* Integrating Leadership, Quality Management & Lean Six Sigma into the Business Management Process

William K (Bill) Castle

Performance Manager (Methods & Processes)

TVA – Allen Fossil Plant

MBA, L6σ Black Belt

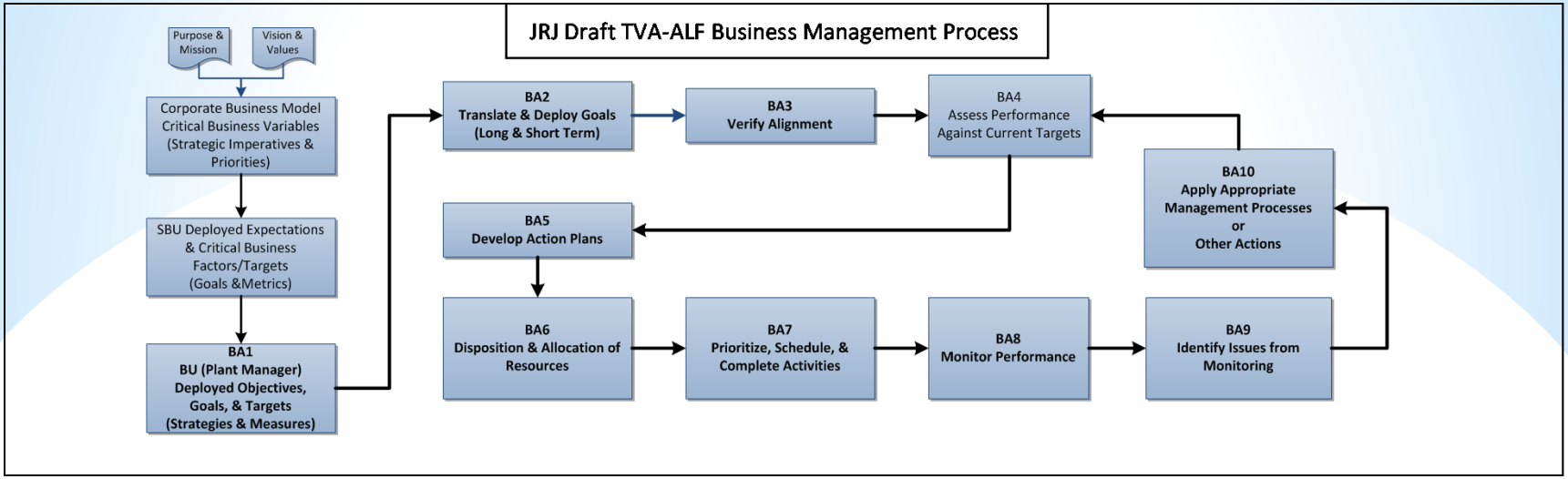
Integrating Leadership, Quality, & Lean into Business Management

- Captain William K. (Bill) Castle USN (Retired), MBA, LSσ BB
  - Numerous Learning, Teaching, and Leadership Roles/Opportunities

- 25 Years as Nuclear Trained Submarine Officer
  - 5 Submarines (3 SSBNs, 2 SSNs) with increasing leadership roles
  - Commanding Officer, USS Atlanta (SSN712)
  - Commanding Officer, Naval Technical Training Support Group
  - Director, Submarine Manpower Analysis – DCNO Submarines @ Pentagon
  - Submarine Instructor – ASW Training Group (ASW University)

- 25 Years as Management Professional, Government Utility
  - Quality Manager
  - Business Manger
  - Outage and Work Management Manager
  - Performance Manager
  - Corrective Action Program Manager
  - Significant Event Analyst
  - Business Plan Development
  - Lean Six Sigma Black Belt

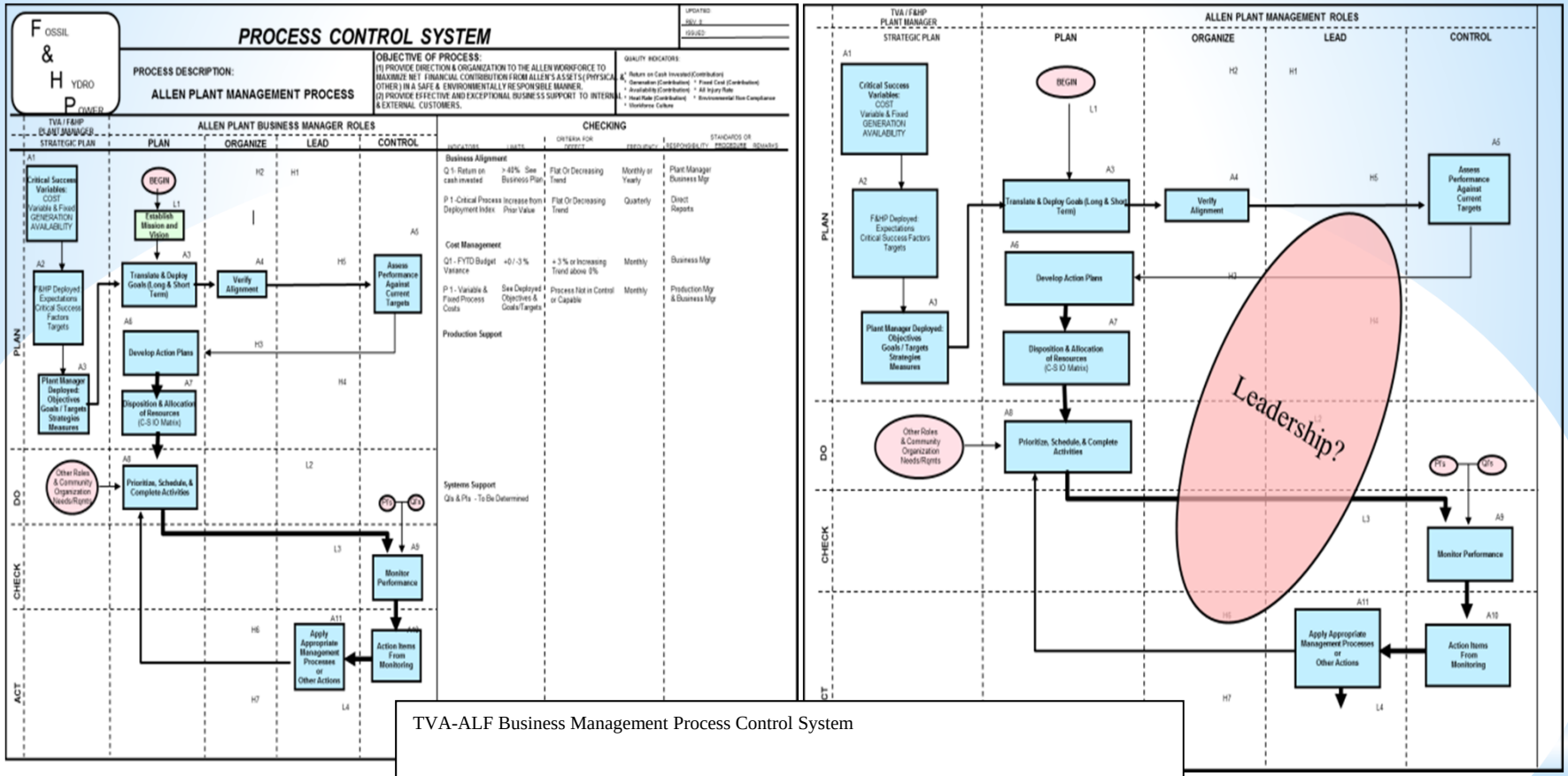
- While In my Quality Manager role at a Coal Fired Generation Plant, I was assisting Management Team in development of a Business Planning Model & Process Control Chart for Organization Use:



- **Plant manager requested that I organize the activities functionally with activities aligned with the major management roles:**
  - *Plan, Organize, Lead, & Control* **(POLC)**

- **Due to my Quality Manager role at the plant, I suggested we also include Deming's Total Quality Management functions:**
  - *Plan, Do, Check & Act* **(PDCA)**
- **Deming also liked a different variation which aligns well with L6σ**
  - *Plan, Do, Study, & Adjust* **(PDSA)**

The Result was a Four by Four Matrix with Functional Swim Lanes in the Process Control System shown below:



TVA-ALF Business Management Process Control System

We quickly recognized that the Management Model was lacking in leadership and organizational activities and added the Leadership Question using the matrix on the right below in our training presentation to plant management (these are screen shots from the actual presentation used).

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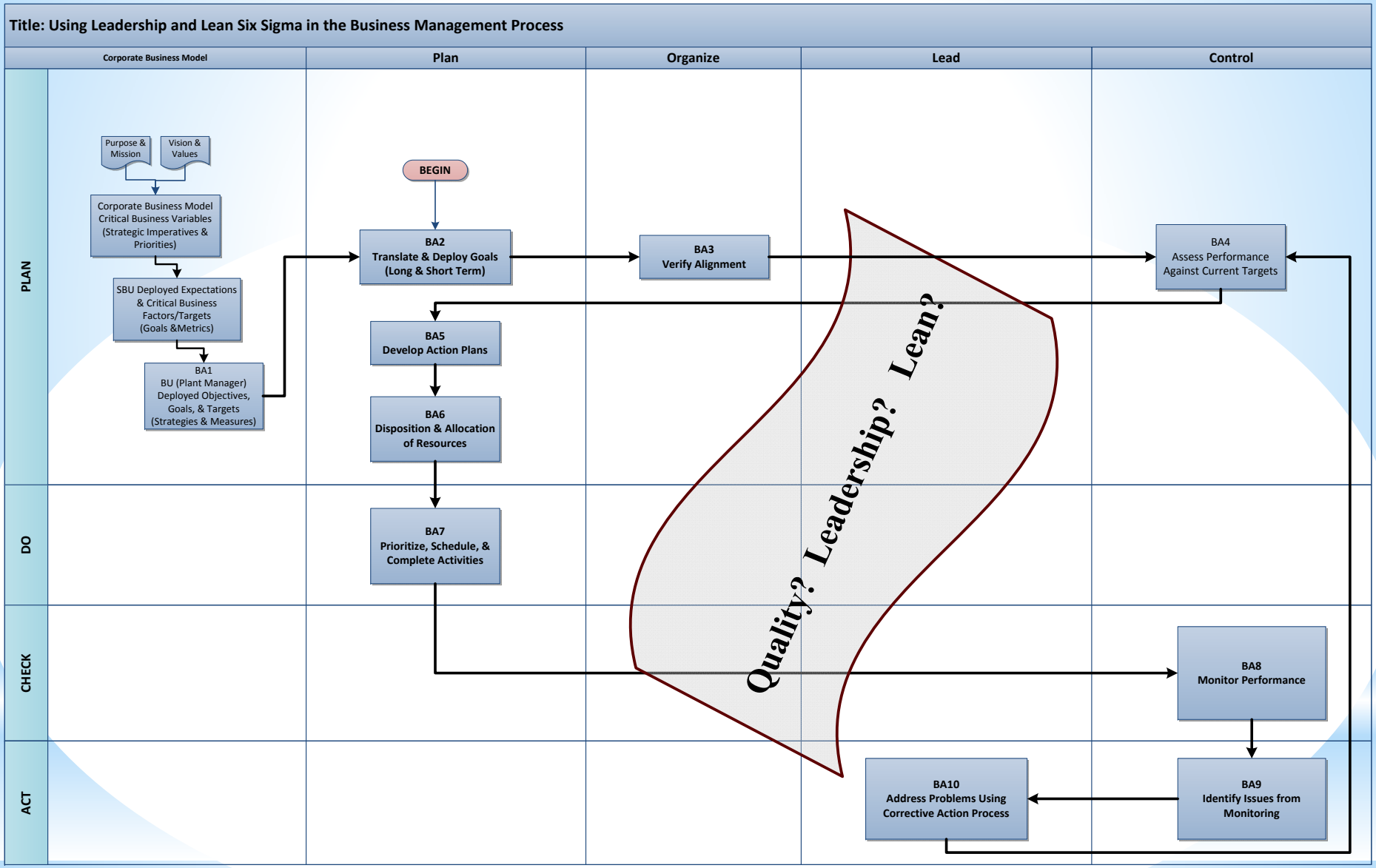


Appendix A

"The job of Management is not Supervision, but Leadership. The greatest waste in America is failure to use the abilities of People."

W. Edwards Deming – Covey Institute, 1991

Integrating Leadership, Quality, & Lean into Business Management

- One of the best sources for Organizational Skills & Leadership is the late Stephan R Covey's 7 Habits Book and Program
  - Has value for both personal and business life
  - Provides timeless, holistic, integrated approach to solving personal and professional problems
  - Not a quick fix >>> provides a lifelong guide for change

- The 7 Habits of Highly Effective People
  - Habit 1 – Be Proactive
    - Self Awareness, Personal Vision, & Responsibility
  - Habit 2 – Begin With the End in Mind
    - Leadership & Mission
  - Habit 3 – Put First Things First
    - Manage Time & Priorities Around Roles & Goals (Utilize Quadrant II Time Management)
  - Habit 4 – Think Win-Win
    - Seek Mutual Benefit from External Customers and Internal Co-workers
  - Habit 5 – Seek First to Understand Before Being Understood
    - Empathic Communication (Learn to Listen)
  - Habit 6 – Synergize
    - Creative Cooperation
  - Habit 7 – Sharpen the Saw
    - Continuous Improvement … Self, Team, Process

Integrating Leadership, Quality, & Lean into Business Management

- Leadership is absolutely critical for Managers leading Employee Teams
  - Teamwork on Submarine was needed due to the complexity of operations and missions. To be successful entire crew had to be trained, engaged and focused
  - Working with Teams in the Business environment is not different but the culture needed to execute may need to be changed
  - When working with local Management Teams and implementing of Organization Strategic Business Plans, four leadership themes prevailed

- Management Leadership Roles
  - Establish Mission & Vision
    - ✓ Ensure employees know they are part of the mission
    - ✓ Employee will find meaning striving to reach clearly defined mission
  - Remove Barriers
    - ✓ Initiating improvement will raise expectations
    - ✓ Enable barrier removal through problem solving & process improvement
  - Provide Recognition & Rewards
    - ✓ Positive reinforcement maximizes performance
    - ✓ Catch someone doing good everyday. Tell them so. Be specific.
    - ✓ Make this the one activity you always have time for.
  - Create Systematic Learning
    - ✓ Focus on doing "Right Things" right
    - ✓ Help people understand what is expected
    - ✓ Standardize "What Works" … Define & Improve process so all can use

Integrating Leadership, Quality, & Lean into Business Management

- Lean Six Sigma – Data-driven strategy of Continuous Improvement that improves a product/service and eliminates waste. (Safer, Better, Faster, or Cost Effective)
  - Customer Expectations (Voice of Customer): Used to capture the requirements & feedback from both external & internal customers to identify the best in class service or product quality
  - Process Expectations: Utilize Critical to Quality indicators to convert customer need or wants

- DMAIC Process (Define, Measure, Analyze, Improve, Control)
  - Define
    - ✓ Clearly identify the problem or issue to be addressed
  - Measure
    - ✓ Establish clear & accurate metrics that show current state and can be used to determine if improvements are made after implementation
  - Analyze
    - ✓ Use analysis to determine process variation and causes/impact of defects/waste
  - Improve
    - ✓ Identify & Select improvement opportunities and impact they will have on the product or service when delivered to the customer
  - Control
    - ✓ Establish standard methodology and measures that confirm consistent execution or identify when process requires additional effort to keep it in control.

Lean Six Sigma: DMAIC Process

High Level Flow Chart - SIPOC - Lean Six Sigma DMAIC Process

Process Objective

Provide a data-driven quality strategy for improving processes that becomes an integral part of any Six Sigma quality or project improvement initiative.

Graphic Format: W K Castle; Source: Lean Six Sigma: Practical Bodies of Knowledge, Terra Vanzant-Stern

Function or Sub-Process Areas

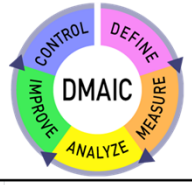
SUPPLIERS:	DEFINE	MEASURE	ANALYSIS	IMPROVE	CONTROL	CUSTOMERS:
* Suppliers include any organization that provides materials, services, or information to the process execution Excel Note: If a cell is used, merge, and align to upper left corner and to create a new line in a cell you will need to use ALT+Enter to get a carriage return.						* Organization or Individuals who will receive, use, or be impacted by the process
INPUTS: * Material * Service * Information/Data	**OBJECTIVE:** o - To clearly identify the problem or issue that is to be addressed and how the problem will be approached during the project.	**OBJECTIVE:** o - Establish a clear and accurate metric that shows the current state and can be used to determine if improvements are made when implemented	**OBJECTIVE:** o - Utilize analysis quality tools to determine variation in the process, root causes of waste and defects, and the impact of the defects/waste	**OBJECTIVE:** o - Identify improvement opportunities and the impact the improvement will have on the product or process when delivered to the customer	**OBJECTIVE:** o - Establish standard methodologies and measures that can confirm consistent execution or identify when process requires additional effort to keep it "in control"	**OUTPUTS:** * Product * Complete Service * Information or Reports
PROCESS INDICATORS: * List indicators that enable one to determine the status of the process as the product or service is performed until the product/service is delivered.	**ACTIVITIES:** • Develop clear statement of intended improvement (Project Charter) • Create High-Level Process Map (SIPOC/HLFC) • Generate list of what is important to customer (CTQ) • An understanding of project's link to corporate strategy & ROIC contribution • Capture Voice of the Customer *(Goal, Timeline, & Benefit of Project)*	**ACTIVITIES:** • A high-level map of the Processes (SIPOC) • A list of what is important to the customer (CTQ) • An understanding of the project's link to corporate strategy and its contribution to ROIC *(Create a clear snapshot of what is happening today)*	**ACTIVITIES:** • Identify Potential, Apparent, Most Probable, or Root Causes • Implement (Pilot) Alternative Methods • Conduct Sources of Variation Studies & Correlation Analysis • Discuss & Communicate Plan implementation *(Analyze the data to discover variation, variance, root cause and the impact of these activities on the project)*	**ACTIVITIES:** • Generate Solutions • Identify Alternatives • Rank Alternatives • Discuss & Communicate Plan implementation • Implement the Project *(Multipurpose phase: Choose the solution, Pilot the solution, Mistake proof, Roll out, & Evaluate Result)*	**ACTIVITIES:** • Develop a Control Plan (Include Check/Control Points • Implement a Suitable Monitoring Plan for Control • Review & Evaluate Impact of Changes • Update Standards, including Process Changes *(Verify the ROI, benefits, cost saving/ cost avoidance, Implement Control & Transition Plans, Close Out project)*	**OUTPUT (Quality) INDICATORS:** * Indicator measures value or cost of process including Return on Investment (ROI)

PROCESS EXPECTATIONS:

+ Utilize Critical to Quality indicators to convert customer needs and wants to measureable requirements for the business to implement. Indicators would identify a business need, the drivers of that need, and then the issues that are "Critical to Quality" that could meet that need.

Excel Note: For a text box, you can align left, center, or right and you only have to use Enter to get a carriage return. You can also highlight and align individual lines.

GRAPHIC



CUSTOMER EXPECTATIONS(VoC):

+ Voice of the Customer is a process used to capture the requirements & feedback from both external and internal customers in order to identify the best in class service or product quality

"Lean Six Sigma is about increasing quality and profit. The new tools include methodologies based on teamwork as a principle. … Lean focuses on getting the right things, to the right place, at the right time, in the right quality while minimizing waste. Lean also makes the work simple enough to understand, to do and to manage."

Lean Six Sigma: Practical Bodies of Knowledge – Terra Vansant-Stern, 2011

Appendix D

Integrating Leadership, Quality, & Lean into Business Management Process

Business Management & Lean is about increasing quality and profit

✓

This process includes Quality Management methodologies based on Leadership and Teamwork as guiding principles

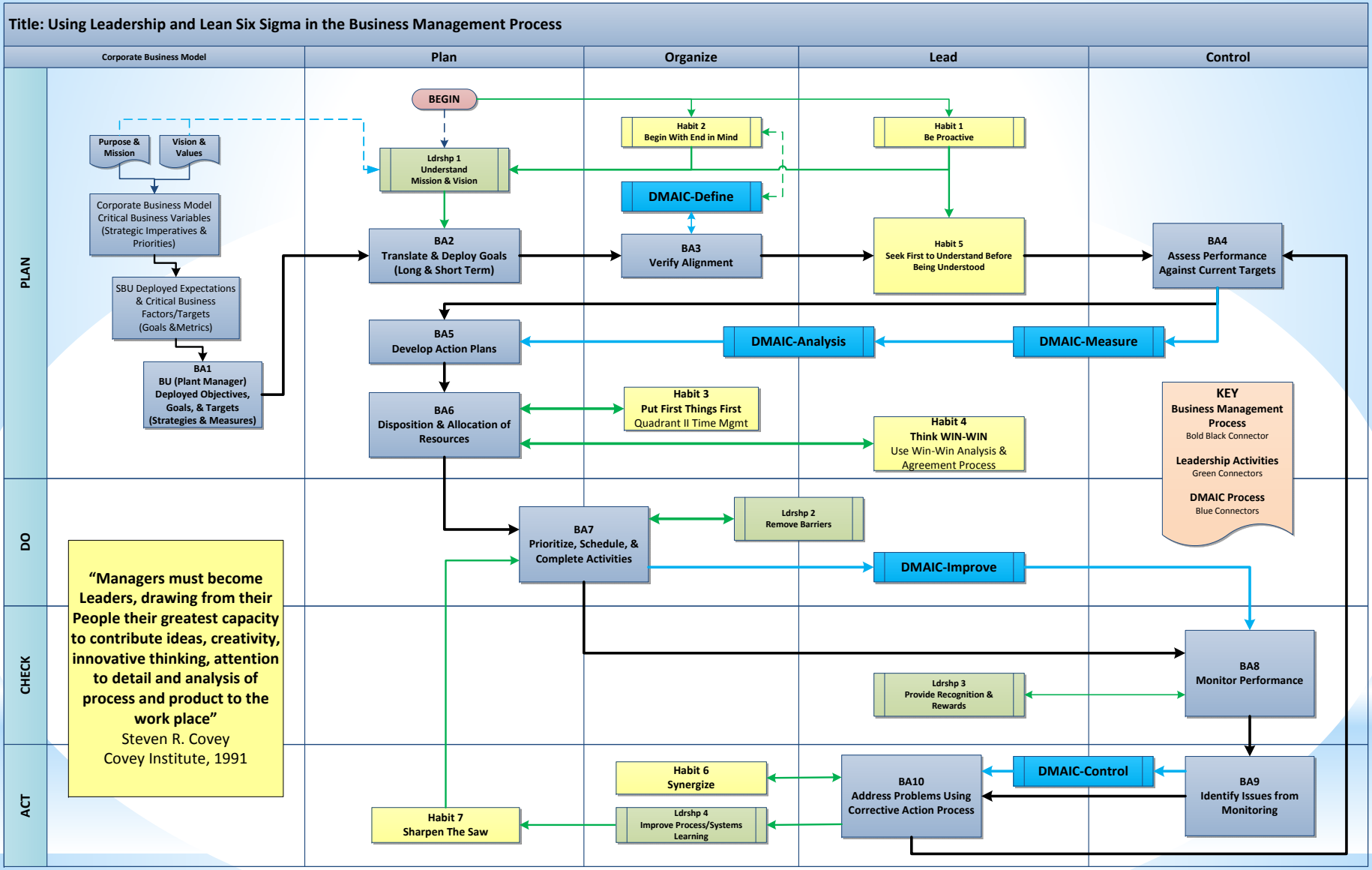
✓

Lean focuses on getting the right things, to the right place, at the right time, in the right quality while minimizing waste

✓

Lean also makes the Business Management simple enough to understand, to do, to manage, and to control

Lean Six Sigma Business Management Process Alignment



Appendix E

Using Covey's Habit 3: Put First Things First - Finding Time to Fit it All In

QUADRANT II TIME MANAGEMENT

Time Management FOCUS should not be exclusively on EFFICIENCY (More work in less time). Instead it should be on EFFECTIVENESS (Doing the right thing). Therefore, when examining where one's time is spent (as modeled below), one should work on replacing Quadrant III & IV time with time spent in Quadrant II. Quadrant I time is often a reality, but the right Quadrant II efforts can and will reduce it.

QUADRANT I **URGENT & IMPORTANT** **Crises / Pressing Problems** **Deadline-driven Projects / Reports** **Senior Management Queries**	**QUADRANT II** **IMPORTANT & NOT URGENT** **Prevention / Planning / Learning** **Customer-Supplier Relation Building** **New opportunities & Process Improvements**
QUADRANT III **URGENT & NOT IMPORTANT** **Interruptions / Phone Calls / Staff Queries** **Some mail / Some meetings** **Proximate, pressing matters**	**QUADRANT IV** **NOT URGENT & NOT IMPORTANT** **Trivia, busy work / Some mail** **Phone calls / Time wasters** **Pleasant Activities / Things You Like To Do**

URGENT means it requires immediate attention. URGENT matters are usually visible.
They press on us & insist on Action. They are often popular with others.
They are usually right in front of us and often are pleasant, easy, and fun to do.
But ... often they are not important and the result of someone else's failure to think ahead.

✓

IMPORTANCE has to do with results.
If something is important, it contributes to your mission, your values, your high priority goals.
It has value-add to you and your customers.

✓

We REACT to URGENT matters.
IMPORTANT matters that are NOT URGENT require more initiative, more Proactiveness.
We must ACT to seize the opportunity, to make things happen.

EFFECTIVE PEOPLE ARE NOT PROBLEM-MINDED; THEY ARE OPPORTUNITY-MINDED. THEY FEED OPPORTUNITIES AND STARVE PROBLEMS. THEY THINK PREVENTIVELY AND HELP OTHERS DO THE SAME. THEY HAVE GENUINE QUADRANT I CRISES AND EMERGENCIES AND PROVIDE ATTENTION AS NEEDED. THEY REDUCE TIME SPENT IN QUADRANT III & IV AND APPLY IT TO QUADRANT II. THE RESULT OF THIS EFFORT IS THAT THE TIME SPENT IN QUADRANT I IS REDUCED. EFFECTIVE PEOPLE ARE THOSE WHO FIND THAT WHEN THEY MEASURE AMOUNTS OF TIME IN EACH QUADRANT, QUADRANT II IS THE DOMINANT MEASURE OF THEIR ACTIVITY.

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