How manufacturing and operations can be used for competitive advantage in today's world

Course: Production Management and Logistic Systems [10592713]

Economia e management (Latina Campus)

AA 2024-2025 | Prof. Alessandro Pietrogiacomi

SAPIENZA
UNIVERSITÀ DI ROMA

Latina 6 April, 2025

Lesson Plan for Tuesday, April 29

Overview of the lesson, and educational objectives,

Topic: **How manufacturing and operations can be used for competitive advantage in today's world .**

Time: **10:00–13:00**

Duration**: 3 hours**

Learning Objectives

By the end of this lesson, students will be able to:

- Basic Principles of competitive stragy in manufacturing
- Decision Category Framework
- Means of Competition
- New Imperatives of the 21st Century
- Implementation

Quote

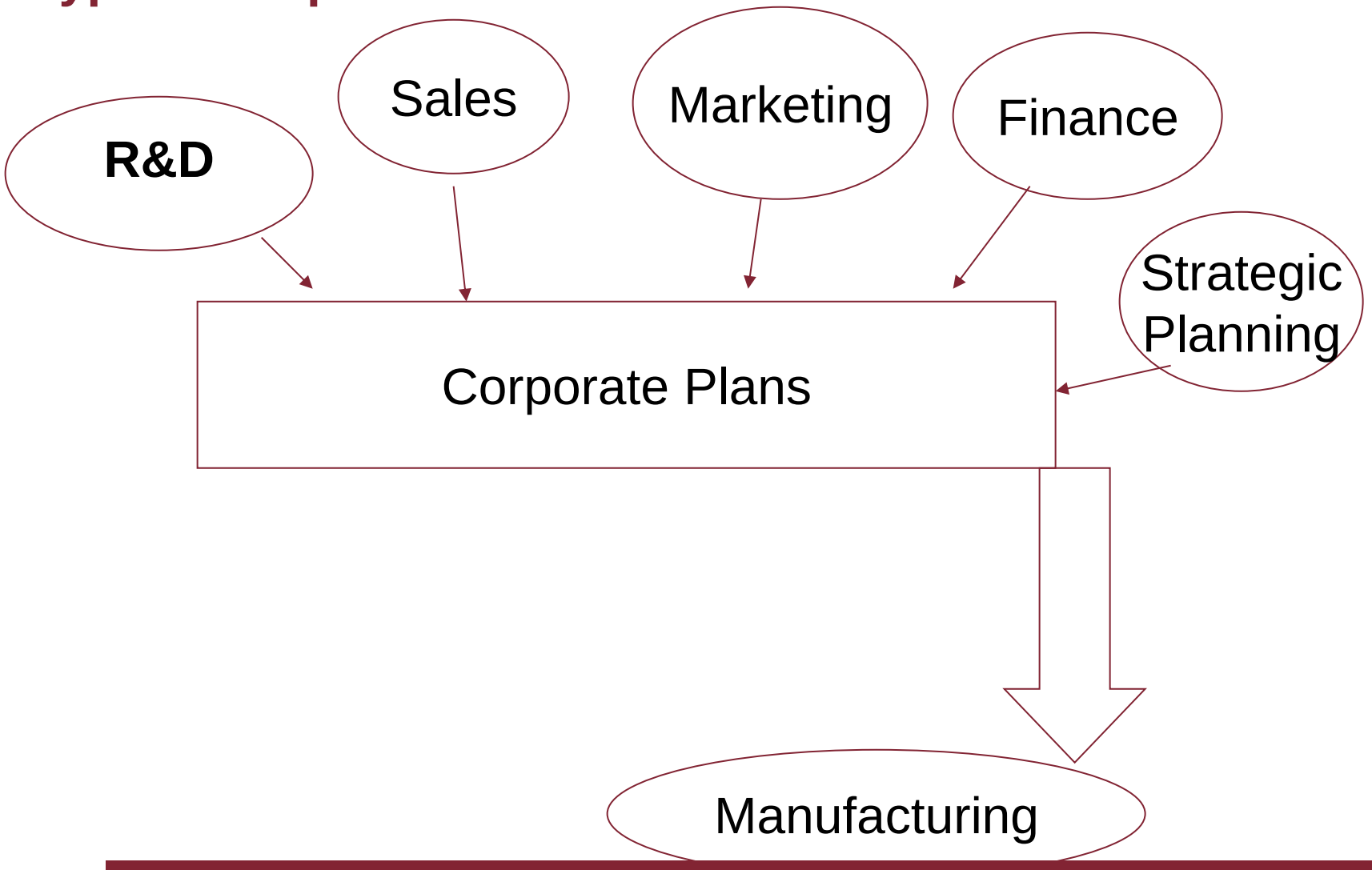
A COMPANY'S MANUFACTURING FUNCTION TYPICALLY IS EITHER A COMPETITIVE WEAPON OR A CORPORATE MILLSTONE. IT IS SELDOM NEUTRAL. YET, THE CONNECTION BETWEEN MANUFACTURING AND CORPORATE SUCCESS IS RARELY SEEN AS MORE THAN THE ACHIEVEMENT OF HIGH EFFICIENCY AND LOW COSTS.

…WHAT APPEARS TO BE ROUTINE MANUFACTURING DECISIONS FREQUENTLY COME TO LIMIT THE CORPORATION'S STRATEGIC OPTIONS, BINDING IT WITH FACILITIES, EQUIPMENT, PERSONNEL, AND BASIC CONTROLS AND POLICIES TO A NONCOMPETITIVE POSTURE WHICH MAY TAKE YEARS TO TURN AROUND.

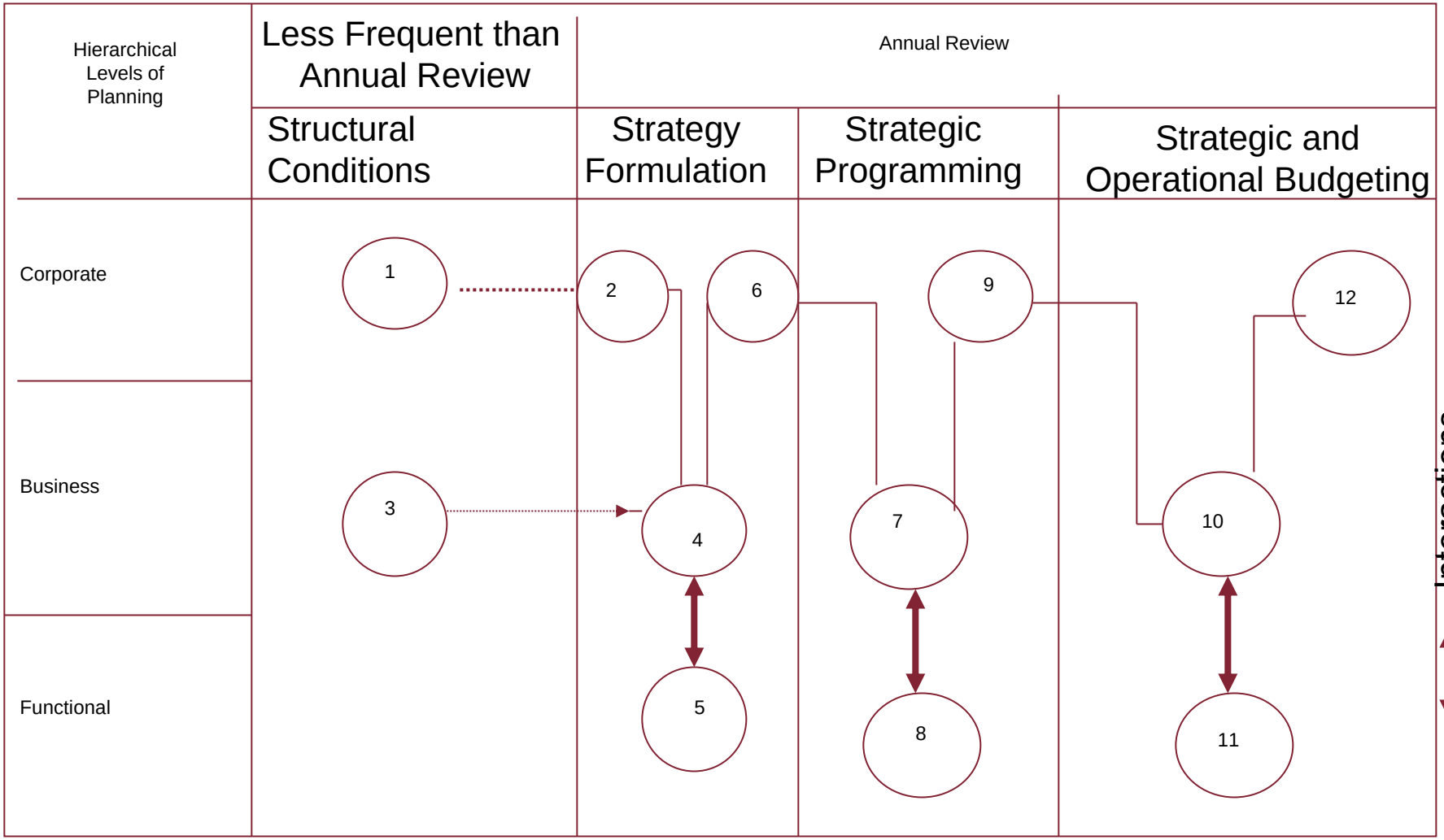
WICKHAM SKINNER

HBR, MAY-JUNE 1969

Typical Corporation



The Corporate Strategic Planning Process



Source: Fine and Hax

Industry Attractiveness - Competitive Structure: Opportunities & Threats

External Influences → **Industry Forces** ← **External Influences**

-Industry Attractiveness
- Competitive Structure: Opportunities & Threats

Goals Objectives → **Strategic Plan: Gaining & Maintaining Competitive Advantage** ← **Organization's "Culture"**

- Capabilities: Sources of strengths/weaknesses

Functional Strategies

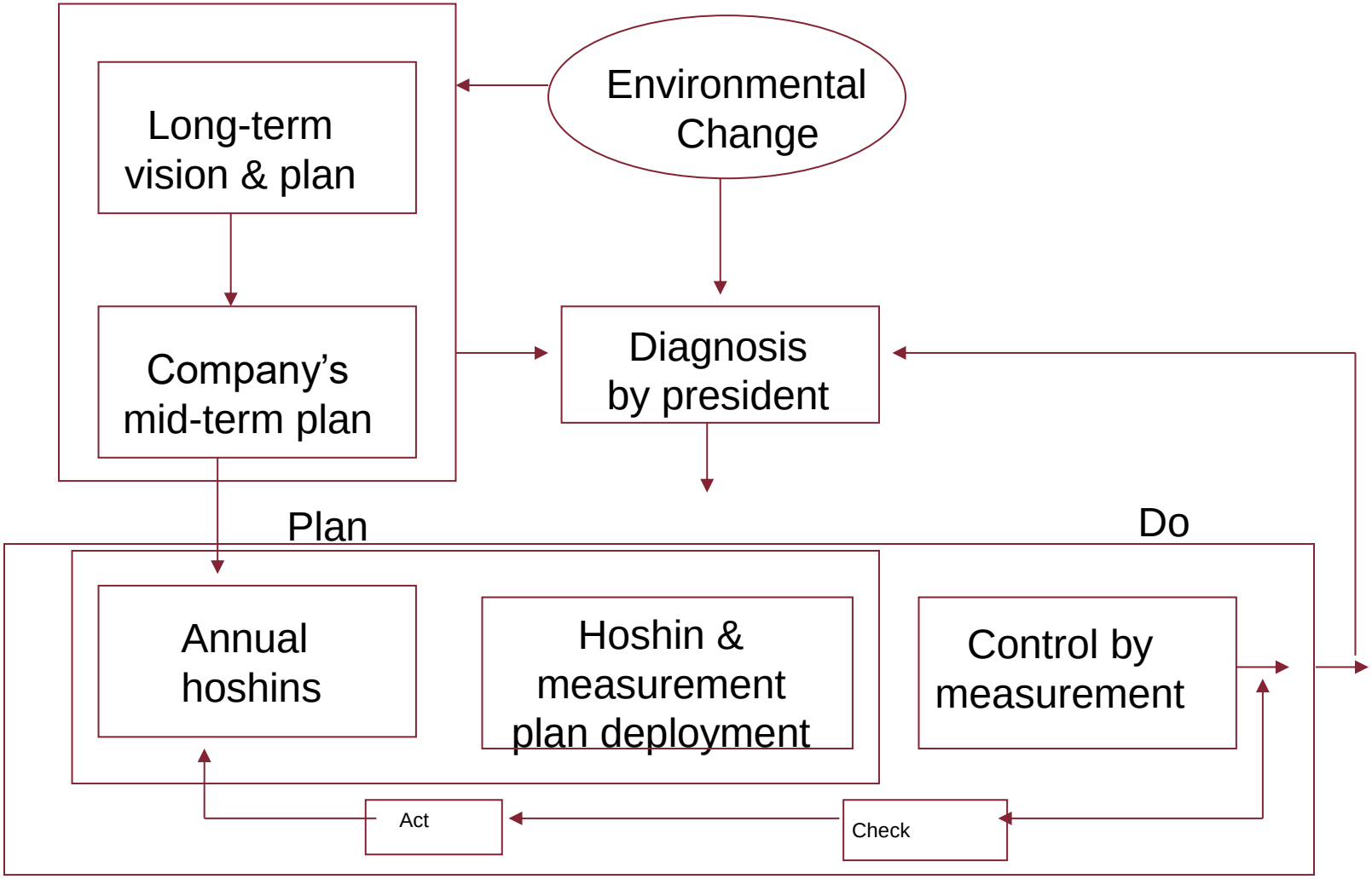
Mktg. ↔ Mfg.

Finance ↔ Logistics

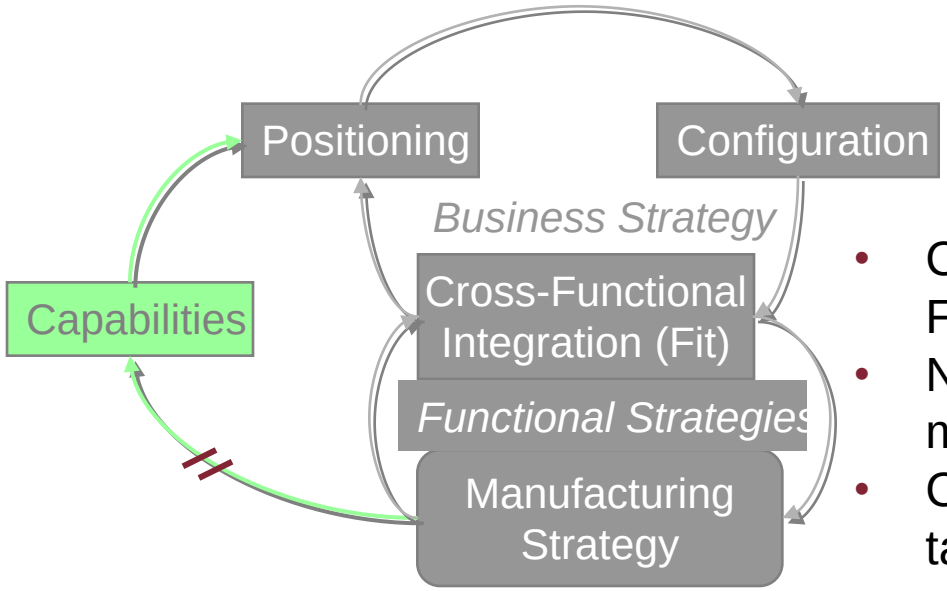
Key Success
- Internal Crence Factors:
- Inter-functional Coordination
- Strategic Fit

The Similar Approach of Hoshin Management

Source: A *New American TQM* by Shiba, Graham, Walden, 1993



Capabilities



- Capabilities: Strategic Consequence of Functional Execution
- New capabilities can form basis of new manufacturing strategy.
- Cannot buy or easily copy capabilities that take a long time to develop.

Key Decision Areas	Structure	Infrastructure
	Capacity	Workforce
	Facilities	Quality
	Technology	Prod. Plan
	Vert. Int.	Org.

- D.L. Barton “Core Competency and Core Rigidity”
- Prahalad and Hamel “The Core Competence of the Corporation”
- Hayes and Pisano “The New Manufacturing Strategy”
- Hayes and Upton “Operations-based Strategy”

Reasons for Inconsistent Manufacturing Structures

1. Manufacturing has a new manufacturing task but continues the old manufacturing policies and structure.
2. Managers in manufacturing have no clear, consistent definition or understanding of the manufacturing task facing the organization.
3. The manufacturing policies and the infrastructure being employed are inconsistent. Taken together, there is a distortion in coordination.
4. The organization lacks a focus. It is attempting to cover too many technologies or too many products and markets, too wide a range volume, and more than one manufacturing task.

Reasons for Inconsistent Manufacturing Structures (cont.)

5. The organization has the wrong equipment & process technology for the present manufacturing task.
6. Selection of products and processes for each plant in a multi-plant setup results in mixing together, somewhat at random, a product organization, a process organization, and a volume-focused organization (or any two of the three) instead of focusing around one type of organization.

Hayes and Wheelright Stages

1. Minimize manufacturing's negative potential: "Internally Neutral"
2. Achieve parity (neutrality) with competitors: "Externally Neutral"
3. Provide credible support to the business strategy: "Internally Supportive"
4. Pursue a manufacturing-based competitive advantage: "Externally Supportive"

The decision category approach examines manufacturing decision categories for consistency with strategic vision

- Structural decisions
  - bricks and mortar
  - machinery
- Infrastructure
  - people
  - systems
  - procedures
- Fit with business, corporation and other functions

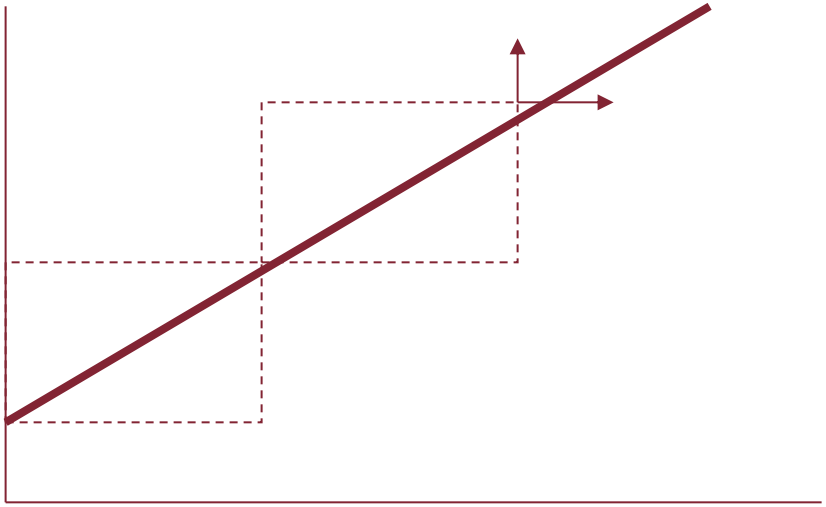
Major Manufacturing Decision Categories

1. FACILITIES
   - size
   - location
   - focus
2. CAPACITY
   - amount
   - timing
   - type
3. VERTICAL INTEGRATION AND PARTNER MANAGEMENT
   - direction
   - extent
   - interfaces
   - collaboration
4. PRODUCTION TECHNOLOGIES AND PROCESSES
   - equipment
   - automation
   - interconnectedness
   - scale
   - flexibility
5. WORK FORCE AND MANAGEMENT
   - wage policies
   - security
   - skill levels
6. LOGISTICS AND SUPPLY CHAIN
   - logistics facilities and methods
   - inventory policies
   - vendor coordination
   - production planning
7. ORGANIZATIONAL AND INCENTIVES
   - structure
   - reporting levels
   - degree of centralization
   - role of staff
   - control/reward systems
   - costing systems
8. BUSINESS PROCESSES: PRODUCT DEVELOPMENT, QUALITY INFRASTRUCTURE ETC.
   - interfaces and responsibilities
   - responsibilities
   - vendor development
   - monitoring and intervention

Facilities and Capacities

Capacity Issues:

- Does Capacity lead or follow Demand:
- Capacity Decisions have long lead times and involve large increments



Facility Issues:

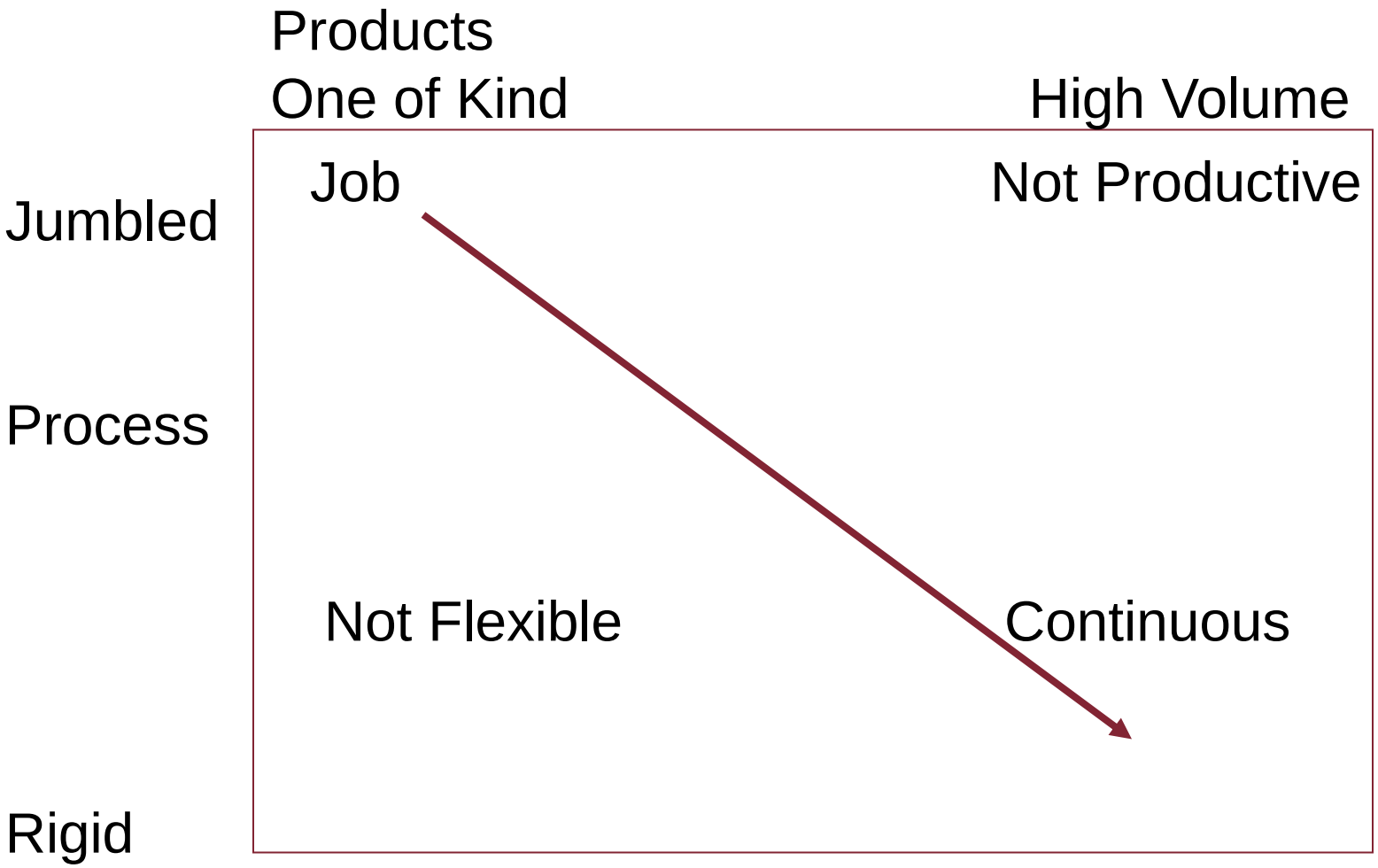
- Pure Space Needs
- Geographic & Distribution Issues
- Focus Issues
- Corporate principles
- Scale Issues
- Means of Evaluation

Technology

Technology and the Manufacturing Process is a fundamental determinant of how a company competes

- Processes have specific attributes that are appropriate for different products and life cycles
- Any new process or technology will have a major effect on a business
- No technology meets all needs
- Products and businesses have life cycles that change process needs

Process Productivity is Best Understood Through the Process-Product Matrix



BASIC INFRASTRUCTURAL QUESTIONS

- Levels and strengths of Hierarchy
- Orientation and form of organization
- What do you measure most?
- Class culture
- Information and control systems
- Role of materials and logistics

The strategic mission matches the organization's strengths to a limited set of external measures of performance

Measures of Performance

- OPERATIONS COSTS
  - –unit costs
  - –total (volume) costs
  - –lifetime costs
- DEPENDABILITY AND TIME
  - –percentage of on-time shipments
  - –response to results for info or changes
  - –product and volume flexibility
  - –delivery time
- QUALITY
  - – return rate
  - – product reliability and durability
  - – cost and rate of field repairs
- INNOVATIVENESS
  - – product innovativeness
  - – time to market and development cycle

The Classic Plant Missions

Mission / Labor	Facilities	Infrastructure - Materials Planning	Infrastructure - Repetitive Work
Low Unit Cost	Specialized machines linked and controlled by the time cycle		Repetitive work
High Service Level	Reserve machine capacity	Inventory management	Idle time
Wide Line	General purpose machines and inventory of tools	Production scheduling	Changing assignments
Custom Service	General purpose machines	Design to cost	Reliance on workers' skills
Product Innovation	Flexible general purpose	Design and development	Team

Linking Strategies to Missions

Mission	Investment Requirements / Strategy	Marketing Strategy	Sales Strategy
Low Unit Cost	Automation	Narrow line and conservative design	Price competition
High Service Level Delivery	Inventory and flexible machines	Image of dependability	Rapid
Custom Service	Analysis of reserve capacity	-	Ability to respond to customers' needs
Product Innovation	Product	Market leadership	New market

Present Operations Policies

Operations Unit _____

Decision Category	Description of Past Policy	Strengths	Weaknesses
Production Technologies & Processes			
Capacity			
Workforce and Management			

Present Operations Policies (cont'd.)

Operations Unit _____

Decision Category	Description of Past Policy	Strengths	Weaknesses
Business Processes			
Facilities			
Vert. Int and Partner Management			

Competitive Edge Programme
Supply Chain Development for the Advanced Engineering and Manufacturing Cluster in Yorkshire and the Humber

Automotive sub-sector strategy

The Competitive Edge Programme in brief

- The Yorkshire Forward Competitive Edge Programme is aimed at helping automotive supply companies in Yorkshire and Humber compete more effectively in national and international markets. The programme will deliver supply chain improvements as driven by the individual companies needs and the needs of major customers – optimally and for the biggest impact with suppliers and customer embarking on joint projects.
-
- The £6MM programme is run by PA Consulting Group and is funded by Yorkshire Forward and European Regional Development Funds, Objective 1 and Objective 2, thus providing flexible options for supporting improvement projects while also integrating with the many other initiatives in the region.

Reader’s note

- The aim of this document is to present the general competitive environment facing UK automotive suppliers and specifically a view of the viable strategic options available for automotive suppliers in Yorkshire. The analysis and strategy recommendations in this document are based on PA Consulting Group research, industry expert input, and extensive interviews with local as well as international automotive suppliers and manufacturers.
- One major implication of this research and analysis is that the Competitive Edge programme must focus on individual companies and their immediate supply chains. A clear need has emerged for companies to become more strategic with the propositions they go to market with. Suppliers need to create a much clearer focus on the value they deliver:
- To customers in selected markets
- To business owners
- To stakeholders

Strategies need to be driven by genuine customer needs.This approach is a major change for many companies in the region.

Content

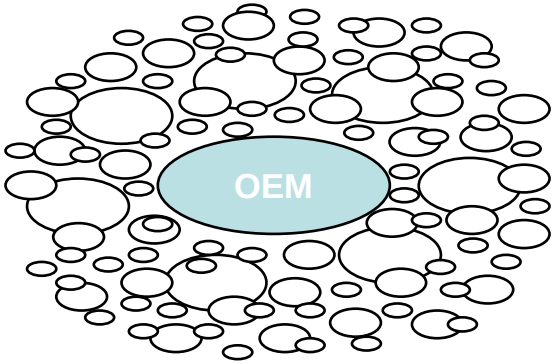
- Automotive and Engineering industry restructuring
- Competitive requirements for automotive suppliers
- Competitive landscape for Yorkshire suppliers
- Market positioning and strategies
- Moving forward
- Contact the Competitive Edge programme

Automotive and engineering industry restructuring…

The automotive supply chain is restructuring creating opportunities and challenges for suppliers…

1995

25 vehicle makers

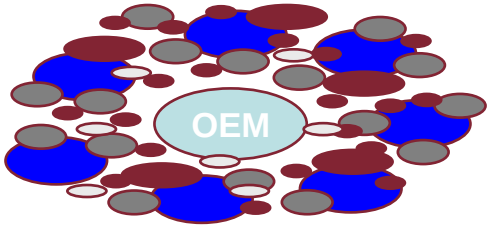


Ca. 500 mostly direct suppliers

- **Vehicle maker and Tier 1 concentration and globalisation**
- **Increase of system outsourcing activities**
- **Relentless cost pressure**
- **Reduced time for technology innovation**
- **Information technology is revolutionising the supply chain communication and control**
- **Suppliers take over more system responsibility plus integration and management of their supply chain**

Today

15 vehicle makers



10 system suppliers
5 suppliers for services and logistics (Tier 1)

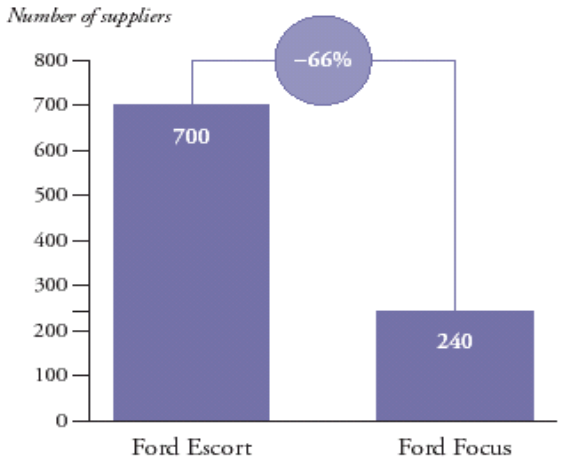
30 direct suppliers

100 subsystem companies (Tier 2)

Automotive and engineering industry restructuring…

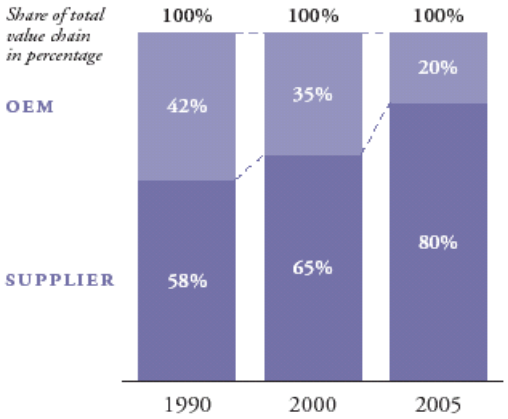
…with cost, risk, and business being transferred to suppliers

System integrator model reduces OEM supplier base – example from Ford



Source: AT Kearney

15-year process of vertical integration – the pie is getting bigger for suppliers



Source: AT Kearney

Business relationships will increasingly be with major Tier 0.5 and 1 suppliers

Relationships will need to be built up with these companies, or…

Automotive and engineering industry restructuring…

…alternatively, small suppliers must develop different services for vehicles makers:

- Prototyping
- Specialist parts/production
- Spare parts
- Vehicle modifications
- Testing services
- Tooling development/repair

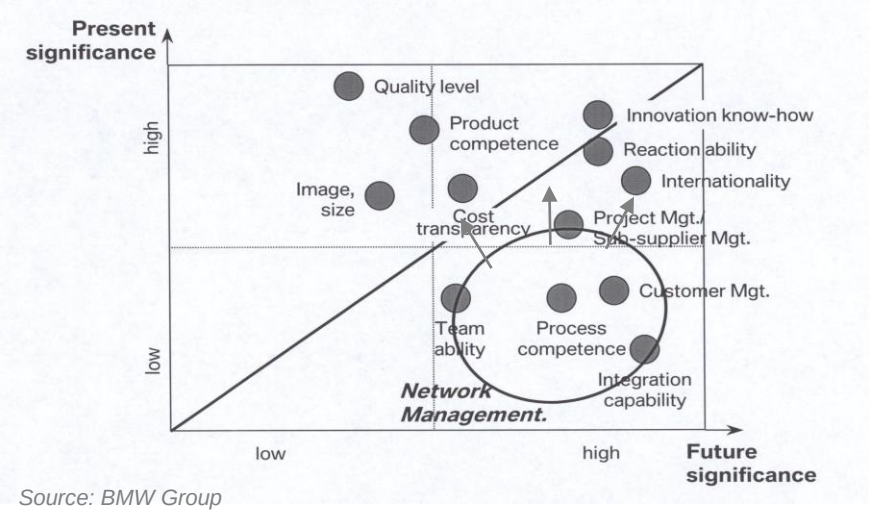
Competitive requirements for automotive suppliers…

Tomorrow's successful suppliers to the automotive sector will be very different from today

Strategically delivering added value:

- Responsive to customers' needs and market changes
- Increased responsibility in the supply chain
- Engaged in joint ventures and collaboration
- Proactive and involved earlier in the process
- With clear pro-active business propositions
- Managing for joint success
- Thinking and acting strategically

Meeting Quality, Cost, Delivery is a given – new competencies are required to compete



Source: BMW Group

Competitive requirements for automotive suppliers…

UK Primes/Tier 1s are looking for reliable value-adding UK suppliers, but are often disappointed by the response.

They want suppliers that can…

- Be proactive and professional
- Understand the market and changing requirements
- Offer improvements … don't wait to be invited
- Be creative
- Be flexible
- Be commercially transparent
- Lead change as well as supporting it
- 'Think global, act global'

At a minimum, suppliers must respond by…

- Working to Service Level Agreements
- Communicating electronically
- Aligning objectives, plans and processes
- Managing risk with supply chain partners
- Getting involved earlier in the process
- Continually reducing cost
- Not be over reliant on any one customer or supplier thereby reducing risk for the customer
- Working with other organisations when necessary
- Remaining competitive

Competitive landscape for automotive suppliers…

The automotive and engineering sub-sector in the Yorkshire and Humberside region has potential for growth..

There are <u>opportunities</u> in the market, but they require suppliers to take a strategic approach reflecting customer requirements.

Strengths

- Relatively close to UK automotive centres (North West, North East and the Midlands)
- Historically strong manufacturing base
- Great expertise in the engineering sector incl. high tech advanced engineering
- Customer base includes most of the UK based manufacturers and many of the European producers

The region has <u>strengths</u> on which to build.

Opportunities

- Opportunity to be local flexible suppliers for non-commodity parts
- Focus on luxury/niche sector where customers (eg Rolls Royce, Bentley, Aston Martin, Jaguar, Cosworth) still have design authority.
- Off highway/commercial vehicle is another potential target sector.
- Take cost and risk of customers
- Getting funding for projects and initiatives
- Offering design services
- Specialist and low volume production
- Act as agents for entrants to the UK market
- Targeting the reverse supply chain
- Entering the aftermarket supply chain
- Mergers and acquisitions

Weaknesses

- Many companies are steels based – trend towards lighter materials eg aluminium, plastics
- Many commodity and make-to-print manufacturers of basic components competing on price
- Little cooperation across the supply chains in the region
- Lack of investment and Research & Development
- Difficulty meeting Quality, Cost, Delivery requirements

Many regional suppliers are not responding effectively to global and sector <u>threats</u> and are rated poorly by their customers.

Threats

- Vehicle makers insisting on local Tier 0.5/1 location to factory for Just-in-Time/sequencing, will the same apply to Tier 2+?
- Most design and purchasing authority no longer in UK
- "Low-cost" sourcing and OEM focus on low-cost countries
- No big vehicles makers s in region
- YF region perceived as low quality and high cost
- Entry-level standards and initiatives mean high cost to start-up, e.g. VDA 4.1 quality management standard in Germany, 6 Sigma for Caterpillar
- Supply chain consolidation/rationalisation

There is a short-term focus on addressing these <u>weaknesses</u> which prevents effective response to more strategic threats and opportunities.

..but growth will require suppliers to take a more far-sighted and balanced approach

Competitive landscape for automotive suppliers…

Strengths Weaknesses Opportunities Threats

STRENGTH	Description	Impact
Relatively close to UK automotive centres (North West, North East and the Midlands)	*Yorkshire is in geographical proximity to the large UK automotive clusters where OEM and Tier 1s are located*	*Yorkshire suppliers are able to supply the big players with JIT or sequencing. Allows for an intimate relationship to be build.*
Historically strong manufacturing base	*Yorkshire has many world class manufacturing companies*	*The skills and capital equipment are present in the region to be leveraged in automotive and other industries*
Great expertise in the engineering sector incl. high tech advanced engineering	*Yorkshire has many competent engineering firms and organisations eg Gesipa, Holset, The Welding Institute, Huddersfield University*	*This expertise could be leveraged through cooperation and joint ventures.*
Customer base includes most of the UK based manufacturers and many of the European producers	*Yorkshire companies sell to the majority of the major OEMs and Tier 1s*	*These relationship must be build upon. Relationships must increasingly build with Tier 1 suppliers as they take over more and more of the supply chain.*
Experience in metals	*Yorkshire as a region has a history of doing business in metals and are recognised for its experience.*	*Experience in metals can potentially be leveraged across industries*
Niche manufacturers with strong reputations	*Strong niche players exists in the region like Birkbys Plastics, Holset and Sarnatech*	*Companies that show how to compete globally and can safely co-operate*

Competitive landscape for automotive suppliers…

Strengths **Weaknesses** Opportunities Threats

WEAKNESS	Description	Impact
Many companies are steels based – trend towards lighter materials eg aluminium, plastics	*The recent history of Yorkshire is very much one of steel and the composition of companies is naturally heavily influenced by steel of one kind or the other*	*Yorkshire companies are loosing business to competitors who deal in lighter materials and composites*
Many commodity and make-to-print manufacturers of basic components competing on price	*Commodity and price competition is not feasible for UK suppliers with their higher cost base*	*Competitive differentiation is necessary moving purchases away from price and towards value*
Little cooperation across the supply chains in the region	*Companies have a tendency to be insular and focused on their own specific part of the supply chain*	*Important business opportunities are foregone ie sub-assembly supply to OEMs and Tier 1s, joint R&D etc*
Lack of investment and Research & Development	*Many of the regions manufacturing companies are suffering from decades of underinvestment.*	*Product innovation suffers and international competitiveness becomes harder and harder. Evolving QCD requirements are tougher to meet*
Difficulty in meeting Quality, Cost, Delivery requirements	*Several OEMs are reporting that Yorkshire suppliers find it difficult to meet standard QCD requirements from getting the product right to delivering it the right place at the quantity at the right time.*	*Companies are being delisted, losing customers and business*
Shortages of skilled resources	*Workforce is growing older and staff with the relevant engineering skills or educational background are increasingly hard to find.*	*Wages have to be increasingly higher to attract people, if it is even possible. Skill shortages can mean lower production activity and increased stress for current employees.*

Competitive landscape for automotive suppliers…

Strengths Weaknesses **Opportunities** Threats

OPPORTUNITY	Description	Impact
Primes/tier 1s are looking for local integrators	*Foreign and domestic primes and tier 1s are looking for local companies to take over parts of the supply chain that are best handled locally – handing over risk and responsibility.*	*Yorkshire suppliers can leverage this geographic advantage in order to get closer to the customer and win orders.*
Focus on luxury/niche sector where customers (eg Noble, Gibbs, Bentley, Aston Martin, Jaguar, TVR Cosworth) still have design authority in UK.	*Providing customers with low cost, low volume methods which do not suit volume supply chains. Racing and rally car performance parts.*	*Carving out a niche away from giant OEMs and Tier 1s is possible and can be very profitable.*
Off highway/commercial vehicle is another potential target sector.	*Targeting Ford Truck, CAT, JCB, SWIFT, LDV, Leyland, Perkins, Cummins, LTI, Mayflower, McCormick who still have UK centred design and purchasing authority.*	*Yorkshire, for example, has a booming caravan business with the UK leaders, SWIFT and Willerby Homes, located in the region, and they are looking for local suppliers.*
Take cost and risk of customers	*Integrate forward or backwards in supply chain and target value-adding activities like design, integration, modules assembly, prototyping services.*	*Obtain a closer, more dependant relationship with customers. Assuming cost and risk for customers is usually rewarded with more and higher margin business*
Mergers and acquisitions	*Find acquisition or merger targets that will lead to improved competitiveness*	*To achieve scale, increase customer base and enhance bargaining power with customers and suppliers.*
Getting funding for projects and initiatives	*Money available from RDAs and ERDF, especially in South Yorkshire.*	*Use funding to acquire the capabilities and capital equipment demanded in the market*
Offering design services	*Bring design suggestions to customers proactively*	*This demonstrates a serious and professional business, which understands the customers business and can help customers become more competitive.*
Act as agents for entrants to the UK market	*UK is still a major automotive country with lucrative opportunities for off shore suppliers and OEMs.*	*Being an agent provides long-term opportunities with customers increasing their commitment to the UK market.*
Entering the aftermarket supply chain	*Be being responsive and close to customers thereby avoiding big inventory. Target products that cannot be shipped long distances due to cost.*	
Targeting the reverse supply chain	*Helping OEMs and Tier 1s with disposal of cars at end of life.*	*Political pressure is increasingly forcing OEMs and Tier 1s to think about environment and end of life for product. This is not their core business and outsourcing opportunities are opening up.*

Competitive landscape for automotive suppliers…

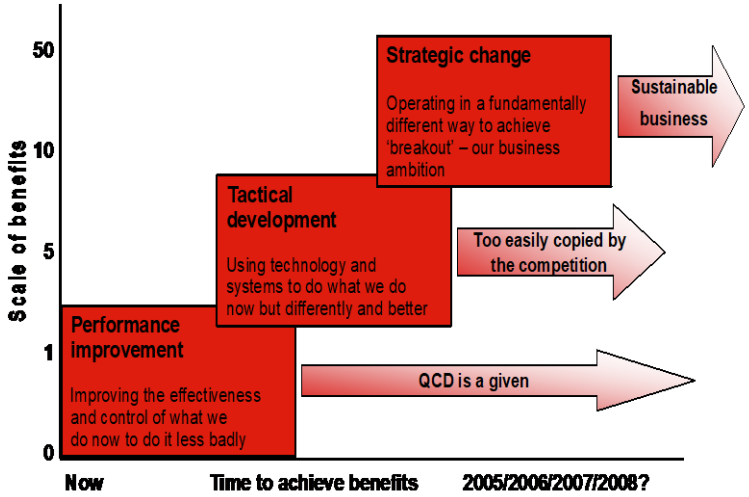
Strengths Weaknesses Opportunities **Threats**

THREAT	Description	Impact
No big vehicle makers in region	*Nissan in Sunderland is the closet OEM to Yorkshire companies*	*Harder to operate regional initiatives. Lack of historic "foot-in-the-door" with OEMs*
Most design and purchasing authority no longer in UK	*With the globalisation of the industry authority and decision-making power has tended to move outside the UK*	*Companies must build relationships overseas with Detroit,Stuttgart etc*
YF region perceived as low quality and high cost	*Feedback from customers indicate that Yorkshire companies have trouble meeting QCD requirements, and do not price competitively*	*Companies must focus on bringing the right value propositions to customers taking focus away from price*
Entry-level standards and initiatives mean high cost to start-up, e.g. VDA 4.1 quality management standard in Germany, 6 Sigma for Caterpillar	*Meeting standard requirements is becoming increasingly common in the automotive industry*	*Costs and capability levels have gone up making it harder to break into new business for smaller suppliers*
OEMs insisting on local Tier 0.5/1 location to factory for Just-In-Time/sequencing, will the same apply to Tier 2+?	*JIT and sequencing are the norm in supplying most parts to OEMs and Tier 1s*	*This means potentially even following Tier 2 customers globally, or having to relocate within the UK, or having to bear the cost of adopting JIT/sequencing supply.*
Supply chain consolidation / rationalization	*Economies of scale driven M&A activity with both OEMs and Tier 1s has led to consolidation making buyers even more powerful. Supply chain rationalization leaves fewer and fewer points of entry for suppliers who in addition have to deal with mega-customers*	*Prices are under constant pressure, QCD is a given and suppliers must be more and more international.*
"Low-cost" sourcing and OEM focus on low-cost countries	*UK manufacturing activities are not cost or price competitive and are being moved off-shored. Some OEMs and Tier 1s seem not to be looking at total cost supply.*	*Yorkshire companies relying on traditional manufacturing activities will see their business disappear to an even greater extent than previously*

Market positioning and strategies…

Suppliers in the region need to make strategic changes to strengthen their position, meet new requirements and take advantage of opportunities in the market

Only strategic change will deliver sustainability



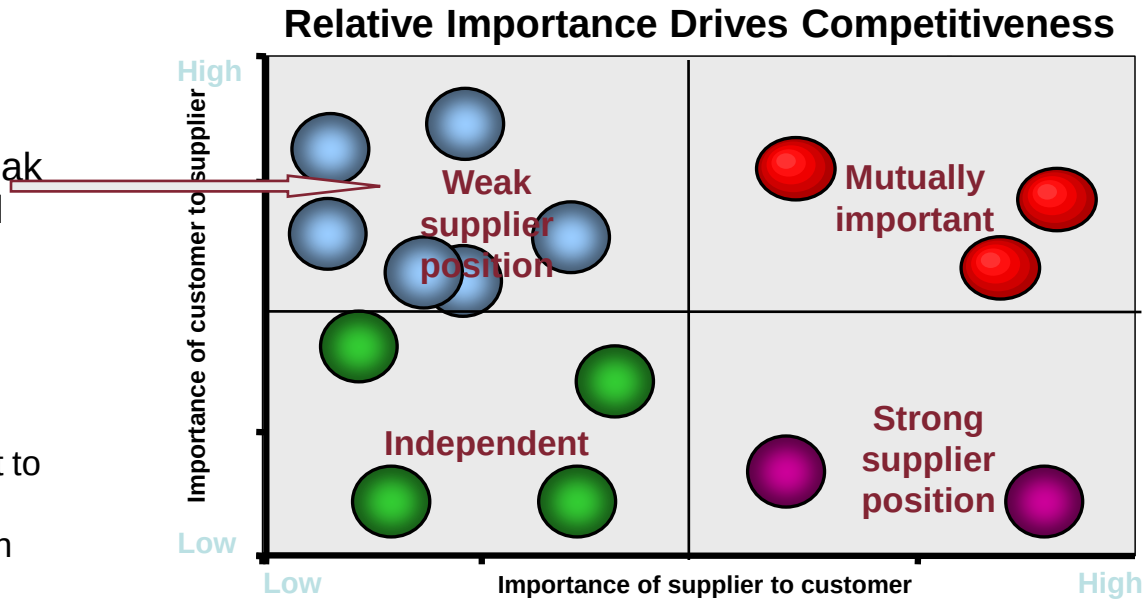
Regional initiatives will have to work at company level

- There are few coherent supply chains within the region
- Supply Chain Structure is increasingly global, certainly multi regional
- The majority of customers and suppliers within any one chain are outside the region
- Most automotive suppliers in the region are tier 2, 3 or 4 with products that end up in widely differing end markets. Remote from the end customer resulting in weak relationships with OEMs and primes
- Most suppliers need to make strategic change to increase strength with other key customers
- Need to take advantage of new technologies
- Need to take advantage of lower cost sourcing

Market positioning and strategies…

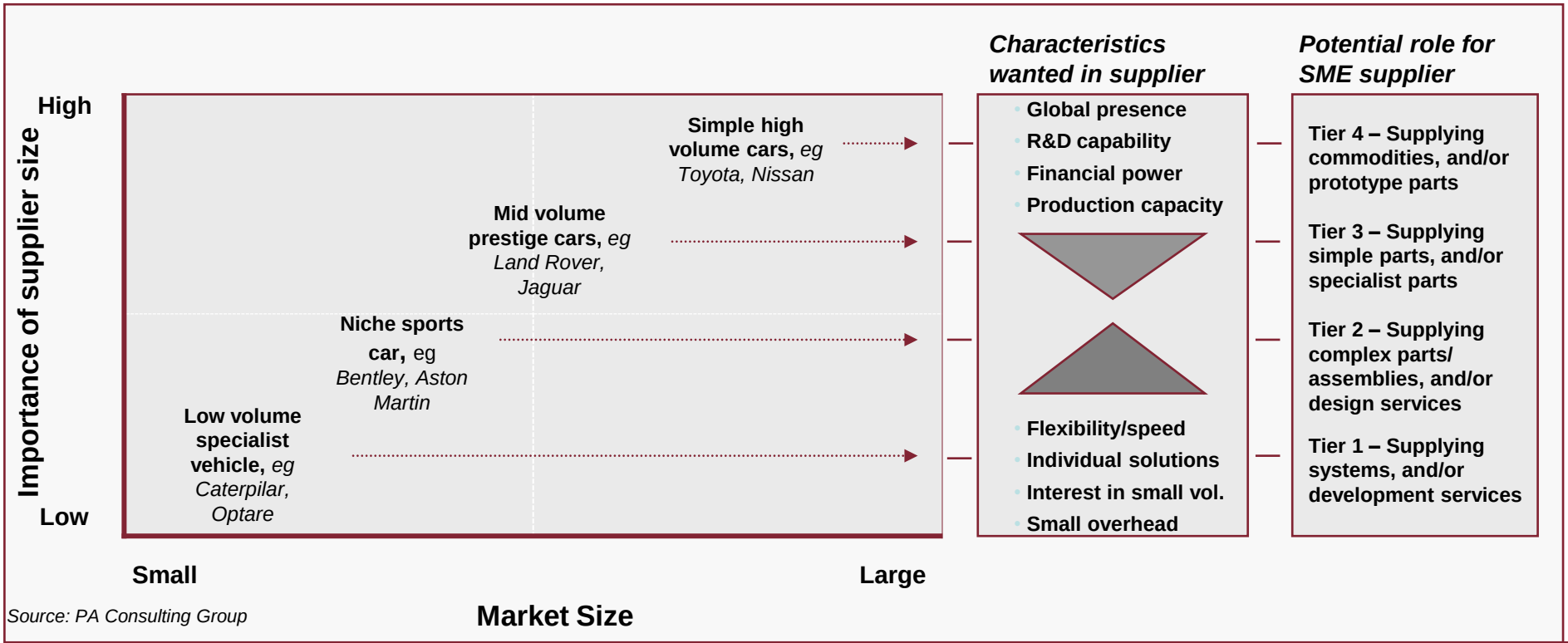
To be competitive companies must identify strategies that increase their relative importance to their customers

- Most of the sub-sector issues result from the weak position of many regional suppliers
  - Many suppliers in the region have not differentiated their products and services enough to be important to their customers
  - Many are dependent on one or two customers
  - Most have little influence
  - Few understand their markets and customers well enough.



Market positioning and strategies…

Size matters… SME suppliers have potential competitive advantages in niche segments where margins are usually higher and competition lower

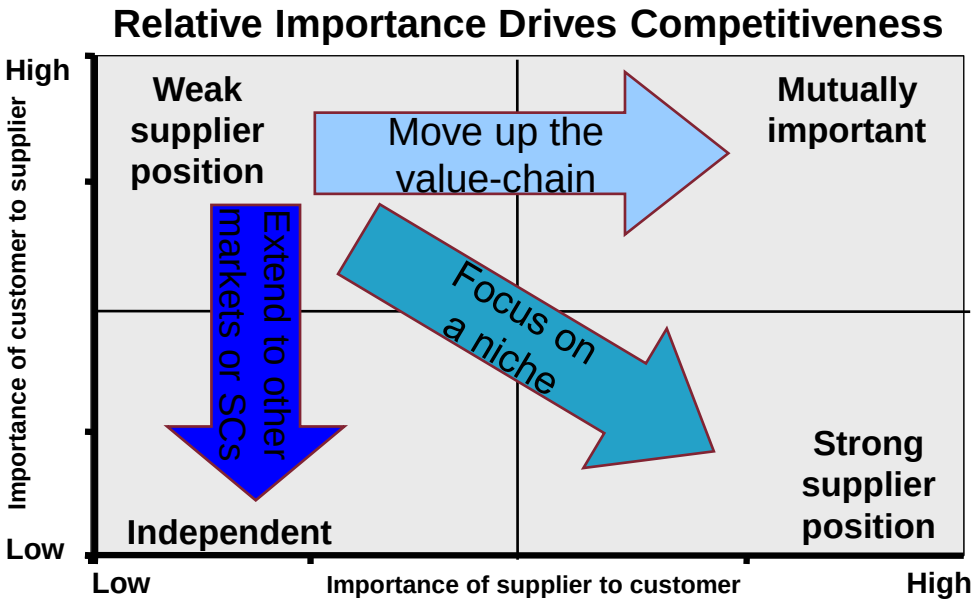


Source: PA Consulting Group

Market positioning and strategies…

To move to a stronger market position suppliers need to choose from three viable sub-sector strategies

- 1 Move-up the value chain
  - to take on value-adding activity that is currently done by the customer, e.g. design and development, integration, solutions development
- 2 Extend to other markets or supply chains
  - with higher returns for UK suppliers using the competencies already in place, e.g. medical, aftermarket, aerospace
- 3 Focus on a niche
  - with higher margins and less competition from product or process innovation and value-adding low volume methods, eg high performance products, specialist vehicles



Market positioning and strategies…

Strategy 1 MOVE-UP THE VALUE CHAIN

Nature of opportunity: Take on value-adding activity currently done by the customer. There is urgent demand from primes and Tier 1s under cost and consolidation pressure to take out costs and risk. Most will share the reward. Primes and Tier 1s are increasingly focusing on systems integration and are looking to outsource non-core activities up the supply chain.

Benefits: Greater turnover from more business, higher profit margins, closer relationship with customer meaning increased likelihood of repeat business, improved forecasts.

Challenges: Smaller companies may have to deal with powerful Tier 1-2 or collaborate to gain scale. May require outsourcing of own non-core activities.

Pre-requisites: Become accredited as a system supplier. Clarity of customer requirements. Close relationship with customer development organisation. Ability to adapt and add-value to the design for specific applications. Effective account management and communication. Ability to add value through superior performance of solution.

Examples:

- Increasing design and development role. Act as a product integrator
- Supply chain management for specialist categories
- Inventory management incl. VMI, lineside
- Taking on adjacent supply chain steps e.g. adding treatment and machining to forging
- Collaborating to provide a bundle of services
- Creating new small volume supply chains based on existing core products.

Market positioning and strategies…

Strategy 2 EXTENDING TO OTHER MARKETS OR SUPPLY CHAINS

Nature of opportunity:	Many companies focus on their products and markets as opportunities when other competencies are often more important. Selling/leveraging company's current supplier capability in other markets or supply chains, for instance capabilities with exotic materials, complex processes or demanding approvals.
Benefits:	Lower dependence on any one sector and one customer through diversification, and ability to gain greater volumes and achieve higher margins through supply.
Challenges:	New processes so inevitable teething troubles. Hard to differentiate from incumbents and lack of track record in start period. Loss of focus.
Pre-requisites:	Deep understanding of company's most valued competencies. Willingness to speculate. Pay cost of entry. Highly efficient operation to gain entry, and in-depth understanding of markets. Insightful and rapid identification of opportunities that exploit strengths, e.g. failed companies with equivalent capabilities.
Examples:	• Building on delivery to a customer and deliver for smaller suppliers or enter the aftersales market • Identifying and using core expertise, e.g. small volume manufacture, exotic materials/process expertise, e.g. sintering, hazardous process/material expertise for disposal • Supplying to boat builders for boat interiors. Very similar to luxury car interior components.

Market positioning and strategies…

Strategy 3 FOCUSSING ON A NICHE

Nature of opportunity: Vehicle makers are increasing variety to capture new market segments. Primes and Tier 1s are not set up to handle variety cost effectively.

Benefits: Premiums for unique/highly specialized products and services. Access customers near to end-customer and influence design decisions

Challenges: Fluctuating demand. High variety. Need to integrate into production system. High dependency in specialist areas.

Pre-requisites: Specialty focus, long-term R&D investment in portfolio of products, ability to protect niche through establishing entry barriers eg. IPR, learning curve, customer lock-in. Ability to collaborate with research institutions to create a centre of excellence

Examples:

- Vehicle modification (eg fire trucks, refuge trucks)
- Specialist low volume processes (eg soft tooling)
- Serving a specific geographic area
- Serving a select group or section of customers
- Focusing on a segment of a product line
- Hard to replicate processes, e.g. shot peening, spinning
- Entering declining but sustained markets, e.g. small volume spares, programme ramp-down

Moving forward…

Improving internal competencies will be a critical factor in meeting new customer demands

Managing the business

- Be commercially transparent
- Be financially transparency
- Be financially robust
- Think strategically
- Use ICT efficiently

Supply chain

- Be cost competitive and take cost out
- Be reliable on quality and delivery
- Improve logistics management
- Improve supply chain management
- Manage demand fluctuation
- Electronic order management

Position in the market

- Improve market intelligence
- Take a strategic view of customers and relationships
- 'Think global, act global'
- Have account management – knowing who to talk to and when

Developing product and service

- Support Integrated Project Teams in product design through special expertise
- Invest in design process and Integrated Project Teams

People and organisation

- Change proactively

Moving forward…

Some Yorkshire companies are changing their market position successfully by following these strategies

- **Move up the value chain**
  - Gesipa – delivering more complex multi-functional components and providing the rivetting machines to customers for their own rivets
  - Birkbys Plastics – taking on more of the design role
- **Extending to other markets or supply chains**
  - Sarnatech – growing new markets, such as automotive, as plastics continue to replace metal, based on their proprietary bearing technology
- **Focussing on a niche**
  - Holset (world leader in turbo charger technology) – with unique product designs such as variable geometry turbo-chargers at the limits of materials

There are two key questions for you to answer:

Where do you want to go? And how are you going to get there?

Moving forward…

Suppliers need a way to prioritise, develop and implement focussed responses with their customers

- Yorkshire suppliers need to:
  - Choose value-adding strategies. This means:
    - Determining what customers to target (who are the profitable customers?)
    - Determining what products or services to sell (what are the profitable products/services?)
    - Determining what markets to be in (where are the profitable markets?)
  - Develop the competencies to deliver their strategies

- The Yorkshire Forward Competitive Edge programme has defined a number of projects to assist companies become more competitive through strategic initiatives

Strategic differentiation can be sustained only by building up relevant competencies, e.g.

	Focus of competencies to deliver strategy		
Strategies	Customer Intimacy	Operational Excellence	Product and/or process Leadership
1 Value chain	Increasing solution design and development	Integrator (existing processes), machining	Integrator (new processes)
2 Markets and Supply chains	Supply chain management	Entering new markets, Logistics consolidator	
3 Niche		Controlling scarce resource	Building own IPR

Each choice requires a different combination of competencies

Different strategies drive the priorities of competence development

Operational Excellence	Customer Intimacy	Product and/or process leadership
acquiring products & services effectively	adding value through life-cycle	applying appropriate techniques
adding value in manufacturing	designing for through-life value	designing for through-life value
adding value through life-cycle	managing the customer relationship	innovating the product range
applying appropriate techniques	meeting the customer's requirements	managing risk
delivering product and service effectively	turning information into knowledge	turning information into knowledge
driving improvement continuously	understanding the customer's needs	understanding the market
managing costs rigorously		
managing suppliers		

- Each company should develop its own strategy with an agreed ambition and goals and targets to measure progress to the ambition.
- The ambition should cover: What the company is intending to achieve as a business and by when? What type of business? What products? What position (rank, size) in what markets? By when?
- From this the specific priorities for the competencies can be identified

Different competencies are needed to compete in different value disciplines

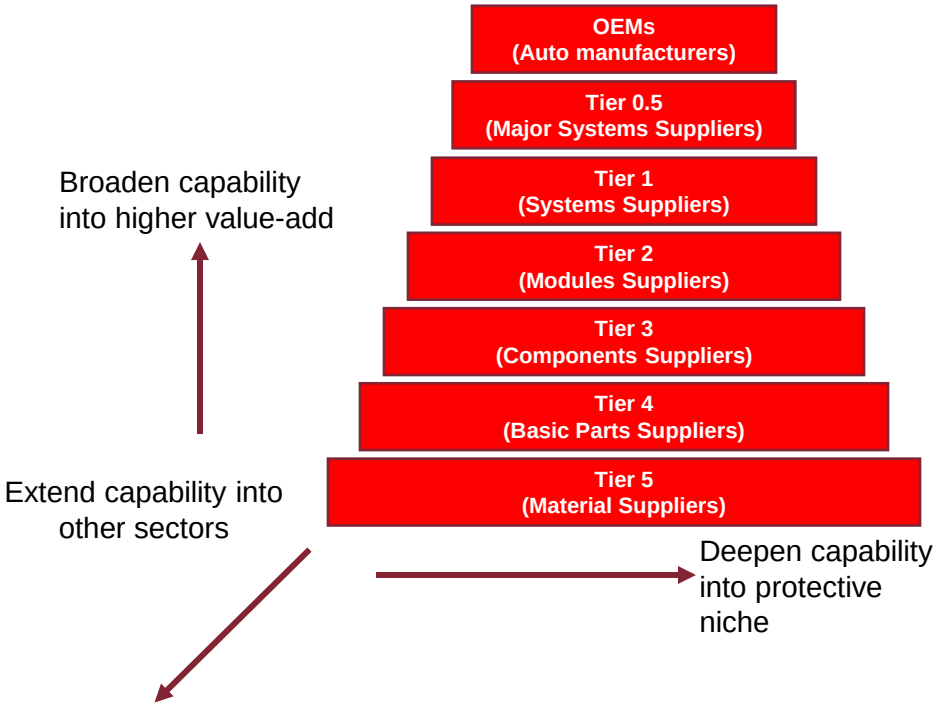
- **Operational excellence** describes companies that strive to lead in price and convenience – the two primary buying criteria and service expectations of their key customers. Companies pursuing operational excellence are indefatigable in seeking ways to minimise overhead costs, to eliminate steps in the production process, to reduce transaction costs and to optimise business processes across functional boundaries. The operationally-excellent company will exploit information systems to automate processes and to strip costs out of its operations.
- **Product leadership** sets out a different management agenda, one of producing a continuous stream of state-of-the-art products and services. Organisations that excel at product leadership are highly innovative, recognising and embracing ideas that frequently originate outside the company. They commercialise these ideas quickly, and align internal processes to minimise the time to market – knowing that being first will enable them to charge a premium price. Most importantly, they also relentlessly pursue new solutions to the problems that their own latest product or service has just solved, using information systems to optimise product development, communications and cooperation. The product leader meets its customers' expectations by being consistently the first to make the latest ideas available in the marketplace.
- **Customer intimacy**, the third value discipline, describes companies that continually tailor and shape products and services to fit an increasingly fine definition of the customer. They accept that this can be expensive in the short term, but customer-intimate companies are willing to invest now to build customer loyalty for the future. They focus on the lifetime value of their customers, rather than the value of any single transaction. Seeking out customers who are prepared to form relationships with their suppliers, the customer-intimate company does whatever is most appropriate to build loyalty with each selected customer.

Characteristics of value disciplines

	Operational excellence	Customer intimacy	Product leadership
Driving force	Standardisation	Customisation	Performance and functionality
	Process and product optimisation	Meeting customer requirements	Product and/or process technology roadmap
Process CSFs	Optimisation of end to end	Perceived service at customer interface	IPR development
	Efficiency	Responsiveness	Innovation
	Reliability	Process innovation	Time to market
	Overhead costs	Customer value	Selling the concept
Structure	Centralised, command and control	Dispersed/ at interface	Dynamic short-term expert groups
Management	Cost and performance control	Service management	Risk management
			IPR management
IT	Integrated Transactional Systems	Customer Knowledge Management	Technology Knowledge Management
	Information systems aligned to the lean approach - helping not hindering	Information systems to support relationship and service management	Information systems to assist product data, life-cycle management and collaboration
Key customer interface	Operations	Development	Sales and marketing (customer's customer)
Underlying proposition	Value for money, convenience	Tailored solutions	Performance advantage

The three value disciplines lead to very different business models, and it is the incompatibilities between them that make it impossible for one business to excel at all three. Empowerment, for example, is essential within customer intimacy but an impediment in operational excellence.

Strategic opportunities to move to higher value-added markets



- Potential to change the relationship (longer/deeper)
- Stronger bargaining position
- Switch focus away from price
- Gain more business and increase revenue and profit