LTIMindtree

Blueprint of Data Platform Realization for Statistics-As-A-Service enabled via Design Thinking

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Today almost every company communicates and engages with their customers through digital channels, operates with their vendors through digital systems, and their employees function effectively through digital mediums. This makes it apparent that digital means generate data in abundance. Data is like oxygen, prevalent in all businesses and companies that need to become data-driven organizations.

Why Should We Know the Personas?

Data platforms are envisioned in businesses to drive transformations, achieve efficiency, and generate assured acumen that translates into an increase in revenue. The key to achieving this is to churn the right information out of the raw data and draw meaningful insights. In other words, it is important to deliver the right information, at the right time, to the right person to make the right decisions. This right information and the actionable insights to be derived would differ based on who requires what type of data and for what purpose.

For example, the Leadership of the company will require specific information and insights to make informed decisions. Strategy makers and marketing teams would require trends and tools to analyze future steps or plot their blueprint. The managers would require analyzed operational data to plan and implement effectively.

Hence, understanding the personas involved and; knowing their challenges and expectations through Design thinking methodology plays a key role in molding the data dissemination platform design.
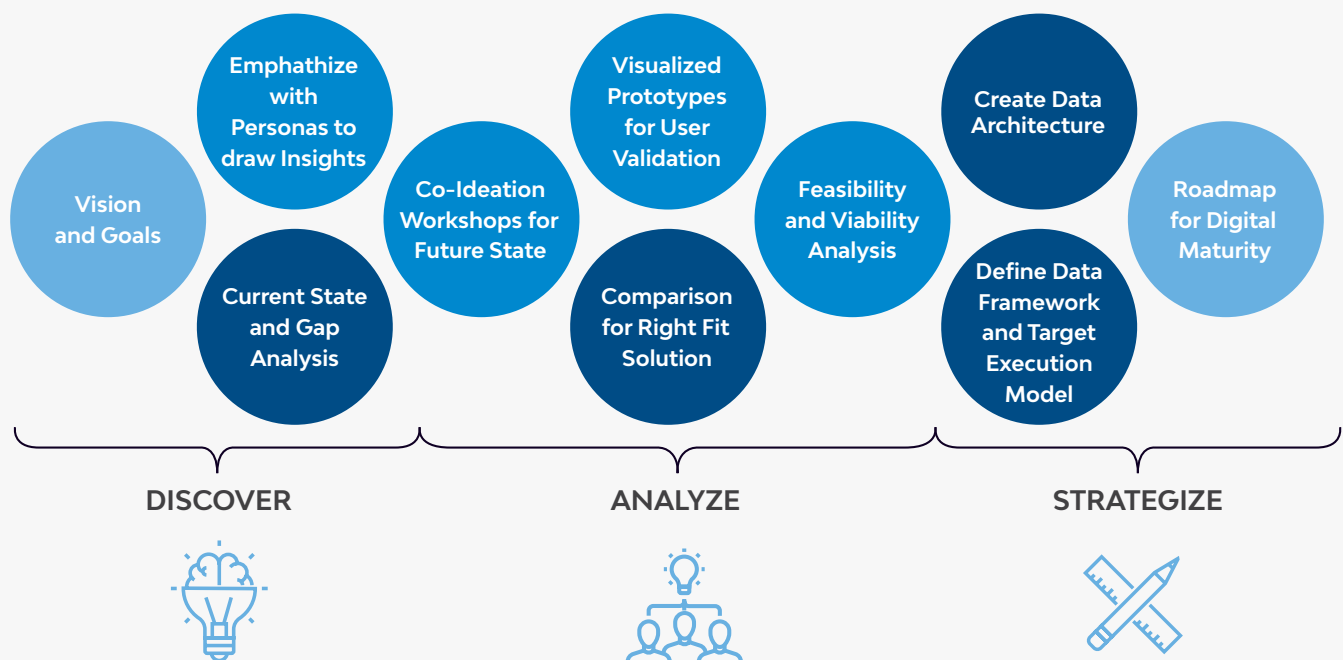
What is the Design Thinking (DT) Approach?

Empathy

Validate

Define

Prototype

Design Thinking

Ideate

01
02
03
04
05
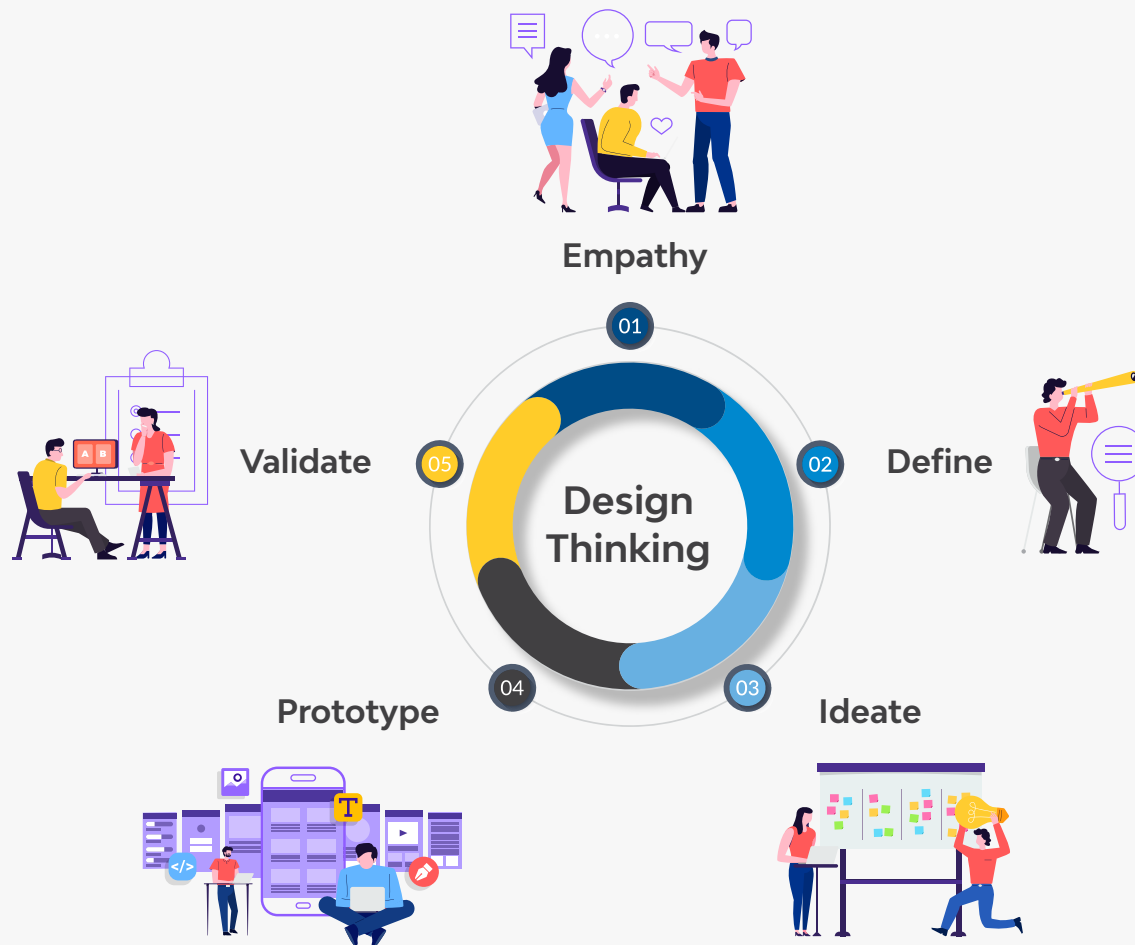
The Design Thinking (DT) approach involves identifying the key stakeholders for the empathy phase to understand the personas **and;** their unmet needs, and know more about their aspirations. In this phase, we also encourage research in the domain. The next stage is defined, wherein insights are drawn based on the inputs. This helps to frame the problems or opportunities in human-centric ways. Further moving to the ideation phase, various techniques are applied to generate ideas. The underlying rule remains that no idea is a bad one. This leads to creating a future state journey and adopts a hands-on approach to prototype or visualize the selected ideas that are validated back with the users. This approach explores the problem and solution space to help deliver the best-suited outcomes.

How is Design Thinking Utilized for Shaping Data Dissemination Platforms?

We identified the need to outline an approach to shape data dissemination platforms that deliver persona-based purposeful experiences.

Vision and Goals

Emphathize with Personas to draw Insights

Current State and Gap Analysis

Co-Ideation Workshops for Future State

Visualized Prototypes for User Validation

Comparison for Right Fit Solution

Feasibility and Viability Analysis

Create Data Architecture

Define Data Framework and Target Execution Model

Roadmap for Digital Maturity

DISCOVER

ANALYZE

STRATEGIZE

The resultant of the effort was a well-knitted process that formed a three-stage approach infusing human-centricity and data architecture design to achieve assured outcomes. The stages are as follows:

1. DISCOVER

In the first stage, discuss to grasp the vision and the goal of the transformation. Applying empathy techniques, understand the personas involved, their ways of working with the data, pain points, and their expectations. Review the current state under normal and extreme situations, along with the changing roles of personas under such circumstances, to uncover the voids such as information gaps, lack of functionalities, etc. This helps gain substantial insights into the 'As-is' state and needs.

Invite the cross-functional team for a focused ideation session, where the participants immerse in the insights and ideate together to chalk out the possible future state.

2. ANALYZE

During this stage, visualize in detail the selected ideas to incorporate the works-like and looks-like aspects for creating the to-be state. Visualization helps users understand the ideas and give early feedback. In parallel, analysis of the functional themes, technology options, and mapping the functionalities to the technology is to be completed. Subsequently, inspect the feasibility and viability analysis to confirm the outcomes.

3. STRATEGIZE

Based on the analysis, create the target data architecture including the data structures, computations and imputations, data pipes, retention policy, etc. Further, finalize the target UI aspects such as data display widgets, consumption options, channels of delivery, user security, and personalization. After drafting these aspects, create guidelines for development that incorporate the data pipes, info delivery, and define the execution model. This results in a well-defined, user-centric, and technology-driven data platform maturity roadmap.

Case in Point

Implementation of the approach while designing an Integrated Data management and Information Portal for a government body.

As part of their digital initiatives, our customer wanted to build a Data and Analytics Platform for the country's statistics and metrics - A unified platform for the country for information collection, processing, and dissemination promptly.

The platform was designed for a government body that releases statistics and key economic data based on administrative sources, surveys, and censuses conducted by the various governing bodies of the country. This data is consumed by many internal government bodies, government visionaries, and citizens mainly in the finance and statistics domain.

The goal for the team was to design:

1. Integrated repository for various data sources.

2. Facilitate acquisition of data from various ministries and states via automation.

3. Dissemination of user-friendly and credible data.

4. Personalization and customization for regular users and data consumers.

5. Dynamic pricing engine for automatic calculation for cost of information for exclusive data and service options.

6. Consolidate and link data sets for trend analysis and forecasting.

7. Increase usage of the portal and build its credibility as the main source of national statistical data.

This entire approach was successfully implemented remotely.

The core team consisted of design thinking consultants, data practitioners, and functional and technical consultants. The core team connected with various visionaries and leaders within this ministry and with several external stakeholders, such as Chief Economists, Sr. Professors in Statistics, Marketing heads, Data Scientists, and Researchers, etc. to better understand their unmet needs, challenges faced and their expectations from the envisaged system. These interactions gave the core team a holistic view and draw essential insights that clearly defined the problems. This led to a series of co-creation workshops that

generated ideas in areas such as simplifying key national indicators for citizens through gamification, in-built transparency of data, ease in data visualization by using maps and infographics, creating awareness and interest through online quizzes and assignments, personalization, and collaboration for signed-in users and a comprehensive design for the system administrator to be able to easily update, change, and manage the system.

In parallel, data ingestion and processing of divergent data received from 90+ ministries and state government agencies in the form of files, XML, SDMX, and APIs was designed. Unstructured data processing was completed, like information extraction from companies' annual reports and other documents that were available in the public domain. Cross-functional analytics was done across national accounts, national statistics, and program implementation wings to provide meaningful insights for the sustenance goals of the country. Automated dissemination of information was created through Advanced Analytics (collection, classification, correlation, prediction) and GIS Analytics. Thorough feasibility, viability, and desirability analysis were done with all key stakeholders to finalize the implementation plan. This helped build the national information platform roadmap that was both user-centric and technology-driven.

The new platform achieved a 70% reduction in turnaround time for information compilation and processing and a 50% increase in automatic compilation and report preparation.

The concept of Statistics-as-a-Service was realized through features like on-demand analytics, self-service for data sets, personalization, and smart visualizations. It led to the various subscription and data monetizing models activating revenue generation opportunities through data platform.

Conclusion

Knitting the design thinking process into shaping the data dissemination platform provides a holistic viewpoint to the roadmap. The cross-functional model that involves the business and IT, along with the end-users, brings various perspectives and ideas to the table. This unlocks the potential of the digital transformation journey and maximizes the opportunities to become a data-driven enterprise. Engaging the key stakeholders in building the blueprint also reduces friction and enables an innovative and constructive environment for timely progress. The promising outcomes entrust the confidence to make this our modus operandi.

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Passionate about Innovation, design, and technology, Rakhi is an evangelist and practitioner of design thinking methodology, value mapping, agile, lean, and user-centricity. Known as a strategic thinker and result-oriented professional, she has led many design thinking and agile-based projects in regions such as the US, EU, and APAC.

With more than 16 years of experience as a customer advocate, her goal has been to drive innovation as a culture and enable engaging experiences to achieve meaningful transformations in various sectors such as Automotive, Manufacturing, Insurance, Financial Services, and Government domain.

With over 31 years of IT experience, Usha consults on areas like Data on Cloud, Big Data, Data Architectures, and related initiatives of large global organizations in different industry sectors like BFSI, manufacturing, Government for India, ME, and APAC at LTIMindtree.

She liaisons with various partners such as Microsoft, AWS, IBM, SAS, and Informatica and has spoken in partner conferences. She leads various prestigious transformational programs of Digital India with Government organizations. All such programs are aimed at building data-driven organizations with enhanced user experience.