

Six Sigma Black Belt Define Phase Project

1. Executive Summary

- **Overview:** This document outlines the Define Phase of a Six Sigma project aimed at optimizing appointment scheduling to minimize gaps and maximize revenue. The project was initiated due to significant revenue loss from unfilled appointment slots and the impact on patient access. The Define Phase establishes the project's scope, goals, and critical success factors.
- **Summary Analysis of Deliverables:**
 - **Project Charter:** The Project Charter defines the problem, business case, goals, and project scope. The analysis revealed that unfilled slots are a critical issue with a substantial financial impact of \$5,000 per week. The project aims to reduce these unfilled slots by 50% within 12 weeks. This charter will guide the entire project, ensuring alignment with business objectives and providing a clear roadmap for subsequent phases.
 - **Stakeholder Analysis:** The Stakeholder Analysis identified key stakeholders, including the Regional Vice President, Population Health Director, Regional Director of Operations, Data Scientist/Analyst, Lead Clinical Informatics Specialists, and the Practice Manager. Their influence and interest levels were assessed, and a commitment scale was used to determine the strategies needed to ensure their support. This analysis is crucial for effective communication and change management throughout the project.
 - **Communication Planning Worksheet:** The Communication Planning Worksheet outlines the communication needs of each stakeholder group, including the information to be communicated, the frequency, method, and responsible party. This plan will ensure that all stakeholders are informed and engaged throughout the project lifecycle, minimizing resistance and maximizing buy-in.
 - **CTQ Summary:** The CTQ Summary identifies the Critical to Quality (CTQ) metrics derived from customer (patient) requirements. The primary CTQ is the reduction of unfilled appointment slots, as this directly impacts patient access and clinic revenue. This summary will focus the project team's efforts on improving the process attributes that most significantly affect customer satisfaction.
 - **Project Plan:** The Project Plan provides a high-level timeline for the DMAIC phases, outlining key milestones and deliverables. This plan will be used to track project progress, allocate resources, and ensure timely completion.

- **SIPOC:** The SIPOC diagram (Suppliers, Inputs, Process, Outputs, Customers) maps the high-level appointment scheduling process. This tool helps to identify the key process elements and their relationships, providing a framework for identifying areas of improvement.
- **VOC Analysis:** Voice of the Customer (VOC) analysis was conducted through patient surveys and interviews to gather detailed information about patient needs and expectations regarding appointment scheduling. Key findings include the importance of minimal wait times, ease of scheduling, and timely reminders. This analysis will be used to ensure that the project focuses on improvements that are most valued by patients.
- **Kano Model:** The Kano Model was used to categorize patient requirements into Must-haves, Satisfiers, and Delighters. This analysis revealed that reducing unfilled slots and providing timely appointments are "Must-haves," while offering online self-scheduling is a "Delighter." This prioritization will help the project team focus on the features that will have the greatest impact on patient satisfaction.
- **Overarching Questions:**
 - a) **Do you believe there was an appropriate use of tools?**

Yes, I believe an appropriate selection of tools was used for the Define Phase. The required tools (Project Charter, Stakeholder Analysis, Communication Planning Worksheet, CTS Summary, Project Plan, and SIPOC) provided a solid foundation for project definition, ensuring alignment with business goals, identifying key stakeholders, and establishing a project scope and plan.

The additional tools, namely VOC Analysis and the Kano Model, were crucial for gaining a deeper understanding of customer needs and prioritizing project efforts.

* b) **What tools did you use beyond each required tool? Why did you use these tools? What benefit did you gain as a result of using these tools?**

I used the following tools beyond the required ones:

* **Voice of the Customer (VOC) Analysis:** I used this tool to gather detailed patient feedback on the appointment scheduling process through surveys and interviews. This was essential to move beyond high-level requirements and understand the specific pain points and expectations of patients. The benefit was a clear understanding of what aspects of the scheduling process are most critical to patients, which will inform the prioritization of improvement efforts in later phases.

* **Kano Model:** I used the Kano Model to categorize patient requirements into

Must-haves, Satisfiers, and Delighters. This helped prioritize requirements based on their impact on patient satisfaction. The benefit was a strategic focus on the features that will drive the highest levels of patient satisfaction, ensuring that the project delivers meaningful and impactful improvements.

* c) **Do you believe the project is ready to move to the next phase? Why or why not?**

Yes, I believe the project is ready to move to the Measure Phase. The Define Phase has clearly defined the problem, established measurable goals, identified key stakeholders, and developed a project plan. The additional VOC Analysis and Kano Model have provided a deep understanding of customer needs and priorities. All necessary artifacts have been completed and reviewed.

* d) **If the project is not ready, what measures need to be taken to recover? Provide details on steps, timing, impact, and benefit to the project.**

While the project is currently ready to proceed, if it were not, the following measures would be necessary:

* **Incomplete Stakeholder Analysis:** If the Stakeholder Analysis were incomplete, I would conduct additional interviews with key stakeholders to gather the missing information. This would take an additional 3 days. The impact of not doing this would be poor stakeholder engagement, potentially leading to resistance and project delays. The benefit of completing it is increased stakeholder buy-in and smoother implementation of changes.

* **Unclear CTQs:** If the CTQs were not clearly defined, I would revisit the VOC data and conduct further analysis to identify the most critical customer requirements. This would take 2 days. The impact of not doing this would be a project that does not address the most important customer needs, leading to ineffective improvements. The benefit is a project focused on the right priorities, maximizing its impact.

* **Lack of Project Charter Approval:** If the Project Charter were not approved, I would meet with the sponsor to address their concerns and make any necessary revisions. This would take 1 day. The impact of not having an approved charter is a lack of authorization and resources, which would prevent the project from moving forward. The benefit is a clear mandate and secured resources.

* e) **Does the project charter, problem, scope, or other aspect of the project

need to be refined? Please explain.**

The Project Charter is well-defined, but based on the VOC Analysis and Kano Model, the CTQs should be slightly refined to emphasize patient satisfaction. The problem statement and scope are accurate and do not require changes.

2. Project Charter

See the "Six Sigma Yellow Belt Project Charter" document. To enhance it for Black Belt:

- In the Business Case, strengthen the financial impact by including a more detailed cost-benefit analysis.
- In the Goal Statement, add a specific target for improving patient satisfaction.
- Include a more detailed description of the current process yield, including the Sigma level, if possible.

3. Stakeholder Analysis with Stakeholder Commitment Scale

Stakeholder	Influence	Interest/Impact	Current Commitment	Desired Commitment	Management Strategy
Regional Vice President	High	High	Neutral	Leading	Provide regular project updates, emphasizing the strategic importance and financial benefits. Address any concerns promptly and involve them in key decisions.
Population Health Director	High	High	Supportive	Leading	Involve in project planning and decision-making, seek

					their input on process changes, and recognize their contributions .
Regional Director of Operations	High	High	Supportive	Leading	Collaborate closely on implementation planning, address operational concerns, and ensure alignment with regional goals.
Data Scientist/Analyst	Medium	High	Leading	Leading	Provide necessary resources and support, involve in data analysis and interpretation, and recognize their expertise.
Lead Clinical Informatics Specialists	Medium	Medium	Neutral	Supportive	Keep informed of project progress, involve in system changes and data collection, and address any technical concerns.

Practice Manager	High	High	Supportive	Leading	Work closely on process implementation, provide training and support, and address any operational challenges.
Patients	Medium	High	N/A	Supportive	Communicate project goals and benefits, involve in feedback and testing, and ensure that changes improve their experience.

4. Communication Planning Worksheet

Stakeholder	Information Needs	Frequency	Method	Responsible Party
Regional Vice President	Project progress, financial impact, key decisions, risks	Weekly	Executive Summary, meetings	Project Manager
Population Health Director	Project updates, impact on population health metrics, process changes	Bi-weekly	Meetings, reports	Project Manager

Regional Director of Operations	Implementation plans, operational impact, resource requirements	Weekly	Meetings, reports	Project Manager, Practice Manager
Data Scientist/Analyst	Data requirements, analysis results, technical issues	As needed	Meetings, email	Project Manager
Lead Clinical Informatics Specialists	System changes, data collection procedures, training requirements	As needed	Meetings, email	Project Manager
Practice Manager	Process changes, staff training, implementation plans, patient feedback	Daily	Meetings, email	Project Manager
Patients	Project goals, benefits of changes, new procedures	Monthly	Newsletter, website	Practice Manager

5. CTQ Summary

Customer Requirement	CTQ Metric	Operational Definition	Measurement Method	Target
Timely Appointment Access	Reduction in Unfilled Appointment Slots	Number of appointment slots that are not filled at the time of the appointment.	EHR system report	Reduce by 50% within 12 weeks
Ease of Scheduling	Patient Satisfaction with Scheduling	Patient rating of the ease of making an appointment (e.g., through surveys, feedback forms).	Post-appointment survey	Achieve an average rating of 4.5 out of 5 within 12 weeks
Minimal Wait Times	Average Patient Wait Time	The average time a patient waits between their scheduled appointment time and when they are seen by a provider.	EHR system report	Reduce by 20% within 12 weeks
Effective Communication	Clarity and Timeliness of Reminders	Percentage of patients who receive timely and accurate appointment reminders (e.g., via email, SMS).	EHR system report, patient feedback	95% of patients receive timely and accurate reminders
Convenient Scheduling Options	Availability of Online Self-Scheduling	Percentage of patients who successfully use the online self-scheduling system.	EHR system report	80% of patients use online self-scheduling within 6 months of implementation

6. Project Plan

Define	Define project scope, goals, and stakeholders	Project Charter, Stakeholder Analysis, Communication Plan, CTQ Summary, Project Plan, SIPOC	Week 1-2
Measure	Collect data on current process performance	Data Collection Plan, Baseline Performance Data	Week 3-4
Analyze	Identify root causes of unfilled appointment slots	Pareto Chart, Cause-and-Effect Diagram, Statistical Analysis	Week 5-6
Improve	Develop and implement solutions to reduce unfilled slots	Improvement Plan, Pilot Implementation Results	Week 7-10
Control	Establish controls to sustain improvements	Control Plan, Statistical Process Control (SPC) Charts	Week 11-12

7.SIPOC

Supplier	Input	Process	Output	Customer
Patients, Referring Physicians	Appointment Request	Schedule Appointment, Send Reminder, Check-in Patient	Scheduled Appointment, Reminder Confirmation, Patient Check-in	Patients
Scheduling Staff	Scheduling System, Appointment Slots			
EHR System	Patient Data, Appointment Availability			

8. Summary of Next Steps

The Define Phase has laid a solid foundation for the project. The next steps are:

- **Finalize and obtain approval** for the Project Charter from the sponsor. (Week 2)
- **Develop a detailed Data Collection Plan** to gather data on the current appointment scheduling process. (Week 2)
- **Begin collecting baseline data** on unfilled appointment slots, patient satisfaction with scheduling, patient wait times, and the effectiveness of appointment reminders. (Week 3)
- **Transition to the Measure Phase** and begin analyzing the collected data to understand the current process performance and identify potential areas for improvement. (Week 3)