**Project Design Phase**
**Problem – Solution Fit Template**

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| Date | 28 June 2025 |
| Team ID | LTVIP2025TMID41715 |
| Project Name | Transfer Learning-Based Classification of Poultry Diseases for Enhanced Health Management |
| Maximum Marks | 2 Marks |

**Problem – Solution For Transfer Learning-Based Classification Of Poultry Diseases For Enhanced Health Management:**

1. **Problem Statement**:
   Poultry farmers often struggle with the early and accurate diagnosis of diseases in birds due to a lack of veterinary access, limited technical knowledge, and visual similarities among various poultry illnesses. Delayed or incorrect diagnosis can lead to rapid disease spread, high mortality, and economic loss.

**2. Target Customer:**
Small to medium-scale poultry farmers, poultry health monitoring agencies, and veterinary support organizations in rural and semi-urban areas.

**3. Existing Alternatives:**
Manual inspection by farmers, consulting with veterinarians (when available), and basic symptom checklists. These methods are often time-consuming, error-prone, and inconsistent.

**4. Why the Current Alternatives Fail:**
- Require physical presence of experts.
- Limited accuracy and speed.
- Cannot scale to large poultry farms.
- Do not offer real-time or predictive insights.

**5. Proposed Solution:**
A mobile-based or edge-device-integrated application using transfer learning models to classify poultry diseases from images of affected birds. The system leverages pre-trained deep learning networks fine-tuned with poultry-specific data for fast, accurate, and automated diagnosis.

**6. How the Solution Works:**
- Capture images of affected poultry via smartphone or camera.
- Run the image through a transfer learning-based CNN model.
- Classify the disease and recommend actionable interventions.
- Optionally, upload data to a centralized platform for regional outbreak monitoring.

**7. Benefits of the Solution:**
- Accurate and early disease detection.
- Reduces reliance on veterinarians.
- Affordable and scalable to remote regions.

- Enables better decision-making and reduces livestock loss.
- Data collection for long-term monitoring and analytics**.**

**8. Evidence of Fit:**

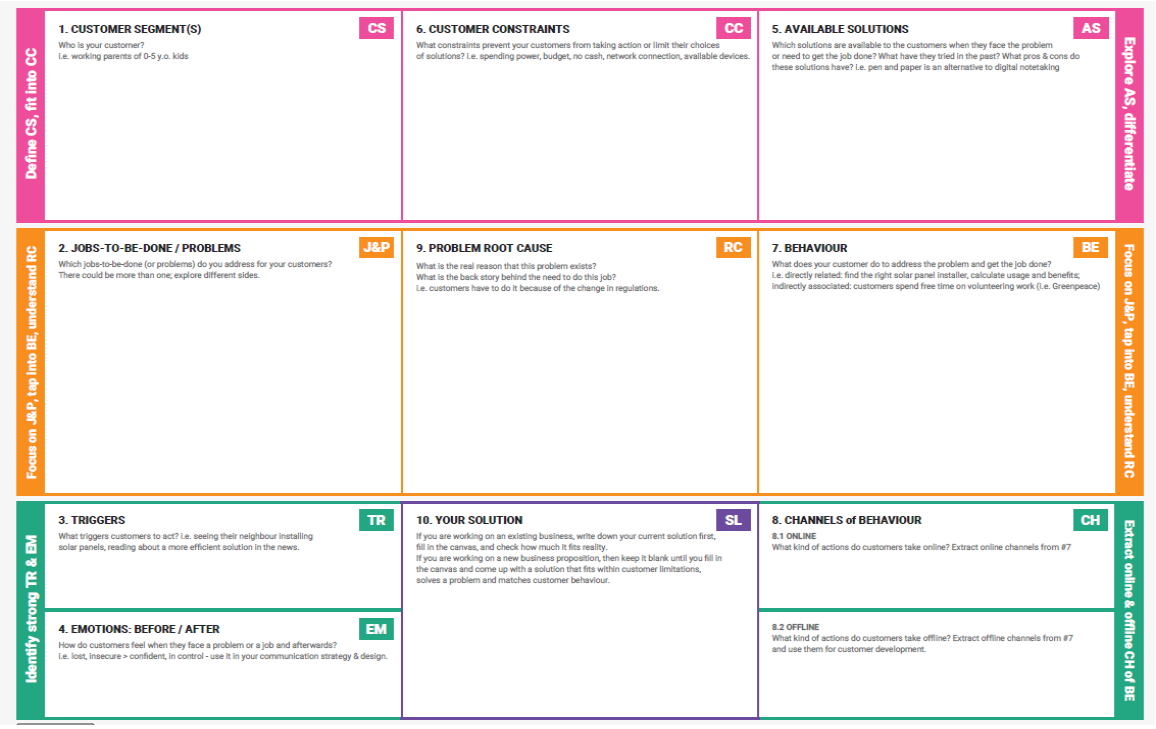
Initial testing with labeled poultry disease datasets has shown high classification accuracy (>90%). Stakeholder interviews with poultry farmers indicate high interest in a tool that provides visual diagnosis without expert intervention.

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.**

**Template:**




References:


1. https://www.ideahackers.network/problem-solution-fit-canvas/

2. https://medium.com/@epicantus/problem-solution-fit-canvas-aa3dd59cb4fe