

Project Design Phase
Problem – Solution Fit Template

Date	16 July 2025
Team ID	LTVIP2025TMID32540
Project Name	Transfer learning based classification of poultry diseases for enhanced Health
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:

- ☐ Solve complex problems in a way that fits the state of your customers.
- ☐ Succeed faster and increase your solution adoption by tapping into existing mediums and channels of behavior.
- ☐ Sharpen your communication and marketing strategy with the right triggers and messaging.
- ☐ Increase touch-points with your company by finding the right problem-behavior fit and building trust by solving frequent annoyances, or urgent or costly problems.
- ☐ **Understand the existing situation in order to improve it for your target group.**

1. Target Customer Segment :

Poultry farmers, especially in rural and semi-urban areas, with limited access to timely veterinary care or diagnostic tools.

2.Problem Description :

Farmers are unable to detect poultry diseases early, leading to high bird mortality, economic losses, and potential spread of infections across flocks.

3.Evidence of the Problem :

Field reports and case studies show up to 20–30% poultry loss due to undetected diseases.

Farmer interviews reveal delays in identifying symptoms and reaching vets.

Current disease identification methods are manual, slow, and often inaccurate.

4.Existing Behavior / Current Solutions :

Farmers rely on visual inspection or wait for vets, often reacting too late.

Some turn to WhatsApp groups or local communities for advice.

There is no structured or reliable method to identify diseases quickly.

5. The Solution :

An AI-powered mobile application using transfer learning to classify poultry diseases from images uploaded by the farmer in real-time.

6. Why It Works

Uses pre-trained CNN models fine-tuned on poultry disease images.

Works with low-end smartphones and supports local languages.

Enables fast, accurate identification, lowering mortality rates and treatment delays.

7. Unique Value Proposition

Offline diagnosis capability

User-friendly interface for low-tech users

Scalable and customizable to multiple poultry breeds

Includes vet suggestions and treatment support

8. Behavioral Fit

Farmers already use smartphones and take pictures of sick birds.

The app fits into their daily workflow with minimal training needed.

Can be easily integrated with poultry co-ops and farm supply chains.

9. Adoption Strategy

Pilot in key poultry farming clusters

Partner with NGOs, veterinary colleges, and government agri-departments

Offer free trials and success stories to build credibility

Promote via agricultural extension officers and farming expos

10. Metrics to Measure Fit :

Number of active users per month

Number of disease images analyzed

Accuracy of predictions (validated by experts)

Decrease in poultry mortality rates

Farmer feedback and satisfaction levels

Template:

Define CS, fit into CC	1. CUSTOMER SEGMENT(S) CS Who is your customer? i.e. working parents of 0-8 y.o. kids	6. CUSTOMER CONSTRAINTS 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.	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	Explore AS, differentiate
	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.	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.	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)	
Identify strong TR & EM	3. TRIGGERS TR What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news.	10. YOUR SOLUTION SL If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality. If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour.	8. CHANNELS of BEHAVIOUR CH 8.1 ONLINE What kind of actions do customers take online? Extract online channels from #7 8.2 OFFLINE What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development.	Extract online & offline CH of BE
	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.			

References:

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