Applying Design Thinking Techniques
To Drive Microstrategy Development and End User Engagement
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Agenda

• MicroStrategy Partnership
• Why BI Needs Design Thinking
• What Design Thinking Is
• Our Approach
• 3 techniques You Can Use
• Design Thinking & Our Microstrategy Work
• Q&A
A Deep and Strong Partnership

MicroStrategy

Relationship since 1995 in enterprise Business Intelligence

BI Applications run natively on Teradata

Optimized SQL for Teradata

Teradata indexing, and user-defined functions

High-Availability

Extended server-based computations

Teradata

Enterprise data integration

Microstrategy BI performance and scalability

Largest number of users

Highest level of BI complexity

Pre-defined and ad hoc query support

OLAP extensions

Teradata uses Microstrategy SQL for Optimizer testing

Dedicated Engineering Resources
1,400+ clients

5,000+ consultants

~1,000 in analytics and data science roles

Industry, Business, & Solutions Consulting

Customer Success

Data Science

BI + Cognitive Design

Analytics Solution Development

World Class Scale to Solve our Clients Toughest Problems
Customer Experience
• Browsers to buyers
• Segment of one
• Risk based interventions

Finance Transformation
• Profitability analysis
• Reporting consolidation and optimization

Product Innovation
• Connected mobility performance
• Data monetization
• Product velocity

Risk Mitigation
• Fraud detection
• AML analytics
• Compliance monitoring

Assets Optimization
• Connected asset performance
• Energy system reliability analytics

Operational Excellence
• Retail assortment planning
• Network planning
• Predictive MRO
This is NOT Visual Design
Business Intelligence + Cognitive Design
Practice Cornerstones

Business Intelligence and Cognitive Design

DT

UX/UI

FE

BI

Determine the who and why through Research. Reimagine Analytical Opportunities

User Experience Design to Build Intuitive Applications, User Interface Design to Engage Analytic Consumers

Front end development to Implement the Design and ensure Feasibility

Current & Next Gen Business Intelligence Delivery at Scale

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Why BI Needs Design Thinking
User Interactions are Changing

Information consumption is evolving.

New opportunities and expectations across BI and other practice areas need to be future-proof.

Visual / Touch

Voice

Mixed + Augmented
It is a User-Centered World

Consumerism is changing expectations.
Technology Dominant

A Hearing Aid's Story
How do you know what to build?

A performance dashboard
Inventory turns by category
Unit sales, by region, by retailer, by store

What is the user trying to do and why?
Users are Prone to be Human…

“Design thinking methods provide structure to... understanding the human and emotional aspects of what users want... not just the standard checkbox of functionality they say they need.”

Stodder, David (2017) Using Design Thinking to Unleash Creativity in BI and Analytics Development

What is Design Thinking?
Design Thinking is a Mindset and Practice of Problem Solving
Meets the needs of all 3 in order to create optimal solutions.
Think Big Analytics Design Thinking Approach

Design Thinking is best used before development, to explore opportunities that open us up to more ideas and get us closer to optimal solutions, earlier.

Who are the users and what are they trying to do?
How might we fulfill their unmet needs?
Now we know what to build.
5 Basic Phases and Iterative Learning Loops

Define
Empathize
Explore
Envision
Create
Test
 Prototype

Ideate
A Facilitated Collaborative Process

Workshops with cross-disciplinary teams representative of the user, technology and business.
1: Interview REAL Users to Gain Empathy

Because requirements are not the same as user needs insights.

• 3-5 REAL users
• Qualitative open-ended questions
• Direct observation
• 60 to 90 minutes
• Take notes: think, feel, say, do
• Look for gaps
• Ask why liberally
2: Reframe Problems as Opportunities

Because you need a point of view that allows you to see many ways to fulfill the user’s need.

- Write a concise statement of the problem
- List the deep reasons why it’s a problem
- Reframe it using “How might we….?”
- Hint: Use verbs/action words directly after we
3: Design Experiences vs Designing Technology

Because enabling users to achieve what they are trying to do is the end goal and that’s an experience. You are not making a “thing” – yet.

• Imagine the ideal user experience
• Paper mockups/Comic strip
• Show it to a REAL user
• Try to create the “experience”/role playing
• Not a sales pitch
• Capture feedback, iterate and retest
Interviews: Insights and Opportunities

Research and analysis of real users uncovered a the workers’ needs for not only integrated data tools, but also sharing features and automation processing.

Insights & Opportunities

People

- **Insight:** Users spend a lot of time on tasks not part of their everyday duties.
  - **Save their time**

- **Insight:** There is a dependency to have access to someone who has domain knowledge expertise.
  - **Share knowledge, have training and collaborate**

Process

- **Insight:** A lot of manual processing and manipulation of test data is required to determine and interpret experiment results.
  - **Apply automation when necessary**

Tools

- **Insight:** There is a myriad of tools used throughout the workflow resulting in a disjointed experience for the user.
  - **Integrate tools in cohesive experience and application**

- **Insight:** Time and money are spent every time an experiment is run.
  - **Predict outcomes and build mechanisms for deep analysis**
Reframing: Complex Problems

**Problem:** Retail Managers need to revise schedules of top sales associates to react to changing traffic trends in order to maximize revenue. But surprisingly, all the data is in siloes and by the time managers analyze it and manually revise associates' schedules it's too late.

**Reframed:** How might we speed up managers’ analysis of trends and scheduling and allow them to nimbly react on the fly to optimize peak revenue times?
Reframing: Complex Problems
Experience: Storyboard

Imagining a new experience for energy plant workers who need to accurately assess and predict equipment replacement before failure.
Experience: Mapping
User flows and content architecture.
Experience: Mock Ups
Simplified data analysis across multiple lines of business in a single portal.
Created views for many different internal and external BI teams.

https://xd.adobe.com/view/1d2f425a-d38f-429b-8ca9-3bafa060edb2/
How do you know what to build?

Talk to real users.
Reframe the problem.
Design Experiences.
Resources

Design Thinking and Human Centered Design sites and blogs to check out

• Blog by IDEO’s CEO, Tim Brown: https://designthinking.ideo.com

• Virtual Crash Course in Design Thinking: https://dschool.stanford.edu/resources-collections/a-virtual-crash-course-in-design-thinking

• Design Management Institute: http://www.dmi.org/?WhatisDesignThink

• Great blog post citing the differences between all the design practices in product and service development (UI/UX/UCD/EXD/SD): https://www.linkedin.com/pulse/human-centred-design-vs-thinking-service-ux-what-do-all-simonds/
Thank You

Jeanette Carrell
Booth #200