Lean & Agile Value Chain Management (LAVCM): A Guide for the Next Level of Improvement

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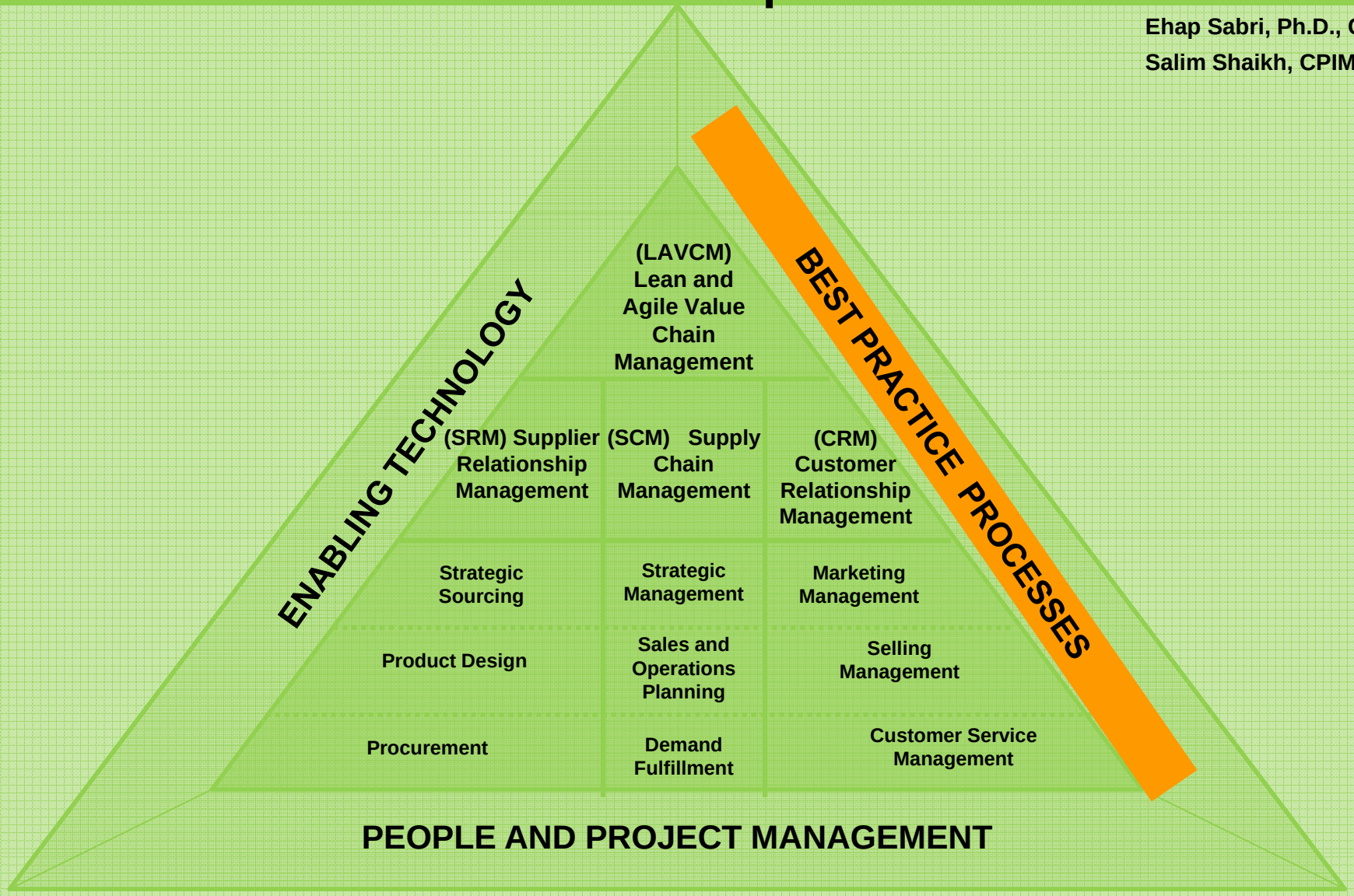


Lean & Agile Value Chain Management (LAVCM)

The Wake-up Call.....to market reality (Challenges in Today's Business)

1. Recession/Flat Economy
2. Global Competition
3. Strategic outsourcing
4. The need for well-informed and timely decisions to take place in today's dynamic business environment
5. The need for responsiveness, building flexibility, and monitoring the incoming material and outbound products effectively

The Wake-up Call.....to market reality (Challenges in Today's Business)

6. Vulnerable value chains due to variability of downstream and upstream activities
7. There is a huge pressure to reduce supply chain risks especially with the increase of supply chain network complexity
8. Successive waves of mergers and acquisition
9. The Internet's emergence as a retail sales channel has increased competition
10. Maintaining high product quality and generating strong profits, while managing increasingly complex supply chains from end to end with outdated supply chain systems

Lean and Agile Value Chain Management (LAVCM)

- Aligns company's resources with customer demand to:
  - Improve profitability
  - Maximize customer satisfaction
  - Achieve higher value-add than competition
- Leverages the core competencies of all organizations in the value chain
  - Optimization of the value chain interactions for internal and external organizations
- Supports the fundamental principles of operational excellence
  - Faster New Product Introduction (NPI), operational cost reduction, efficient order to delivery process, improved asset utilization, win-win relationship with suppliers and customers
- **Lean + Agile = Operational Excellence + Asset Reduction + Cost Savings + Responsiveness + Reliability + Flexibility**

Guiding principles of LAVCM

1. Focus on customer success
   - End customer is the only entity that introduces money into the chain
2. Create win-win environment for all stakeholders
   - Every member profits from the business
3. Eliminate waste and reduce non-value added activities
   - Number of process steps, discrepancy reduction, etc.
4. Institutionalize continuous improvement in all processes
   - Proactive identification and elimination of process pain points
   - Remove barriers between functions/departments/processes
5. Close the loop between planning and execution
   - Leverage optimization wherever possible
   - Leverage Internet technologies
   - Leverage performance measurement system (PMS)

Key LAVCM Enablers to address Challenges

1. Visibility
2. Cross –Organizational Collaboration and Simplification
3. Technology
4. Flexibility
5. Risk Management
6. Process Innovation and Encouraging Employee Creativity
7. Strategy Innovation

Benefits of adopting LAVCM strategy

1. Increase revenue and customer satisfaction by improving responsiveness, flexibility and the ability to deliver on time for every promise
2. Manage cost more efficiently by simplifying and streamlining processes, eliminating non-value added activities, and optimizing the flow of goods and information in the value chain
3. Help in accelerating ROI
4. Deliver products to market faster
5. Gain competitive advantage

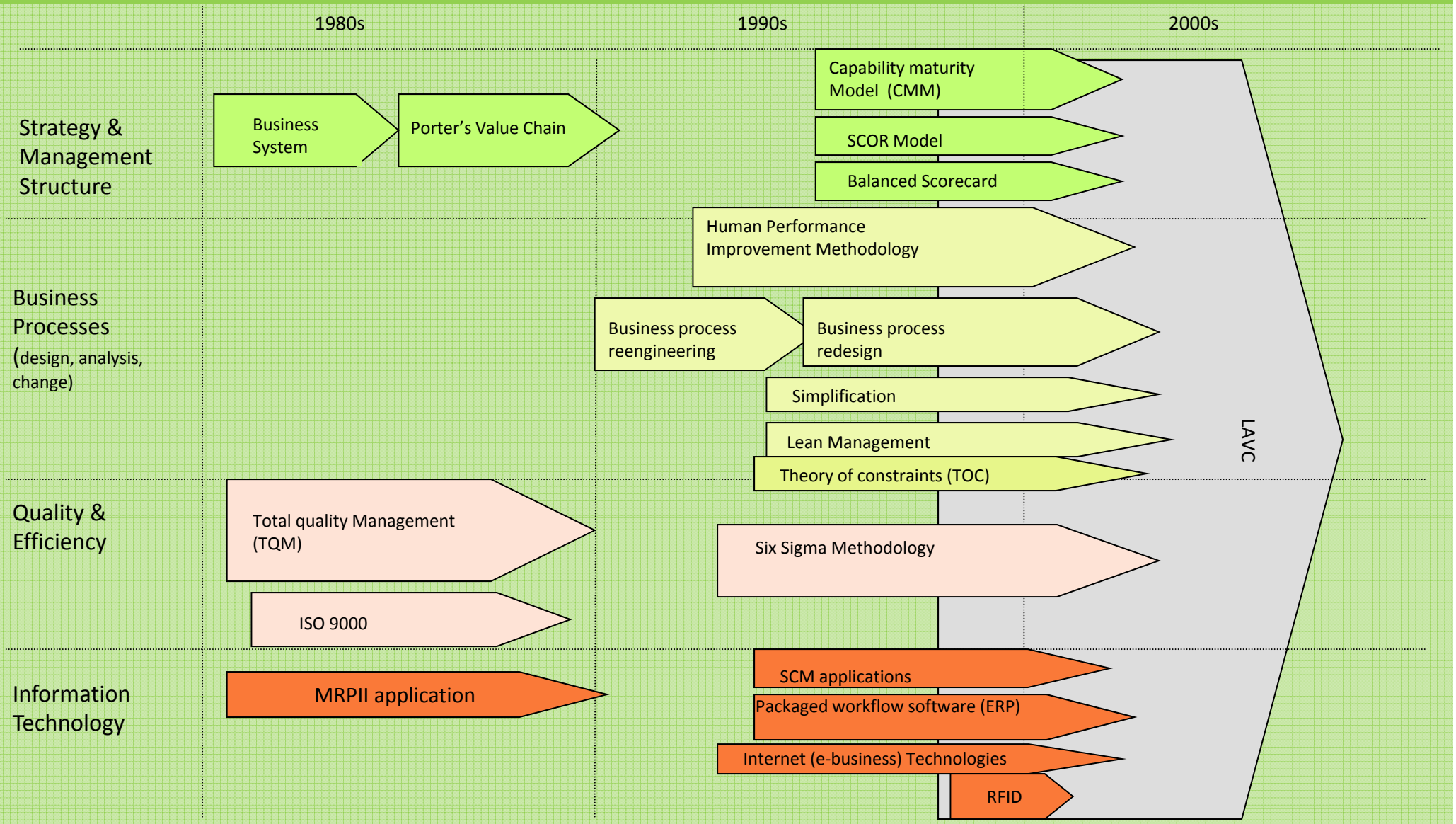
Who can benefit the most from implementing LAVCM? Firms with the following characteristics:

- Unpredictable demand, highly configurable products
- More market driven, less push oriented
- Pressure to improve customer satisfaction while reducing inventory investment
- Complex (Bill Of Material) BOMs
- Complicated order management process
  - Order changes, configuration changes, brokering, multiple replenishment and settlement programs

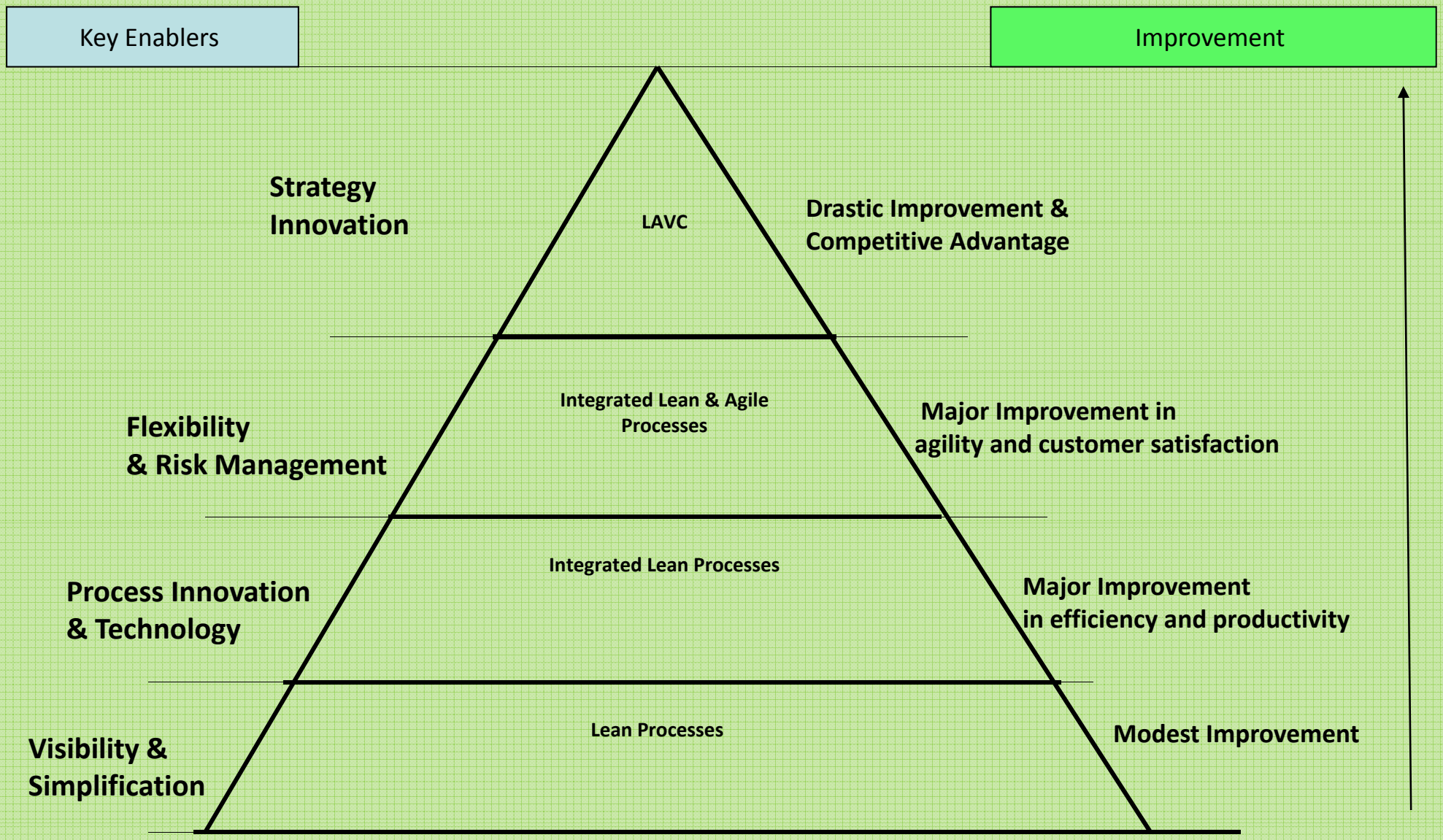
Who can benefit the most from implementing LAVCM? Firms with the following characteristics:

- Inventory spread across a diverse network
- Complex assembly operations
- Mass customization of products
- Material to be synchronized to final assembly schedule
  - Interplant and purchased parts
  - Current focus on deploying lean principles
- Post-sales service and service parts delivery is a major competitive advantage

Building Blocks and Evolution of LAVC Principles and Enablers



Lean & Agility Maturity Levels



Part I
Executive Summary

1	**Big Picture of LAVC**
2	**LAVC Building Blocks and Maturity Levels**

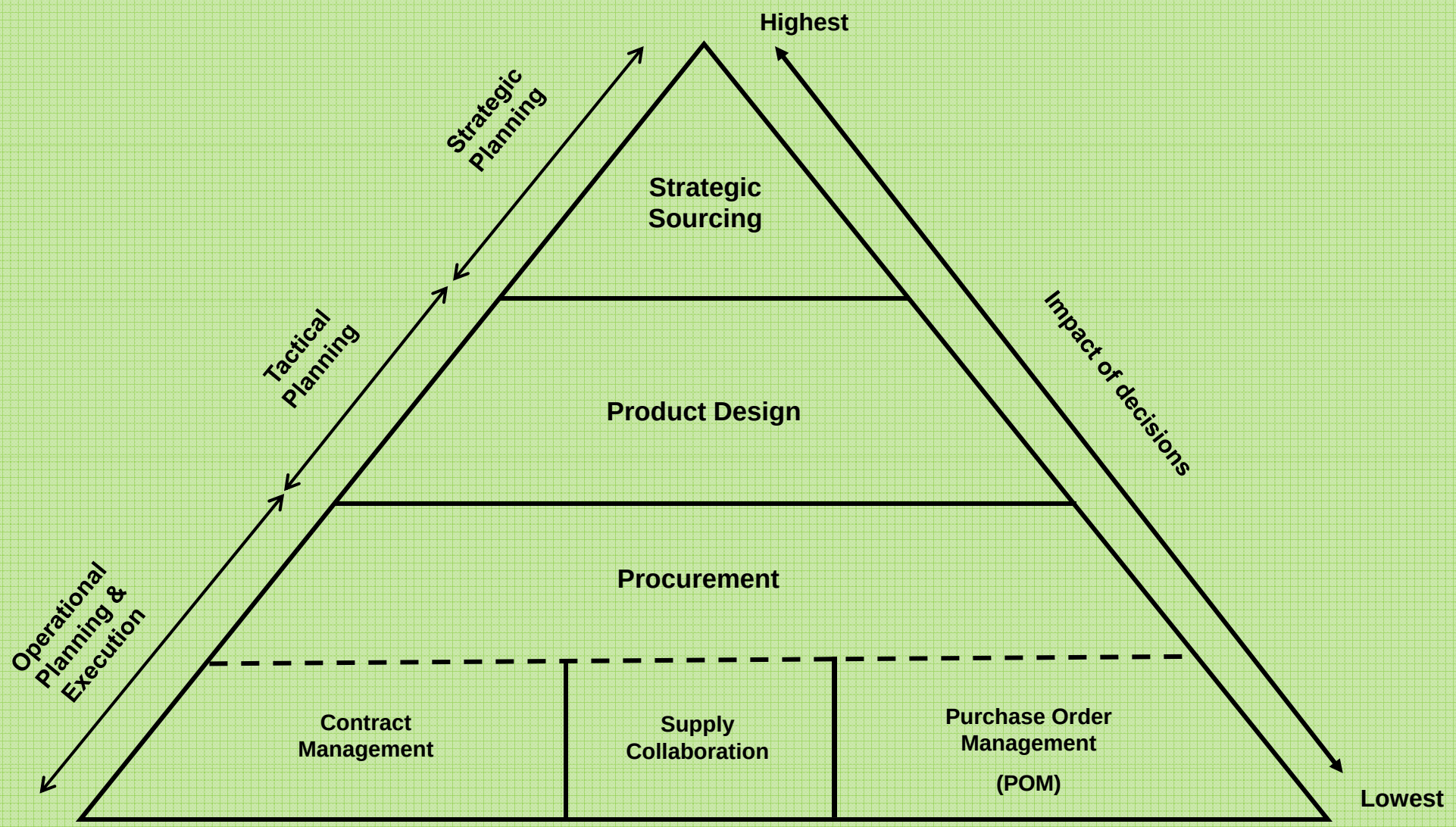
Part II
Best Practice Processes

3	**Supplier Relationship Management**
4	**Supply Chain Management**
5	**Customer Relationship Management**
6	**LAVC Technology Applications and Trends**

Part III
Project and People Management with LAVC Transformation

7	**Transformation Program Cycle**
8	**Change Management Supported Processes**
9	**LAVC Transformation CASE STUDY**
10	**LAVC Success Stories and Lessons Learned**

Supplier Relationship Management Superprocess



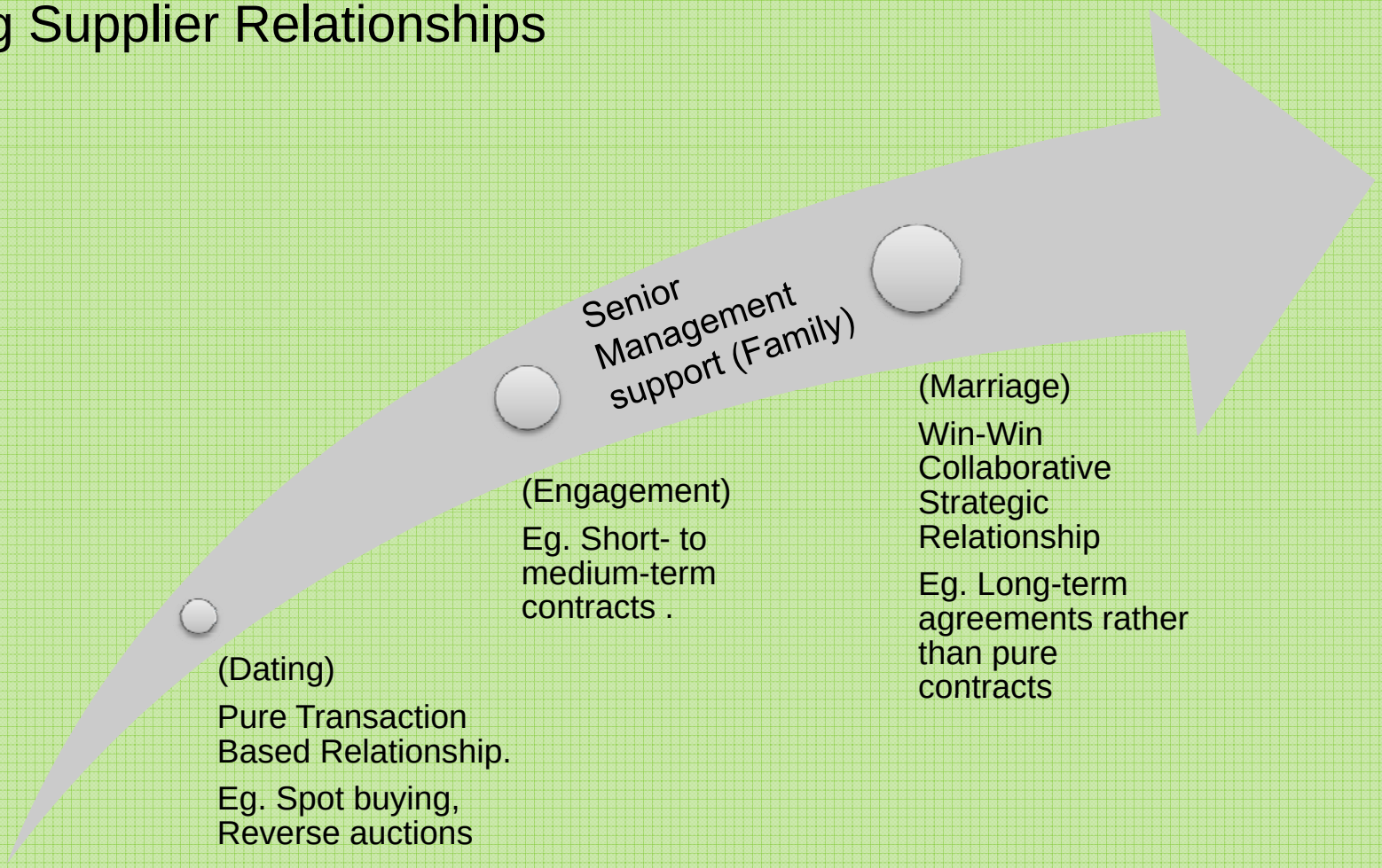
Supplier Relationship Management Superprocess

SRM Challenges

1. Move from vertical integration to lateral integration
2. Variability and complexity
   - intensified competition, shorter product life cycles, and diversity
3. Lack of complete and consistent data
4. Disparate systems
   - Organizations might not only have disparate sources of data from their different departments (purchasing, sourcing, engineering, R&D), but sometimes they might even have different systems within a particular department
5. Nonstandard processes in evaluating supplier performance
6. Lack of trust and conflict resolution
   - In many companies the R&D department is so guarded about the new products that, forget the suppliers, even the purchasing department within the company doesn't have a clue until the product is launched
7. Manual processes
   - Because the manual RFQ process takes months, most purchasing departments don't even bother renegotiating the contracts, but instead renew them without extensive analysis or looking at supplier performance

Supplier Relationship Management

Managing Supplier Relationships



Supplier Relationship Management– Strategic Sourcing

Best Practices

1. Supplier base rationalization
2. Supplier certification
3. Part rationalization
4. Measuring supplier performance and rewarding suppliers
5. Collaboration with suppliers
   - Strong and effective collaboration between supplier and buyer requires more people from both organizations to collaborate more frequently and not limit the relationship between purchasing (from buyer organization) and sales (from supplier organization)
6. Sourcing segmentation
   - Firms need to segment their suppliers and purchased parts based on several factors like supply risk, value to the company etc.
7. Total landed cost for supplier selection
8. Leveraging technology
   - Use master data management technology solution to consolidate data across disparate systems into a single, normalized data repository which has all the relevant information pertaining to supplier performance scorecards, supplier surveys, supplier quality reports etc.
9. Top management support

Supplier Relationship Management – Product Design

Best Practices

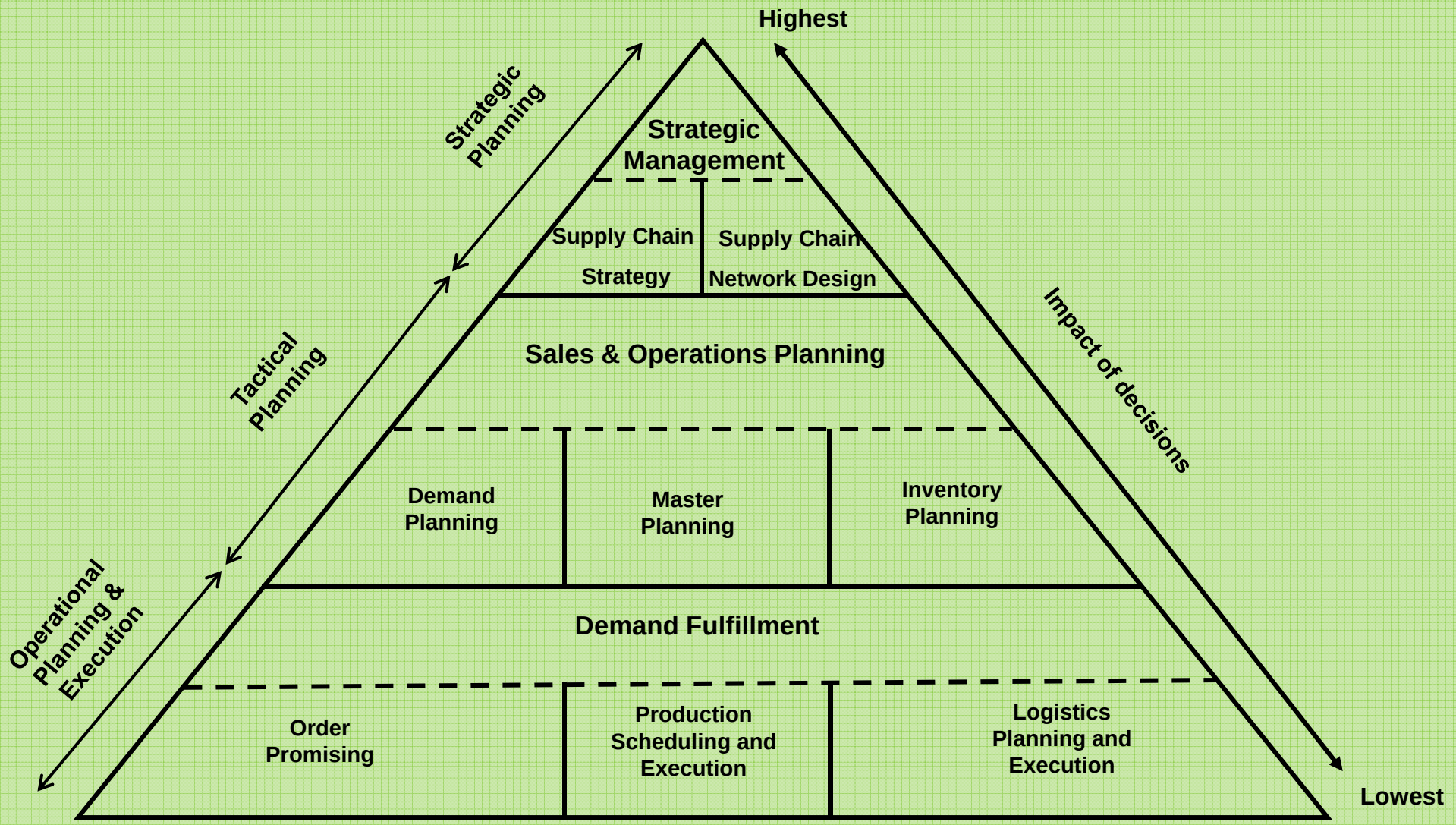
1. Simplification
   - Simplifying product designs involves using fewer parts, which typically results in less number of suppliers, fewer replenishment signals, less transportation cost, lower inventory etc.
2. Product standardization
   - Standardization involves using common parts and encouraging the use of standard or previously designed parts , instead of extensive use of new or custom designed parts
3. Process re-sequencing
   - Process re-sequencing involves changing the process sequence so that the later process steps are done earlier and product differentiation can be postponed until later when better demand information of individual products would be available.
4. Collaboration (internally and externally)
   - Sharing of information internally between departments and externally with suppliers
5. Leveraging Technology
   - Master data management technology solution to consolidate data
6. Price minus costing
7. Total cost visibility
8. Top management support for best practices and continuous improvement

Supplier Relationship Management – Procurement Process

Best Practices

1. Cross-organizational collaboration
2. Effective returns management
3. Effective settlement process
   - BIC companies use an effective settlement process for collecting rebates, conducting spend analysis, and reporting compliance information
4. Rewarding best-practice behavior
5. Effective contract management
6. Standardization
   - There should be a standardized best-practice process put in place that details the steps from RFP/RFQ preparation to bid analysis through contract management
7. Leveraging technology for collaboration and visibility
8. Procurement segmentation
   - Segmented procurement strategy considering the risks, margins, and criticality for the items
9. Minimize Total cost for contracts

Supply Chain Management Superprocess



Supply Chain Management Superprocess

SCM Challenges

1. Deciding on push versus pull strategy
   - It's a challenge to decide whether the company should choose push versus pull or hybrid
2. Variability and complexity
   - Factors that contribute to SCM variability and complexity among other things include globalization, intensified competition, shorter product life cycles, mass customization, data, and people
3. Supply and demand balance
   - One of the major challenges of SCM is to achieve an optimal balance between demand and supply and maintain that balance

Supply Chain Management – Supply Chain Strategy

Best Practices

1. Strategies for functional products and innovative products
2. Strategies to manage supply and demand uncertainty
3. Effective reverse supply chain strategy
   - Use hybrid approach and have different reverse supply chain strategies for different products to optimize value recovery

Supply Chain Management – Supply Chain Strategy

Supply Uncertainty

High

Eg. Grocery

Supply chain visibility (enabler # 1: visibility)

VMI (enabler # 7: strategy innovation)

Multi sourcing (enabler # 4: flexibility)

Inventory pooling (enabler # 5: risk management)

Supplier Collaboration (enabler # 2: cross–organizational collaboration)

Eg. Fashion apparel

Supply chain visibility (enabler # 1: visibility)

VMI (enabler # 7: strategy innovation)

Multi-sourcing (enabler # 4: flexibility)

Inventory pooling (enabler # 5: risk management)

Supplier Collaboration (enabler # 2: cross–organizational collaboration)

Responsiveness (enabler # 4: flexibility)

Risk hedging (enabler # 5: risk management)

Assembly postponement (enabler # 6: process innovation)

Forecasting Techniques (enabler # 6: process innovation)

Technology (enabler # 3: technology)

- Customer collaboration (enabler # 2: cross–organizational collaboration)

Low

Eg. Hydro-electric power generation

Supply chain visibility (enabler # 1: visibility)

Lean principles (enabler # 6: process innovation)

Eg. Semiconductor

Supply chain visibility (enabler # 1: visibility)

Responsiveness (enabler # 4: flexibility)

Risk hedging (enabler # 5: risk management)

Assembly postponement (enabler # 6: process innovation)

Forecasting Techniques (enabler # 6: process innovation)

Technology (enabler # 3: technology)

Customer collaboration (enabler # 2: cross–organizational collaboration)

Low ***Demand Uncertainty*** ***High***

Supply Chain Management – Supply Chain Network Design

Best Practices

1. Total organizational profitability
   - Supply chain network decisions such as being close to raw material suppliers, or taking advantage of low-cost labor, or being close to the customers should always be taken holistically based on their contribution to the total organizational profitability, and always be in alignment with the supply chain strategy
2. Multi-objective optimization
   - Technology should not only be able to support multi-objective functions (cost, flexibility, and responsiveness), but also reach the optimal solution in a reasonable amount of time
3. Scenario management
   - Capture all the supply chain constraints and costs and perform what-if scenario analysis
4. Sensitivity analysis

Supply Chain Management – Demand Planning

Best Practices

1. Clean data
   - Robust procedures should be put in place to clean up historical data with regard to outliers and causals and ensure that there is no mixing of normal demand with promotional demand
2. Selecting the right forecasting technique
   - Using “Rule based Forecasting” rather than a broad-brushed “one-size-fits-all” approach
3. Effective training and skills development
   - Having people with a strong expertise in forecasting techniques who understand the forecasting algorithms is a must
4. Accountability and incentives
   - Different functional areas are not just compensated on meeting local objectives alone but broader organizational goals
5. Internal and external demand collaboration for consensus planning
6. Minimizing demand variability
   - Information sharing
   - Leverage Internet technologies
   - Vendor-managed inventory
   - Reducing lead times
   - Maintaining stable prices

Supply Chain Management – Inventory Planning

Best Practices

1. Clean data on demand and supply variability
2. Physical record integrity
3. "Right sizing of inventory levels"
   - Doing more sophisticated analysis to balance demand and supply risk with business priorities
4. Alignment with organizational goals
5. Analysis of variability and reduce demand and supply uncertainty
6. Using a segmentation strategy
   - Have a different level of customer service for the different groups based on revenue, margin, variability, profitability, volume of sales, product life cycle stage etc.
7. Using "exchange curves" to explore customer service/inventory trade-offs
8. Customer ordering pattern
   - Monitor Customer ordering pattern to come up with a hybrid make-to-stock / make-to-order
9. Glass box and not black box
   - Planners should know the right knobs to turn (lead time, lead-time variability, demand, demand variability, customer service level) and the effect on safety stock

Supply Chain Management – Master Planning

Best Practices

1. Maintaining clean data because “Garbage in, garbage out”
   - Use master data management (MDM) technology solution to consolidate data across disparate systems and perform data cleansing, data validation, data enrichment, etc.
2. Forecast netting
   - Ability to subtract the orders from the forecast to prevent double counting of the orders
3. Optimization
   - Make optimal trade-offs between potential product mixes, transportation costs, run rates, inventory costs, and customer service. Ability to support a hierarchy of objectives and to model real-life business practices such as maximizing customer service etc.
4. Performance measurement
   - Define key performance indicators and metrics that map to the broader company goal, that is, global optimization, and also tying the individual compensation targets to the same
5. Concurrent planning of material and capacity constraints
6. Supply chain visibility
   - Planners need to get immediate real-time visibility into potential future
7. Scenario analysis
8. Flexible enough to prioritize orders from the forecast, and hard vs. soft constraints

Supply Chain Management – S&OP

Best Practices

1. Aligning objectives to organizational goals
2. Flexible representation
   - Flexible modeling representation that provides seamless communication between the different planning levels in an organization
3. Risk management scenarios
   - Provide both the pessimistic estimate as well as the optimistic estimate with appropriate confidence levels
4. Talent and training
   - Required to understand the key drivers necessary to hedge against variability of supply and demand. Also to simulate what-if scenarios with the aid of technology
5. North-South and East-West integration
   - North-South integration between the strategic, tactical, and operational planning. East-West integration between the different stakeholders including suppliers, manufacturers, and customers
6. Comprehensive performance measurement system
   - A hierarchy of performance metrics should be used, aggregating and disaggregating them between all the levels of the organization

Supply Chain Management – Order promising

Best Practices

1. Allocated ATP
   - Promise and order not based on the global pooled ATP, but rather the allocated local channel ATP
2. Segmented workflows for promising high-priority and low-priority orders
3. Concurrent order promising for make-to-stock, make-to-order, and assemble-to-order
4. Dynamic order promising
   - Customer orders are sent electronically not only to the company's promising system, but also to the company's planning system
5. Customer collaboration
   - Identify the customers who generate the highest level of disruptions through large and erratic ordering and work with these customers to move from ad-hoc ordering to a more scheduled ordering
   - Companies must separate the normal demand from the abnormal (outliers) demand, and for the abnormal demand compare the potential margin versus the potential additional cost

Supply Chain Management – Production Scheduling and Execution

Best Practices

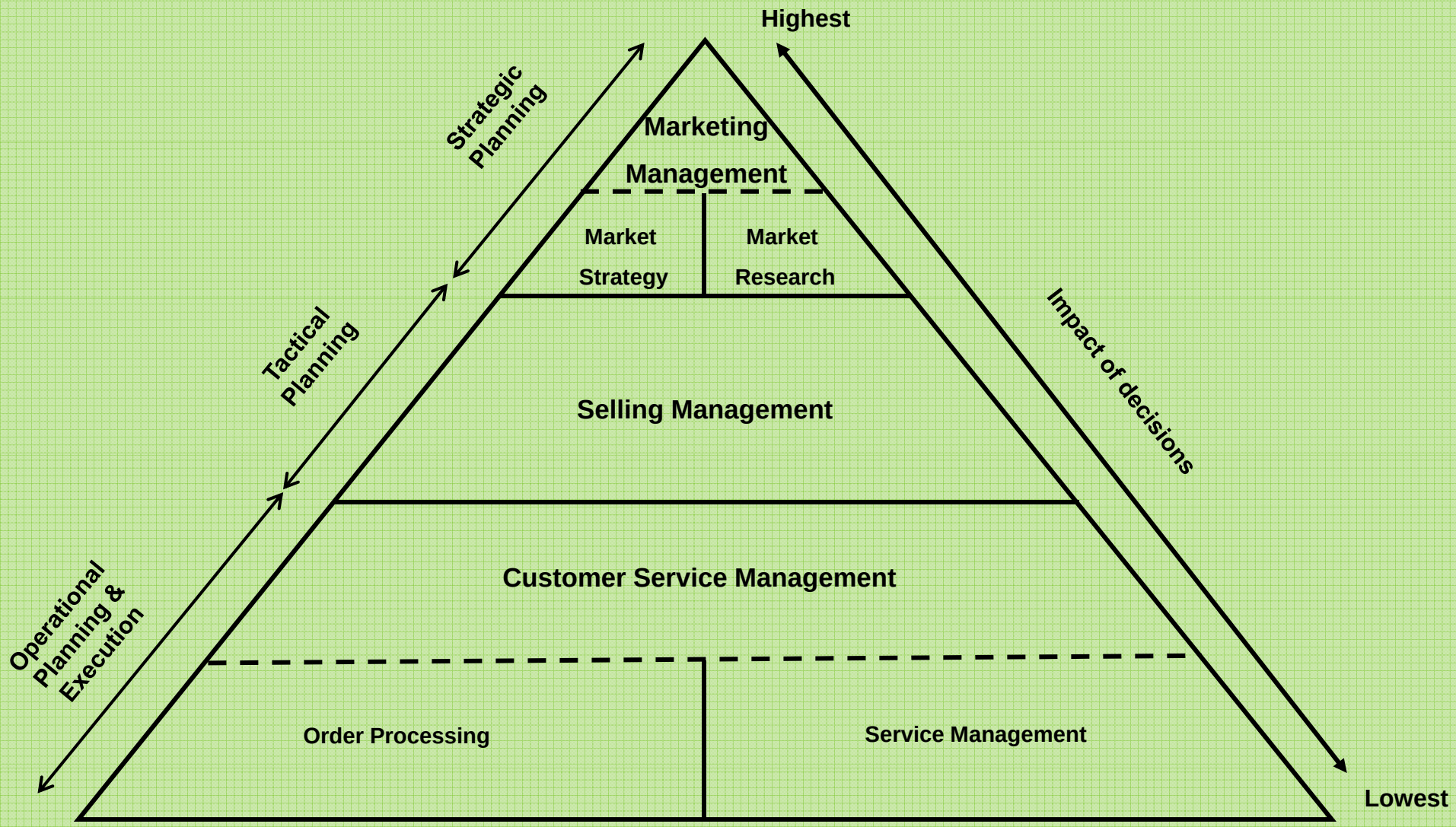
1. Modeling all the constraints
   - Such as setup times or changeover times, precedence rules between operations, production incompatibilities between products etc.
2. Understand and reduce process variability
3. Reduce changeover time
4. Cellular manufacturing
5. Rationalize push versus pull strategy
6. Uniform loading and scheduling
   - Level out the production schedules so that a steady smooth demand is imposed from the most downstream operations (finished goods) all the way to the most upstream operations (raw materials from the supplier)
7. Mixed model production
8. Process agility
   - Process agility can be achieved by using and executing process standardization and process re-sequencing, both of which are postponement strategies to help improve agility
9. Use technology in complex, high product mix environments to calculate kanban sizes on a more frequent basis

Supply Chain Management – Logistics Planning and Execution

Best Practices

1. Transportation decisions
   - Explore various trade-offs and appropriate transportation method that aligns with the corporate strategy and achieves the lowest total cost
2. Freight consolidation
   - Consolidating smaller shipments into larger ones to achieve a lower transportation cost per unit
3. Inbound and outbound consolidation
   - Coordinate pickup and delivery routes and consolidate inbound and outbound shipment planning, routing, and scheduling to achieve higher utilization of resources and economies of scale
4. Effective carrier agreements
   - Having carrier agreements specifying service levels, payment terms, and so forth, can lead to reduced lead times, increased on-time deliveries, lower raw material and finished goods inventory, and improved customer service
5. Visibility and dynamic routing
   - Using technology to do dynamic routing in which the routes are adjusted dynamically based on the most updated demand information in the form of customer orders
6. Track process excellence and reward employees
7. Effective reverse logistics
8. Effective cross-docking

Customer Relationship Management Superprocess

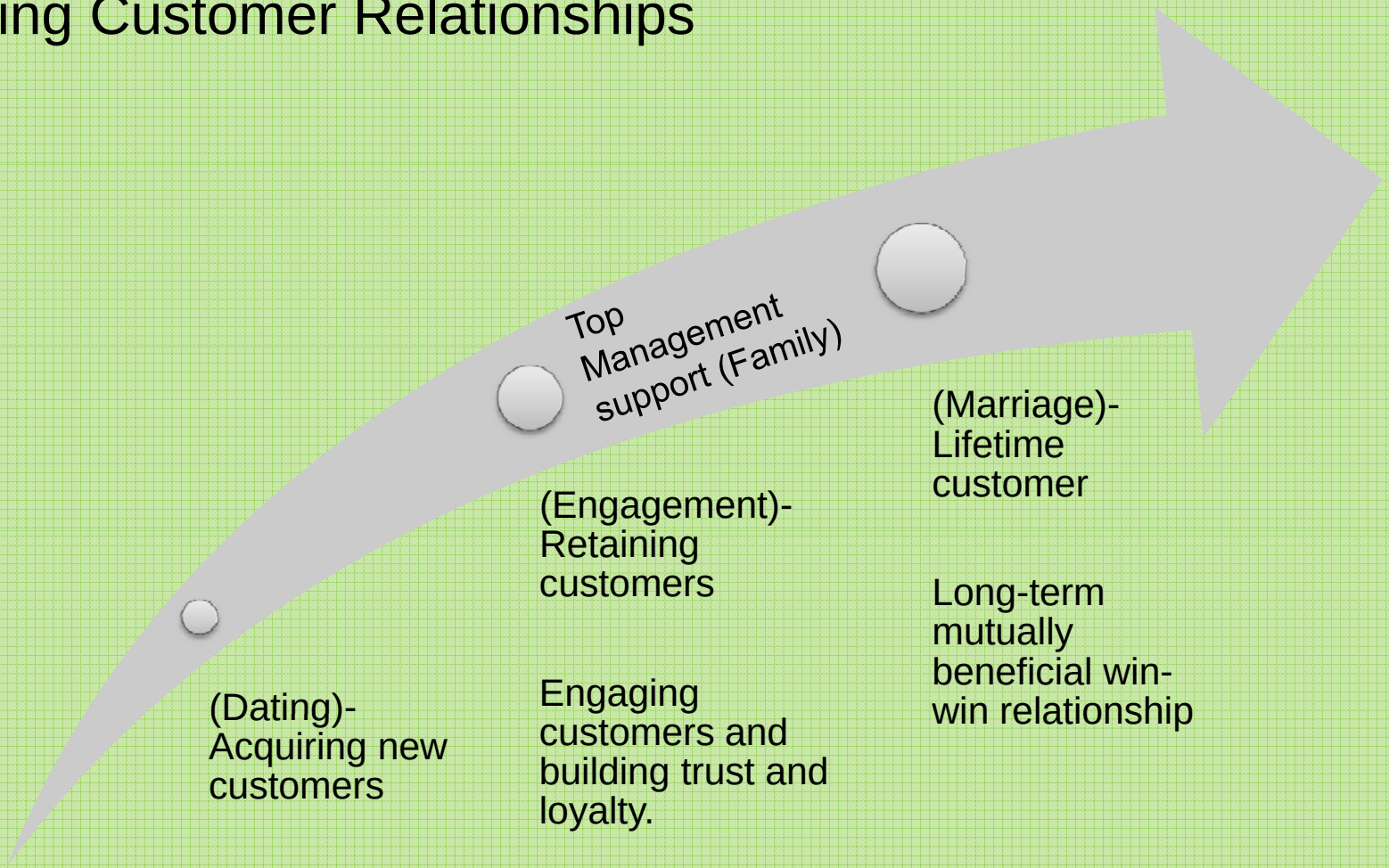


Customer Relationship Management Superprocess

CRM Challenges

1. Privacy and security:
   - The plethora of information out there endangers one's privacy and security
2. Lack of single face to the customer
   - It has become increasingly difficult to ensure a seamless, consistent, and delightful experience to the customer, especially since the departments (sales, marketing, customer support) are diverse in their style of functioning, priorities, attitudes, and often have little or no knowledge about the customer's past experiences with the same company
3. Globalization
   - Decisions about where to source materials, where to produce, and where to sell products are suddenly much more complex
4. Top management effective engagement
   - 87 percent of the CRM projects fail because of a lack of change management
   - Technology should be selected to match the company's strategy and not the other way around

Managing Customer Relationships



Customer Relationship Management – Marketing Management

Best Practices

1. Developing a creative, disciplined and agile Market Strategy
   - Market segmentation
     - Price-oriented customers (transactional selling)
     - Solution-oriented customers (consultative selling)
     - Strategic-value customers (enterprise selling)
   - Market targeting
   - Market positioning (Marketing mix)
     - Product
     - Price
     - Placement/channel
     - Communications mix
2. Developing an effective Marketing Plan to reach the marketing objectives
3. Using Market Research throughout the life cycle of marketing plan which includes developing effective market strategies, implementing the strategies, and obtaining feedback from the implementation

Customer Relationship Management – Selling Management

Best Practices

Developing an optimal sales mix of product, price, promotion, and channel.

1. Product
   - Product configuration: Effective selling management involves determining the customer's needs and then configuring the products in real time to match those needs
   - Product bundling: Product bundling leads to a win-win situation for both the seller and the customer
2. Price
   - Effective selling management involves determining optimal price points for each product by customer or by market segment
3. Promotion
   - Companies need to calculate the total cost of running a sales promotion campaign
   - Sales promotions can be leveraged to maintain the short-term supply demand balance
4. Channel
   - Presenting the customer with a single, consistent, and positive buying experience no matter which channel is used (contact over the Internet, personal sales contact, electronic data interchange [EDI], e-mail, telephone call, etc.)

Customer Relationship Management – Customer Service Management

Best Practices

1. Delivering a consistent and seamless customer experience no matter what channel is used.
2. The customer service personnel/customer service representatives (CSRs) are trained on how to handle returns, repairs, and refunds.
3. The customer service activities are in congruence with the overall corporate strategy
4. Having effective Order Processing.
   - Managing the sales order throughout its entire life cycle--efficiently and effectively processing and fulfilling sales orders from stores, telephony, web etc., brokering of the order to multiple business divisions (sellers), coordinating delivery, order tracking, customer invoice generation, order return (if necessary), and financial settlement.
5. Having product service agreements that offer differentiated customer service for different customers
6. Ensuring that the customer's expectations are exceeded and the problem is fixed properly the very first time and within the time tolerance specified in the service contract