

MBA PROJECT REPORT

AI-Powered Telegram Expense Assistant

Using n8n, Google Gemini, and Google Sheets

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1. Problem Statement

Salespeople working in the field often incur daily expenses such as travel, client meetings, lodging, and meals.

Traditional methods of tracking expenses (manual logs, spreadsheets, or delayed reporting) create challenges such as:

- Time lost in documenting expenses after fieldwork
- Risk of errors and missing receipts
- Lack of real-time tracking for managers
- Delays in reimbursement processing

2. Project Objective

The objective of this project is to develop an AI-powered expense assistant that enables salespeople to log expenses through Telegram, automatically record them in Google Sheets, calculate totals, support query-based reporting, and simplify reimbursement workflows.

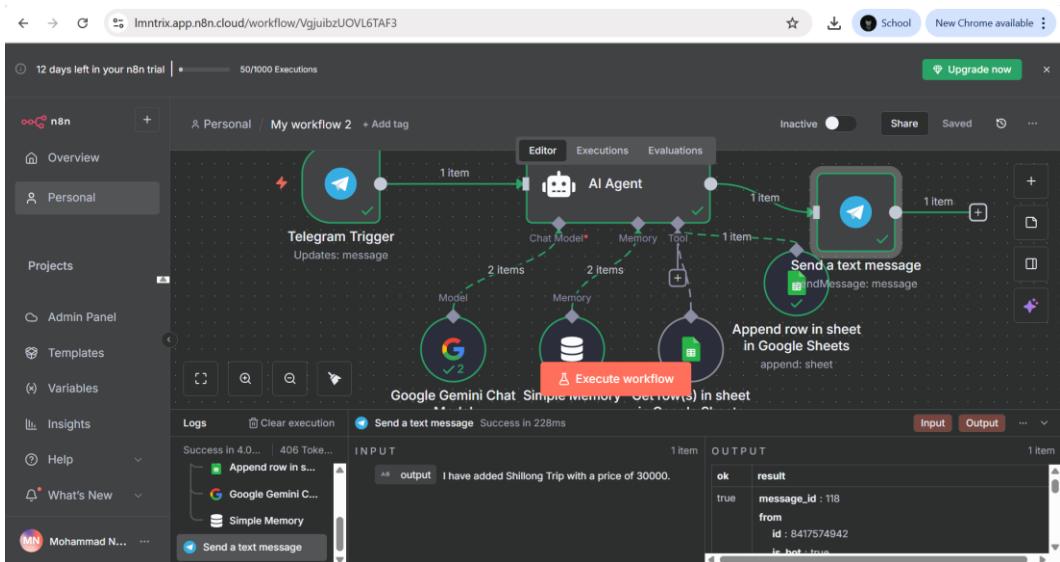
3. Methodology

The project was implemented using n8n workflow automation with the following approach:

1. Requirement Analysis – Identifying the key pain points of salespeople in expense logging.
2. Workflow Design – Creating a Telegram-triggered AI assistant workflow.
3. Integration – Connecting Google Gemini for intent detection and Google Sheets for data storage.
4. Testing – Simulating user inputs and validating responses.
5. Deployment – Deploying the bot for real-time usage.

4. System Workflow

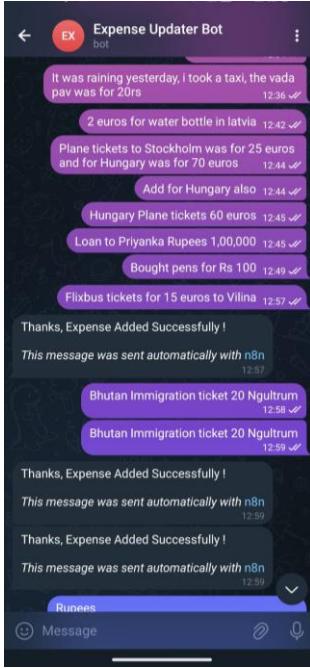
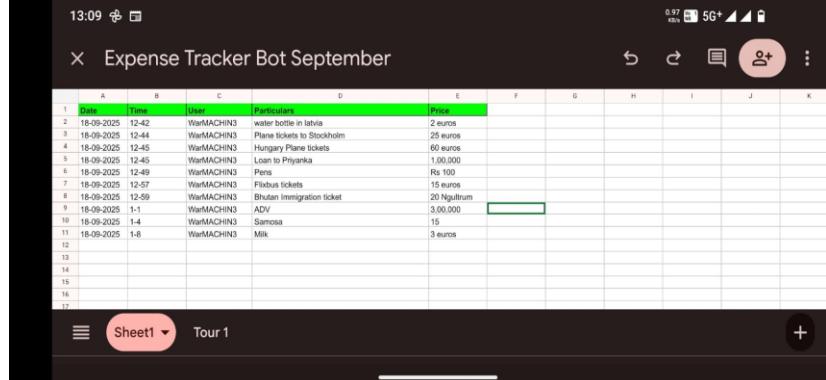
The following diagram shows the designed workflow:



Workflow Steps:

1. Telegram Trigger → Salesperson enters expense data.
2. AI Agent (Google Gemini) → Interprets intent (log, total, query).
3. Memory Handling → Maintains context.
4. Google Sheets → Stores expenses, calculates totals, fetches data.
5. Telegram Reply → Sends confirmation or report back.

5. Implementation Example

A	B	C	D	E	F	G	H	I	J	K
1	Date	Time	User	Description	Price					
2	18-09-2025	12-42	WarMACHIN3	water bottle in latvia	2 euros					
3	18-09-2025	12-44	WarMACHIN3	Plane tickets to Stockholm	25 euros					
4	18-09-2025	12-45	WarMACHIN3	Hungary Plane tickets	60 euros					
5	18-09-2025	12-45	WarMACHIN3	Loan to Priyanka	1,00,000					
6	18-09-2025	12-49	WarMACHIN3	Pens	Rs 100					
7	18-09-2025	12-57	WarMACHIN3	Flixbus tickets	15 euros					
8	18-09-2025	12-59	WarMACHIN3	Bhutan Immigration ticket	20 Ngultrum					
9	18-09-2025	1-1	WarMACHIN3	ADV	3,00,000					
10	18-09-2025	1-4	WarMACHIN3	Samosa	15					
11	18-09-2025	1-8	WarMACHIN3	Milk	3 euros					
12										
13										
14										
15										
16										
17										

- Expense Logging:

Input: "Add Shillong Trip with price 30000"

Bot: "I have added Shillong Trip with a price of 30000."

- Total Query:

Input: "What is my total spend this month?"

Bot: "Your total spend for September is 85,000."

- Category Query:

Input: "Show all travel expenses in September."

Bot: "Displaying all travel-related expenses for September."

6. Results and Benefits

- Time-Saving – Instant expense logging reduces post-work administrative effort.
- Accuracy – Automated logging minimizes errors.
- Transparency – Managers get real-time access to expenses.
- Productivity – Sales teams spend more time on sales, less on reporting.
- Scalability – Can be deployed across organizations with minimal setup.

7. Conclusion

The AI-Powered Telegram Expense Assistant provides a smart, scalable, and user-friendly solution for managing field expenses.

By automating routine tasks and leveraging AI, it improves efficiency, reduces

reimbursement delays, and enhances sales productivity.

8. Future Scope

- Integration with ERP/CRM systems.
- Automated monthly reports to managers.
- Multi-currency and category-based analytics.
- Voice-enabled expense logging.