

Digital Dashboard by Design Thinking

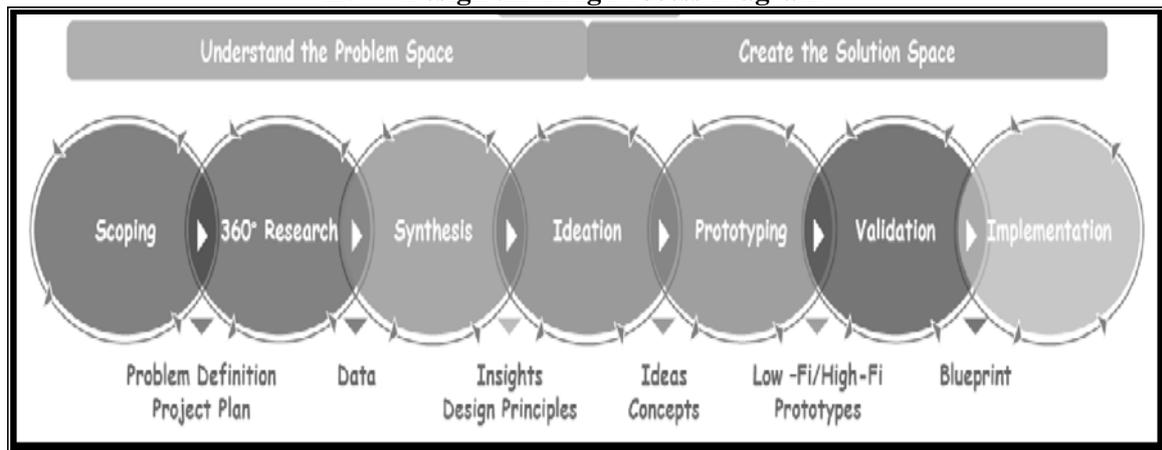
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Abstract: Data is valuable, and information gained from data is definitely worth something. But without an effective method for turning data into actionable information and extracting its value, even the most comprehensive data set can be worthless. Digital dashboards allow managers to monitor the contribution of the various departments in their organization. To gauge exactly how well an organization is performing overall, digital dashboards allow capturing and reporting specific data points from each department within the organization, thus providing a "snapshot" of performance. Benefits of using digital dashboards include Visual presentation of performance measures, ability to identify and correct negative trends, measure efficiencies/inefficiencies, and ability to generate detailed reports showing new trends. This research intends to provide an overview of design thinking was implemented for the execution of digital dashboard projects

I. Design Thinking

Design Thinking is a methodology used by designers to solve complex problems, and find desirable solutions for clients. Design Thinking draws upon logic, imagination, intuition, and systemic reasoning, to explore possibilities of what could be, and to create desired outcomes that benefit the end user (the customer). Design thinking is a formal method for practical, creative resolution of problems and creation of solutions, with the intent of an improved future result. In this regard it is a form of solution-based, or solution-focused thinking – starting with a goal (a better future situation) instead of solving a specific problem. By considering both present and future conditions and parameters of the problem, alternative solutions may be explored simultaneously.

II. Design thinking Process Diagram



Scoping: A Scoping phase is to plan customer and stakeholder interactions across the globe and plan project member's availability from different teams.

Research:

In the research phase, designer starts to search for information that can be fed into the creative process at the ideate stage. This research can be either quantitative, with hard statistical numbers about the size and composition of target user groups, or qualitative, with information about what that user group buys or consumes and what their lifestyle is like. It may be pertinent to build a mental model of a typical user in order to enable the design team to obtain a good feel for what would appeal to them.

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Synthesis :

Synthesis is the stage in which the teams work towards seeing connections over hundreds of facts obtained from research and making intuitive leaps about their understanding of the problem.

Ideation:

During the ideate stage, the design team draws on the research gathered and the constraints established during the define stage. This information is used to create ideas with which to tackle the design brief. Ideation methods include brainstorming, sketching ideas, adapting a tried-and-tested design that already exists, taking a top-down analytical approach that focuses on the product ,service or company or a bottom-up approach that focuses on the customer or user. As the ideate stage progresses, it become clear whether there are any misunderstandings or shortcomings in the definition stage and whether sufficient levels of research were carried out. Feedback can be sought throughout the design process to clarify points of doubt with the client and to address aspects that were ill-defined during the definition stage.

Prototyping:

The Prototype mode is the iterative generation of artifacts intended to answer questions that get you closer to your final solution. In the early stages of a project that question may be broad – such as “do my users enjoy cooking in a competitive manner?” In these early stages, you should create low-resolution prototypes that are quick and cheap to make (think minutes and cents) but can elicit useful feedback from users and colleagues. In later stages both your prototype and question may get a little more refined.

Validation:

Validation is the stage to again meet the end users, but this time with physical proto-types to trigger deeper discussions with the end user. The team deep down into every detail of the validation process including planning of activities with the end user, creating the validation scripts, identifying the prototypes to be tested and techniques of deriving quantitative and qualitative feedback from the validation sessions.

Implementation:

We mark the closure of the project when we have a design blueprint well received by our stakeholders and ready for production.

Project Undertaken

Creating an interactive Digital Capabilities and Competencies dashboard by Design thinking

Digital Dashboard

A digital dashboard is an electronic interface used to acquire and consolidate data across an organization. A digital dashboard provides in-depth business analysis, while providing a real-time snapshot of department productivity, trends and activities and key performance indicators, etc. A digital dashboard is also known as a dashboard, traffic dashboard and traffic dash.

Digital Dashboard Project Business Purpose

The objective of the project is to create an interactive Digital Capabilities and Competencies dashboard that is scalable to accommodate various views of the data, with key identified report views accessible from the main dashboard page. Report details will be a combination of static data as well as project data details pulled from the Project management system. The interactive report being built is the Digital Capabilities and Competencies Strategy report. This report will provide a comprehensive view of digital capabilities, showcasing how each capability’s set of strategic competencies align to the various stages of the Consumer Journey and the project roadmap associated with it.

III. Design thinking in the execution of Digital Dashboard Project

Challenges

- Stakeholder Buy-in and Mindset change: Our first hurdle was to convince management to experiment this process that is NOT driven only by solution experts.
- Employee participation: Get the resource blocked in advance who were from diverse background as this required a full-time commitment

Scoping

- Start early: Team members meet for 1-2 hours every day in the 1st week to get accustomed with the mindset and the process.
- Share knowledge stories: Teams shared their present understanding using stories. No documents or presentations was in picture
- Plan ahead for research: Teams started identifying end user profiles to reach out to them and arrange for all local or remote meetings, ahead of research.

Research

- Simple and clear roles: Teams split themselves into groups of two with each playing the role of
 - I. Initiator who watches what end users say
 - II. Observer who watches what action users take
 - III. Facilitator who tracks on the feel of the user.
- Ask relevant questions: Spent significant time framing the 'right' questions to ask the end users
- Spend 1 hour everyday: Spend an towards enhancement of the learning curve at end of day together as a team.- End of the day we use the time to share our learning and to plan our next day.
- Take end user inputs seriously: We observed and interviewed users two levels down the value chain: our direct customers, our customer's customers to develop a holistic understanding of the problem.

Synthesis

- Make one of the participant as a user: To steer the discussion from the user's point of view and to make k decisions if any conflicts arise.
- Moderate to think and act as a group: To think as a group requires one to listen to one's own thoughts and to listen to others, build on each other, and articulate it appropriately.

Ideation

- Invite experts, SME, customers and stakeholders to brainstorm: Stakeholders' buy-in to build or sell the product increases when they contribute to the creative process. We had 3 from the Client side and our team of 5 was continuously brain storming
- Brainstorm in intervals: We aim for ideas. Our brainstorming session has a 20-20-30-20 minute split with 20 minutes individual think time, 20 minutes sharing and building on other's ideas, 30 minute consolidating and agreeing on the most promising ideas, followed by a 20 minute break.
- Try using teaser to push imagination and think out of the box: This could be a teaser exercise when the creative spirit is dropping.
- Use a bell to enforce rules: We hit a bell when a member does not follow any brainstorming rule. The bell has been more effective in regulating the group than a shout, whistle or any other prop.

Prototyping

- Plan beforehand for validation: Planning for the validation phase brings better clarity on what to prototype.
 - i. Decide the storyboards or user scenarios to prototype.
 - ii. Agree on the number of prototypes (alternatives, variations) to create.
 - iii. Fix the validation schedule with end users.
- Prototype different alternatives and variations, and seek for end user feedback: We split teams into sub-groups and prototype different parts or variations to speed up the process. The target was to create a bunch of prototypes.
- Time-limit the phase: time limit so that teams don't spend time re-thinking about the ideas, and build them rapidly. We split the phase into smaller sessions.
- Make experimental prototypes only: We demonstrated via Wireframes different prototypes of the Digital Dashboard

Validate

- Plan for the validation: The validation was with respect to the demo and presentation to the client /users our validation sessions are short and action-driven. Users interact with the prototype quickly and go by their intuition instead of spending time thinking and interpreting the prototypes.

- Meet and refine end of day religiously: Keep adding, removing or modify Prototypes (Wireframes) based on user feedback.
- Test with end users: We tested with the end users and often give them feedback/ inputs as and when required we never fall into the rushing-to-finish syndrome.

Implementation

- Design a credible presentation: The teams showcase their work in the form of an interactive demonstration, role-play or as a narrative. We keep the presentation in a shared link in client's space and demonstrated the same to different geographical locations to the stakeholders.
- Creating a blueprint: It combines the best of all the prototypes so that production team can use it directly. This is done in collaboration with the production teams and other stakeholders and the design thinking project comes to a closure

Project Conclusion

Design thinking may seem like a concept that's hard to wrap your head around. But it all starts with knowing your users, learning as much as possible about them, exploring wild ideas and putting those ideas into a prototype that you can test with those users and if you hadn't noticed, the common theme in all of above is the user.

Industry Feedback

It's time for a fresh approach to the way IT systems are designed, as well as a fresh approach to solving business problems. That's the view of Nelson Kunkel, director with Deloitte Consulting LLP, who explained in a recently published video that design thinking is increasingly becoming part of enterprise IT. Design thinking is flourishing as part of industrial design and architecture, but many IT leaders are recognizing that well-designed systems can deliver improved performance in the IT sphere as well. The consumerization of IT has raised user expectations for simpler, well-designed interfaces to enterprise applications as well. Design thinking needs to go deeper than the user interface layer. This extends from "the application of the visual layer down through the application layer and into the functionality of the systems and the tools that we create", he said. As an example of design thinking in IT, Kunkel said that the act of walking into an airport and checking into a flight should ultimately happen automatically and seamlessly, without the need to constantly log into systems, such as smartphones and kiosks. "The ultimate design is simple. It's the pursuit of transparency. The ultimate design just works."

IV. Business Gains

Bengaluru-based Infosys claims that design thinking, a creative and systematic approach to problem-solving by placing the user at the centre of the experience, has helped it win five large deals. Two of these orders exceed \$100 million each in annual revenue. "We have won five big deals, two of them are over \$100 million." Infosys chief executive officer Vishal Sikka said. "We are not just responding to requests but being proactive and bringing clients to workshops.

"Design Thinking" is identified as an exciting new paradigm for dealing with problems in many professions, most notably Information Technology (IT) (e.g Brooks, 2010) and Business (e.g. Martin, 2009). The eagerness to adopt and apply these design practices in other fields has created a sudden demand for clear and definite knowledge about design thinking (including a definition and a toolbox). That is quite problematic for a design research community that has been shy of oversimplifying its object of study, and cherishes multiple perspectives and rich pictures. Design thinking may seem like a concept that's hard to wrap your head around. But it all starts with knowing your users, learning as much as possible about them, exploring wild ideas and putting those ideas into a prototype that you can test with those users and if you hadn't noticed, the common theme in all above is the user.

V. Conclusion

A digital dashboard is a reporting tool that presents key metrics in an easy to interpret visual interface. It provides a bird's-eye view of key up-to-date information on the projects and initiatives. The transparency provided by a digital dashboard can reveal emerging trends and make it harder for underperforming projects to go unnoticed, and easier for the government to focus efforts on projects where it is most needed. The research also dealt about how design thinking was implemented for the execution of digital dashboard projects. There are

still some hurdles experienced in complete implementation of digital dashboard with respect to simplification of its objects of study. But the increasing demand of these design practices would develop new trends in future.

References

- [1]. P. Bourdieu, A. Accardo, G. Balazs, S. Beaud, F. Bonvin, E. Bourdieu, *et al*, *The Weight of the world*, Polity Press, Cambridge, England (1999)
- [2]. F.P. Brooks, *The design of design: essays from a computer scientist*, Addison-Wesley Professional, NJ (2010)
- [3]. N. Cross, K. Dorst, N. Roozenburg (Eds.), *Research in design thinking*, Delft University Press, Delft, The Netherlands (1992)
- [4]. Dorst, K. (1997). *Describing design: A comparison of paradigms*. Thesis, TUDelft, The Netherlands.
- [5]. K. Dorst, *Design problems and design paradoxes*, *Design Issues*, 22 (3) (2006), pp. 4–17
- [6]. *Layers of design: understanding design practice*. Proceedings of IASDR 2009 (International Association of Societies of Design Research): *Design, Rigour & Relevance*, IASDR & Korea Society of Design Science, Seoul (2009) p. 64
- [7]. P. Hekkert, M.B. van Dijk, *Vision in design: A guidebook for innovators*
- [8]. BIS Publishers, Amsterdam (2011)
- [9]. B. Lawson, K. Dorst, *Design expertise*. Oxford, Architectural Press, England (2009)
- [10]. Lulham, 2012
- [11]. R. Lulham, O. Duarte Camacho, K. Dorst, L. Kaldor, *Designing a counter-terrorism bin*. *Crime Prevention Studies*
- [12]. P. Ekblom (Ed.), *From Research to Realisation: Designing out crime from products*. *Crime Prevention Studies 27*, Lynne Rienner, Boulder, Col (2012)
- [13]. R. Martin, *The design of business*, Harvard Business Press, Cambridge MA (2009)
- [14]. C. Steyaert, *Entrepreneuring as a conceptual attractor? A review of process theories in 20 years of entrepreneurship studies*, *Ethics in engineering practice and research*, Cambridge University Press, Cambridge, England (1998)