

DAB 301

Analyzing Stakeholder

Satisfaction

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1. Introduction

Here, we focus on how satisfied our stakeholders are, as it's a key part of any project's success. We looked at feedback from clients, vendors, sponsors, and government officials. Our goal was to check how happy they were, spot any communication or process issues, and suggest ways to improve their overall experience.

2. Objectives

We set out to:

- Measure how satisfied different stakeholder groups are across departments.
- Find patterns in the types of feedback and the emotions behind them.
- Understand how the number of issues, time taken to fix them, and satisfaction are connected.
- Now, give practical suggestions to boost stakeholder communication and involvement.

3. Dataset Description

We analyzed survey responses from 10 stakeholders. The dataset included the following features:

Column	Description
Survey ID	Unique identifier for each response
Stakeholder Role	Role of the stakeholder (e.g., Client, Sponsor)
Department	Department associated with the feedback
Satisfaction Score	Rating on a scale of 1 (low) to 5 (high)
Feedback Category	Main theme of the feedback
Comments Length	Length of the comment in words
Response Sentiment	Sentiment derived from feedback (Positive, Neutral, Negative)
Engagement Frequency	Number of interactions per month
Issues Raised	Number of issues raised
Resolution Time	Time taken to resolve issues (in days)

Follow-Up Required

Whether follow-up was requested

4. Methodology

Here's what we did:

- **Data Cleaning:** We removed errors and filled in any missing data.
- **Descriptive Analysis:** We checked averages, frequencies, and patterns.
- **Visualization:** We used bar charts, scatter plots, and heatmaps to make the data clearer.
- **Correlation Analysis:** We looked at how satisfaction is linked to other factors.
- **Sentiment Analysis:** We studied how the tone of feedback affects satisfaction.

5. Key Findings

A. Satisfaction by Stakeholder Role

- Clients and vendors were mostly very happy (i.e., they gave scores of 5).
- Sponsors gave more average scores (around 2–3).
- Government officials showed mixed responses, mostly 3s and 5s.

B. Sentiment vs Satisfaction

- All positive feedback matched scores of 3 to 5.
- The only negative comment came with a satisfaction score of 3.
- Neutral comments had both low and high scores, which might mean there are communication gaps.

C. Resolution Time vs Issues Raised

- The more issues someone raised, the longer it usually took to fix them. This was especially true for sponsors and clients.
- For example, S2 raised 10 issues, waited 5 days, and gave a score of 2.

D. Comment Length vs Satisfaction

- Longer comments didn't always mean someone was unhappy.

- For instance, S3 and S5 wrote long feedback (around 133 words) but still gave scores of 5.

E. Engagement Frequency

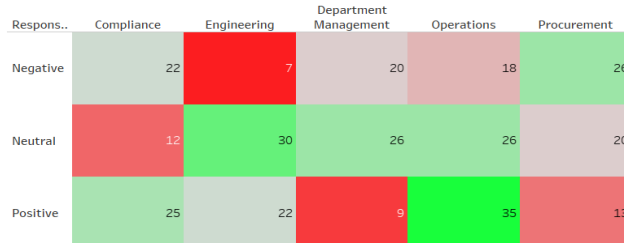
- Stakeholders who engaged more often (i.e., 4–5 times a month) usually reported higher satisfaction.
- S10 had 5 engagements, raised 10 issues, and still gave a 5—likely because follow-ups were handled well.

6. Visualizations (from Dashboard)

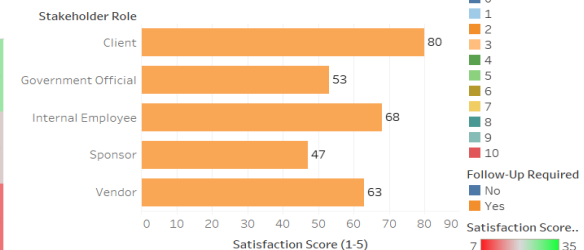
We now include the following visuals:

- Bar chart: Satisfaction Score by Role
- Heatmap: Sentiment by Department
- Scatter plot: Issues Raised vs Resolution Time
- Stacked Bar: Follow-Up Required vs Satisfaction Score

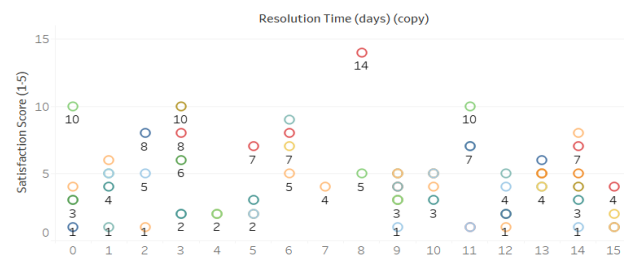
Sentiment by Department



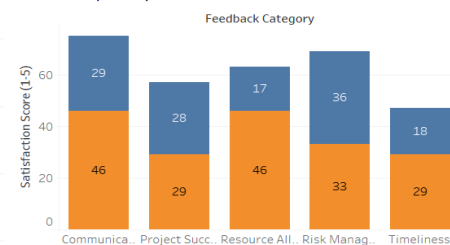
Satisfaction Score by Stakeholder Role



Issues Raised vs. Resolution Time



Follow-Up Required vs. Satisfaction



Dashboard Overview

Here, we present a clear and detailed dashboard that helps us understand stakeholder satisfaction across departments, roles, resolution times, and feedback types. Below is a section-by-section explanation:

1. Sentiment by Department (Top Left)

- This heatmap shows how feedback sentiment (i.e., Negative, Neutral, Positive) is spread across departments.
- **Color guide:**
 - **Red** means more negative responses.
 - **Green** shows more positive feedback.
 - **Lighter shades** represent a mix of sentiments.
- **What we noticed:**
 - The **Engineering department** shows mostly negative feedback (i.e., more red).
 - **Procurement** and **Operations** stand out with mostly positive responses (i.e., green).
 - **Compliance** and **Department Management** show a mix, meaning there's room for improvement.

2. Satisfaction Score by Stakeholder Role (Top Right)

- Here, we use a horizontal bar chart to compare satisfaction levels based on stakeholder roles.
- **Color and labels:**
 - Higher scores appear on the right—**Clients** score the highest (80).
 - Lower scores are on the left—**Sponsors** score the lowest (47).
 - We also show how many issues were raised by each role.
- **Key takeaways:**
 - Clients are the most satisfied.

- Vendors and government officials are in the middle.
- Sponsors are less satisfied and might need more attention.

3. Issues Raised vs. Resolution Time (Bottom Left)

- Now, we look at a scatter plot that compares how many issues were raised (X-axis) and how long they took to resolve (Y-axis).
- **Patterns we see:**
 - Green circles (i.e., higher satisfaction) usually happen when issues are resolved quickly.
 - Longer resolution times (like 14 days) are linked with lower satisfaction.
 - Most of the points with lots of issues are in the mid-to-low satisfaction zone.

4. Follow-Up Required vs. Satisfaction (Bottom Right)

- This stacked bar chart shows how follow-ups affect satisfaction scores.
- **Color guide:**
 - **Orange** means a follow-up was needed.
 - **Blue** means no follow-up was needed.
- **What stands out:**
 - Most follow-ups happened in **Communication** and **Resource Allocation**.
 - **Risk Management** and **Project Success** had fewer follow-ups but still showed some dissatisfaction.
 - Moreover, when follow-ups are needed, satisfaction tends to go down.

Overall Insights

- Here's what we learned overall:
 - Departments with more negative feedback, like Engineering, may need to improve how they handle stakeholder concerns.

- Clients are clearly the most satisfied group.
- Also, when resolution takes longer, satisfaction drops.
- Follow-ups—especially in areas like Communication—are linked to lower scores.

7. Recommendations

Based on what we found, we suggest:

- **Improve Communication:** More regular and clear communication helps avoid dissatisfaction.
- **Timely Follow-Ups:** When follow-ups were quick, people were more satisfied.
- **Monitor Sentiment:** Use tools to catch negative or neutral feedback early.
- **Action by Department:** Departments like Compliance, where feedback was mixed, can benefit from more focused reviews.

8. Challenges

Here are some hurdles we faced:

- **Small Dataset:** We only had 10 responses, so results may not represent larger trends.
- **Basic Sentiment Analysis:** Our method was simple—i.e., more advanced tools could give better results.
- **Role Overlap:** Some feedback seemed to come from people with more than one role, which made it hard to assign clearly.

9. Conclusion

Here, we looked closely at how satisfied our stakeholders are, based on their feedback, the time it took to resolve their issues, and how often they were engaged. From our analysis, we now clearly see that stakeholder satisfaction is closely connected to three main things:

communication quality, tone of feedback (sentiment), and how quickly their concerns are addressed.

We found that when stakeholders feel heard, get timely updates, and receive follow-ups without delay, their satisfaction improves—even if they raised several issues. Also, when the tone of their feedback is positive or when they're regularly engaged, they tend to rate their satisfaction higher.

On the other hand, longer resolution times and needing follow-ups often lead to lower satisfaction. Moreover, neutral or unclear feedback sometimes hides real concerns—i.e., this might point to communication gaps that we need to fix.

This project helps us understand what matters most to stakeholders. Now, we can use these insights to make real improvements. For example, we can respond faster, be more proactive in our communication, and use tools to detect negative or unclear feedback early. These actions can help us strengthen relationships, build trust, and improve overall engagement moving forward.

So, while the dataset was small, we were still able to learn a lot. And this gives us a strong starting point for creating a more stakeholder-friendly environment in future projects.

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