AI-QIS Quality Innovation Suite

Process Improvement Project Report

Sample Analysis

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Department: Sample Analysis

Period: -

Report Date: 2025-12-20

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Executive Report

1. Executive Summary

This report documents the quality improvement initiative "Improve Customer Service Response Time". The project addresses: Current average customer service response time is 48 hours, well above industry benchmark of 4 hours. This results in CSAT score of 65% (target 85%), customer churn rate of 12% annually, and negative social media reviews averaging 15 per month. The improvement goal: Reduce average response time from 48 hours to 4 hours within 6 months, improve CSAT from 65% to 85%, reduce customer churn from 12% to 5%, eliminate negative social media reviews related to response time. Process analysis shows: Problem: Current average customer service response time is 48 hours, well above industry benchmark of 4 hours. This results in CSAT score of 65% (target 85%), customer churn rate of 12% annually, and negative social media reviews averaging 15 per month. Performance baseline: 48 hours, Target: 4 hours. Current performance: 24 hours - improvement in progress. The improvement team includes 3 member(s). This analysis encompasses 5 quality tool(s).

2. Key Insights Across All Tools

2.1 Performance Gaps

- Response time 48 hours exceeds benchmark (4 hours)
- CSAT score 65% below target (85%)
- Customer churn rate 12% annually
- Negative social media reviews: 15 per month

2.2 Trend/Variation

- Avg Response Time: Baseline 48 hours ⬤ Current 24 hours ⬤ Target 4 hours
- CSAT Score: Baseline 65 % ⬤ Current 72 % ⬤ Target 85 %
- Customer Churn Rate: Baseline 12 % ⬤ Current 9 % ⬤ Target 5 %
- First Contact Resolution: Baseline 45 % ⬤ Current 58 % ⬤ Target 75 %

2.3 Resource/Capability

- Cross-functional team of 3 members assigned
- Project lead: Rachel Lim (CX Manager)
- Timeline: 2025-12-15 to 2026-06-15
- [S] Experienced customer service team (avg 5 years)

2.4 Opportunity/Risk

- [O] AI chatbot can handle 60% of routine queries
- [O] Competitor response time is 12 hours (we can beat)
- [T] New competitor launching 24/7 AI support
- [T] Rising customer expectations post-pandemic

3. Performance Snapshot

3.1 Performance Summary

Metric Characteristic: Smaller is Better

Reduce the metric toward target. Improvement is achieved when values decrease.

Table E.1: Performance Metrics Summary

Metric	Value	Status
Baseline	48 hours	Starting point
Current	24 hours	In progress
Target	4 hours	In Progress

Performance Change Summary

 50.0% improvement from baseline (48 hours 24 hours)

3.2 Success Criteria Assessment

0 of 4 success criteria have been met.

Table E.2: Success Criteria Assessment

#	Criterion	Target	Actual	Status
1	Response time ≤ 4 hours	-	-	In Progress

#	Criterion	Target	Actual	Status
2	CSAT ≥ 85%	-	-	⏳ In Progress
3	Churn rate ≤ 5%	-	-	⏳ In Progress
4	Chatbot adoption	-	-	⏳ In Progress

4. Synthesized Root Cause Themes

Analysis indicates several contributing factors requiring attention. Addressing these systematically will reduce variation and improve results.

- 24 causes across 6 categories
- Man (People): 4
- Machine: 4
- Method: 4

5. Priority Recommendations

- Address stakeholder concerns from 1 skeptic/resistor(s)
- Address top contributor "Long Wait Times" (33.5% impact)
- Investigate Man (People) category (4 causes identified)
- Process stable - maintain control chart monitoring

6. 30-Day Action Roadmap

Table E.3: 30-Day Action Roadmap (PDCA)

Timeframe	Action	Expected Outcome
Week 1 (PLAN)	Schedule stakeholder engagement sessions	Baseline established
	Root cause analysis on "Long Wait Times"	
Week 2 (DO)	Validate Man (People) root causes with data	Implementation started

Timeframe	Action	Expected Outcome
Week 3 (CHECK)	Review results against targets	Results verified
	Identify gaps	
Week 4 (ACT)	Continue control chart monitoring	Standardization complete

7. Risks, Constraints & Data Gaps

7.1 Key Risks

- [T] New competitor launching 24/7 AI support
- [T] Rising customer expectations post-pandemic
- [T] Staff turnover in customer service industry
- [T] Economic downturn may reduce CX budget

7.2 Constraints

- Cannot change existing CRM vendor (contract until 2026)
- Must complete before Q2 end
- Union approval required for role changes

7.3 Data Gaps

- Historical response time data only available for last 6 months
- No baseline data for chatbot-specific metrics
- Customer segmentation data incomplete

8. Next Steps

- Implement priority recommendations identified in this analysis
- Address data gaps to enable more comprehensive analysis
- Refine process based on insights from process analysis tools
- Execute 30-day roadmap and track milestones

Tool 1: Project Charter

1.1 Project Charter Overview

A Project Charter is the foundational document that formally authorizes a quality improvement project. It defines the problem, goal, scope, timeline, team, and resources.

1.2 Charter Summary Visual

Improve Customer Service Response Time

PROJECT ID	START DATE	END DATE	LEADER
CX-2025-003	2025-12-15	2026-06-15	Rachel Lim

❓ PROBLEM STATEMENT
Current average customer service response time is 48 hours, well above industry benchmark of 4 hours. This results in CSAT score of 65% (target 85%), customer churn rate of 12% annually, and negative social media reviews averaging 15 per month.

🎯 GOAL STATEMENT
Reduce average response time from 48 hours to 4 hours within 6 months, improve CSAT from 65% to 85%, reduce customer churn from 12% to 5%, eliminate negative social media reviews related to response time.

📊 SMART OBJECTIVES

S Specific	**M** Measurable	**A** Achievable	**R** Relevant	**T** Time-bound
Reduce customer service a verage response time from 48 hours	From 48 hours to 4 hours (92% reduction), tracked via CRM sy	Yes - with chatbot implem entation, staff training, and proce	Aligns with company NPS g oals, reduces churn savin g RM 500,0	Within 6 months (by June 2026)

✅ IN SCOPE
Customer service team (15 agents), CRM system, chatbot imple mentation, knowledge base, escalation procedures, training p rograms

❌ OUT OF SCOPE
Sales team, marketing campaigns, product development, IT inf rastructure upgrades beyond CRM

👥 TEAM: David Ong (Project Sponsor) • Nina Sharma (Technical Lead) • Kevin Lee (Team Lead)

Figure 1.1: *Project Charter Summary*

1.3 Project Information

Table 1.1: Project Information

Field	Value

Field	Value
Project Name	Improve Customer Service Response Time
Project Code	CX-2025-003
Start Date	2025-12-15
End Date	2026-06-15
Sponsor	Not assigned
Champion	Not assigned

1.4 SMART Objectives

Table 1.2: SMART Objectives

SMART	Criteria	Project Objective
S - Specific	What exactly will be accomplished?	Reduce customer service average response time from 48 hours to 4 hours
M - Measurable	How will success be measured?	From 48 hours to 4 hours (92% reduction), tracked via CRM system metrics
A - Achievable	Is this realistic with resources?	Yes - with chatbot implementation, staff training, and process optimization
R - Relevant	Why does this matter?	Aligns with company NPS goals, reduces churn saving RM 500,000/year
T - Time-bound	When will this be completed?	Within 6 months (by June 2026)

1.5 Project Leader

Table 1.3: Project Leader

Name	Department	Role	Email
Rachel Lim	Customer Experience	CX Manager	rachel.lim@company.com

1.6 Team Members

Table 1.4: Team Members

Name	Department	Role	Email
David Ong	Operations	Project Sponsor	david.ong@company.com
Nina Sharma	IT	Technical Lead	nina.sharma@company.com
Kevin Lee	Customer Service	Team Lead	kevin.lee@company.com

1.7 Problem Statement

Current average customer service response time is 48 hours, well above industry benchmark of 4 hours. This results in CSAT score of 65% (target 85%), customer churn rate of 12% annually, and negative social media reviews averaging 15 per month.

1.8 Goal Statement

Reduce average response time from 48 hours to 4 hours within 6 months, improve CSAT from 65% to 85%, reduce customer churn from 12% to 5%, eliminate negative social media reviews related to response time.

1.9 Project Scope

In Scope:

Customer service team (15 agents), CRM system, chatbot implementation, knowledge base, escalation procedures, training programs

Out of Scope:

Sales team, marketing campaigns, product development, IT infrastructure upgrades beyond CRM

1.10 Key Milestones

Table 1.5: Key Milestones

Milestone	Target Date	Status
Project Kick-off & Team Formation	2025-12-15	Completed
Current State Analysis Complete	2026-01-14	Completed
Chatbot Vendor Selection	2026-01-29	In Progress
Chatbot Development & Testing	2026-03-15	Not Started
Agent Training Complete	2026-04-14	Not Started
Go-Live & Monitoring	2026-05-14	Not Started
Project Closure & Handover	2026-06-15	Not Started

1.10 Key Milestones

Tool 2: Histogram

2.1 Overview

Histograms visualize the distribution of continuous data, revealing patterns such as central tendency, spread, and shape.

2.2 Statistical Summary

Table 2.1: Histogram Statistical Summary

Statistic	Value
Mean	50.08
Median	50.10
Std Deviation	0.25

2.3 Distribution Chart
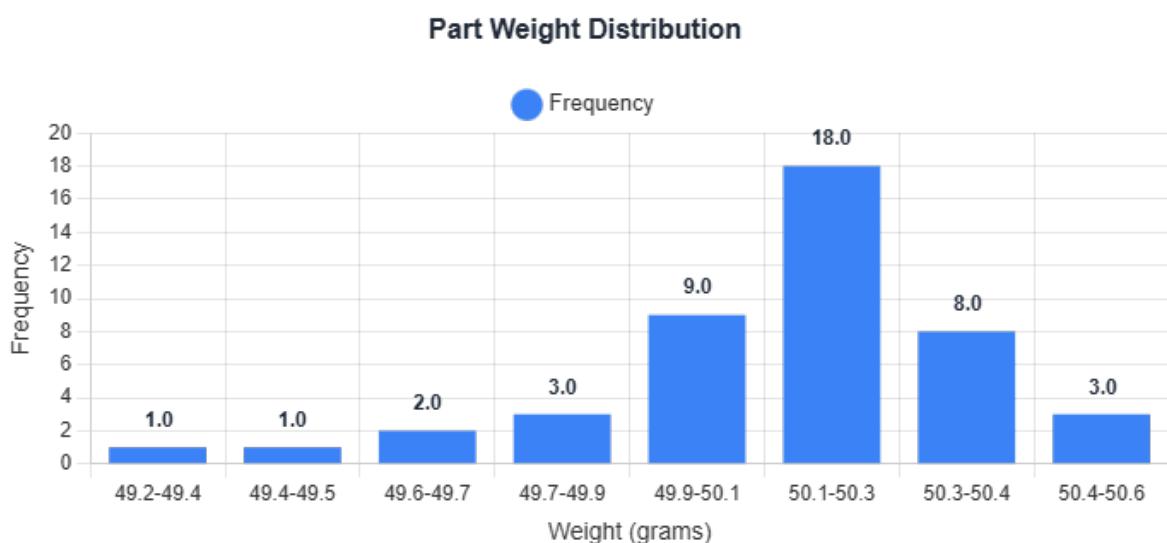
Figure 2.1: *Histogram Distribution Chart*

Tool 3: Pareto Chart

3.1 Pareto Analysis Overview

Pareto Analysis applies the 80/20 principle (Pareto Principle) to identify the vital few factors that contribute to the majority of effects. Named after Italian economist Vilfredo Pareto, this tool reveals that approximately 80% of problems stem from 20% of causes. By focusing improvement efforts on these critical few factors, organizations achieve maximum impact with minimal resources.

3.2 Application Context

This analysis examines 6 categories with a total frequency of 155 occurrences.

Top Contributors: The top 3 categories account for 73.5% of all occurrences.

Target Cumulative % Threshold: 80% *(80/20 Rule)*

3.3 Pareto Chart Visualization
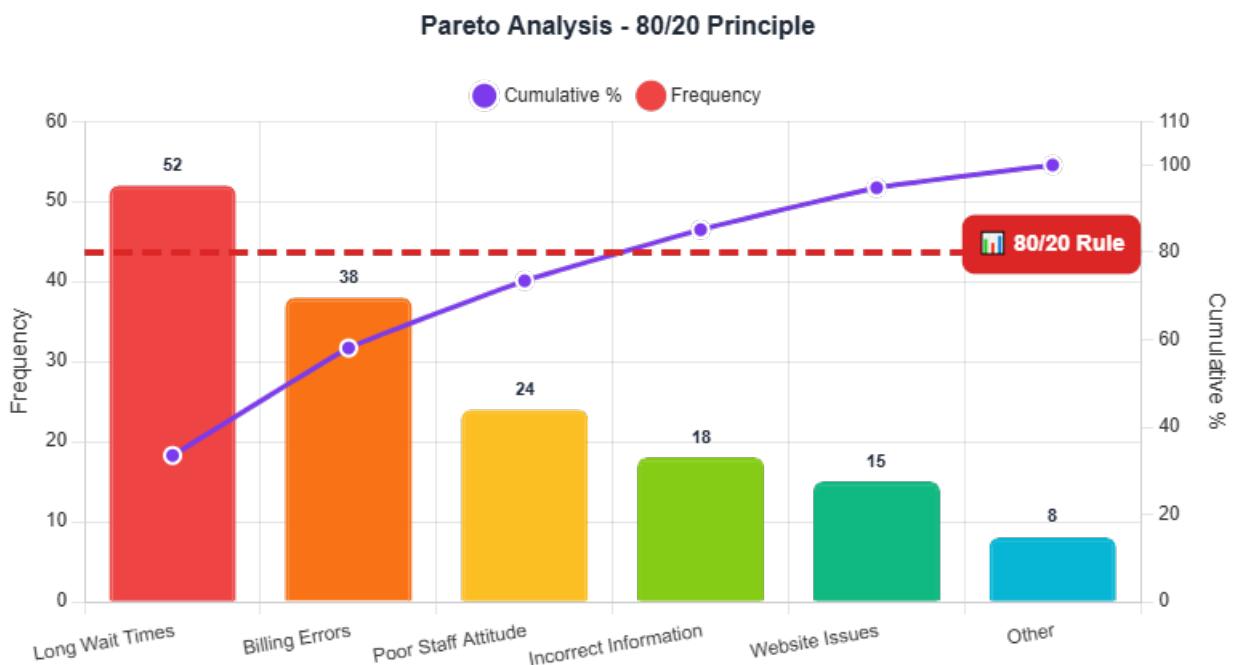
Figure 3.1: *Pareto Chart showing frequency distribution and cumulative percentage*

3.4 Comprehensive Data Table

Table 3.1: Pareto Analysis Data

Rank	Category	Frequency	%	Cumulative %	80/20 Status
1	Long Wait Times	52	33.5%	33.5%	Vital Few
2	Billing Errors	38	24.5%	58.1%	Vital Few
3	Poor Staff Attitude	24	15.5%	73.5%	Vital Few
4	Incorrect Information	18	11.6%	85.2%	Useful Many
5	Website Issues	15	9.7%	94.8%	Useful Many
6	Other	8	5.2%	100.0%	Useful Many

3.5 Target Cumulative % Threshold

Table 3.2: 80/20 Rule Threshold Summary

Target Cumulative % Threshold

<div style="border: 2px solid black; background-color: #fcdede; text-align: center; padding: 20px;">

80%

Classic 80/20 Rule Applied

</div>

3.6 Key Findings

- Total categories analyzed: 6
- Top contributor: "Long Wait Times" (52 occurrences, 33.5%)
- Top 3 cumulative impact: 73.5% of total

Assessment: Moderate effect - prioritize top contributors

Moderate Pareto effect. The top 3 categories represent 73.5% of issues. While not a classic 80/20 distribution, focusing on these categories will yield significant improvements.

Tool 4: Fishbone/Ishikawa Diagram

4.1 Overview

The Fishbone (Ishikawa) Diagram is a visual cause-and-effect analysis tool that organizes potential causes into the 6M categories.

4.2 Problem Statement

<div style="border:1px solid black;text-align:center">

Low Customer Satisfaction Score

</div>

4.3 Root Causes by Category

Man (People)
- Insufficient training
- High staff turnover
- Lack of product knowledge
- Poor communication skills

Machine
- Slow CRM system
- Frequent system crashes
- Outdated phone system
- Inadequate chat platform

Method
- No standard scripts
- Inconsistent escalation process
- Long approval chains
- No first-call resolution focus

Material
- Incomplete customer data
- Poorly written knowledge base
- Outdated FAQs

- Missing product documentation

Measurement

- No quality monitoring
- Inconsistent survey methods
- Delayed feedback collection
- No CSAT benchmarking

Environment

- Noisy work environment
- Poor seating ergonomics
- High call volume periods
- Remote work tech issues

4.4 Visual Diagram
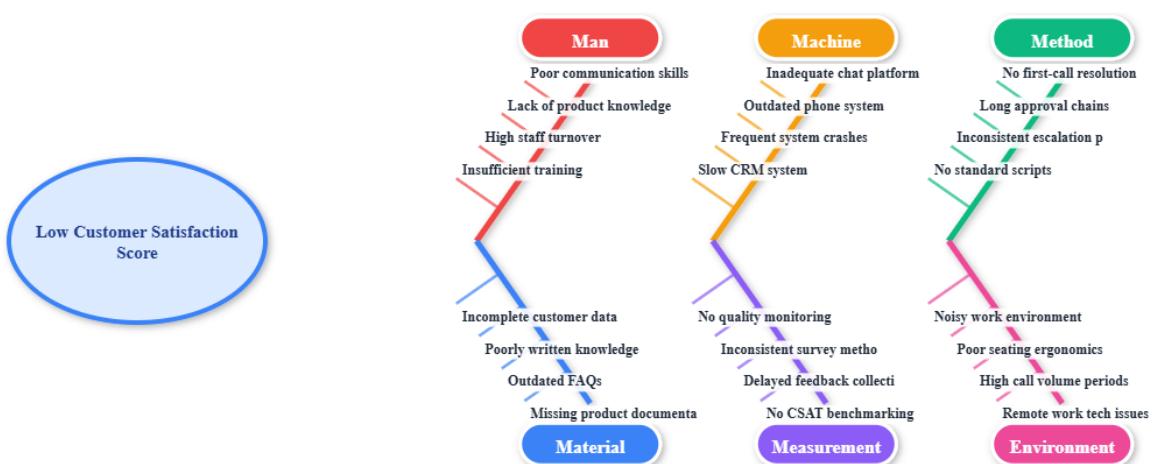
Figure 4.1: *Fishbone Diagram*

Tool 5: Control Chart

5.1 Control Chart Overview

Control Charts monitor process performance over time to distinguish between common cause variation (inherent to process) and special cause variation (assignable to specific factors). Charts display data points with Upper Control Limit (UCL), Center Line (mean), and Lower Control Limit (LCL) at ±3 standard deviations.

5.2 Control Chart Application

Tool Applied: Control Chart (I-MR / X-bar)
Process Name: Beverage Fill Volume Monitoring
Data Points: 20 measurements recorded

5.3 Control Chart Visualization
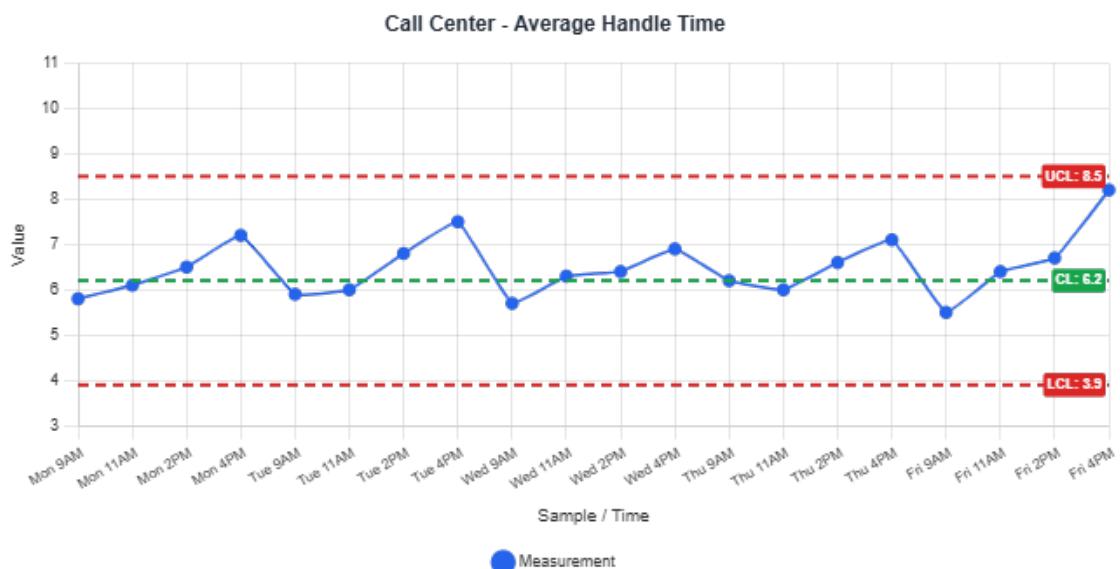
Figure 5.1: *Control Chart showing process data points with UCL, Center Line, and LCL*

5.4 Statistical Summary

Table 5.1: Control Chart Statistical Summary

Statistic	Value
Sample Size (n)	20
Mean (X-bar)	500.100
Standard Deviation (σ)	4.592
Range (Min - Max)	492.00 - 508.00

5.5 Control Limits

Table 5.2: Control Limits Summary

Limit	Value
Upper Control Limit (UCL)	510.000
Center Line (CL)	500.000
Lower Control Limit (LCL)	490.000
Out of Control Points	**0 point(s)**

5.6 Process Status

Process is IN CONTROL

All data points are within control limits. The process is stable and predictable.

5.7 Measurement Data

Sample	Value	Sample	Value	Sample	Value	Sample	Value
Batch 1	**498.00**	Batch 2	**503.00**	Batch 3	**497.00**	Batch 4	**505.00**
Batch 5	**492.00**	Batch 6	**501.00**	Batch 7	**508.00**	Batch 8	**495.00**
Batch 9	**502.00**	Batch 10	**499.00**	Batch 11	**506.00**	Batch 12	**494.00**
Batch 13	**500.00**	Batch 14	**507.00**	Batch 15	**496.00**	Batch 16	**503.00**
Batch 17	**498.00**	Batch 18	**504.00**	Batch 19	**493.00**	Batch 20	**501.00**