PMNA Tutorial: How to Monitor Project Sentiment with Slack + GPT + Google Sheets

Introduction

Project Managers often juggle multiple communication threads and team updates. Slack is a goldmine of team sentiment—good or bad—but manually reading through messages is inefficient. What if you could **automatically track how your team feels about a project using Slack, analyze it with GPT (for sentiment analysis), and visualize it in Google Sheets**?

This tutorial will walk you through setting up an automated workflow to:

- Collect Slack messages

- Run them through GPT to determine sentiment (positive, neutral, negative)

- Push the results to Google Sheets for tracking and visualization

---

✅ What You'll Need

- A Slack workspace (with permission to add bots)

- OpenAI API key (or another GPT provider)

- Google Sheets (with Google Apps Script enabled)

- Automation tool like **Zapier**, **Make (Integromat)**, or **n8n**

- Basic coding or scripting familiarity (for customization)

🧩 Workflow Overview

1. **Capture Slack messages**

2. **Send message content to GPT for sentiment analysis**

3. **Return the sentiment result**

4. **Log the message, sender, date, and sentiment into Google Sheets**

5. *(Optional)* Create visual sentiment trends in Google Sheets

---

🔧 STEP-BY-STEP BREAKDOWN

Step 1: Set Up a Slack App to Monitor Channels

1. Go to [Slack API: https://api.slack.com/apps](https://api.slack.com/apps)

2. Click **Create New App**

3. Name it something like `ProjectSentimentBot`

4. Choose your Slack workspace

Configure Bot Permissions:

- Under **OAuth & Permissions**, add the following scopes:

  - `channels:history`

  - `channels:read`

  - `chat:write`

- ○ `users:read`

- ○ `app_mentions:read`

5. Install the app to your workspace

6. Save the **Bot Token** (e.g., `xoxb-...`)

Step 2: Use a Tool like n8n / Zapier to Monitor Slack Messages

For this example, we'll use **Zapier**:

1. In Zapier, create a new **Zap**.

2. **Trigger**: "New Message Posted to Channel" (Slack)

   - ○ Connect your Slack account

   - ○ Choose the relevant channel (e.g., `#project-updates`)

3. Filter messages:

   - ○ Add a **Filter** step to remove bot messages or messages from a specific user (optional)

4. Format the Slack message for GPT input:

   - ○ Use a Zapier **Formatter** or code step to structure a prompt:

```
Analyze the following Slack message and return one of: Positive, Neutral,
Negative.

Message: "{{Slack Message Text}}"
```

Step 3: Connect to OpenAI for Sentiment Analysis

1. Add a **Webhooks by Zapier** step (POST)

2. Configure it to call the OpenAI API:

   - **URL**: `https://api.openai.com/v1/chat/completions`

   - **Headers**:

     - `Authorization`: `Bearer YOUR_OPENAI_API_KEY`

     - `Content-Type`: `application/json`

   - **Body**:

```json
{
  "model": "gpt-4",
  "messages": [
    {
      "role": "system",
      "content": "You are a helpful assistant that performs sentiment analysis. Respond with only Positive, Neutral, or Negative."
    },
    {
      "role": "user",
      "content": "Analyze the following Slack message and return its sentiment.\n\n{{Slack Message Text}}"
    }
  ],
  "temperature": 0
}
```

3. The output will be a response like: "Positive" or "Negative"

Step 4: Send the Result to Google Sheets

1. Create a Google Sheet with the following headers:

```
Timestamp | User | Message | Sentiment
```

2. In Zapier, add a **Google Sheets → Create Spreadsheet Row** action.

3. Connect your Google account

4. Select the spreadsheet and worksheet

5. Map the fields:

   ○ Timestamp → `{{Slack Message Timestamp}}`

   ○ User → `{{Slack Username}}`

   ○ Message → `{{Slack Message Text}}`

   ○ Sentiment → `{{GPT Output}}`

Step 5: Visualize Team Sentiment in Google Sheets (Optional)

Use Google Sheets' **built-in charts** and **pivot tables**:

- Create a pivot table that counts messages by sentiment and date

- Add a bar or line chart to track sentiment over time

- Use conditional formatting to highlight spikes in negative sentiment

---

🧠 Pro Tips

- **Time Filter**: Only analyze messages during work hours to avoid noise

- **Advanced Prompting**: Ask GPT to add emotion tags or urgency rating

- **Tag Filtering**: Track sentiment on specific topics like `#deadline`, `#launch`, or user mentions

---

🧪 Example Use Case

Let's say your team uses `#product-launch` for coordination. You can:

- Filter messages in that channel

- Track morale before and after launch

- Spot friction or burnout early by watching for spikes in negative sentiment

---

🎯 Why This Matters for Project Managers

By automating sentiment tracking:

- You get a real-time pulse on team morale

- You can intervene early when tension or burnout is rising

- You have qualitative data to support project retrospectives

- You reduce blind spots in communication-heavy environments

✅ Summary

Step	Tool	What It Does
1	Slack App	Captures messages
2	Zapier / n8n	Automates the workflow
3	OpenAI API	Analyzes message sentiment
4	Google Sheets	Stores and visualizes results