

Project Design Phase
Problem – Solution Fit Template

Date	18 Feb 2026
Team ID	LTVIP2026TMIDS80588
Project Name	TransLingua: AI-Powered Multi-Language Translator
Maximum Marks	2 Marks

Problem – Solution Fit Template:

The Problem-Solution Fit simply means that you have found a problem with your customer and that the solution you have realized for it actually solves the customer's problem. It helps entrepreneurs, marketers and corporate innovators identify behavioral patterns and recognize what would work and why

Purpose:

- **Solving Complex Problems:** We addressed the complex issue of "locked" information in foreign PDFs and images by integrating Multimodal AI (Gemini 3 Flash), allowing users to access data that was previously unreachable.
- **Tapping into Existing Channels:** By building the solution on a web-based Streamlit dashboard, we tap into the existing behavior of students and travelers who use browsers as their primary tool for information seeking.
- **Building Trust:** We solve the "urgent and costly" problem of manual translation errors and high-latency processing, building user trust through high-speed, context-aware accuracy.
- **Understanding the Situation:** By analyzing the frustrations of research students (manual copy-pasting) and travelers (unreadable signs), we improved the existing situation through automated OCR and translation.

Template:

Problem-Solution fit canvas 2.0		Purpose / Vision	
Define CS, fit into	1. CUSTOMER SEGMENT(S) CS Who is your customer? Final-year Research Students: Individuals needing to review 50+ foreign language papers for their thesis	6. CUSTOMER CC What constraints prevent your customers from taking action or limit their choices of solutions? I.e. spending power, budget, no cash, network connection, available devices. Budget: Students cannot afford expensive enterprise software or human translators.	5. AVAILABLE SOLUTIONS AS Which solutions are available to the customers when they face the problem or need to get the job done? What have they tried in the past? What pros & cons do these solutions have? I.e. pen and paper is an alternative to digital notetaking. Google Translate / Despl: Pros: Fast, free. Cons: Falls on PDF layouts, limited to text-input.
	2. JOBS-TO-BE-DONE / PROBLEMS J&P Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides. OCR & Extraction: Translating text from "locked" PDFs or low-quality images that don't allow copy-pasting.	9. PROBLEM ROOT CAUSE RC What is the real reason that this problem exists? What is the back story behind the need to do this job? I.e. customers have to do it because of the change in regulations. Data Silos: Knowledge is locked behind language barriers because traditional OCR and translation tools were built as separate, disconnected processes. Context Loss: Literal translation engines ignore "Multimodal Context"—they don't "see" that a word is part of a table or a warning sign.	7. BEHAVIOUR BE What does your customer do to address the problem and get the job done? I.e. directly related: find the right solar panel installer, calculate usage and benefits; indirectly associated: customers spend free time on volunteering work (i.e. Greenpeace) Direct Behavior: They take manual screenshots and run them through separate OCR websites.
Focus on J&P, tap into BE, understand	3. TRIGGERS TR What triggers customers to act? I.e. seeing their google installing solar panels, reading about a more efficient solution in the news. OCR & Extraction: Translating text from "locked" PDFs or low-quality images that don't allow copy-pasting.	10. YOUR SOLUTION SL Universal Translingua AI: A multimodal web application powered by Gemini 3 Flash that unifies Vision, Document Parsing, and Language Translation into a single interface. It provides: <ol style="list-style-type: none"> 1. Format-aware PDF translation. 2. Real-time OCR for physical images. 3. High-speed "Flash" processing to fit user's time constraints. 	8. CHANNELS of BEHAVIOUR CH 8.1 ONLINE What kind of actions do customers take online? Extract online channels from #7 Search engines (Google/Bing), GitHub, Academic forums (ResearchGate), LinkedIn, AI tool directories. 8.2 OFFLINE What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development. University libraries, international airports, Academic conferences, Word-of-mouth in study groups
	4. EMOTIONS: BEFORE / AFTER EM How do customers feel when they face a problem or a job and afterwards? I.e. lost, insecure > confident, in control - use it in your communication strategy & design. Before: Anxious (missing a deadline), Frustrated (tedious copy-pasting), Insecure (unsure if the translation is accurate), Excluded (locked out of global knowledge).	Problem-Solution fit canvas is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 license Created by David Amaltama	

References:

1. <https://www.ideahackers.network/problem-solution-fit-canvas/>
2. <https://medium.com/@epicantus/problem-solution-fit-canvas-aa3dd59cb4fe>