

APICS VIRTUAL PDM

Massachusetts Minuteman APICS

COPING WITH THE SPEED OF CHANGE



Rate of Change

“When the rate of change outside exceeds the rate of change inside, the end is in sight”

Jack Welch

FACTORS CAUSING THE PERFECT STORM OF CHANGE

People

Places

Technology

The capacity for people to connect , share, learn and trade is increasing exponentially both virtually and in real places through technology and rapid growth

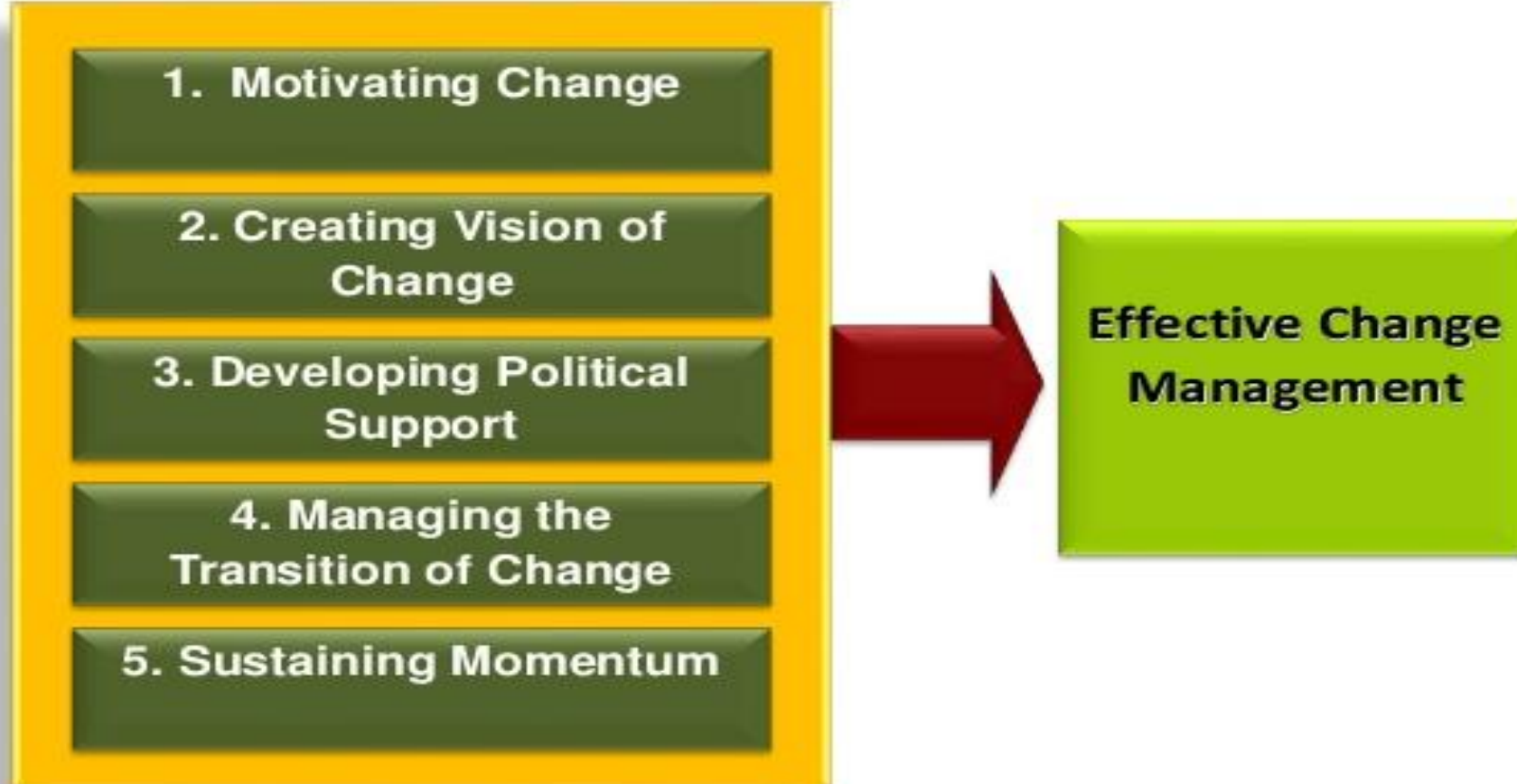
Fourth Major Component of Change

CATASTROPHE

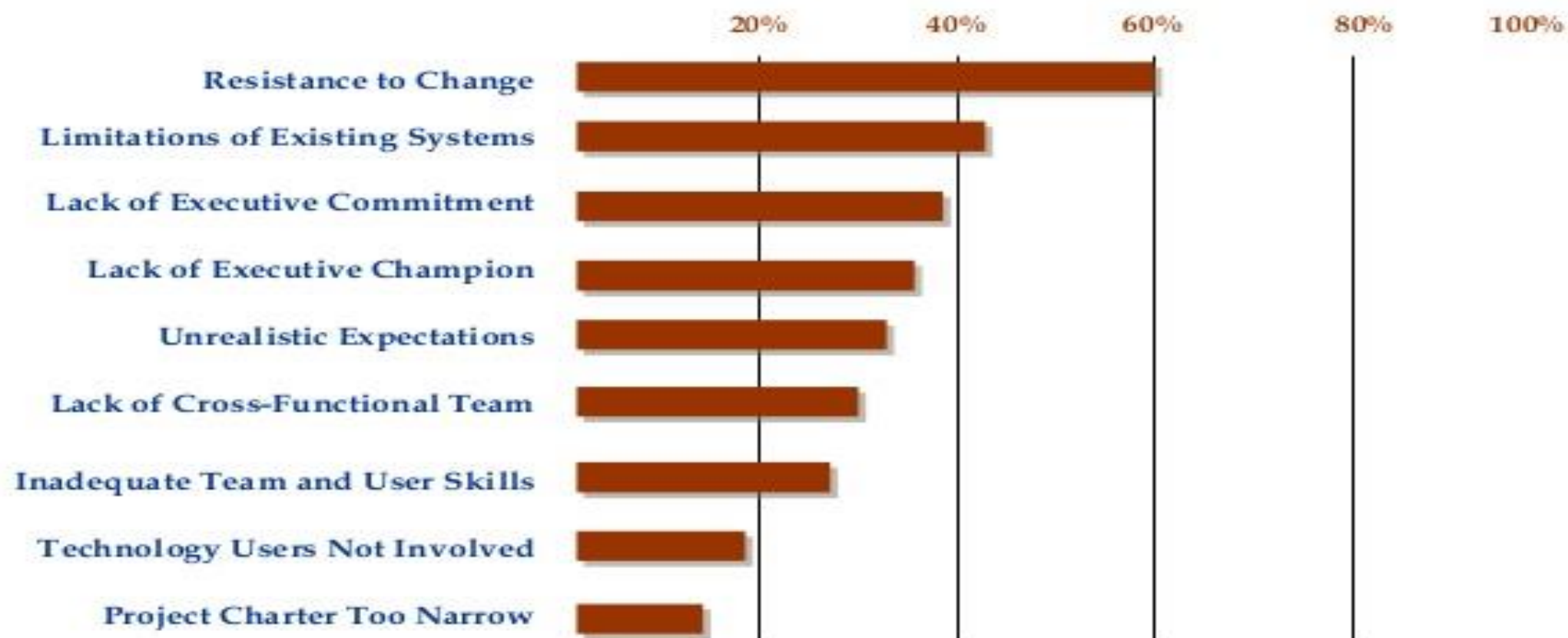


Change Activates

Five Activities Contributing to Effective Change Management

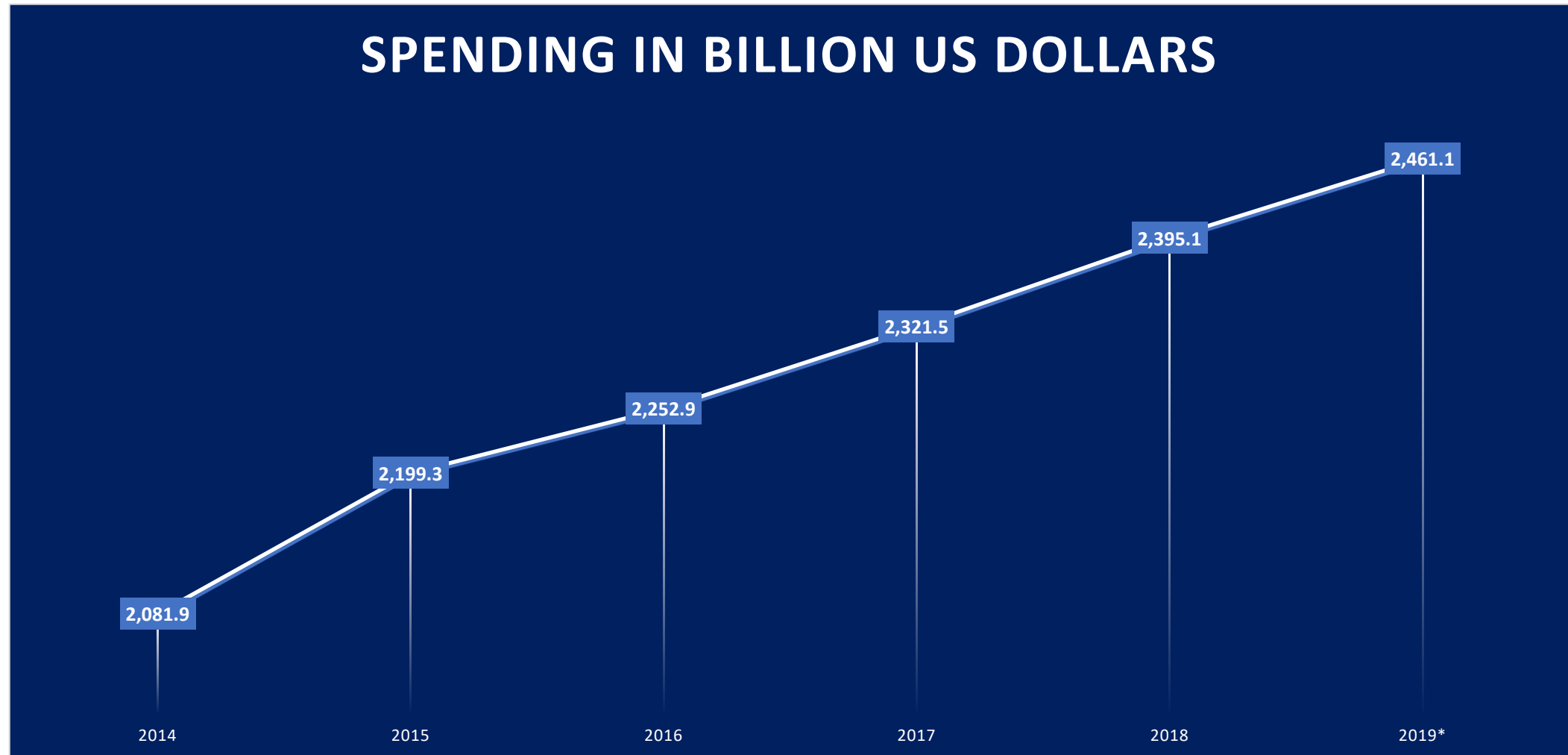


Barriers to Change



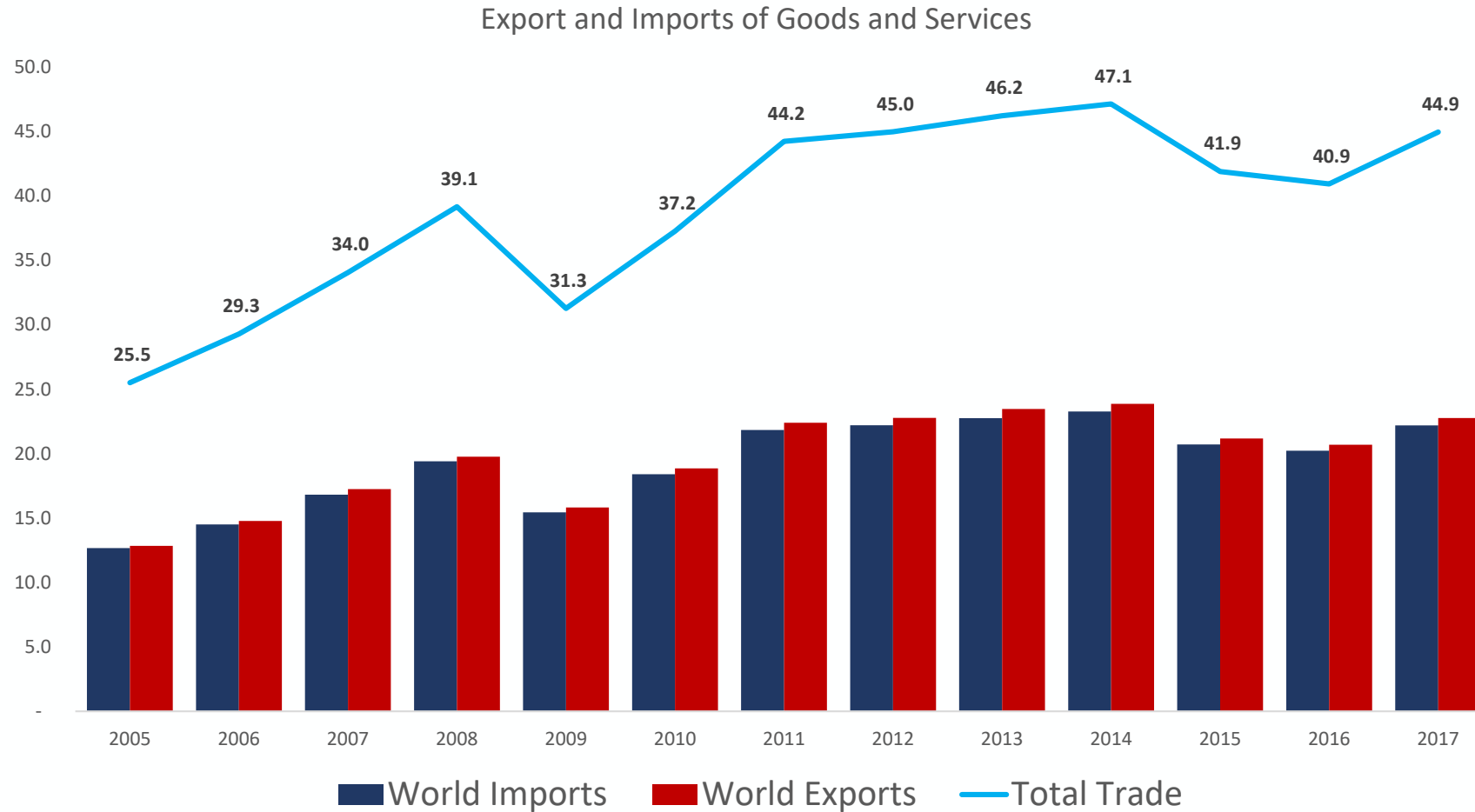
Source: Information Week, June 20, 1994

Worldwide Information Technology (IT) spending



Globalization

“Integration of national economies through trade, investment, capital flow, labor migration, and technology”.

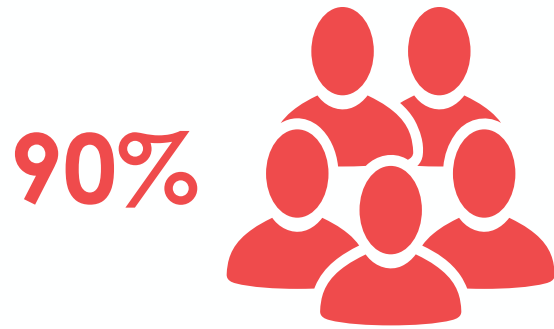


Sustainability and Sustainable Development Goals

“...development that meets the needs of the present without compromising the ability of the future generations to meet their own needs”.



American Consumers



**Consider environmental
impact when making a
purchase**

50%



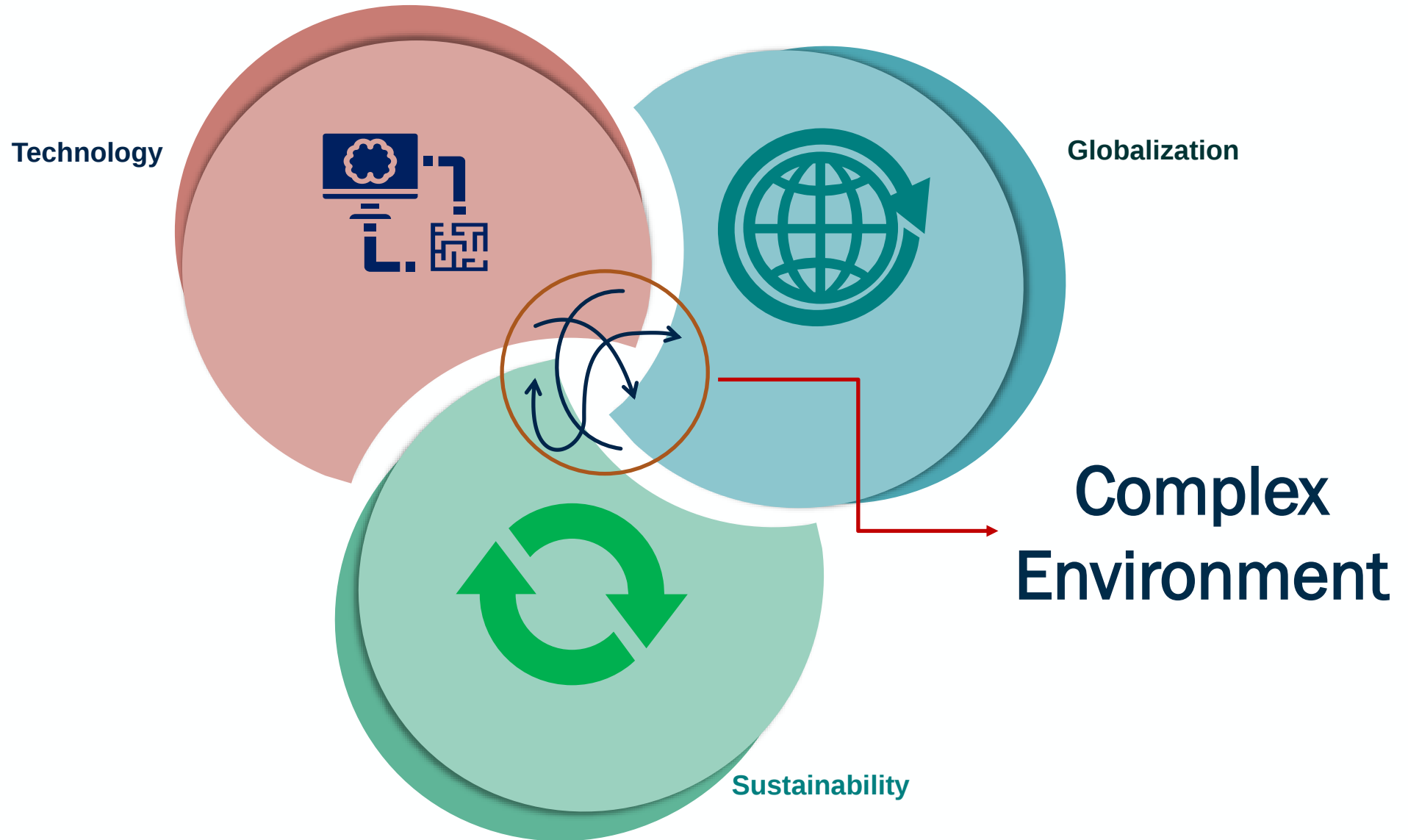
**Are willing to pay more for
products and services from
eco-friendly companies**

67%



**Regularly read instructions
on how to properly dispose a
product**

So how did we get here?





VOLATILE

with unstable challenges



UNCERTAIN

with unknown outcomes



COMPLEX

with many interconnected parts



AMBIGUOUS

with lack of clarity

VUCA Matrix



HOW WELL CAN YOU PREDICT OUTCOMES?

complexity

Characteristics: The situation has many interconnected parts and variables. Some information is available or can be predicted, but the volume or nature of it can be overwhelming to process.

volatility

Characteristics: The challenge is unexpected or unstable and may be of unknown duration, but it's not necessarily hard to understand

ambiguity

Characteristics: Causal relationships are completely unclear. No precedent exist; you face "unknown unknowns".

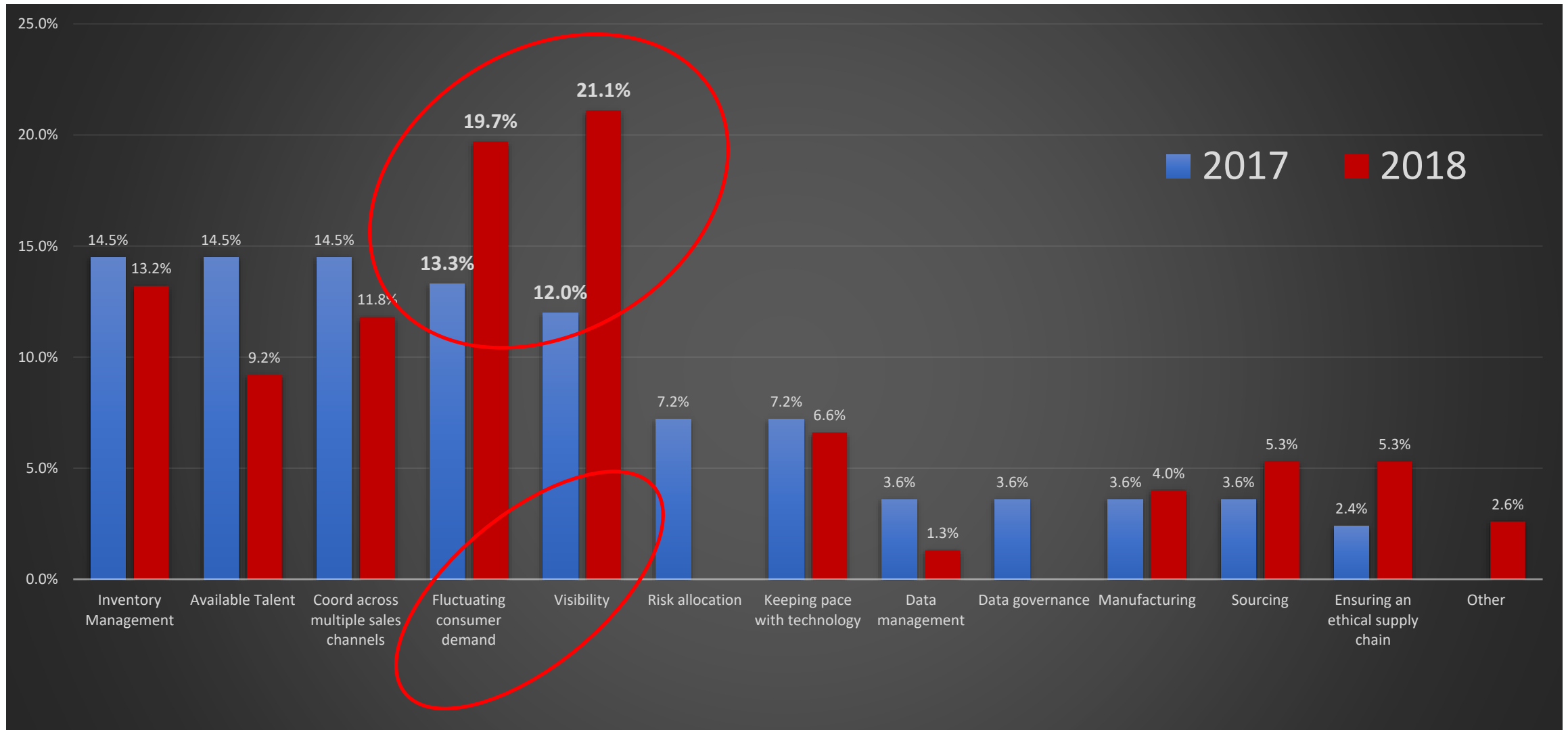
uncertainty

Characteristics: Despite a lack of other information, the event's basic cause and effect are known. Change is possible but not a given.

HOW MUCH DO YOU KNOW ABOUT THE SITUATION?



What is the biggest challenge you are facing in your supply chain?

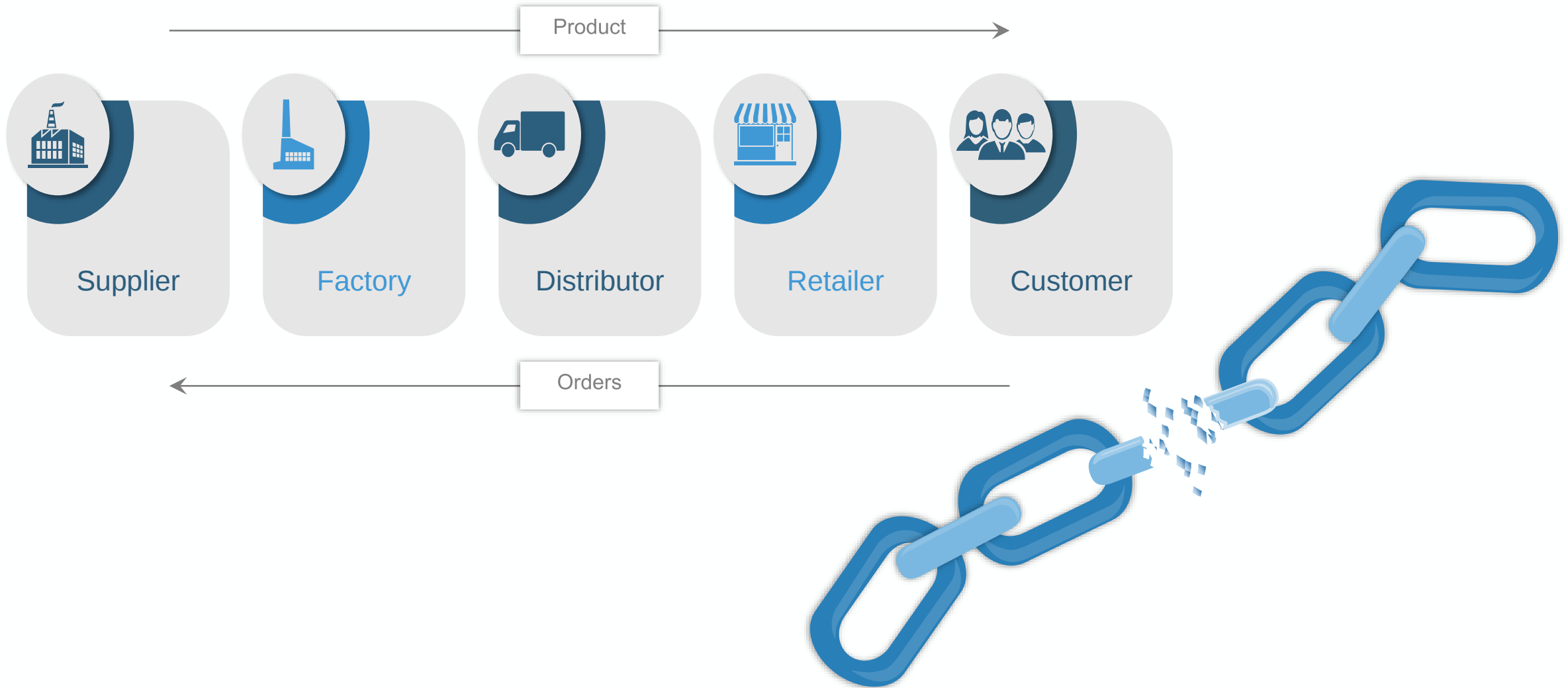


Customer Expectations over time



PREDICTABILITY

Supply Chain Management Volatility



Our proposal to you...

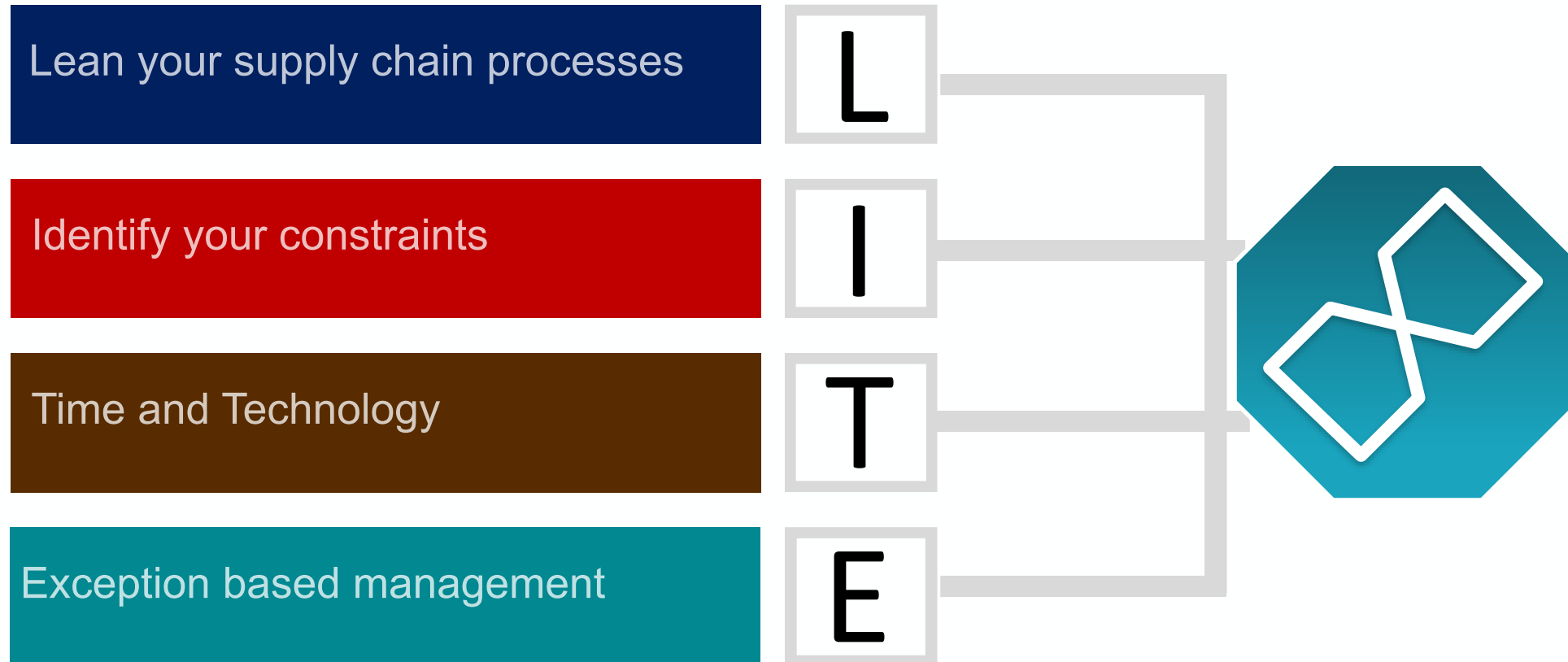


DON'T
FIGHT IT

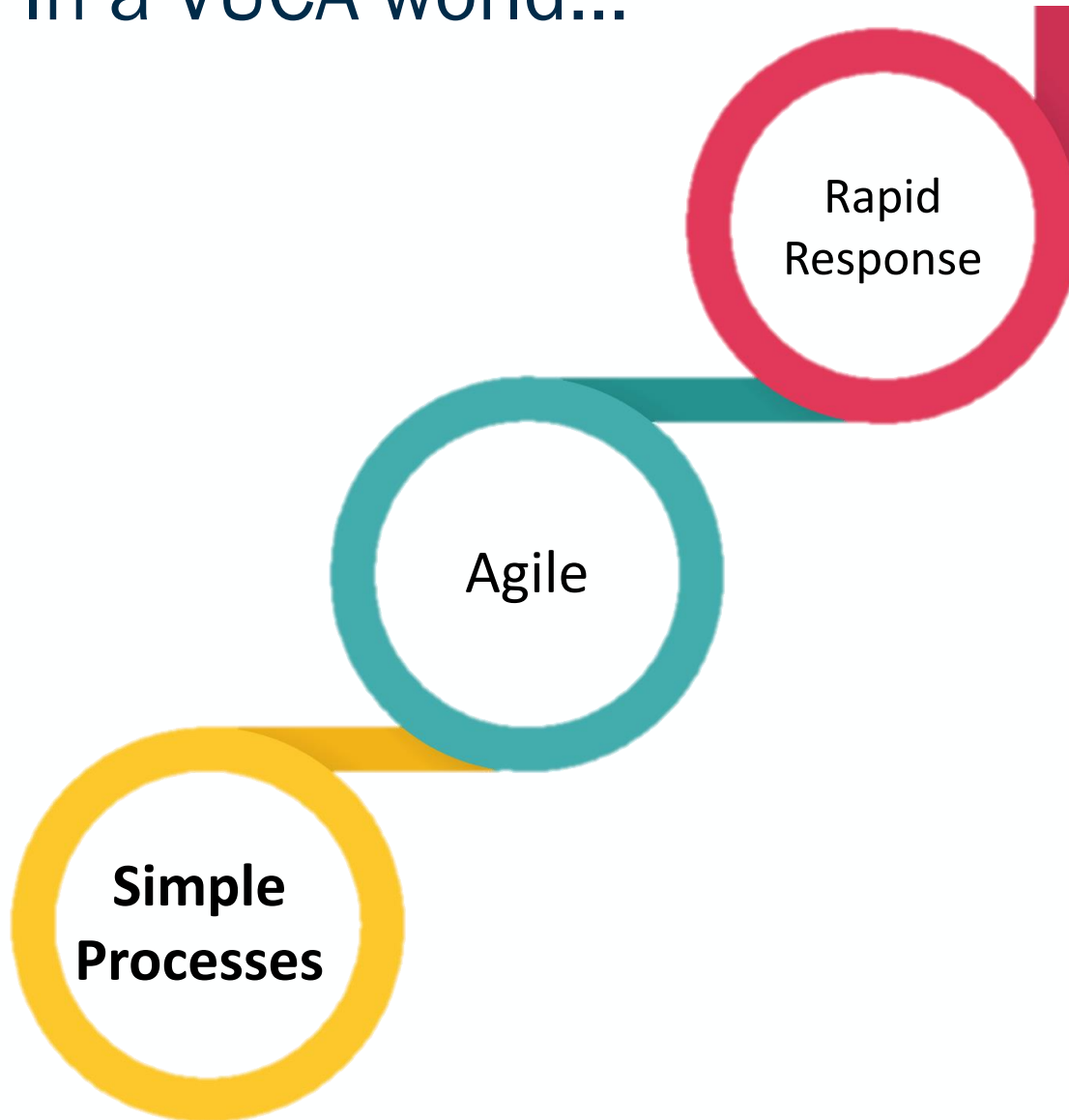
THE ALTERNATIVE

There is little you can do to change the VUCA context. It is a fact of life and by all trends will continue to exist and prevail. What if we used it as a source of competitive advantage as we designed our supply chains?

LITE the VUCA in the Supply Chain



In a VUCA world...



Constant Change with Rapid Response

Rapid Response through being Agile

Agile through Simple Processes

Embrace VUCA As A Competitive Weapon

Demand volatility refers to unpredictable rate of changes affecting the demand side of a supply chain and can result in the bullwhip concept:

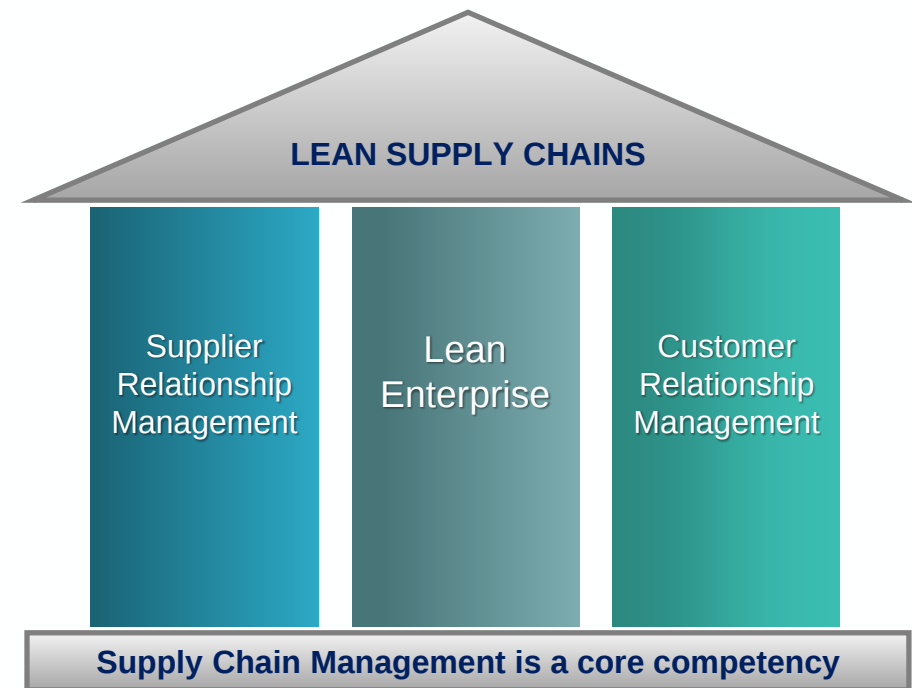
Simplify and Excel In The Following:

1. Capacity Buffer Strategy requires close alignment with subcontractors
2. Reduce total supply chain cycle time
3. Postponement
4. Collaborative and fast flow of information among the supply chain players

SUPPLY CHAIN MANAGEMENT BUSINESS FORCES

Cost Management and Reduction

- Demand Management:
 - *Lead Time Reduction*
 - *Agility*
 - *Competitive Pricing*
 - *Global Sourcing*
 - *Outsourcing*
- Software Sophistication
- Customer Satisfaction
- Risk Management
- Market Share and Margin Improvements

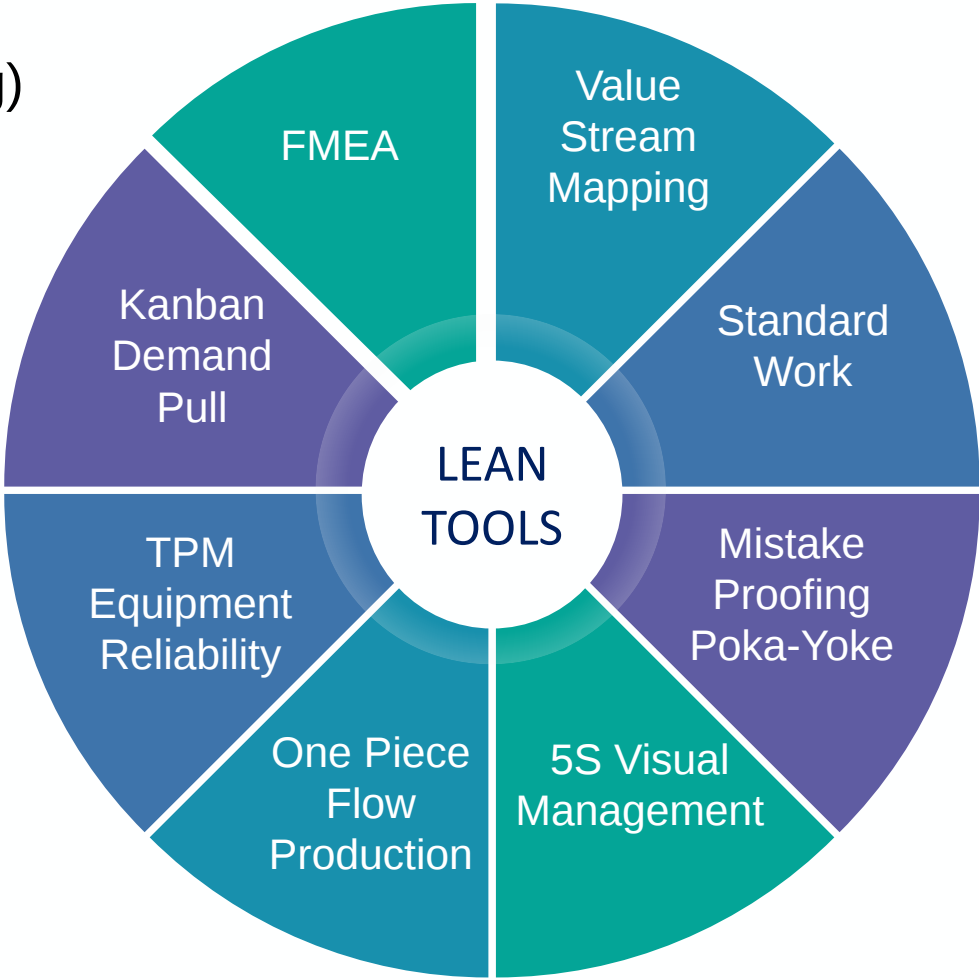


The Covid Affect On The Workplace & Supply Chain

- The change in how people/companies are dealing with work/Work From Home (the companies used to hate it, but now seem to be embracing it / and virtual meetings/telecons, etc),
 - Plus the changes in the actual workplace itself (for people that do have to go in).
- Communications between buying company and supplier (audits/expedites, etc = no travel – shift to Zoom).
- Temporary Trade Restrictions
- Shortages
- Transportation Delays (lack of trucking)
- Distribution Centers
- Lack of Product
- US/China Trade War
- Consumer Rampage
- Poor Quality
- Increasing Lead Times
- Labor Shortages
- Sole Sourced Items

SUPPLY CHAIN TOOLS

- Supply Chain analysis (value mapping)
- Consignment
- Vendor Managed Inventories
- Kanban
- Container control
- Transportation control
- Safety stock (or safety lead time)
- Buying capacity
- Postponement



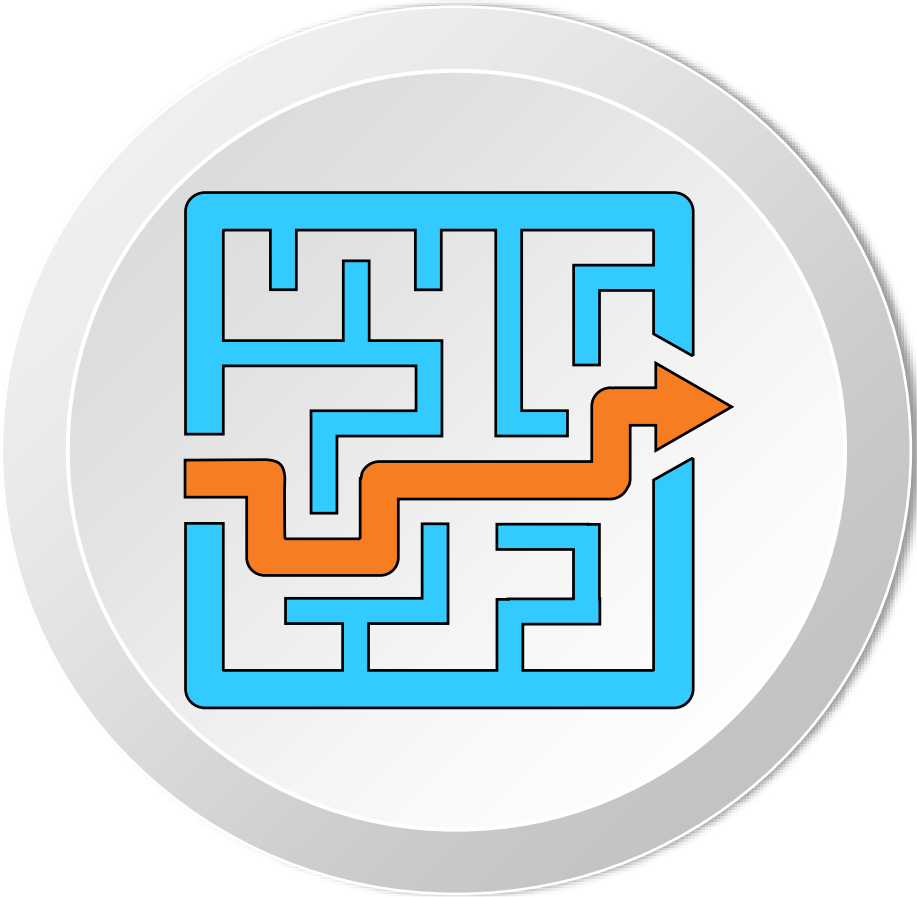
Agile and Simple

- Determine inventory levels by product based on an "A", "B", "C" Analysis of your inventory
- Limit the inventory liability in the entire Supply Chain
- Develop a process for pulling inventory through the suppliers to point of need
- Develop inventory management strategies:
 - *JIT II*
 - *Vendor Managed*
 - *Inventory*
 - *Consignment Inventory*
 - *KANBAN (Pull)*



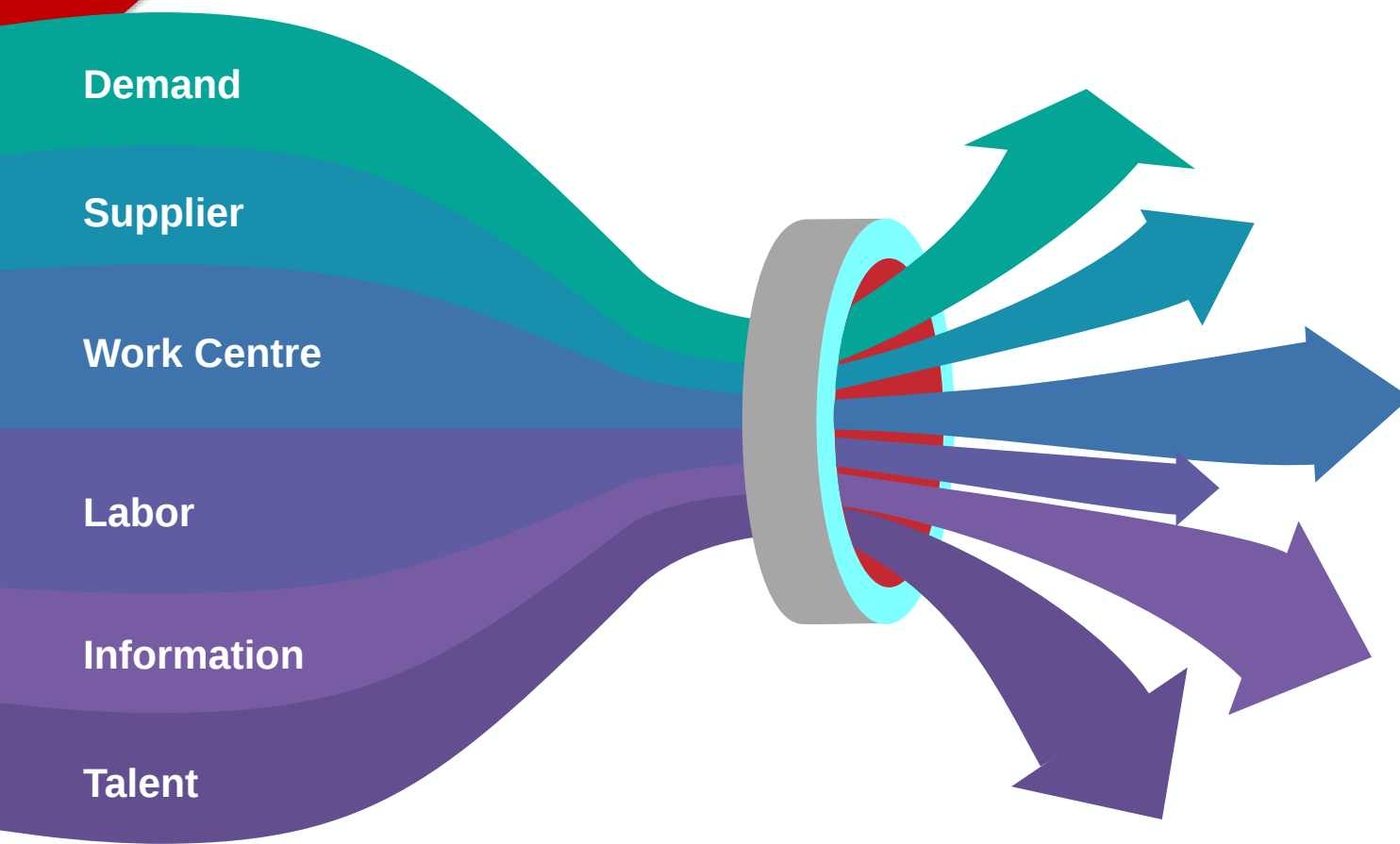
Lean Supply Chain Process

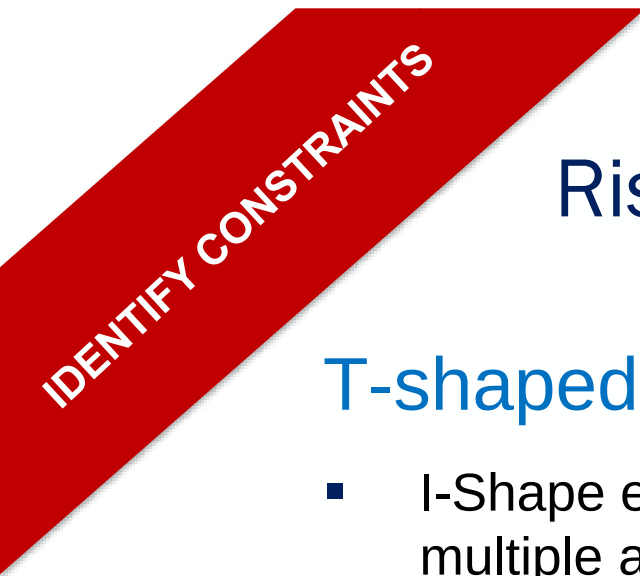
Select Agile And Simple Direction



IDENTIFY CONSTRAINTS

Identify the constraints in your supply chain

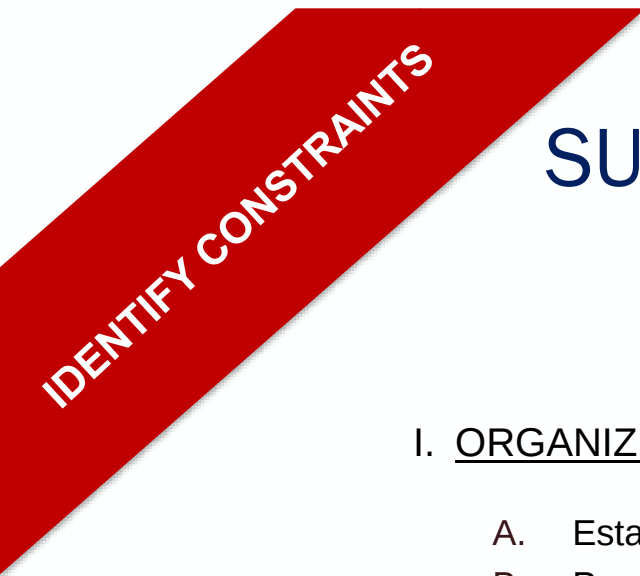




Risk in the talent pool

T-shaped employees vs. I shape employees

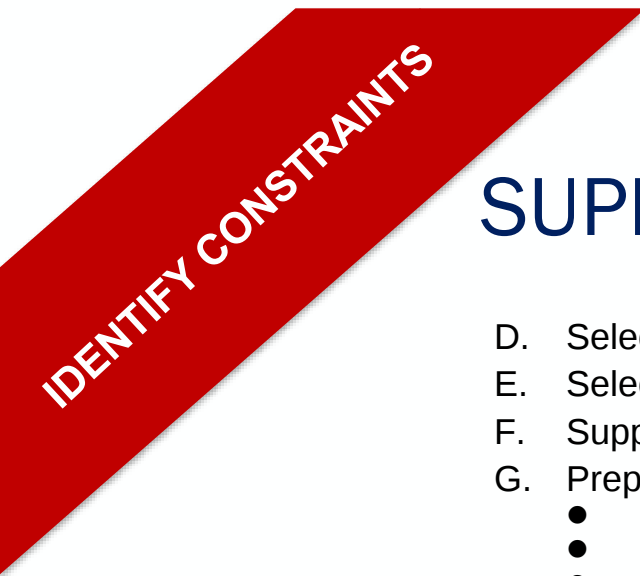
- I-Shape employees have expertise in their area but cannot collaborate across multiple areas
- T-Shape employees have deep expertise in one area and a working understanding across disciplines, which gives them insight into the bigger picture.
- IDEO's CEO, [Tim Brown](#)



SUPPLIER ANALYSIS PROCESS STEPS

I. ORGANIZE

- A. Establish Supply Chain Steering Committee.
- B. Prepare fundamental scope statement relating to supply chain.
 - Vision
 - Mission
 - Key principles
 - Key customers
- C. Define manufacturing business technologies needed to support a lean supply chain.
 - ERP/CRM
 - Lean Inventory Model
 - Supplier partnering
 - Six Sigma
 - Work system redesign
 - Kanban
 - Inventory (consignment/VMI)



SUPPLIER ANALYSIS PROCESS STEPS (cont...)

- D. Select project manager and staff.
- E. Select outside consultant.
- F. Supply chain education and training.
- G. Prepare ABC Analysis
 - Product Lines
 - Parts
 - Suppliers

II. COLLECT AND ANALYZE VALUE STREAM DATA

1. Establish first “A” teams
 - Review project plan and scope statement
 - Select parts, customers, suppliers
2. Establish review process and schedule.
3. Finalize team members.
4. Develop supplier presentation.
5. Collect and analyze data (pre-meeting)
 - Order modifiers
 - Bom's
 - Routings
 - Volumes
 - Inventory
 - Costs

SUPPLIER ANALYSIS PROCESS STEPS (cont...)

6. Prepare and schedule first supplier meeting.

At Supplier:

7. Collect and analyze data (at supplier)

- Order modifiers
- Bom's
- Routing
- Volumes
- Inventory
- Costs
- Critical parts
- Capacity

8. Collect sub supplier data

- Order modifiers
- Bom's
- Routing
- Volumes
- Inventory
- Costs
- Critical parts
- Capacity

SUPPLIER ANALYSIS PROCESS STEPS (cont...)

III. DRAW VALUE STREAM MAPS AND MODELS (JOINT)

9. Draw value stream maps
 - Product
 - Information
 - Inventory
10. Develop inventory model
 - Position inventory along Supply Chain
 - Calculate inventories
 - Calculate liability

IV. DISCUSS AND FINALIZE LEAD TIME AND PRODUCTIVITY STRATEGIES (JOINT)

11. Brainstorm opportunities for improvement
 - Inventory
 - Cost
 - Lead times
 - Liability

SUPPLIER ANALYSIS PROCESS STEPS (cont...)

12. Negotiate new productivity collaboration strategy

- Lead time
- Lot size
- Setup reduction
- Transportation
- Inventory (consignment, VMI)
- Costs
- Factory buy time

13. Identify risks and concerns

V. IMPLEMENT STREAMLINED SUSTAINING PROCESSES (JOINT)

14. Establish Demand Signals

- Forecasts
- MRP
- Kanban

15. Establish Supply Signals

- MRP
- Kanban
- Distribution

Improve Supply Chain Resilient Without Weakening Competitiveness



Time and Technology

- All “A” suppliers have been value stream mapped and non-value added activities eliminated
- No buyer involvement for “A” supplier releasing
- All “A” suppliers have service agreements (VMI, Evergreen, Consignment, Productivity, and Schedule Agreements)
- All “A” suppliers deliver at first operation or “Kanban supermarket”
- Same day or next day delivery for “A” supplier demand

Time and Technology (cont)

- Key suppliers feed “supermarket” or point-of consumption buffer areas
- All pallets are pre labeled
- All key “A” suppliers are all certified
 - No inspection
 - No counting
- All “A” suppliers have qualified specifications
- All key “A” suppliers have standard delivery schedule
- “B” suppliers will use “auto” MRP
- “C” suppliers will use “bread man” deliveries

Manage volatility with fast reaction times and technological solutions

Volatility – can best be describe as an environment in continuous change and attempting to manage in a business environment of non-predictable trends and repeatable patterns equals volatility

- 1. Rapid change in parts availability**
- 2. Rapid change in price**
- 3. Rapid change in currency**
- 4. Rapid geopolitical change**
- 5. Rapid global customer expansion**

VUCA and the Supply Chain

1. Link supply chain strategy to overall business strategy to align supply chain initiatives to business objectives.
2. Identify supply chain goals and develop plans to assure every process is individually capable of meeting supply chain goals.
3. Define business strategy guidelines with customers and suppliers
4. Develop a supply chain information systems strategy that offers a clear view of every step in the supply chain
5. Develop systems to listen to signals of market demand and plan accordingly, including changes in ordering patterns and changes in demand due to customer promotions.
6. Manage the sources of supply by developing partnerships with suppliers to reduce the costs of materials and to receive materials as needed.

Vuca and the Supply Chain (cont...)

7. Rebuild infrastructure for short process cycle times and timely decision-making (strategically align internal and external leadership).
8. Create a process map (time and value) for each key supply chain flow.
 - As is ■ To be
9. Establish company-wide and departmental business rules.
10. Develop customized logistics networks tailored to each customer segment.
11. Identify organizational issues that prevent speed or crisp decision-making (GAP analysis).
12. Identify and prioritize opportunities.
13. Focus, align, and engage members.
14. Establish sound demand management communications.
15. Adopt cross-functional and cross-business performance measures that link every aspect of the supply chain and include both service and financial measures.

Forecast and Demand Information will provide the Supply Chain with:

The ability to Plan Procurement in three phases:

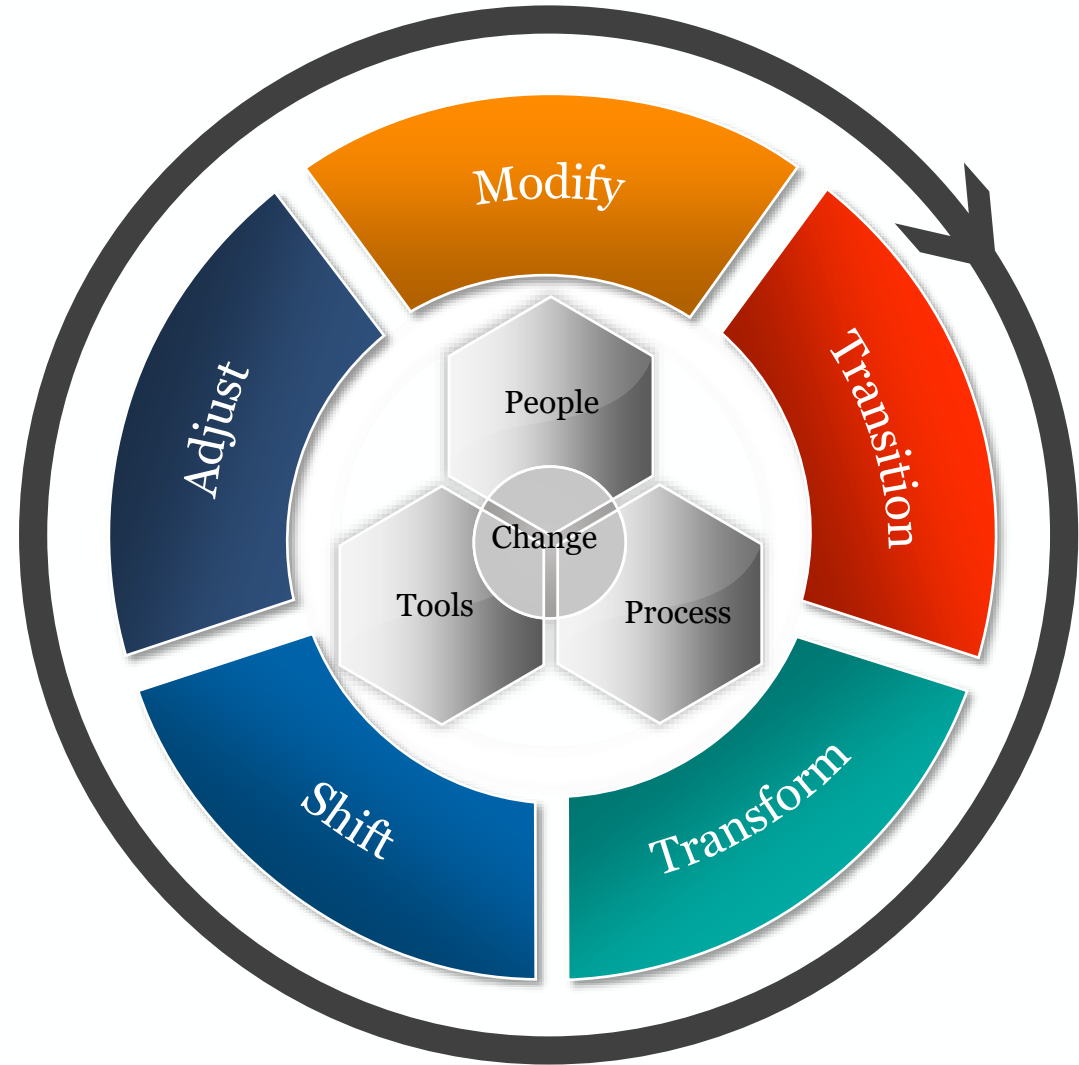
- *Immediate Requirements*
- *Medium Range Planning*
- *Long Range Planning*
- *Balancing the Supply Chain with Customer Demand*
- *Predict Inventory Liability throughout the Supply Chain*
- *Long Range Cost Decisions*
- *“What-If” Analysis*
- *Total Cost of Procurement Improvements*
- *Supplier Cost Reductions and Cash Flow Improvements*

Exception based management

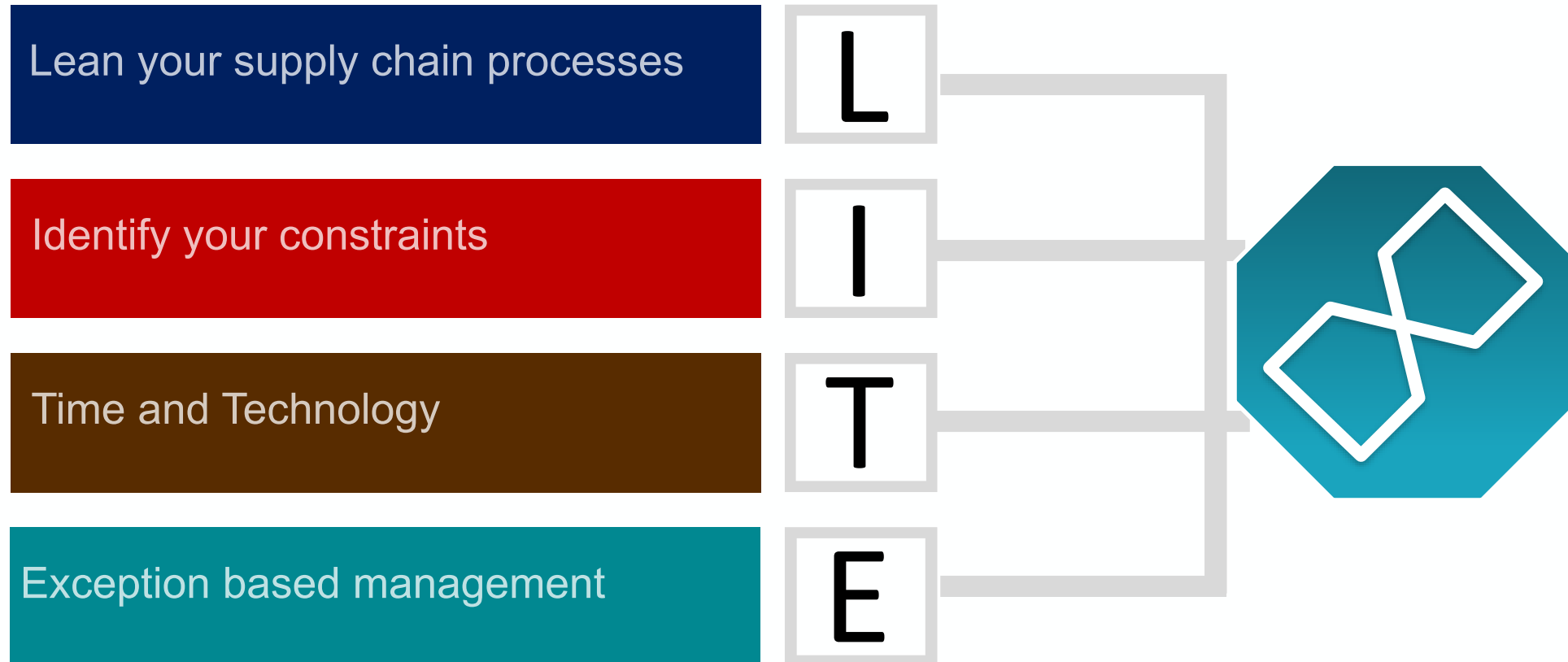
- Eliminate excess purchase order approvals steps
- Eliminate review, quotes, lead time checks before placing purchase orders
- Provide Product lead time matrix's for the Sales and Order Entry areas
- Utilize ATP and CTP logic
- VSM your entire supply chain understand where problem areas are and manage the day to day using exceptions message reporting

LITE it Don't Fight It

“If your company was designed for success using twentieth century tools it could be doomed to failure in the twenty-first.” — David S. Rose



LITE the VUCA in the Supply Chain



Why should we...

- Only 9% of the fortune 500 companies that existed in 1955 are on the list today
- The average life span of an S&P 500 company has decreased from 67 to 15 years in the last century
- We need to shift from the traditional management by objective to management driven by purpose
- The relevance of supply chain management cannot be understated

Simplicity is
the ultimate
sophistication

Leonardo Da Vinci