

## Project Design Phase Problem – Solution Fit Template

Date	15 February 2025
Team ID	LTVIP2026TMIDS41276
Project Name	online payments fraud detection using machine learning
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.

#### Template:

**Problem-Solution fit canvas 2.0** Purpose / Vision: Payment Fraud Detection using ML

<div style="background-color: #f8d7da; padding: 2px; font-size: 0.8em; margin-bottom: 5px;">Define CS, define CC</div> <div style="background-color: #fff3cd; padding: 2px; font-size: 0.8em; margin-bottom: 5px;">Focus on J&amp;P, up into BC, understand IC</div> <div style="background-color: #d4edda; padding: 2px; font-size: 0.8em;">Strong TR &amp; EM</div>	<div style="background-color: #fff3cd; padding: 2px; font-size: 0.8em; margin-bottom: 5px;">Focus on J&amp;P, up into BC, understand IC</div> <div style="background-color: #d4edda; padding: 2px; font-size: 0.8em;">Strong TR &amp; EM</div>	<div style="background-color: #d4edda; padding: 2px; font-size: 0.8em; margin-bottom: 5px;">Strong TR &amp; EM</div> <div style="background-color: #d4edda; padding: 2px; font-size: 0.8em;">Strong TR &amp; EM</div>
<p><b>1. CUSTOMER SEGMENT(S)</b> <span style="float: right; background-color: #ffc0cb; padding: 2px;">CS</span></p> <p>Financial institutions (banks, credit card companies), e-commerce merchants, payment processors, fintech companies</p>	<p><b>6. CUSTOMER CONSTRAINTS</b> <span style="float: right; background-color: #ffc0cb; padding: 2px;">CC</span></p> <p>Limited budget for new technology Integration with complex legacy systems strict regulatory compliance (GDPR, PCI DSS), need for real-time processing with low latency</p>	<p><b>5. AVAILABLE SOLUTIONS</b> <span style="float: right; background-color: #ffc0cb; padding: 2px;">AS</span></p> <p>Rule-based systems, manual review teams, basic fraud detection tools from payment gateways, chargeback insurance</p>
<p><b>2. JOBS-TO-BE-DONE / PROBLEMS</b> <span style="float: right; background-color: #ffc0cb; padding: 2px;">J&amp;P</span></p> <p>Detect fraudulent transactions in real-time minimize chargebacks and financial losses protect customer data Reduce false positives ensure regulatory compliance automate fraud detection processes</p>	<p><b>9. PROBLEM ROOT CAUSE</b> <span style="float: right; background-color: #ffc0cb; padding: 2px;">RC</span></p> <p>Increasing sophistication of fraudsters, large volume of transactions making manual review impossible evolving fraud patterns, data silos preventing holistic view of user behavior</p>	<p><b>7. BEHAVIOUR</b> <span style="float: right; background-color: #ffc0cb; padding: 2px;">BE</span></p> <p>Customers currently rely on rule-based engines manually review flagged transactions constantly update rules investigate chargebacks post-factum</p>
<p><b>3. TRIGGERS</b> <span style="float: right; background-color: #d4edda; padding: 2px;">TR</span></p> <p>High volume of transactions, sudden spike in chargebacks, news about data breaches, regulatory audits, introduction of new payment methods.</p>	<p><b>10. YOUR SOLUTION</b> <span style="float: right; background-color: #d4edda; padding: 2px;">SL</span></p> <p>A scalable, real-time machine learning platform that analyzes vast amounts of transaction data, learns from new fraud patterns, provides high-accuracy alerts with explainable AI, and integrates seamlessly with existing payment infrastructure.</p>	<p><b>8. CHANNELS of BEHAVIOUR</b> <span style="float: right; background-color: #d4edda; padding: 2px;">CH</span></p> <p>0.1 ONLINE Payment gateways, fraud detection dashboards, data analysis platforms, API integrations.</p>
<p><b>4. EMOTIONS: BEFORE / AFTER</b> <span style="float: right; background-color: #d4edda; padding: 2px;">EM</span></p>	<p><b>0.2 OFFLINE</b></p>	

#### References:

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