during the research phase was that what we, as a company, think about what an invoice is, and what our customers think an invoice is, are two totally different stories. As it turns out, customers, when they think “invoice”, they mean a document with information on how much they have to pay and when. And if this amount you have to pay is higher than what you were expecting – why? Nothing else really interested them. None of those details that are placed on the invoice are interesting to them; they are not interested in the tax rate, issuer, the sender, telephone number and all the other information that is listed on the invoice”.

On the basis of the material gathered in the Discover phase, the team started to create the first initial versions of the new invoices. The designers started to create prototypes, very rough versions that were used only for research purposes, to select certain directions. There were 2 designers, both had to prepare 3 initial versions of the project, so the team started with discussing 6 different versions of the original. That led to the Develop stage.

Phase 3 – Develop

The third quarter marks a period of **development** where solutions are created, prototyped, tested and iterated. This process of trial and error helps the designers and the whole team to improve and refine their ideas. The key activities and objectives during the Develop phase are: brainstorming, prototyping, multi-disciplinary working, visual management, development methods and testing⁴.

During this stage the team was working continuously on different projects – from very rough prototypes to almost finished versions. The project of idea testing was iterative in nature with numerous feedback loops. As Marcin Piotrowski reflected:

“We had probably about 20 different projects that we have tested during a variety of workshops with users. Very soon it turned out that, for example, with business customers we managed to select the final design very quickly, because they did not have any doubts about what is best from their point of view. In contrast, we had a problem with the individual customers, as they don’t have fixed expectations regarding invoices. Really, what matters most to them is aesthetics. But along the way we narrowed it down from 20 to 3 projects. Those 3 projects were tested among those customers who complained a lot before about our invoices. So based on this we selected two projects, and then pointed out the final one”.

Phase 4 – Deliver

The final quarter of the double diamond model is the **Deliver phase**, where the resulting product or service is finalized and launched. The

⁴ “Design methods for developing services”, Design Council, Source: <https://www.innovateuk.org>

key activities and objectives during this stage are: final testing, approval and launch, targets, evaluation and feedback loops.

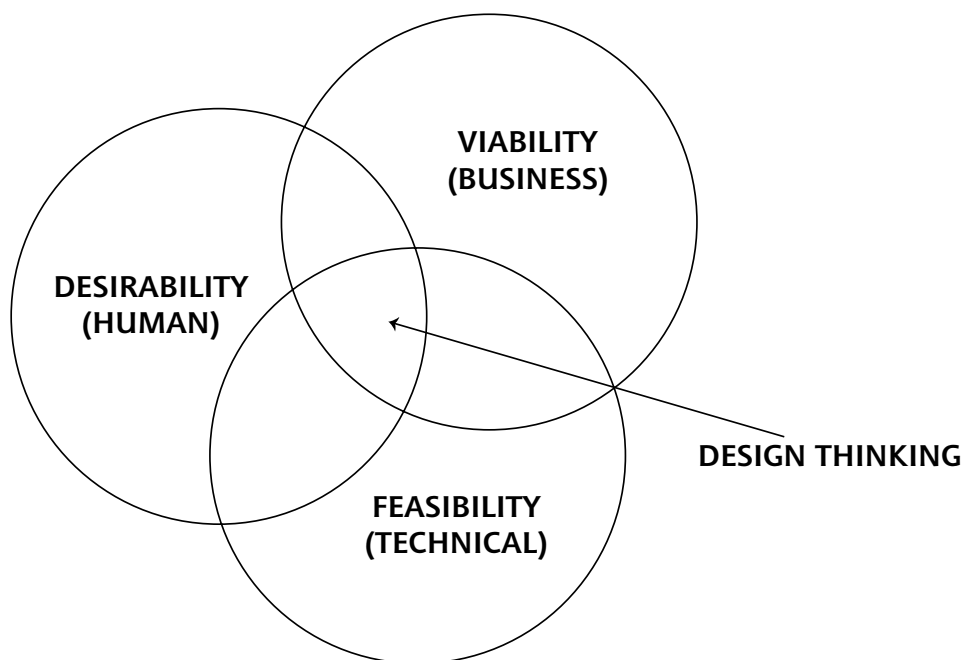
The team created the final recommendations that were assigned, but the whole project was not finished yet:

“This is just the beginning for us, because the invoice is only a part of the whole process. Now we really need to redesign the process of handling sales in the showrooms, because no questions were asked about, for example, how the client would like to receive invoices – whether digitally or on paper, or switch between the two options, and so on. This is why we find that the entire ecosystem has to be redesigned, which started from one element”.

Summary

The presented case study showed some basic points about the nature of design and the design thinking process. According to one of the existing definitions in the literature on the subject: *“Design thinking can be described as a discipline that uses the designer’s sensibility and methods to match people’s needs with what is technologically feasible and what a vi-*

Figure 2. Desirability, viability and feasibility as a part of the design thinking process



Source: Brown T., *Change By Design. How Design Thinking Transforms Organizations And Inspires Innovation*, Harper Collins, New York 2009.

able business strategy can convert into customer value and market opportunity”⁵. That means that design thinking tries to reconcile, connect three different perspectives (Figure 2):

1. Business (viability – what is valuable for business);
2. Human (desirability – what is desired by people);
3. Technical (feasibility – what is possible to implement).

There are several key tenets of design thinking that seem to be common and can be summarized in the following points:

- Design thinking is user-centered – a deep understanding of the consumer is based on fieldwork research (emphatic approach, observational and ethnographic methods);
- Design thinking is a collaborative process – by working in interdisciplinary teams we can gain different perspectives on the same problem (scientists, designers, front-line employees, customers as team members);
- Design thinking is a co-creative process – users are playing a very important role in the whole process;
- Visualizations, hands-on experimentation and using quick prototyping as process enhancers and making it as simple as possible to get usable feedback;
- Using prototypes (concept sketches, physical mock-ups, stories, role playing) to make intangible become tangible.

⁵ Lockwood T. “Foreword – The Importance of Integrated Thinking” in: Lockwood T., (ed.) *Design Thinking – Integrating innovation, customer experience and brand value*, Allworth Press, New York 2009.