PORTFOLIO CASE STUDY | AI AUTOMATION

AI Daily Newsletter Automation

An n8n workflow that researches the day, writes the newsletter, adds a quote of the day, and delivers it ready to review.

n8n | Perplexity | OpenAI | Google Docs | Gmail



Workflow built in n8n | Research by Perplexity | Writing by OpenAI

01 Project Overview

What the automation is, what it is for, and who it helps

PROJECT NAME

AI Daily Newsletter Automation

A workflow that runs on a weekday schedule. It researches current topics, writes a newsletter from that research, adds a quote of the day with a short take, and delivers the result by email and as a Google Doc.

MAIN OBJECTIVE

Publish a steady daily newsletter without spending the morning on research, drafting, and file work.

WHO IT HELPS

- **Finance and trading education brands**
  Daily market-themed briefings
- **Coaching and consulting businesses**
  Regular value for clients and leads
- **Creators and media brands**
  A steady publishing rhythm
- **Agencies writing for clients**
  Repeatable drafts to review
- **B2B and SaaS companies**
  Industry updates for customers

7 AM	weekday start time
2	AI services: Perplexity and OpenAI
1	run makes the issue, quote, email, and doc
Clean	one doc per day, no duplicates

02 The Business Pain

What goes wrong when a daily newsletter is made by hand

Research takes hours

Finding and reading the day's news and topics eats the morning.

Writing from scratch daily

Drafting a fresh issue every day is slow and tiring.

Missed or late issues

Busy days lead to skipped sends, and readers notice.

Scattered files

Research, drafts, quotes, and docs end up in different places.

Uneven quality

Tone and structure drift when different people write each issue.

Sound familiar?

A newsletter only works when it shows up. Automation handles the repeat steps so people can review the draft and add their own voice.

03 The Proposed Solution

One scheduled workflow that goes from research to a ready-to-review doc

WHAT IS NEEDED	WORKFLOW DOES	RESULT
It is 7 AM on a weekday	**Schedule and check** Schedule Trigger starts the run, and an If check decides to go ahead	The issue starts on time, with no click
The day's topics need research	**Research** Perplexity researches, and the results go to a backup sheet	Fresh research, plus a saved copy
The issue needs writing	**Write** A Writer Prompt feeds the research to an OpenAI writer	A full newsletter draft
A quote of the day is wanted	**Quote of the day** Picks a quote from a sheet, then a Quote Analyst adds a short take	A quote section, ready to use
The team needs the draft	**Deliver** Build Text prepares it and Gmail sends an email	The text arrives by email
The draft needs a home	**Deliver** Creates a Google Doc, fills it in, and moves it to a folder	One neat doc per day

03 Manual Newsletter vs. Automated Workflow

Why a scheduled pipeline beats doing every step by hand

Manual newsletter

- ✕ Research starts when someone has time
- ✕ Copy and paste between tabs and docs
- ✕ The quote is picked by hand
- ✕ Old drafts pile up in folders
- ✕ Quality changes with who writes
- ✕ Time grows with every issue

VS

Automated workflow

- ✓ Starts at 7 AM on weekdays
- ✓ Research and writing run on their own
- ✓ A quote is picked and explained by AI
- ✓ Today's doc is replaced, not duplicated
- ✓ The same prompts keep the tone steady
- ✓ Each issue needs a short review

IN ONE LINE

A scheduled AI pipeline, from research to a ready-to-review doc.

Pipeline means each step hands its result to the next step.

04 Key Features & Capabilities

What the system can actually do

Weekday schedule

Runs at 7 AM on weekdays with no manual start.

Run check

An If step can stop the run and do nothing when it should.

AI research

Perplexity gathers current information for the issue.

Research backup

Saves the research to a sheet so nothing is lost.

AI newsletter writer

An OpenAI model writes the issue from a prompt built for it.

Quote of the day

Picks a quote from a sheet, then a Quote Analyst adds a short take.

Email delivery

Gmail sends an email with the finished text.

Tidy docs

Creates a Google Doc, replaces old copies, and files it in a folder.

Every prompt can be edited, so the voice, topics, and format match your brand.

05 Workflow Architecture

The real n8n workflow, and every step drawn out



Real workflow in n8n (full view). Steps run left to right.

Schedule Trigger
7 AM weekdays

Date setter
n8n Set

Get row(s) in sheet
Google Sheets

If
n8n check

if true: stop

Perplexity
HTTP request

Daily research backup
Google Sheets

Writer Prompt
n8n Set

Newsletter Writer
OpenAI request

Get row(s) in sheet1
Google Sheets

Pick Quote
Code

Update row in sheet
Google Sheets

Quote Prompt
n8n Set

Quote Analyst
OpenAI request

Build Text
Code

Send a message
Gmail

Find Today's Doc
Google Drive

Old Doc Found?
n8n check

if no old doc: skip

Trash Old Doc
Google Drive

Create a document
Google Docs

Update a document
Google Docs

Move file
Google Drive

Schedule and check · **Research** · **Write** · **Quote of the day** · **Deliver**

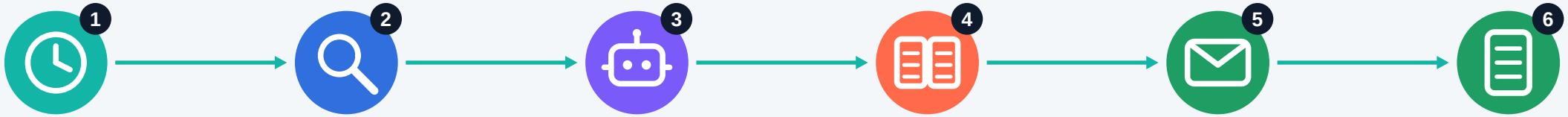
05 The Five Stages

What each part of the workflow does, in plain words

1	**Schedule and check**	Starts at 7 AM on weekdays. Sets the date, reads a sheet, and an If step decides whether to run. If not, the workflow does nothing.	Tools: Schedule Trigger, Set, Google Sheets, If
2	**Research**	Perplexity researches the day's topics through its API. The results are saved to a Daily research backup sheet.	Tools: Perplexity, Google Sheets
3	**Write**	A Writer Prompt is built from the research. An OpenAI model then writes the newsletter.	Tools: Set, OpenAI
4	**Quote of the day**	Reads a row from a quote sheet, picks a quote, and updates the row. A Quote Prompt goes to a second AI step, the Quote Analyst.	Tools: Google Sheets, Code, OpenAI
5	**Deliver**	Build Text prepares the final text and Gmail sends an email. The flow finds today's Google Doc, trashes an old one if found, creates a new doc, fills it in, and moves the file.	Tools: Code, Gmail, Google Drive, Google Docs

06 How It Works

One morning run, from the first trigger to a doc ready to review



7:00 AM
The weekday schedule starts the run.

Research
Perplexity gathers the day's topics.

Writing
The AI writer drafts the issue.

Quote
A quote is picked and explained.

Delivery
Gmail sends the text by email.

Ready
A Google Doc is filed for review.

Example newsletter layout

RESEARCH
Facts and topics gathered for the day

NEWSLETTER
Headline, intro, main stories, quick takeaways

QUOTE
Quote of the day with a short take

Example layout only. Yours follows your own prompts.

YOUR MORNING

1. **7:00 AM**
   The workflow runs on its own.
2. **Morning**
   Open the email or the Google Doc and review.
3. **Then**
   Edit if needed, and publish or send to your list.

07 Business Benefits & Expected Outcomes

The value, the time saved, and the operational gains

Consistent publishing

The issue starts on time every weekday, even on busy mornings.

Hours saved

Research, first drafts, and filing are handled for you.

Research on tap

Fresh information is gathered and backed up to a sheet each day.

Steady voice

Saved prompts keep the tone and structure the same.

Organized files

One clean Google Doc per day, filed in the right folder.

Easy to grow

Copy the flow to run more newsletters or topics.

Example time savings



Research 45 + writing 60 + quote and formatting 20 + filing 10 = 135 minutes a day. If a person only reviews for about 30 minutes, you save about **105 minutes a day**, or about 8.75 hours a week.

Example only. Real results depend on your topics, issue length, and how much editing you want.

08 Technology Stack & Implementation

The tools, what you need, and how it can be customized

TECHNOLOGY STACK

n8n	Workflow engine and the 7 AM weekday schedule
Perplexity	API that researches the current topics
OpenAI	API that writes the newsletter and the quote take
Google Sheets	Research backup and the quote list
Gmail	Sends the email with the finished text
Google Drive and Docs	Create, fill, move, and clean up the daily doc

WHAT YOU NEED

- n8n account (cloud or self-hosted)
- Perplexity and OpenAI API keys
- Google account for Sheets, Docs, and Drive
- Gmail access for sending
- Your topics, voice notes, and quote list

CUSTOMIZATION IDEAS

- Swap OpenAI for Claude or another model
- Publish to beehiiv, Mailchimp, or GoHighLevel
- Change the topics, tone, and schedule
- Add a human approval step before sending
- Create social posts from the same research

How it gets built

1 Define topics and voice

Decide what each issue covers and how it sounds.

2 Build prompts and sheets

Write the prompts and set up the backup and quote sheets.

3 Connect and test

Link the tools and test a full run end to end.

4 Launch and refine

Go live, read the output, and improve the prompts.

Ready to publish every day?

Share your topics and your tone. Then a scheduled workflow can research, write, and file each issue so you only need to review it.



Pick your topics



Set your voice



Test, launch, improve

Built with n8n, Perplexity, OpenAI, Google Workspace, and Gmail.