

7

Validation Implementation in the Beverage Segment

7.1

Data Collection

The spreadsheet developed by the author was sent by email to supply chain directors of one of the largest beverage company worldwide. These directors are senior managers with more than 10 years of practical supply chain experience and responsible for local region operations in different countries – Uruguay, Brazil, Singapore and United States. In the specific case of Brazil and United States, they only have responsibility for a specific region and not for the nationwide operation. A cover letter was also sent explaining the following important topics:

- Definition of Demand Driven Supply Chain (DDSC)
- Components of DDSC
- Objectives of the Thesis
- Steps required to follow when Performing the Assessment

Recipients were asked to fill their answers in one single spreadsheet already showed in chapter 6 and also provide any comment or suggestion for changes in order to validate and/or improve the proposed maturity model, and finally, send back the results to the author for consolidation.

Three out of the four countries answered the spreadsheet, and it is important to mention that there was no requirement for changes in the proposed DDSC maturity model. Examples of feedback received from the respondents were “...the maturity model is well described with clear and practical descriptions...”, “very interesting concept and approach”, “...simple to answer and evaluate our current state...”. It also worth mentioning that there were no requests from the supply chain directors to make any change to the maturity model and to the proposed framework, which provides evidence that the framework is not only applicable, but also consistent to be applied in different geographical regions and countries.

After receiving the answers, the author also performed a thorough review of the answers from each country to ensure that answers match with their current performance, as the author knows in detail each one of these operations.

7.2

Results of Application in 3 Operations – Uruguay, Brazil, United States

7.2.1

Overall Results

In terms of overall performance considering the 3 DDSC components, each country is currently in a different stage – Brazil is very close to an optimized Push operation (level 2) while Uruguay and USA are close to a basic Push operation (level 1).

When the desired future state in one year horizon is analyzed, Uruguay is the country that shows a strong objective to move closely to a hybrid Push-Pull operation (level 3). It can also be seen that USA operation has a clear focus to move from a basic Push operation (level 1) to an optimized Push operation (level 2), as illustrated in figure 51:

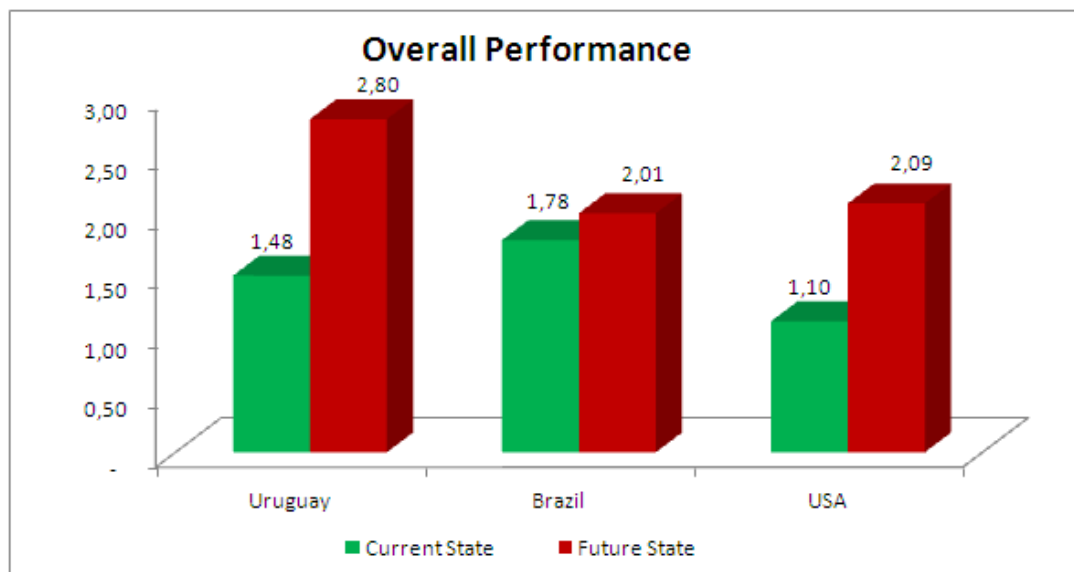


Figure 51 – Overall Performance by Country for Current and Future States

Analyzing the Demand Management component illustrated in figure 52, both Brazil and Uruguay are currently in an optimized Push performance in this area (level 2), while USA is in a more basic performance (level 1). In terms of future performance, Uruguay has a goal of moving to a hybrid demand management level (level 3) that integrates statistical forecast with demand sensing and visibility. For USA, the goal is to move to an optimized forecast process (level 2) in one year time through implementation of statistical forecast processes, tools, and metrics, like forecast accuracy, MAPE, etc.

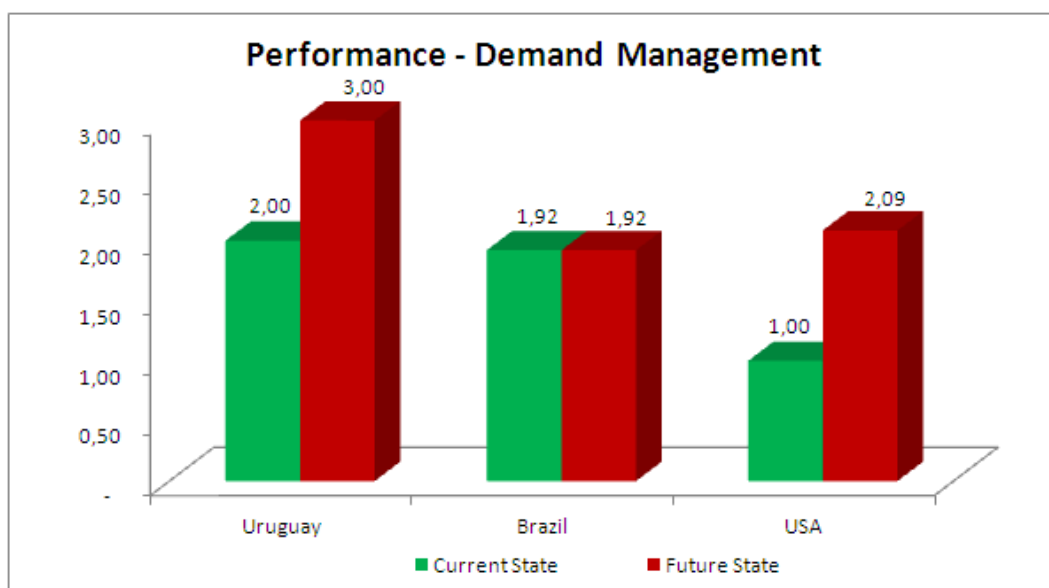


Figure 52 – Performance of Demand Management by Country for Current and Future States

Regarding Supply and Operations management, Brazil and Uruguay have similar current performance, in a transition from a basic (level 1) to an optimized push operation (level 2), while USA is close to a basic push operation (level 1), as shown in figure 53. For future performance, both Brazil and USA target to become an optimized Push operation (level 2), where senior management uses supply & operations to meet business plan goals, while Uruguay target to move to a hybrid push-pull operation (level 3).

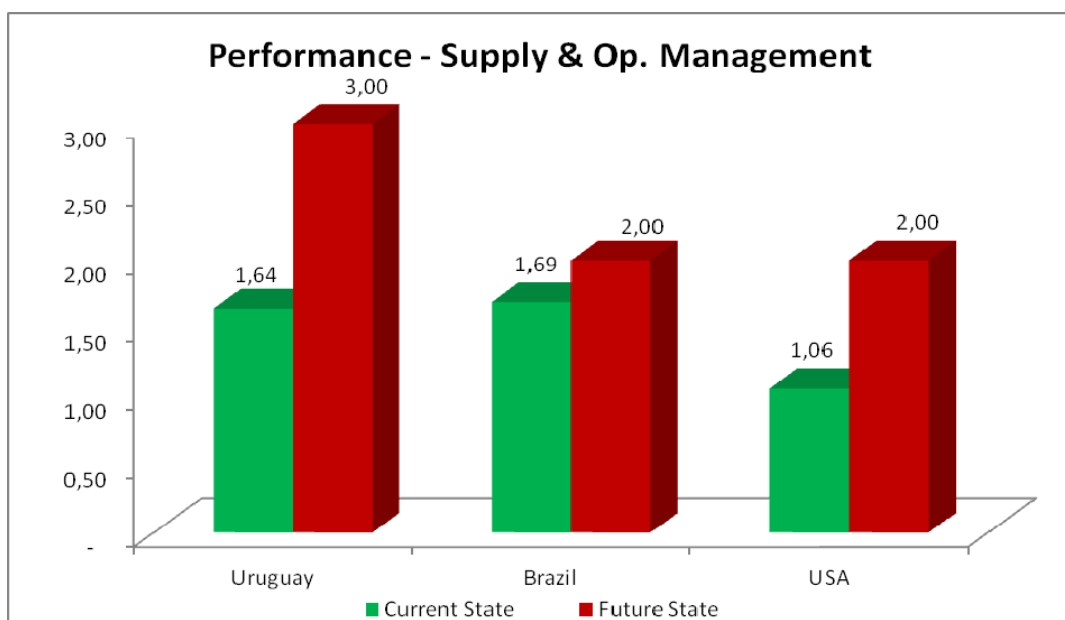


Figure 53 – Performance of Supply & Op. Management by Country for Current & Future States

The last component of the DDSC is the Product Lifecycle Management (PLM). In this area, as it can be seen in figure 54, both Uruguay and USA currently have a basic push operation (level 1), which can be translated as a lack of an organization culture that foster innovation. Brazil is already in an optimized push performance (level 2) regarding PLM. For future performance, all operations target to become an optimized Push-Pull (level 3), where PLM is implemented for both new product introduction and portfolio optimization.

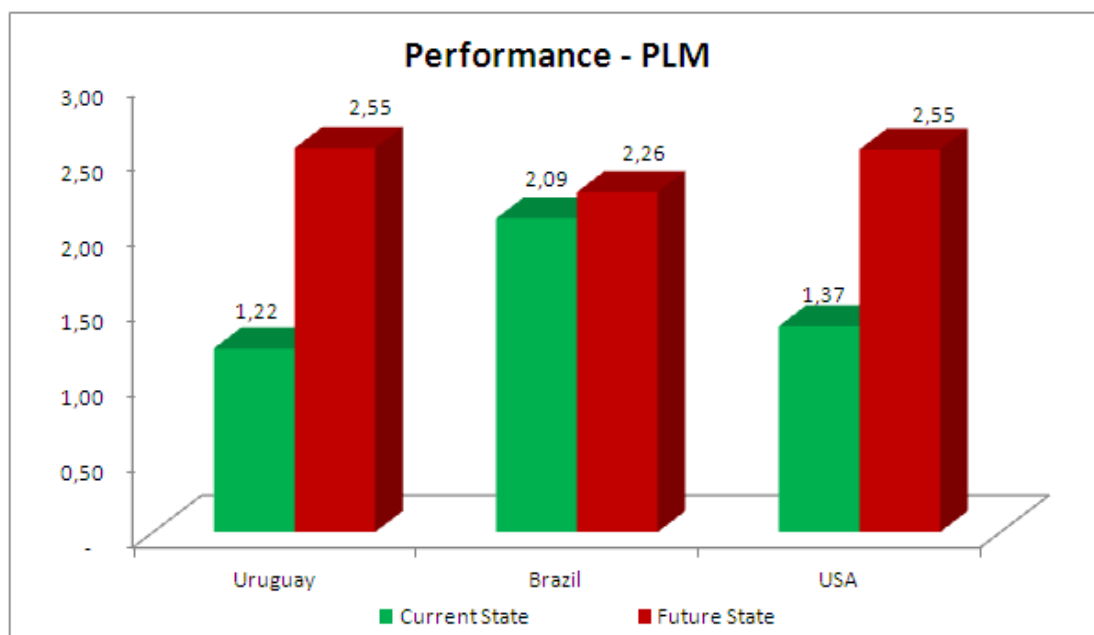


Figure 54 – Performance of PLM by Country for Current & Future States

In the next section, the results for each country and the proposed action plan to support the improvement towards future state for each country will be detailed.

7.2.2

Results by Operation – Country

7.2.2.1

Uruguay

Table 20 shows the results for both current and future states based on the answers provided by the leader of the supply chain area in Uruguay.

1. Demand Management		Current State		Future State	
Category	Score	Weighted Score	Score	Weighted Score	
Statistical Forecast	2	0,79	3	1,18	
Sales & Operations Planning (S&OP)	2	0,16	3	0,24	
Collaborative Planning (CPFR)	2	0,26	3	0,39	
Vendor Managed Inventory (VMI)	2	0,79	3	1,18	
Demand Management Score	-	2,00	-	3,00	

2. Supply and Operations Management		Current State		Future State	
Category	Score	Weighted Score	Score	Weighted Score	
Procurement	2	0,24	3	0,36	
Manufacturing	1	0,36	3	1,07	
Logistics	2	0,24	3	0,36	
Customer Service	2	0,10	3	0,15	
Senior Management Support	2	0,71	3	1,07	
Supply & Operations Management Score	-	1,64	-	3,00	

3. Product Lifecycle Management		Current State		Future State	
Category	Score	Weighted Score	Score	Weighted Score	
New Product Forecast	1	0,05	2	0,09	
Supply Chain Approach	1	0,33	2	0,66	
Risk Assessment & Management	1	0,33	3	1,00	
Product Tracking	1	0,07	2	0,13	
Portfolio Optimization	2	0,22	3	0,33	
Senior Management Support	2	0,22	3	0,33	
Product Lifecycle Management	-	1,22	-	2,55	

Table 20 – Current and Desired Future Performance for Uruguay

In order to ensure the right focus and direction, the top 2 priorities were identified for each of the three DDSC components based on the highest weighted score, which, if well implemented and executed, will allow the organization to move quickly towards the desired future state.

For demand management, it is suggested to focus in **Statistical Forecast** and **Vendor Managed Inventory** as described below:

- For Statistical Forecast, it is important to define a process to formally analyze and cluster the SKUs sold in different customers and channels based on sales volume and demand variability, in order to apply an approach that combines statistical forecast for SKUs with low variability and actual POS demand information for SKUs with high variability. It is also suggested to implement a root cause analysis to map and understand the reasons of low forecast accuracy by SKU, and then, implement an effective action plan to fix the problems.
- For Vendor Managed inventory (VMI), the first step is to map current customer database to identify the group of potential customers to implement the VMI. Then, based on this list, commercial area together

with supply chain should identify customers where actual POS information is readily available and could be shared on a daily basis with the company. Usually, potential customers for a successful VMI implementation in beverage segment are key account customers, like large retailers, airline companies, food chains, such as McDonald's, Burger King, etc. One critical step in the VMI implementation is to define and sign a memorandum of understanding (MOU) that specifies the operation of VMI process, Service Level Agreements (SLA), Penalties of non compliance to defined goals, Backup process in case of IT problem, just to enumerate some of them.

For supply and operations management, it is suggested to focus on **Manufacturing** and **Senior Management Support** as detailed below:

- For Manufacturing, there are 4 key areas to focus:
 - Implementation of 5S or Workplace organization process to ensure a clean, safe and efficient workplace in each production line. This implementation is usually done through 5S events, where a “5S champion” will first train employees on each of the 5S phases (sorting, straightening, systematic cleaning, standardizing, and sustaining), and then, executes the changes at the end of the training of each phase.
 - Definition and implementation of a performance management process to develop supervisor leadership and employee engagement at the shop floor. This process should cover KPI definition and employee training, visual boards to post actual performance on a daily, weekly, and monthly level depending on the KPI, and handover meetings in the beginning of the shift to allow supervisors communicate the key focus and actions to be executed by line operators during the shift. Besides that, line operators should be responsible for all troubleshooting, maintenance and quality checks in the production lines.
 - Implementation of a formal process to perform “root cause analysis” of SLE (system line efficiency) performance. This way, the company will be able to identify the main reasons that impact line efficiency and act to solve the problems.
 - Products should be categorized into a push or a pull manufacturing strategy (make to stock or make to order,

respectively) based on demand variability and production efficiency.

- For Senior Management Support, the focus should be on providing senior management information about current performance and key actions to execute to allow meet the overall goal in supply and operations management. Usually, this could be done through development of an IT dashboard with critical KPIs from each functional area, and how these KPIs related and impact each other. Another focus is to educate senior management on the difference between Push and Pull strategies, and its impact into supply & operations management and performance.

For product lifecycle management, it is suggested to focus on **Supply Chain Approach** and **Risk Assessment and Management** as detailed below:

- For Supply Chain Approach, it is recommended to apply the proposed steps defined by Fisher (1997) to match type of product (functional or innovative) with the supply chain approach (efficient or responsive). For more information about this process, please refer to section 4.5.2.2.
- For Risk Assessment, it is recommended to apply the proposed approach developed by the author in this thesis, where a formal risk assessment is performed before the introduction of each new product to allow developing mitigating strategies and ensure product availability in the market. For more information about the approach, please refer to section 4.5.2.3.

7.2.2.2

Brazil

Table 21 shows the results for both current and future states based on the answers provided by the leader of the supply chain area in one of the regions inside Brazil.

Table 21 – Current and Desired Future Performance for Brazil

1. Demand Management		Current State		Future State	
Category		Score	Weighted Score	Score	Weighted Score
Statistical Forecast		2	0,79	2	0,79
Sales & Operations Planning (S&OP)		2	0,79	2	0,79
Collaborative Planning (CPFR)		2	0,26	2	0,26
Vendor Managed Inventory (VMI)		1	0,08	1	0,08
Demand Management Score		-	1,92	-	1,92

2. Supply and Operations Management		Current State		Future State	
Category		Score	Weighted Score	Score	Weighted Score
Procurement		2	0,46	2	0,46
Manufacturing		2	0,46	2	0,46
Logistics		1	0,23	2	0,46
Customer Service		1	0,08	2	0,15
Senior Management Support		2	0,46	2	0,46
Supply & Operations Management Score		-	1,69	-	2,00

3. Product Lifecycle Management		Current State		Future State	
Category		Score	Weighted Score	Score	Weighted Score
New Product Forecast		1	0,09	2	0,18
Supply Chain Approach		2	0,53	2	0,53
Risk Assessment & Management		1	0,09	2	0,18
Product Tracking		2	0,08	2	0,08
Portfolio Optimization		2	0,53	2	0,53
Senior Management Support		3	0,79	3	0,79
Product Lifecycle Management		-	2,09	-	2,26

In order to ensure the right focus and direction, the top 2 priorities for each of the three DDSC components were identified. However, for Brazil it is proposed to focus on the categories where the operation wants to improve in one year horizon, as the highest weighted score categories have the same current and future states.

For demand management, it is suggested to focus on **Statistical Forecast** and **Sales and Operations Planning (S&OP)** as described below:

- For Statistical Forecast, as the company already has a good forecast level with demand planning tools and processes in place, it is recommended to implement a root cause analysis to map and understand the reasons of low forecast accuracy by SKU, and then, implement an effectively action plan to fix the problems. Another opportunity is to implement medium to long term forecast tool to support the generation of forecasts for a longer horizon (e.g. 1 – 5 years).
- For Sales & Operations Planning (S&OP), the focus should be to stabilize the current process already implemented in the beginning of this year, to ensure it is engrained into the organization culture and generate

sustainable improvement results. Another key area is to continue to look for senior management support on using S&OP as a key input for decision make process.

For supply and operations management, it is suggested to focus on **Logistics** and **Customer Service** as detailed below:

- For Logistics, it is recommended to focus on the following areas:
 - Implement 5S or Workplace organization process to ensure a clean, safe and efficient workplace in the warehouse. This implementation is usually done through 5S events, where a “5S champion” will first train employees on each of the 5S phases (sorting, straightening, systematic cleaning, standardizing, and sustaining), and then, executes the changes at the end of the training of each phase.
 - Analyze and re-design warehouse layout to increase density through the use of different racking structures, like double deep racking for “A” items and case flow racks for “C” items. The second objective of the layout review is to increase warehouse throughput through the use of double and triple forklifts for put-away and retrieval operations.
 - For both warehouse and distribution, implement a performance management process to develop supervisor leadership and employee engagement at the warehouse floor. This process should cover KPI definition and employee training, visual boards to post actual performance on a daily, weekly, and monthly level depending on the KPI, and handover meetings in the beginning of the shift to allow supervisors communicate the key focus and actions to be executed in each warehouse area during the shift.
- For Customer Service, it is recommended to perform market research surveys like “customer value driver” and “every dealer survey” to understand customers’ expectations and requirements, and to segment them accordingly. Based on the results of these researches, develop a formal written customer service policy which will define the service package that will be delivered to each segment / group of customers. This process should be reviewed on a regular basis (e.g. annually) to ensure that the company keeps its focus on the right priorities based on market needs. Another opportunity is to start the

collaboration process with customers to align supply chain priorities in terms of product availability (e.g. fill rate), and operational efficiency goals for truck turnaround time, replenishment frequency, delivery time windows, etc.

For product lifecycle management, it is suggested to focus on **New Product Forecast** and **Risk Assessment and Management** as detailed below:

- For New Product Forecast, it is recommended to develop a formal process to understand in detail each new product introduction and define which forecast model (both quantitatively and qualitatively) is more appropriate for each new launch. Demand planning area should model forecast requirements for “pipeline fill” separately from “pure consumer demand”, in order to be able to track and compare forecast vs. actual demand in the different phases of the new product introduction in the market. It is also necessary to develop an information database that will provide information about past launches performance, data required to apply the different forecast models, etc.
- For Risk Assessment, it is recommended to apply the proposed approach developed by the author in this thesis, where a formal risk assessment is performed before the introduction of each new product to allow developing mitigating strategies and ensure product availability in the market. For more information about the approach, please refer to section 4.5.2.3.

7.2.2.3

United States

Table 22 shows the results for both current and future states based on the answers provided by the leader of the supply chain area in one of the regions inside USA.

Table 22 – Current and Desired Future Performance for one operation in USA

1. Demand Management		Current State		Future State	
Category		Score	Weighted Score	Score	Weighted Score
Statistical Forecast		1	0,60	2	1,19
Sales & Operations Planning (S&OP)		1	0,09	3	0,26
Collaborative Planning (CPFR)		1	0,12	2	0,24
Vendor Managed Inventory (VMI)		1	0,20	2	0,40
Demand Management Score		-	1,00	-	2,09

2. Supply and Operations Management		Current State		Future State	
Category		Score	Weighted Score	Score	Weighted Score
Procurement		1	0,14	2	0,27
Manufacturing		1	0,54	2	1,09
Logistics		1	0,08	2	0,16
Customer Service		2	0,12	2	0,12
Senior Management Support		1	0,18	2	0,36
Supply & Operations Management Score		-	1,06	-	2,00

3. Product Lifecycle Management		Current State		Future State	
Category		Score	Weighted Score	Score	Weighted Score
New Product Forecast		1	0,09	3	0,28
Supply Chain Approach		1	0,57	2	1,14
Risk Assessment & Management		1	0,08	3	0,24
Product Tracking		1	0,07	2	0,14
Portfolio Optimization		3	0,34	4	0,45
Senior Management Support		3	0,21	4	0,28
Product Lifecycle Management		-	1,37	-	2,55

In order to ensure the right focus and direction, the top 2 priorities for each of the three DDSC components were identified based on the highest weighted score, which, if well implemented and executed, will allow the organization to move quickly towards the desired future state.

For demand management, similar to Uruguay, it is suggested to focus on **Statistical Forecast** and **Vendor Managed Inventory** as described below:

- For Statistical Forecast, it is recommended to focus on the following areas:
 - Implement statistical forecast models and tools to automate the forecast generation for both short and long term, in order to improve planning capability and increase forecast accuracy.
 - Set the right organization structure for demand planning area and ensure the right capability for demand planners in the areas of forecast modeling, S&OP, price elasticity, etc.
 - Educate senior management and the organization on how to benefit from improved demand planning process through workshops and clear metrics / KPIs.

- For Vendor Managed inventory (VMI), the first step is to map current customer database to identify the group of potential customers to implement the VMI. Then, based on this list, commercial area together with supply chain should identify customers where actual POS information is readily available and could be candidates for a VMI pilot implementation. A pilot project is a good and practical way to help the company understand the requirements and benefits of implementing the VMI approach.

For supply and operations management, it is suggested to focus on **Manufacturing** and **Senior Management Support** as detailed below:

- For Manufacturing, there are 4 key areas to focus:
 - Implementation of 5S or Workplace organization process to ensure a clean, safe and efficient workplace in each production line. This implementation is usually done through 5S events, where a “5S champion” will first train employees on each of the 5S phases (sorting, straightening, systematic cleaning, standardizing, and sustaining), and then, executes the changes at the end of the training of each phase.
 - Definition and implementation of a performance management process to develop supervisor leadership and employee engagement at the shop floor. This process should cover KPI definition and employee training, visual boards to post actual performance on a daily, weekly, and monthly level depending on the KPI, and handover meetings in the beginning of the shift to allow supervisors communicate the key focus and actions to be executed by line operators during the shift. Besides that, line operators should be responsible for all troubleshooting, maintenance and quality checks in the production lines.
 - Implementation of Single Minute Exchange of Dies (SMED) process to reduce changeover time. For more details on SMED, please refer to section 4.4.3.3.
 - Implementation of a formal process to perform “root cause analysis” of SLE (system line efficiency) performance. This way, the company will be able to identify the main reasons that impact line efficiency and act to solve the problems.

- For Senior Management Support, the focus should be on providing senior management information about how a well executed supply and operations processes could improve company's profitability and customer service level. It is also important to provide visibility of current performance, the key improvement action plans and the results achieved as the plan is executed.

For product lifecycle management, it is suggested to focus on **Supply Chain Approach** and **Portfolio Optimization** as detailed below:

- For Supply Chain Approach, it is recommended to apply the proposed steps defined by Fisher (1997) to match type of product (functional or innovative) with the supply chain approach (efficient or responsive). For more information about this process, please refer to section 4.5.2.2.
- For Portfolio Optimization, it is recommended to focus in 2 key areas:
 - Implementation of a formal and regular portfolio optimization process to evaluate portfolio and identify SKUs with underperform sales, lack of clear market strategy or low margin contribution to the company. All SKUs identified should be evaluated through different areas like Marketing, Sales and Supply chain, and information from Pull customers is also used to understand fit of product to strategic role in the portfolio. A final list is sent to a portfolio committee group that considers senior management participants from all critical areas like Marketing, Sales, Supply Chain, Strategic Planning, and Finance. The committee reviews the proposed list of SKUs to be retired and make decision of keeping or retiring each product.
 - Foster an open and innovative organization culture where employees understand the importance of a portfolio optimization process to keep a healthy and balanced portfolio. For this initiative, Human Resources should be the leader to assess and develop action plan to engrain innovation into the company's culture.

7.3

Develop Supply Chain Strategy to Become Demand Driven

It is presented in this section, a first preliminary framework proposal for supporting organizations on building a Demand Driven Supply Chain Strategy.

7.3.1

Introduction

The last step of the proposed methodology is to develop a supply chain strategy that will define all critical initiatives that the company should perform to move towards a demand driven supply chain. This is a very important step to ensure a structured and formal process to define and prioritize the different opportunities and strategic options available to the company.

Cohen and Roussel (2005) define strategic supply chain as a process to create a unique supply chain configuration that will drive the company's strategic objectives, and should consider five critical configuration components:

- **Operations strategy** refers to the decisions on how the company will produce its goods and services. Examples of decisions are which production strategy will be used (e.g. make to stock, make to order or some combination), what is the best balance between in source and outsource, will the company pursue a low cost offshore manufacturing strategy, just to enumerate some examples.
- **Outsourcing strategy** refers to defining what operational areas the company should keep in house and what areas should be outsourced. Areas where the company has expertise or that will provide a competitive advantaged for the company should be kept in house. Outsourcing allows the company to ramp up or down quickly, build new products, or reposition itself in the marketplace by leveraging the expertise and capacity of other companies. This added flexibility and agility can make an enormous difference in today's competitive markets.
- **Channel strategy** refers on how the company will get its products and services to buyers and customers. These decisions address such issues as whether the company will sell indirectly through distributors or retailers or directly to customers, via the internet or a direct sales force. The market segments and geographies should drive decisions in this area,

since profit margins vary depending on which channels are used and who gets the products in times of product shortages or high demand. Market leaders use effective channel strategies to reap significant gains like Dell, with its direct-sales model, and Wal-Mart with its superstore model, offer compelling examples of how channel choices can deliver a competitive advantage.

- **Customer service strategy** refers to prioritizing and focusing supply chain capabilities to deliver expected customer service.
- **Asset network** refers to the decisions on how the company will configure the supply chain to meet business goals. These decisions are usually related to factories, warehouses, production equipments, order desks, etc. The location, size and mission of these assets have a major impact on supply chain performance.

Cohen and Roussel (2005) also state that the configuration components – operations strategy, channel strategy, outsourcing strategy, customer service strategy, and asset network – are the fundamental building blocks of a supply chain strategy. However, to drive forward the company's strategic business objectives and really gain a competitive edge, these components should be aligned with the business strategy, with the customers' needs, and with the company's power and influence position relative to customers and suppliers.

Rodrigues et al. (2004) demonstrate the importance of aligning operational policies, procedures, guidelines, and training with high-level strategy and supporting it with appropriate information and measurement systems.

Morash, E. developed a strategy/capability/performance paradigm to link supply chain strategy with supply chain capability to ensure a sustainable high performance, as illustrated in figure 55:

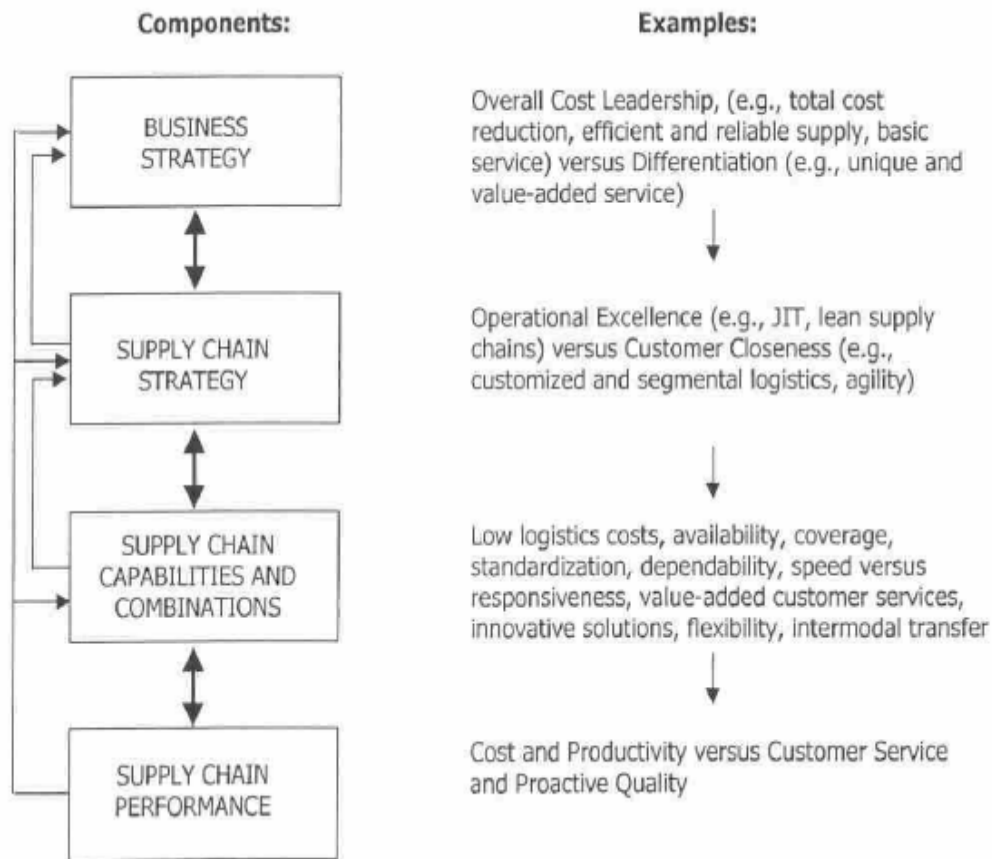


Figure 55 – Morash Paradigm on Supply Chain Strategy

Kaplan and Norton (2008) state that strategy develops and management is a closed-loop process where each part of the system influences all other parts. They proposed the framework shown in figure 56 to integrate strategy formulation and planning with operational execution.



Figure 56 – Kaplan and Norton (2008) Management System

As it can be seen, the strategy development starts by defining a high level vision of the organization's destination and finishes with executive leaders and teams launching the organization into action by implementing portfolios of aligned strategic initiatives. The framework in figure 55 has 6 major stages:

- Stage 1: Managers develop the strategy
- Stage 2: Organization plans the strategy using tools, such as strategy maps and Balanced Scorecards
- Stage 3: Once the high level strategy map and Balanced Scorecard have been defined, managers align the organization with the strategy by cascading linked strategy maps to all organizational units. They align employees through a formal communication process and link employees' personal objectives and incentives to strategic objectives.
- Stage 4: With all organizational units and employees aligned with the strategy, managers can plan operations using tools such as process management, reengineering, process dashboards, activity-based costing, resource capacity planning, and dynamic budgeting.
- Stage 5: As the strategy and operational plans are executed, the organization monitors and learns about problems, barriers, and challenges. This process should integrate information about operations

and strategy in a carefully designed structure of management review meetings.

- Stage 6: Managers use internal operational data and new external environmental and competitive data to test and adapt the strategy, launching another loop around the integrated strategy planning and operational execution system.

In the next section, it will detail the author's proposed framework to allow companies developing a structured and formal supply chain strategy to become Demand Driven.

7.3.2

Framework to Develop a Demand Driven Supply Chain Strategy

Figure 57 details the author's proposed strategic framework to develop a 3 year supply chain strategy to move towards a Demand Driven Supply Chain. The framework is divided in 3 major categories:

- **Inputs:** Refers to general market and business information that should be taken into consideration when developing a supply chain strategy.
- **Strategic Planning Development:** Refers to the planning steps required to develop the supply chain strategy
- **Outputs:** Refers to the outcomes of the planning process and covers the SC strategic plan, organizational and capability requirements, and required resources and capital plans.

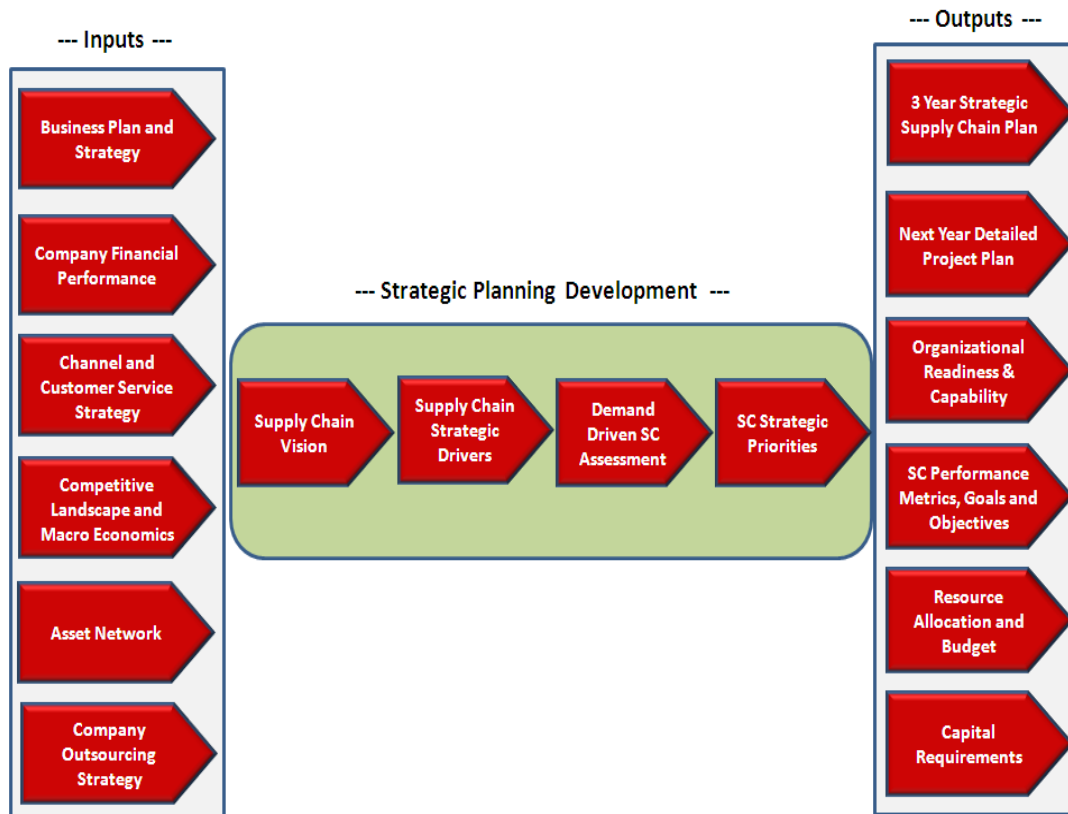


Figure 57 – Author's Proposed Framework to Develop a 3 year DDSC Strategy
Each one of the components is described below:

Business Plan and Strategy:

The first step to develop a SC strategic plan is to understand the company's strategic business plan for the next 3 years, as it will provide input and direction on the key strategies and initiatives that will be deployed in the market to deliver desired company's results:

Examples of business plan inputs:

- Company mission and vision
- Company goals in terms of revenue and market share growth, finance performance in EBITDA and market value , customer service performance in customer satisfaction and order fill rate
- Product and service innovation (new product introduction and SKU optimization)
- Organizational culture and values
- People capability development

Company Financial Performance:

The second critical input to consider is the financial performance. It is necessary to understand both current financial performance and future goals, in order to link

SC projects and initiatives with the business and financial objectives to be achieved.

Examples of financial metrics to consider:

- Cash Operating Cycle
- Return on Investment (ROI) and Return on Assets (ROA)
- Operating Income Margin (Profitability)
- Cash Flow requirements
- Fixed Asset utilization
- Days of Inventory (DOI)
- Total Supply Chain Expenses
- Manufacturing Cost per unit and also as a percentage of Net Revenue
- Logistics Cost per unit and also as a percentage of Net Revenue

Channel and Customer Service Strategy:

Channel and customer service are also a key input to develop SC strategic plan, as they will define how the company will serve the market and what service packages will be offered to customers to differentiate the company in the marketplace. Supply chain should be a key enabler to deliver the expected customer service level.

Examples of inputs:

- Customer database growth by channel / segment
- Direct vs. indirect distribution (e.g. Wholesalers, Authorized distributors, Market Execution Partners, etc)
- Segmentation strategy (e.g. based on volume, market share, geography, channel, etc)
- Market execution goals (e.g. share of inventory, priority product by cluster, etc)
- Customer service (e.g. expected service packages, order fill rate goals, customized service requirements for sales and delivery, etc)

Competitive Landscape and Macro Economics:

To develop an effective DDSC strategy, it is critical to understand the competitive landscape where the company operates and the macro economic factors forecasted for the planning horizon. As the company moves into the future, it should be able to compare these forecasted factors against actual figures, in order to identify potential changes to the strategic plan.

Examples of macro economics inputs:

- GDP growth
- Interest rate
- Inflation rate
- Exchange rate
- Unemployment rate

Examples of inputs from competitive landscape:

- Competitor's execution in the market (e.g. operating culture, channel strategy, product strategy)
- Competitor's growth strategy and finance structure
- Competitor's supply chain structure (e.g. number of plants, DCs, manufacturing strategy, distribution strategy, procurement alliance, quality goals, etc.)

Asset Network:

Understanding of current asset network capacity and operational capability is critical to identify potential gaps that could jeopardize sales growth and new product introduction.

Examples of asset network inputs:

- Location, capacity and number of plants
- Location, capacity and number of warehouses
- Previous capital plans to expand new plants, production lines and warehouse facilities
- Changes in supply of key raw material (sugar, pre-form, label, caps, etc)

Company Outsourcing Strategy:

It is important to understand which operational areas the company should keep in house and which areas should be outsourced. Outsourcing can occur in different levels like individual activities, when outsourcing involves moving specific positions out of the organization, functional level, which involves moving some functions out of the organization, and process level, which involves outsourcing operational processes to other companies.

Examples of outsourcing questions to be considered:

- Current and future required core competencies
- Current and future organizational structure
- Current and future cost levels
- Current and future competitive advantages

Supply Chain Vision:

After revising the critical inputs, supply chain directors should start developing the SC strategic plan. The first step is to define the supply chain vision. To that end, they should start brainstorming and defining a clear strategic vision statement that will be communicated and engrained throughout the organization, and will guide all initiatives.

Examples of points to consider when developing the supply chain vision:

- It should not reflect current performance, but instead, should inspire all associates in the SC organization to achieve a greater performance.
- It should consider different dimensions like cost, customer service, quality, safety, productivity.
- For critical dimensions, it should define a quantitative goal to be achieved (e.g. zero harm for employee safety)
- It should be developed together with different departments and job positions inside the supply chain organization to guarantee commitment and “buy in” from all personnel involved.

Supply Chain Strategic Priorities:

After the vision statement, company should start brainstorming what are the key supply chain drivers that need to be developed and achieved, in order to generate the expected business results.

Examples of supply chain strategic drivers:

- Operational execution efficiency
- Employee safety performance
- Supply chain cost performance
- Supply chain agility
- Supply chain resiliency
- Demand driven focus
- Order fill rate goals (orders delivered on time and in full / total orders)
- Inventory management and working capital requirement
- Product quality performance
- Environmental responsibility

Demand Driven SC Assessment:

The results and findings identified after performing the proposed DDSC assessment model provide relevant information on the key areas to focus in order to become a demand driven supply chain. The author's proposed assessment approach covers not only current state but also future state in one year horizon,

which will allow identify the key areas to focus when developing the strategic plan.

Areas to be covered in the DDSC assessment:

- Demand management
- Supply and operations management
- Product lifecycle management

Supply Chain Strategic Priorities:

The result of the strategic planning process should be a list of strategic priorities that will guide the design of a 3 year strategic plan. Every year, these priorities will be updated as the company performs new strategic planning cycle.

Examples of prioritized initiatives:

- Engrain safety in all operational processes to achieve “zero harm”
- Become a demand driven supply chain to eliminate inventory at the same time that delivers expected customer service level
- Improve manufacturing efficiency and flexibility to cope with increase of SKUs in the product portfolio
- Keep high quality product rating to differentiate our products in the market
- Improve routing capability and control delivery execution to reduce miles traveled and ensure customer service level

3 Year Strategic Supply Chain Plan:

Based on the strategic priorities and the financial impact, supply chain directors will be able to design the 3 year strategic plan which will define the initiatives to be deployed to achieve the desired Supply Chain vision.

Topics to be considered when developing strategic plan:

- It should cover all supply chain functional areas (e.g. procurement, manufacturing, logistics, safety, quality, engineering, etc.).
- Strategy design is the right moment to trade off conflict goals between different functional areas (e.g. manufacturing efficiency & inventory level, procurement lot size & inventory level, etc.)
- Set quantitative goals for each functional area, whenever possible, to make strategy tangible
- Capability development is a critical enabler of the strategy, and therefore, should be detailed consider in the plan

New Year Detailed Project Plan:

After the prioritization discussion and alignment, company needs to generate a project plan on what will be accomplished in next year for each one of the

opportunities identified during the strategic planning process, in order to ensure that each one of the strategic initiatives will be implemented as planned. It is also very important to assign clear responsibilities and timelines for each project.

Examples of points for a project plan:

- Project overview and expected cost
- Key activities to be performed in the project
- Estimated business impact (e.g. cost saving, cost avoidance, capital avoidance, etc.)
- Targets (“due dates”)
- Capital required to implement the project
- Resources required

Organizational Readiness & Capability:

Setting the right organizational structure, with right number of people and right set of skills in each position, with right compensation and performance management is a critical successful factor to implement the strategy and achieve the desired business results.

Examples of points to consider in the organization readiness:

- Job description updated and detailing key responsibilities and skills requirements based on supply chain strategy
- Regular assessment of current “capability pipeline” inside the supply chain organization
- People capability development plan based on gaps to execute the supply chain strategy
- Performance management implemented and linked to compensation

Supply Chain Performance, Metrics, Goals and Objectives:

Integrating each different functional area (e.g. manufacturing and logistics) inside the supply chain department and also with all other areas inside the organization (e.g. commercial, finance) is a critical and difficult task, but extremely necessary. To achieve this objective, it is required to set cross-functional metrics that impact each functional area and forces the organization to work as a one integrated entity.

Examples of cross-function supply chain metrics:

- Manufacturing: production line efficiency, production cost per unit, days of inventory, inventory turns, etc.

- Logistics: warehouse utilization, days of inventory, inventory turns, and warehouse cost per unit, delivery cost per unit, delivery capacity utilization, etc.
- Quality: product quality index, production line efficiency, etc.
- Commercial: demand forecast accuracy, sales variability, inventory turns,
- Finance: supply chain cost,

Resource Allocation and Budget:

After validation of the key initiatives to be deployed, supply chain area should develop a detailed budget for the upcoming year, considering both the required resources to perform the operation and the expected savings that will be captured based on the initiatives planned.

Examples of points to consider in the budget process:

- Budget should be opened by functional area / department and by month
- Compare new year vs. prior year budget to understand major variances by department
- Cost should be aligned with forecasted sales volume

Capital Requirements:

It is also necessary to detail the required capital investment to capture the expected benefits in terms of efficiency or better customer service. Supply chain area should submit the capital requirements to the finance area, which will consolidate the overall company capital requirement and will submit it to the board of directors for approval.

Examples of capital requests in the supply chain area:

- Installation of new production lines
- Expansion of warehouse storage capacity
- Installation of new equipments to improve line efficiency or product quality
- Purchase of new trucks to keep up with sales
- Implementation of new IT tools to improve supply chain planning
- Supporting tools to implement demand driven processes like VMI, CPFR, etc.