Change Control Process of the Planning Control Documents

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Abstract

The Change Control Process (CCP) of the Planning Control Documents (PCDs) for the manufacturing organization was manual and involved multiple entities with different mechanisms. Therefore, the process was not standardized. With the objectives of simplifying and standardizing the CCP, boosting effective communication, and stimulating Change Management Best Practices, the CCP for PCDs Project offered the clarity, standardization, and visibility that executive pursued. The Lean Six Sigma methodology application confirmed that roles, responsibilities, and processes documentation were unclear as revealed in three processes defined by the Project Managers. A CCP redesign combined with three proposed technology solutions brought the visibility that executes claimed, and the investigation's lessons learned.

Introduction

Planning a Change Control Process (CCP) that provides the visibility that any organization needs its essential to maintain a robust control within the project scope, budget, and schedule. CCP helps to understand cost and define ways to provide visibility and transparency to its executives. This investigation intended to assess and optimize the CCP of the Planning Control Documents (PCDs) for the equipment assembly line of a manufacturing organization.

The objectives were:
• simplifying and standardizing the process
• boosting effective communication
• stimulating Change Management Best Practices.

Achieving these objectives required a cross-function analysis, a holistic view, and stakeholders' commitment. The article provides the methodology used, methods performed, and recommended actions that helped the manufacturing organization embrace the challenges.

Background

Change Control Management (CCM) gives Project Managers the tools to manage, identify, inform, obtain approval, and implement changes to the project. Changes involve teamwork, commitment, and cohesion [1].

Uncontrolled business process evolution can make it challenging for people to perform at their best. In this case, the Lean Six Sigma (LSS) methodology can help analyze the process, assess the steps as value-added and non-value-added, and eliminate those non-value-added steps [2]. LSS helps practitioners solve problems by evaluating the whole process and finding the

Problem

The Change Control Process (CCP) of the Planning Control Documents (PCDs) for a manufacturing organization was manual, involved multiple teams with different change methods.

Methodology

With the Lean Six Sigma methodology guidelines, the first step was to draft a plan, Figure 1, with concepts to gather information from multiple sources: people, documents, data, and examples from stakeholders related to the Change Control Process for PCD. A Value Stream Map Analysis Figure 2 helped to display the areas that might not be as tangible.
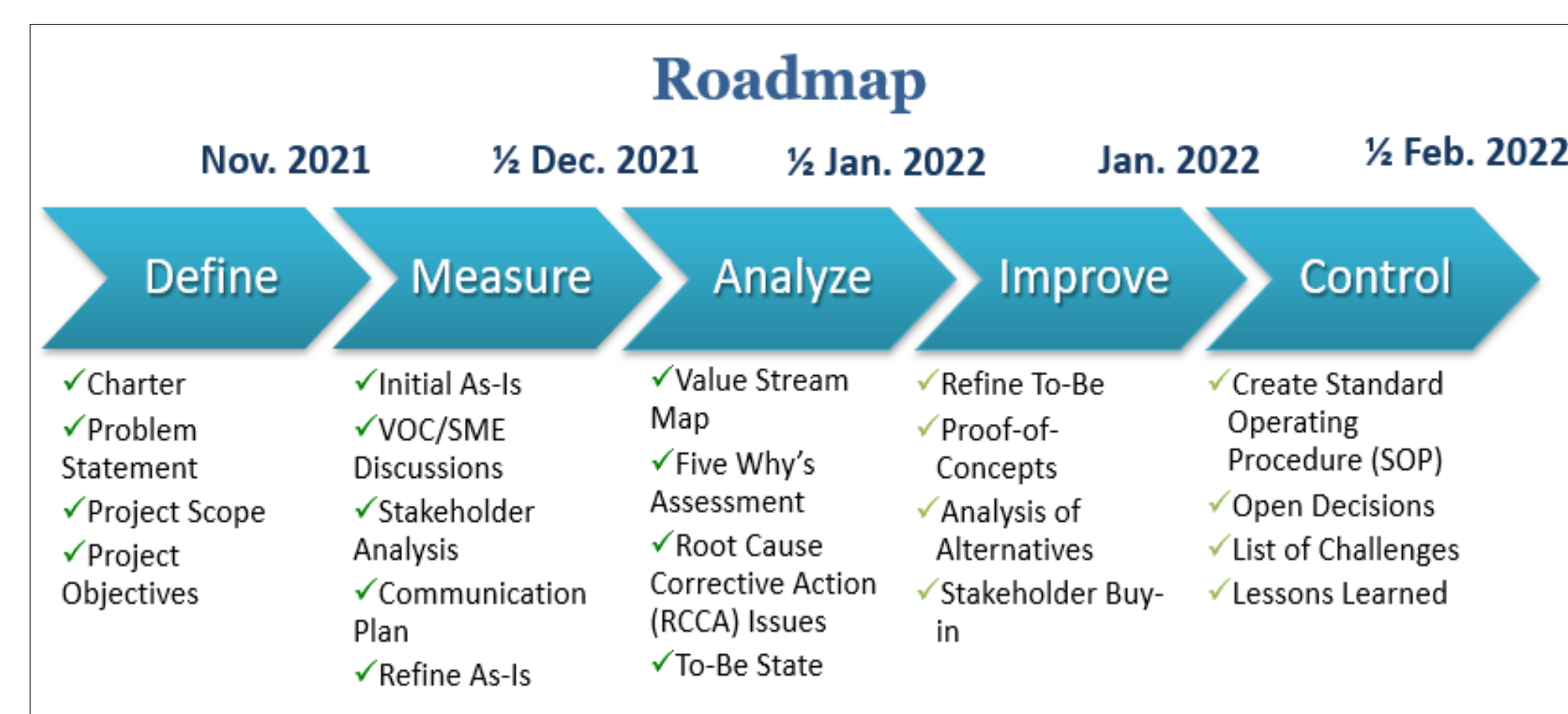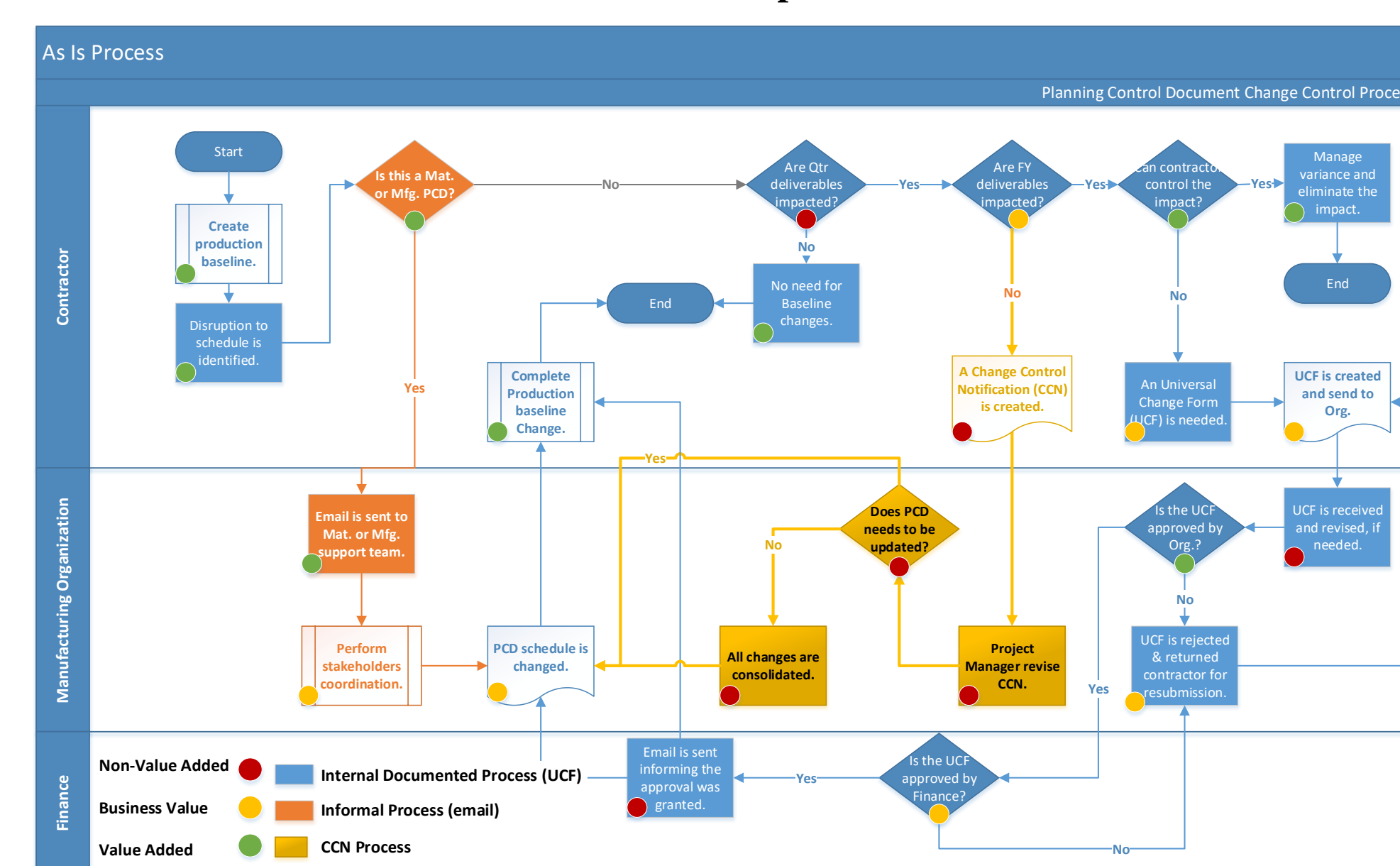

Figure 1
Roadmap

Figure 2
Value Stream Map

Tools like Five Whys facilitated the Root Cause Analysis (RCA) in Figure 3, which helped to prioritize the real problem.
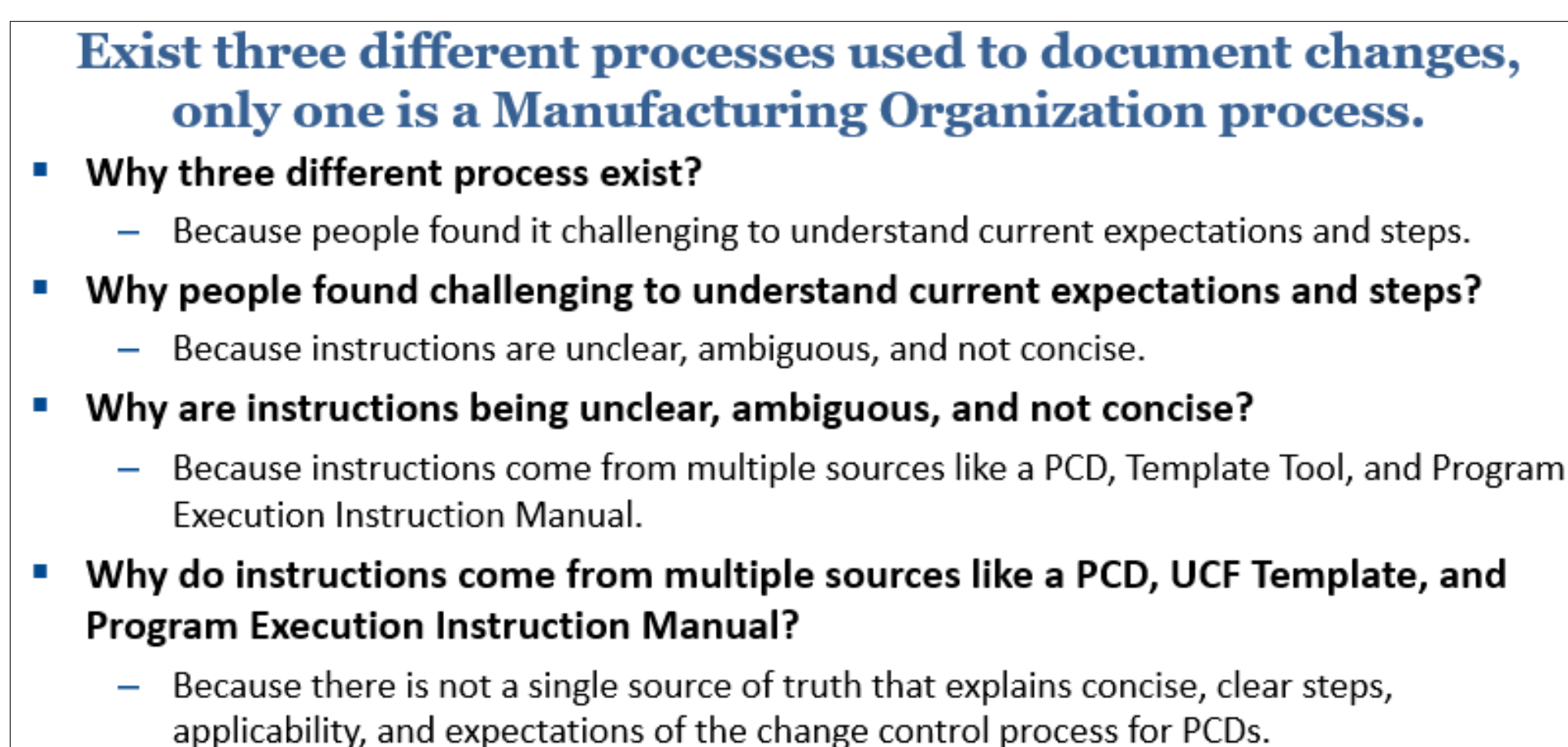

Figure 3
Five Why's Analysis

Figure 5 focused only on processes owned by the Manufacturing Organization, thus eliminating Change Control Notification (CCN) process.
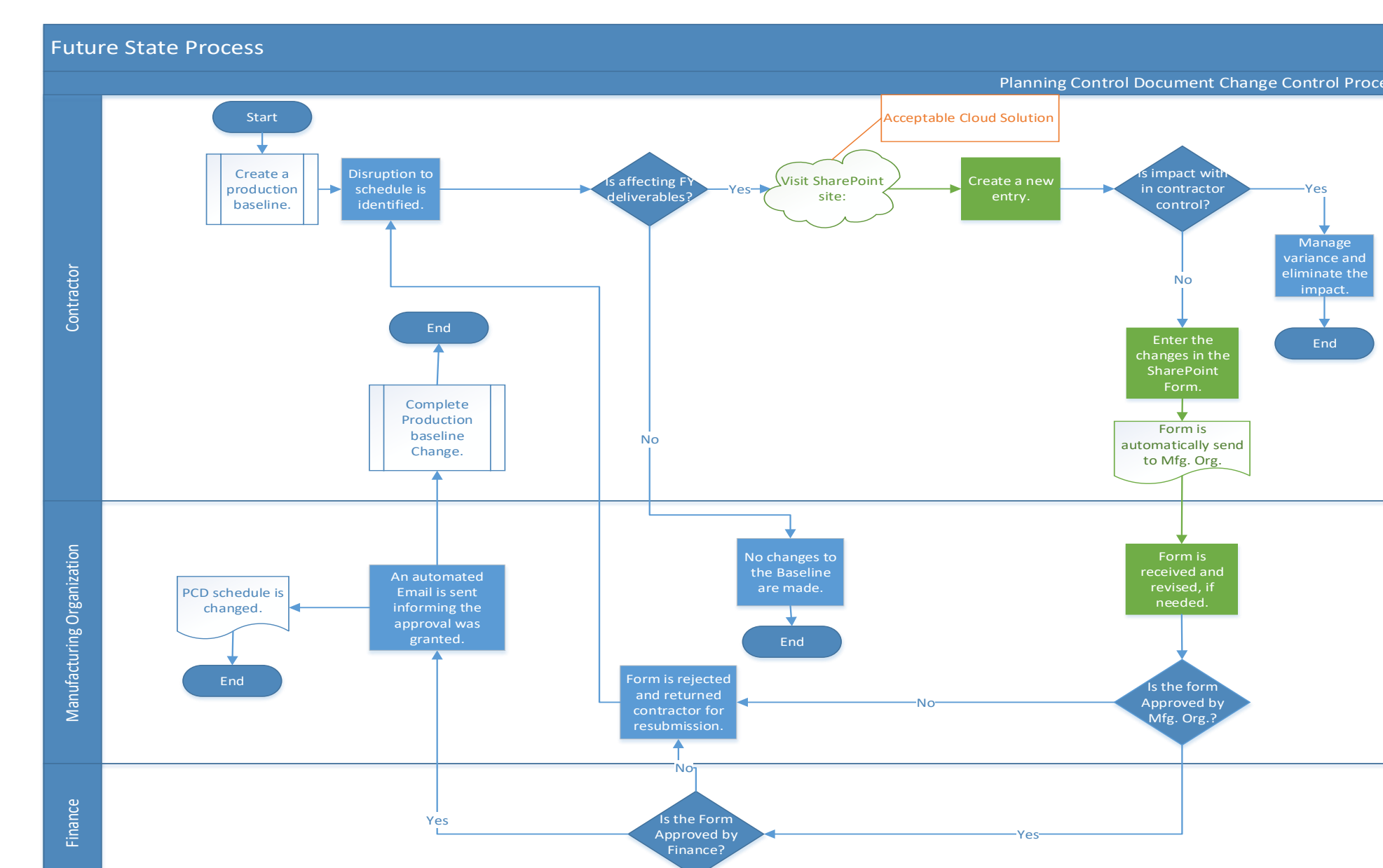

Figure 4
To-be Process

Results and Discussion

Thirty-four (34) stakeholder's interviews notes were analyzed, and its significant findings were emphasized. Figure 5 displays the categories used and major findings.

Figure 5
Discovery Spotlights from Interviews

Tables 1 and 2 were comparative analysis performed among the three Change Control Processes used in the organization. Table 3 includes the Analysis of Alternative (AoA) executed to evaluate technologies considered for the To-Be State. The intent was exploring desired capabilities across technologies. Multiple constraints were captured in a list of challenges in Figure 7 found during the AoA.

Table 1
Process Operation Preference

Process	UCF	CCN	Informal (email)
Maintenance PCD change	Yes	Yes	No
Sustainment change	Yes	No	No
Production change	Yes	No	No
Materials or Mfg. change	No	No	Yes

Table 2
Process Structures Comparison

Process Characteristics	UCF	CCN	Informal (email)
Formal Process (Mfg. Org.)	Yes	No	No
Required by Doc. Mgmt.	No	No	No
Understood by PM	No	No	Yes
Form is Record	Yes*	No	No
Approved by Finance	Yes*	No	No

*Finance

Table 3
Technology Capability Matrix

Technology/ Capability	MS TEAMS	JIRA/ Confluence	MAX Site	Mfg. Org. SharePoint	Adobe	DocuSign
Hosted by Mfg. Org.	YES	NO	YES	YES	YES	NO
Cross-site Access	NO	YES	YES	NO	NO	NO
Act as main repository	YES	YES	YES	YES	NO	NO
Workflow Functionality	YES	YES	NO, manual intensive	YES	YES	YES
Automated reports included	YES	YES	NO, manual intensive	NO	NO	NO
Security Compliance	YES	YES	YES	YES	UNK	UNK
Need admin rights to prototype	To turn "ON" Workflow	YES	YES	YES	UNK	NO

Conclusions

Through this analysis, roles and responsibilities were unclear in the CCP, revealing duplication effort (three processes found) by Project Managers. Not having a central repository was a barrier to knowledge exchange. Finally, Lessons Learned in Figure 6 were captured to maintain a knowledge exchange and transparency across the organization and future generations.

Figure 6
Lessons Learned

Future Work

Three prospective technologies in Figure 7 were further evaluated with subject matter experts and proposed to the primary decision-makers of the Manufacturing Organization for further consideration.

Figure 7
Proposed Technologies Solutions

Acknowledgements

References

[1] Walker, L. W. (2006). Is there a new definition for "change control" in project management? PMI® Global Congress 2006—North America. Seattle, WA: Project Management Institute. Retrieved from https://www.pmi.org/learning/library/definition-change-control-project-management-8030

[2] Rastogi, A. (2020, December 30). Grey Campus. Retrieved December 11, 2021, from: https://www.greycampus.com/blog/quality-management/a-brief-introduction-to-lean-and-six-sigma-and-lean-six-sigma