



A Solution Development Model for Industry Based on Design Thinking

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Abstract. This work presents the program BlueJourney that was created with the objective of identifying problems and challenges of our clients and, in a process of collaboration, develop processes and systems innovation projects. BlueJourney was designed by ThinkLab Brazil, the innovation laboratory of IBM Research that has an environment suitable for co-creation and a specialized team. The program is based on Design Thinking techniques, therefore, innovation is achieved with a focus on people's need, and with technical and business feasibility analysis. With defined steps, we engage industry, technology, business and research experts in activities like co-creation, research, interviews, prototype development and testing. The experts understands and explores the challenges of the subject or area to be transformed and create the most complete solutions. At the end of the program, we have a list of projects to be developed, changes in processes and systems, and people who have learned to seek innovation in a creative, collaborative and engaged way. The most important is a change of mindset, because solutions might be about human needs. In this article, we'll present in detail the steps of BlueJourney applied in a real case.

Keywords: User centered design · Design Thinking · Innovation

1 Introduction

Since companies began to use internet-related solutions for their business, the corporate environment has changed dramatically. Technological evolution has brought new digital tools that can increase sales, lower costs, improve operational efficiency and, above all, improve the customer experience. To develop and implement these new technologies in companies is essential to have a process in order to direct the results to the end customer, internal or external. And it was not different in our company, it was urgent to use a methodology to generate innovation in the corporate environment to create projects based on these new technologies.

We have an experience from years working with some methodologies like Organizational Semiotic [1], Ethnography and Learning Communities [2], so that we believe that Design Thinking [3] brings together several techniques that allow the best design for project development.

ThinkLab has been working since 2015 with Design Thinking techniques to connect customers, IBM researchers and other technical areas. We have a specific space for

immersion and co-creation and a team with professionals specialized in software development, business, engagement, design, ecosystem, education, marketing and content production. With the experience gained from the projects carried out so far, we decided to create the BlueJourney program in 2018, that it is a project model that meets the transformation needs of our clients from the deep knowledge of their challenges. In this way we have viable solutions that truly meet the needs and expectations of people.

In the next sessions, we will explain the BlueJourney application and present a real case.

2 Method and Materials

BlueJourney uses Design Thinking techniques to carry out all the steps necessary to develop a new project by understanding the problems and opportunities of clients and studying ideas to create a transformation process. It's a deep journey, an immersion, an opportunity to join all the people with necessary skills to think and work together. As we work with this concept of immersion, we started creating the visual identity for BlueJourney by using the diving dress image (Fig. 1).



Fig. 1. The BlueJourney identity represents the deep immersion on the problems and challenges.

BlueJourney is a model based on Design Thinking methodology, so we defined the steps by using the concept of Inspiration, Ideation and Implementation. The Inspiration step is to understand the problems and challenges from our clients with them; the Ideation is when we create possible solutions. In the end of this process, the Implementation step, we have real projects to select, implement and test. Figure 2 is the Design Thinking approach from [IDEO.org](https://www.ideo.com/) [3], this human-centered design method that

brings to us the concept of co-creation. The cycle merges diverge and converge phases that organize the thoughts during the collaboration process.

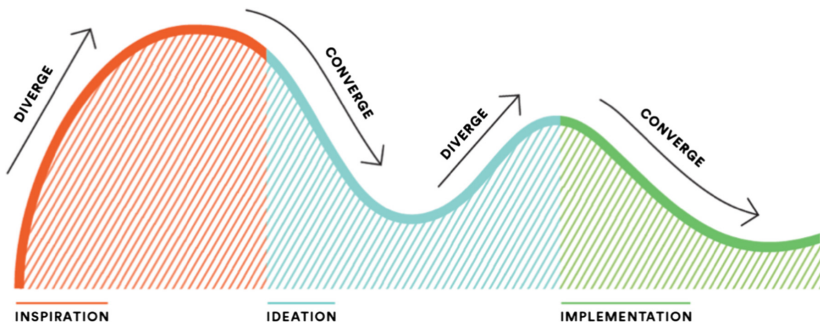


Fig. 2. Design Thinking approach by IDEO.org.

Another approach that we are inspired by is the IBM Design Thinking Framework [4]. This framework defines principles like:

- Focus on the user outcomes (to achieve the users goals);
- Restless reinvention (treating everything as a prototype);
- Diverse empowered teams (to be fast and efficient).

The Fig. 3 is the Loop, that represents an infinite process to Observe, Reflect and Make. The idea is to understand deeply the problems and challenges from people how knows about that; to create solutions based on this knowledge and to make solutions, keeping in mind that as fast we test and observe and reflect again, as fast you have the best solution.

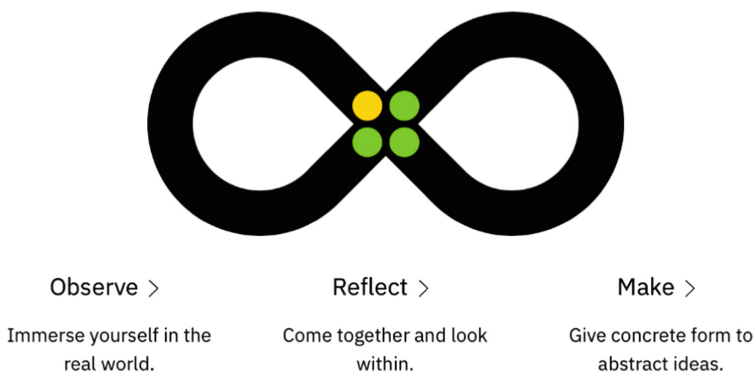


Fig. 3. IBM Design Thinking loop.

BlueJourney has a general model with well-defined steps. The steps have a suggested timeline and people who should be involved. But for each project, we customize

all details. In Fig. 4, we present the general steps, Investigation, Ideation, Prototype and Pitches and Selection.



Fig. 4. The BlueJourney model with 4 (four) steps and who will participate.

In the Investigation, we understand why the client company came to us, what they want to improve and what they think when talk about innovation. Through meetings and interviews, we organize the information and highlight the real challenges of this client. With interviews and ethnographic method, we approach the people who really understand about the outstanding challenges, and explore the problems and opportunities of transformation in more detail. At this moment, everyone in the client company is already aware that the process must be participatory, that the more the experts are engaged and dedicate time to the project, the greater are the possibilities of transforming their processes and systems. This steps usually takes two weeks and we need people who really understand about the business involved.

In the stage of Ideation, we bring who understand most from the challenges listed in the Investigation, for a day of co-creation in the ThinkLab space. On this day, we work with selected tools according to the challenges like Personas, Empathy Map, Scenery Map, Hopes and Fears, Map of Stakeholders, Ideation etc. At the end of this day, we have a list of prioritized solution ideas to develop in the next step. Usually this step takes one entire day and it's on our lab to have the real immersion.

In the Prototyping stage, the prioritized ideas are developed by a team formed by client team and IBM specialists. Usually we divide the group in teams to develop the projects. Ideas are transformed into prototypes and this development may or may not involve software coding. Depending on the need of each prototype, specialists are chosen to participate in this stage that takes two entire days.

In the Pitches and Screening step, the participants present their prototypes in pitches format (quick presentation technique), usually in 5 (five) min, for client executives

who will evaluate them. This evaluation will consider mainly, the technical and business viability so that the winning solution (or more than one) is really a project that will be implemented in the company. This step can take some hours in the end of Prototype step.

For each client, we adapt the times and techniques of the mentioned steps so that we can meet their needs and create an adequate scope. In the next session, we will present a real case with a Telecommunication company.

3 A BlueJourney Case

In this section, we will describe a case of BlueJourney that was developed at ThinkLab in 2018. This project shows how the time and schedule of a BlueJourney varies according to the scope and challenge of the client, since it was our most extensive project in 2018 and lasted 3 (three) months. It's quite different time from our basic model described in the last session, but the steps and fundamentals are exactly the same.

In order to maintain the confidentiality of the project and the customer information, we can mention that the customer is from the Telecommunication industry, without identifying it. For this reason, we will name Company. This customer came to us with the need to improve the relationship of their collaborators with the company's Human Resources (HR) area, especially in digital relations. It is very common for BlueJourney to develop solutions for the customers of our customers, but in this case, the project was completely internal for the Company.

This project involved the entire Human Resources area and its collaborators throughout Brazil, so the project was very extensive, and this was the main reason why the BlueJourney was adapted to be realized in more time than usual. At each stage, people and techniques were chosen so that the partial and final results were achieved.

3.1 Investigation

In May 2018, we began the first meetings with the Company's executive team to understand their main needs, why they came to us, and how to design the project steps in accordance with the principles of Investigation. Thus, we were able to plan the project agenda, to choose the participants of each phase, and we had full knowledge about the final result they expected.

In June, we started to involve the main areas with an opening event to align the understanding of the project. This event was attended by managers from the Company's HR area and an IBM project management team with HR background. We executed an immersion day in our lab by using techniques such as Personas, Empathy Map and Scenario Map to identify the current journey of the employee from the perspective of the relationship with HR. About 30 (thirty) HR managers, the IBM project management team and the ThinkLab team participated in this stage. As a result, we identified 4 (four) personas to represent all employees, built the journey for each persona and identified all pain points to know exactly where were the opportunities to improve the employee's lives within the Company. Figure 5 is Empathy Map from

With these results, it was possible to review the personas journeys, validating and including information identified in the surveys. This investigative work involving a large number of people has created a sense of importance to employees, because they were not just represented, but they could express their feelings and experiences. Figure 6 is the example of a map. It was designed and validated with information from surveys and contains the speech and mood from the persona in each step of journey.

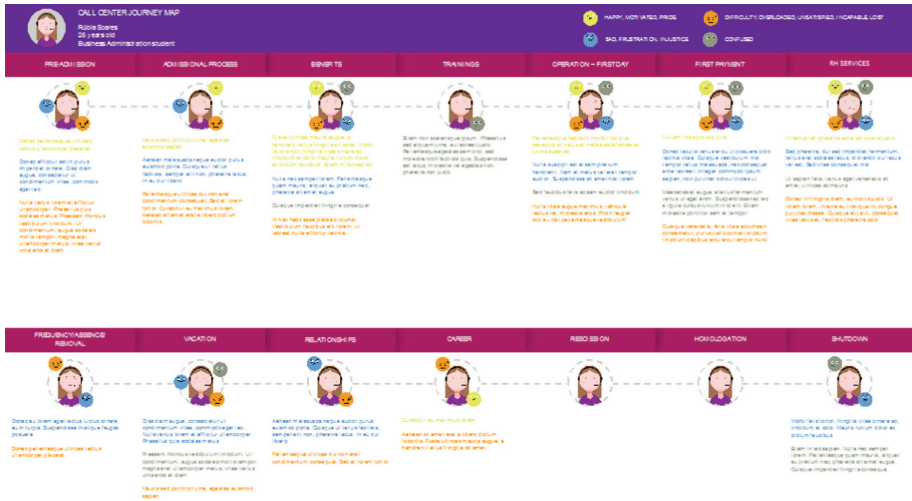


Fig. 6. This is an example of a journey map that illustrates the persona’s mood and speech. The sentences are not real to protect the company information.

3.2 Ideation

In Ideation step, we performed another immersion in our lab, with the same team of HR managers from the Investigation stage. This time, we worked based on the journeys designed for each persona as the example in Fig. 6. We also used all the data consolidated by the IBM tool, Watson Analytics. It was possible to query in many formats and access an organized data.

Thus, knowing the Company’s employee journey and all the problems and opportunities in which to improve the lives of its employees, it was possible to create innovative project ideas. At this stage, we use tools to create solutions ideas and prioritize them according to the identified pains and the feasibility of deployment at Company. IBM’s experts participated to evaluate the technical feasibility of projects. Five teams were created to develop in the next step, Prototyping, more details for each project. Figure 7 represents a Prioritization Grid of ideas for decision making, from IBM Design Thinking [6].

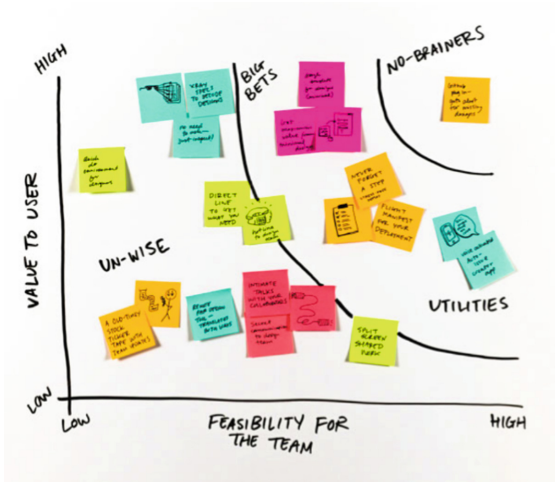


Fig. 7. This is an example of a Prioritization Grid. The ideas are organized by importance (value to user) and feasibility (about implementation).

3.3 Prototype

Following this, the five teams worked to define all details about their projects. They searched for information online or even made calls to people from company to add more information to create the best solution. IBM and customer technicians participated to build together workable solutions from a technological and business point of view. The ThinkLab team realized a prototype training so they were capable to prototype their projects. We used some sketches, software and building blocks to represent the sequence, phases and interface from each solution. In Fig. 8, we have an example how to prototype a process. Sometimes, the solution is not about technology, but is about improve processes. In these cases, we can use sketches and building blocks.

3.4 Pitches and Selection

After this work, ThinkLab team trained the groups to present their projects by using the Pitch format. This is a model to present ideas in a simple and efficient way and in a short time, like three or five minutes.

Like an event, at the same day, we invited the executives from the Company to evaluate and choose some projects to win. These projects are now, part of a transformation schedule to be developed by Company and IBM. This moment is not just a selection time, but it's a celebration because we have many ideas, great projects to develop and people looking forward to think and create innovation always.

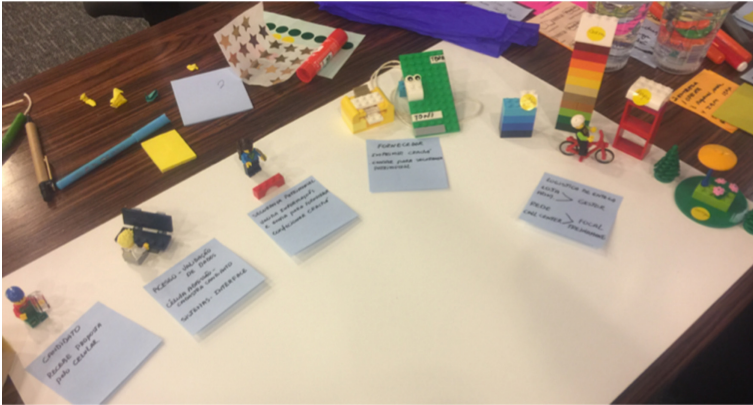


Fig. 8. This is an example of a prototype process. Building blocks were used to represent some processes and how to improve them.

4 Conclusion

BlueJourney is a model that brings together people, knowledge, creativity, solutions and a change of mindset. We have great feedbacks from our clients as in a short time, we figure out exactly where are their problems and in a very planned agenda we have viable ideas and solutions. The environment is about a lot of work and the same time, is nice, constructive and inspiring. Not less important than design solutions to implement, is the learning process for all, like important concepts: explore the problems before create solutions; join the people how really understand about it; create possible and fast projects and test as soon as possible; solutions are about people's needs so talk to them.

In 2019 we expect to create great BlueJourney projects and discover many other techniques to improve our model, always using co-creation and focus on people.

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