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Brandon Williams Project Researcher

Process Book: Innovating Improving's Balanced Scorecard System

MY ROLES

- Project Researcher
- Data Analyst
- Associate Project Manager

PROJECT TIMELINE

Sixteen Weeks - (08/29/22 - 12/13/22)

SITUATION

Improving, an IT consulting firm, offers many services and tools to help their customers create strategic business objectives which through this, has allowed Improving to attain valuable experience and insights from many industries they have worked with. **Working with my team, we interviewed different users of the balanced scorecard on the user experience of the scorecard and types of improvements they may be seeking, identified new pain points and opportunities based on user needs, and prioritized ideating solutions to solve the focus problem of data visualization of the scorecard.**

TASKS

- Gained insights into the **inner workings of a balanced scorecard** through research of **primary source material** ([source](#))
- Conducted market research on **2 companies** utilizing the Balanced Scorecard method to determine **strengths and weaknesses** of the method in place
- **Helped create 3 questions** to gauge the stakeholder needs ([Source](#))
- provided insight on the **Big Idea Vigilantes tool** as a potentially effective tool as our project moves forward while also providing insight in the **introduction and individual reflection sections** (highlighted in green) ([source](#))

- Created **3 ideas** focused on data visualization of the scorecard ([source](#))
- Created **2 storyboards** to illustrate Improving's pain points that would help to guide future ideations

ACTIONS

- Collaborated in creating **7 questions** to gauge the scope of the project while also determining the metrics of success for my team whether it is **illustrating our vector of growth or the quality of our ideations** ([source](#))
- Collaborated in describing each of the **four parts** of the balanced scorecard to determine the story behind the data ([source](#))
- Collaborated in creating a **research background document** to provide an overview of any potential Design Thinking tools we may utilize for this project ([source](#))
- Collaborated in **creating 13 ideas** based off the pain points from the interview insights
- **Interviewed and observed in 5 interviews** of key Improving stakeholders to **obtain insights on the user experience of the scorecard to build up defined pain points** ([source](#))

RESULTS

- Helped ideate **13 ideas** with **3 popular** ideas being chosen to **move forward to present to stakeholders** ([source](#))
- Created **2 storyboards** to help visualize the general pain points said by Improving stakeholders to help **guide our teams ideations** to meet those challenges
- **Interviewed and observed in 5 interviews to obtain insights on the user experience of the scorecard to build up defined pain points** ([source](#))
- Had **one of my ideas** presented to **senior Improving stakeholders** ([source](#))

Design Thinking Framework

Empathize With Improving

- [Interview Guide](#)
- [Early Ideas/Market Research](#)
- [Improving Observations](#)
- [Interview Responses](#)

Define the Problem and Obtain Insights

- [Problem Statement](#)
- [How Might We](#)

Ideate Potential Solutions

- [Midpoint ideas](#)
- [Early ideas](#)

Prototype to Visualize Solution

- [Storyboard](#)

Test and Obtain Insights

- [Six Thinking Hats](#)

Background Research

- **Sources**

Ideas

1. Build a Visually Appealing Data Visualization Tool with Shiny from R-Studio

“Show us something that we have never seen in the past, and does this data tell us a different story than what we have seen before?”

- [David O’Hara](#), President, Improving

PAIN POINT:

A vast increase in data points on the balanced scorecard requires **tools to accustom to these new varieties** which come with the consequence of becoming **very complex** to understand for users ([source](#)).

INSIGHTS:

- There’s **too much room for human error with Excel**, and it is **extremely easy to accidentally break a complex spreadsheet** as one could be running their entire business based on **fundamental miscalculations or missing data** and **never know it** ([source](#)).
- “Excel Formulas are **complex** and **finicky**, and any change in the system requires **changes to all systems**” ([source](#))

SOLUTION:

Shiny from R-Studio: R-Shiny is a **web framework** created in the “R” data analysis programming language that allows one to **build visually appealing business application software** with the **ease of user experience** at the forefront of its goals ([more info](#)).

Who, What, Why:

Improving, in order to **maintain the balanced scorecard as an effective management tool**, implement **Shiny from R-Studio** that provides **visibility and ease of use** for **customers**.

FEEDBACK/SIX THINKING HATS

- **Keep data security in mind:** Improving CEO of the Dallas office, [David O'Hara](#), remarked through a question of whether we considered the **GDPR regulations** in the European Union when designing these solutions providing us with new insight to **look to data regulations of countries served by our stakeholder partners to accommodate** for it.
- **Blue: Automation**, once manual input is completed, will **require input from humans**, which may create an **opportunity** for **human error to occur**. So looking forward to ways to **limit that** through this solution will be essential.
- **Yellow:** Connects well to one of the pain points of **user experience** and how it can be addressed
- **White:** The R language is **more challenging** to learn than Excel but has **better features** to help with **data visualization**
- **Black:** Scaling feasibility may be **limited**, and this solution's **learning curve** may **not be worth it**.
- **Green:** Creates **opportunities** for partnerships to potentially find issues in the greater community while also creating **opportunities** for **effective tracking** of community efforts
- **Red:** It could **leave a gap** between those in the loop and out of the loop and could create a **rift** between them and a **domino effect** on employee workplace satisfaction

2. Create an Excel-Powered Management Console With Fine Report

“How can [The Balanced Scorecard] be more **informative** of **opportunities** in our data?” - [David O’Hara](#), President, Improving

PAIN POINT:

Excel as a management reporting tool, is **complex to understand** which **negatively affects its efficiency** in creating business objectives from that **complicated data**, especially if there are **increases in the varieties of data** ([source](#)).

INSIGHTS:

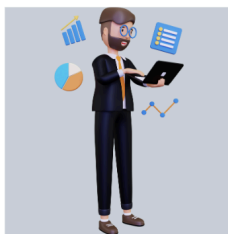
- We routinely read about stories like **JPMC losing more than \$6 billion** because of **a spreadsheet error** or, more recently, nearly **16,000 coronavirus cases** going **unreported** in England **due to a basic Excel formatting error** ([source](#)).
- “Headcount data is the **most complex** as headcounts have been **redone 4 times** over the **6 years** of the scorecard’s existence” ([source](#))

SOLUTION:

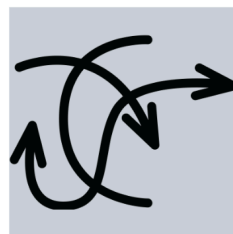
Fine Report: An **Excel management reporting tool** that includes a **complete management console**, making it easy for **multiple users** to **operate the database simultaneously** while also including **refined authority control plans** for **much greater security** than an Excel sheet ([More Info](#)).

NEXT STEPS/STORYBOARD:

Ideate and create a storyboard outlining the **pain points of using Excel** for the balanced scorecard to highlight **apparent differences** in **user experience** between Excel and our solutions.



A **new employee** at Improving is tasked with going through their balanced scorecard data to determine **trends**.



Unfortunately, the **complex formulas and finicky nature** of the balanced scorecard in excel make it hard for the new worker to **identify trends effectively**.



As a result, the new employee has to **constantly ask for help** on the **basic functions** on the scorecard **instead** of their primary job tasks. The new employee feels **stressed** and **lost**.

Who, What, Why:

Improving, in order to **maintain the balanced scorecard as an effective**

management tool through Excel, implements **Fine Report** that provides **security** and **ease of use** for **users accustomed to Excel**.

FEEDBACK/SIX THINKING HATS

- **Blue:** Looking at case studies of how other companies utilized this solution will guide the process of designing this solution in a way that would be **appealing toward Improving's needs**.
- **Yellow:** Addresses the pain point of the excel sheet being **challenging to work with** as it allows **multiple users** to operate the database.
- **White:** What control plans does this solution have, and **is it strong enough** for Improving's **corporate security standards**?
- **Black:** How would Improving determine **who gets access** to this system and how to **limit human error** among those with access?
- **Green:** These security features create **opportunities** to showcase a **live version** of the **scorecard outside the employer's view** and into the **view of the customers**.
- **Red:** Improving may like this idea as it focuses on **data security and access**.

3. Building Automatic Insights Through a Management Data Visualization Tool

“One of our main goals is to change the perception of the entire IT industry”

- [David O’Hara](#), President, Improving

PAIN POINT:

Excel, as a management reporting tool, is **complex to understand** which **negatively affects its efficiency** in creating business objectives from that **complicated data**, especially if there are **increases in the varieties of data** [\(source\)](#).

INSIGHTS:




- “Excel as a management reporting tool is **complex, not intuitive, finicky**, and it makes it **hard** for **new parties** to come in and **understand**” [\(source\)](#).
- “One thing that should be improved is to create a **methodology** that can create a **more consolidated approach**” [\(source\)](#)

SOLUTION:

Management data visualization tool: A tool that uses **excel data** to build **automated insights** that can be **further segmented** to **single scorecard metrics** or **individual office performances** visualized on a **bar graph** or other **visual tools** [\(More Info\)](#).

NEXT STEPS/STORYBOARD:

Ideate and create a storyboard outlining the **pain points of using Excel** for the balanced scorecard to highlight **apparent differences** in **user experience** between Excel and our solutions.

		
<p>A new employee at Improving is tasked with adding new metrics to the balanced scorecard data to make sure all data points remain current and actionable.</p>	<p>Unfortunately, the complex formulas and finicky nature of the balanced scorecard in excel make the chances of human error high which will get multiplied with each new data point entered.</p>	<p>As a result, the balanced scorecard has to be checked and fixed manually which adds extra costs and time to Improving. The new employee feels stressed and ashamed.</p>

Who, What, Why:

Improving, in order to **maintain the balanced scorecard as an effective**

management tool while decreasing complexity, implements a **management data visualization tool** that provides **versatility and ease of use** for **users, both experienced and new**.

FEEDBACK/SIX THINKING HATS

- **Blue:** Looking into how to **transfer excel data** into this solution will be key moving forward.
- **Yellow:** Address the pain point of **complexity** and **hard-to-understand visuals**
- **White:** How can this tool be **implemented**, and does it work with all of the data and equations on the balanced scorecard?
- **Black:** Is this tool **complicated** to **implement**, and is it **too complex** for its benefit?
- **Green:** This creates an opportunity to make the scorecard **more individualized** toward departments, teams, and even individuals.
- **Red:** This idea should be **more built out** and **specified** as there are other solutions **similar to this**.

Background Research

Stakeholder LinkedIn Links

- [David O'Hara](#): President of Improving at the Dallas office

Full Presentation

- [Final Presentation](#): Our team's final presentation presenting three ideas to Improving stakeholders

Process Book in The Design Thinking Framework

- [Process Book \(Design Thinking Framework\)](#): This process book is designed through the concept of the design thinking framework to illustrate the process behind the project and the insights gained from it.

Complete Ideas List (links to Drive)

- [Midpoint ideas](#): These ideas consisted of some early ideas built up with more details, which are narrowed down with specific stakeholder pain points.
- [Early ideas](#): These were early ideas from our team to determine through Improving's feedback where to move forward and what doesn't work. This document use case transitioned to a research repository for my two most well-thought-of ideas.

Balanced Scorecard Observations (links to)

- [Improving Observations](#): These observations were a combination of me and my teammate's insights from our survey interview of Improving stakeholders, where a recurring pain point of the **complex and finicky nature of excel as a platform** for the scorecard was shared.
- [Updated Stakeholder Insights](#): These are observations of stakeholders and their insights, which is where I based the storyboard going over the pain points of the **complex nature of the scorecard**.
- [Six Thinking Hats](#): Observations by my team of my different ideas to visualize the ideas from different points of view.

Interview Question Outline (developed 7 questions)

- [Interview questions guide](#): This guide was used as the foundational document for our **how might we** questions to design the questions for our survey to Improving's stakeholders. It also included initial pain points and insights from Improving stakeholders.
- [Semi-structured interview guide](#): This was used as an official team document for the structure of the survey/interview, which included everything from the **elevator speech** and **how-might-we statements** to the **consent form** for interviewees and the link to the survey itself.

Google Survey Responses

- [Survey link](#): This is linked to the official survey taken by Improving stakeholders who agreed to interview with our team.
- [Responses](#): This Excel sheet summarizes all of the insights gained from the survey with Improving stakeholders that we interviewed.

Shiny from R-Studio

- **Pain Point:**
 - [Ideas Summary](#): This contains my two most well-thought ideas, which include the pain points and other research on how it works.
- **Insights:**
 - [Excel is Obsolete. Here Are Some Alternatives...](#): A source goes over the pitfalls of Excel, like **human error** and how **easy** it is **to break** a **complex spreadsheet**, and then lists out some alternatives.
 - [Updated Stakeholder Insights](#): These are observations of stakeholders and their insights, which is where I based the storyboard going over the pain points of the complex nature of the scorecard.
- **Solution:**
 - [Ideas Summary](#): This document contains my two most well-thought ideas, which include the pain points and other research on how it works.

Fine Report

- **Pain Point:**
 - [Updated Stakeholder Insights](#): These are observations of stakeholders and their insights made by me which is where I based the storyboard going over the pain points of the **complex nature** of the scorecard from.
- **Insights:**

- [Excel is Obsolete. Here Are Some Alternatives...](#): A source going over the pitfalls of Excel, like **human error** and how **JPMC lost \$6 Billion** because of it, and then listed out some alternatives to Excel.
- [Updated Stakeholder Insights](#): These are observations of stakeholders and their insights, which is where I based the storyboard going over the pain points of the **complex nature** of the scorecard.
- **Solution:**
 - [Ideas Summary](#): This document contains my two most well-thought ideas, which include the pain points and other research on how it works.

Management Data Visualization Tool

- **Pain Point:**
 - [Updated Stakeholder Insights](#): These are observations of stakeholders and their insights made by me which is where I based the storyboard going over the pain points of the **complex nature** of the scorecard from.
- **Insights:**
 - [Updated Stakeholder Insights](#): These are observations of stakeholders and their insights made by me which is where I based the storyboard going over the pain points of the **complex nature** of the scorecard from.
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 - [Midpoint ideas](#): These ideas consisted of some early ideas built up with more details which are more narrowed down with specific stakeholder pain points.

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