

CASE STUDY

VALUE STREAM ANALYSIS OF THE VOYAGE PLANNING & SCHEDULING PROCESS



NOVACES®
Advancing Process Improvement.

› About the organization

Crowley Maritime Corporation provides diversified transportation services in domestic and international markets by means of six operating lines of business: Puerto Rico/Caribbean Liner Services, Latin America Liner Services, Logistics, Marine Services, Petroleum Services and Technical Services.

The company's history began in 1892 when founder Thomas Crowley, the grandfather of current Chairman, President and CEO Thomas B. Crowley, Jr., purchased an 18-foot Whitehall boat to provide transportation of personnel and supplies to ships anchored on San Francisco Bay. The present structure, in which Crowley Maritime Corporation is a holding company for the business lines, was put in place in 1992.

Today, the company employs approximately 4,300 people and provides its services using a fleet of more than 210 vessels, consisting of RO/RO (roll on roll off) vessels, LO/LO (lift on lift off) vessels, tankers, tugs and barges. Crowley's land-based facilities and equipment include: terminals, warehouses, tank farms, office buildings, trucks, trailers, containers, chassis, cranes and other specialized vehicles.

Crowley contacted NOVACES, a firm with deep roots in the U.S. maritime industry, to support the development of a continuous process improvement program. Crowley Continuous Process Improvement (CCPI) is a program designed specifically to meet the needs of Crowley and common issues faced by a transportation services company. CCPI is built upon today's best practices in process improvement, including SystemCPISM, a unique deployment planning and management approach developed over years of research and application by NOVACES.

› Project definition

The shipping lanes of Crowley's Liner Services Division exist primarily on the east coast of the United States, the Caribbean, and Central America. On a seasonal basis, winter storms and hurricanes in the region, coupled with other operating challenges, frequently cause abrupt schedule changes to planned voyages. This had a tremendous impact on Crowley's operations and, importantly, its customers.

Each schedule change creates a ripple effect through almost every operations unit of the division. These include organizations such as the Voyage Planning and Scheduling Department, Vessel Operations, and Cargo and Port Operations, just to name a few. In addition, some details of all changes must be disclosed to other entities such as ports, federal and foreign regulatory agencies, and customers who have their own distribution strategies at risk.

The Liner Services Division had long been aware of how schedule and itinerary changes to voyages affected both operations and customers. The division had already attempted several improvements to the system by dedicating more staff, resources, and technology to the process but had not yet achieved the desired performance.

› Performing the value stream analysis

Value Stream Analysis (VSA) is a high impact, low cost way to quickly improve processes. Importantly, this approach shifts focus from analysis of departmental functions to satisfying the customer by looking at the complete value stream. The goal is to remove the steps that do not add value to the product or service.

At a Glance

Organization

Crowley Maritime Corporation

Industry

Maritime / Transportation Services

Business Issue

A process for handling changes to schedules and voyage itineraries was too labor-intensive and was not responsive enough for the operating environment.

Methodology Applied

Lean – Value Stream Analysis

Business Impact

- Increased Customer Satisfaction
- Reduced Cycle Time by 75%
- Reduced Labor Costs by 90%

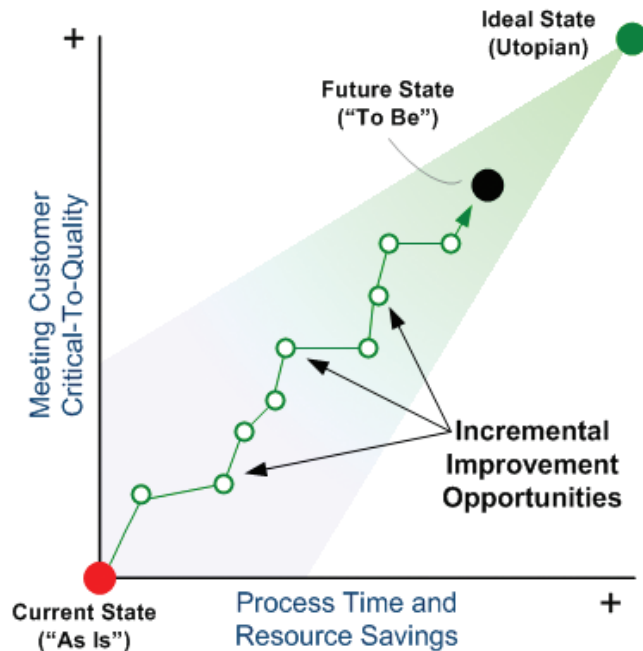


Figure 1. VSA concept.

One advantage of a VSA is that it quickly identifies improvement opportunities across the entire value chain of a business process. Importantly, this workshop-style approach produces an action plan of tasks and milestones required to transform the process and achieve the desired results.

During the VSA, a team of process stakeholders works with the support of a facilitator to map out the current process, or “Current State” and subsequently classifying all process steps as either value-add or non-value-add for the customer.

In the effort to design a “Future State”, the team uses Lean tools and brainstorming to reduce and eliminate non-value-adding steps of the process. After the team feels that it has exhausted all efforts, the list of potential solutions and incremental improvements is collected and prioritized. This eventually becomes an Action Plan and final deliverable from the event.

› CCPI Deployment and Facilitator Development

CCPI’s deployment plan included training new facilitators within various areas of the company. These employees had been selected based on excellent past performances, leadership abilities, and can-do attitudes. In short, those selected were the “top one-percenters.” So, in addition to the benefits achieved during the VSA, the new facilitators-in-training learned, hands-on, how to lead future events on their own. NOVACES has a special process for rapidly developing skilled process improvement experts in a very cost-effective manner.

› Plan, Plan, Plan

A key success factor for any VSA is to develop and, more importantly, communicate a detailed, yet flexible plan. Typical planning tasks include: VSA charter development, agenda and logistics for the week-long VSA, identification of customers and collecting voice of the customer data, planning process walks, and selecting a team of process stakeholders.

Tools Applied

SIPOC
Voice of the Customer Analysis
Value Stream Analysis



Figure 2. Conducting the VSA.

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› Conducting the VSA

During the VSA, the team visited the area where changes were initially made to the voyage schedules, and it really opened the eyes of a lot of the team members. They were able to see the computer applications being used and the way in which information was entered. Previously, team members had never seen many of the places where work was completed for the process – besides their own general work spaces.



Figure 2. Process steps organized on the wall during the Voyage Scheduling VSA

While mapping the process, when individual steps are defined and organized on an open wall, the team began to see how some tasks were being repeated by other departments and where the same data was being re-entered into different applications. They also realized the

ramifications certain tasks had on others. One team member realized how much extra work that one part of the process was causing others down the line.

› The Results

With the improvement opportunity list in place, the team could move forward in building the Future State Process Map. As a result of the VSA, the team generated more than 20 incremental opportunities for improvement. These were eventually condensed into 8 “Just Do Its” and 2 Rapid Improvement Workshops. Upon completing these process improvement efforts, Crowley was able to remove 75% of the time from the process and 90% of the required labor.



About the Author

Dennis Godwin

is a trained Lean Six Sigma Master Black Belt and a certified Black Belt in Lean Six Sigma and Design for Lean Six Sigma. He is currently the Program Manager for the company’s maritime division and a Lean Six Sigma instructor and mentor.

Before joining NOVACES, Dennis worked for NASA’s prime contractor preparing the space shuttle and astronauts for flight. During his tenure there, he led process improvement projects at Kennedy Space Center which saved the nation’s space program more than five million dollars. He also garnered five different awards for excellence and innovation.

Dennis holds a Master of Engineering degree in Engineering Management from the University of Florida and a B.S. in Industrial Engineering from the University of Central Florida.

› About Us

NOVACES is a premier implementer of today’s most powerful process improvement methodologies that strengthen operational capabilities and financial performance. We deliver Lean, Six Sigma, and Theory of Constraints consulting and training to clients in the defense, healthcare, maritime, finance and service industries. We are dedicated to advancing the science of process improvement and leveraging research to provide the most effective solutions in the market.

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