



*Cranfield*  
UNIVERSITY  
School of Management

**4<sup>TH</sup> EUROPEAN FORUM  
ON  
MARKET-DRIVEN SUPPLY CHAINS**

BRUSSELS – MARCH 24-25, 2010

# Creating a responsive supply chain strategy.

---

**Tim Waddington, V2C Ltd and Keith Bell, Durham Business School**

## **Abstract**

Responsive supply chains, which follow and respond to customer demands, are vital in turbulent market conditions. To create one requires a business strategy which is shaped through market understanding and which then designs the supply chain to match.

Complexity, however, in markets, in the structures of larger corporations and in the strategy development process itself, can be a barrier to understanding and responding to these demands.

This paper applies simplicity to the process of strategy development and outlines a methodology to create a responsive supply chain strategy. It presents a system to gather information on market needs and customer value so that a business can create a decisive competitive edge, together with the supply chain actions needed to deliver it.

The individual tools used are not new, but the originality is the particular choice of tools and their sequence, which more easily allows collaboration in the process without excessive up front training.

The methodology has been tested in a number of UK manufacturing companies. A case study is used from one of these, Mech-Tool Engineering Ltd., which has used this process to increase its market responsiveness and has increased its turnover by over 100% in 3 years.

## **Introduction**

The core purpose of any business is extremely simple; to identify a market need and meet it. However, once a business established, it can fail to monitor how market needs are changing and hence become misaligned to delivering what the customers currently value.

Christopher identifies the simplification of business processes as being a key enabler for agility. Here we are looking to apply that principle to the process of strategy development so teams can more easily collaborate to create and update one. Hence they have a shared vision of the future and a shared plan for bringing the necessary change about. We see a three-fold challenge to achieving this:

1. How to find clarity of the key market requirements from the mass of data
2. How to involve a wide ranging group in the strategy development process
3. How to keep the strategy live and responsive to changing demands

This can be summed up in the challenge to achieve **Clarity, Collaboration and Continuity**



**Clarity** As companies grow, they often become specialised with Marketing, Sales, Operations, Design departments for example. Although such specialisation brings focus to those areas it harder for people within those departments to see the ‘big picture’.

One of the main objectives of this strategy process is to create a market-led strategy that is not just owned by the marketing department but is also created with those responsible for supply chain design and management. This gives a shared goal of business financial performance and the needs of target markets. For this to happen, the process must be simplified so that having a marketing degree or MBA is not a prerequisite for involvement.

**Collaboration** A simpler approach, therefore, allows a wider range of participants in the process, not just across departments or senior managers but also from different levels; pulling together the collective wisdom within a business.

To gain the best understanding of the market and customer requirements obviously sales and marketing personnel need to be involved, but technical engineering support, quality personnel and service personnel can also give vital insight. If the product is sold through distributors or agents then their input will also be valuable.

The involvement of Operations, Design and Finance in the process brings additional insight. This includes market awareness and foresight, which is not solely understood by Sales and Marketing! It is the Operations and Design teams who are generally responsible delivering a competitive advantage, once it has been identified. The goal is a sense of shared ownership for the strategy, throughout the business.

In addition, the process itself is a valuable teaching tool, as managers in manufacturing companies often lack any training in basic strategic methods such as market segmentation and competitive advantage.

**Continuity** The final challenge is for the strategy not to then be ‘put in a drawer’ and revisited 12 months later. To be truly responsive it must be capable of being updated easily as market conditions alter, and simplicity helps in this.

Once the strategy has been developed it then needs to be deployed such that it engages people’s attention and the implementation becomes part of everyone’s day to day life. As Brown identifies, strategy must move from strategic models and concepts to become an actionable plan.

Mech-Tool Engineering is an example of a company which has undergone a transformation into a responsive organisation. The company offers bespoke engineered solutions to protect people and equipment from explosions, fire and noise mitigation predominantly for the offshore and onshore petrochemical markets. In the period 2000 to 2006 it had a stagnant operating performance at around £7m to £8m sales turnover and negligible profit levels.

In 2006, a change of Managing Director led to a review of business and operations. Following an analysis of the business product and market mix, the company was re-structured into product based business units with a central manufacturing facility, each responsible for its own profit and loss account. The intention of the business units was to provide focus, based on Hamel's (2000) core competency model which suggests businesses within businesses, each with a specific range of products and a centralised master scheduling system.

The business was re-formed into 3 business units for Acoustic, Modular and Fire & Blastwall products over the six month period, from October '07 to March '08. This broke down the functional barriers within departments and provided the focus for increased sales.

The management teams from the business units were then tasked with creating their individual business unit strategies. They were trained in the methods described in this paper and used them to build an individual market-led strategy for each business unit.

## The development process

We have identified three strategic development stages work together effectively to give clarity of market requirements. They are also sufficiently simple to allow easy group collaboration in the process. They are:

1. **Sales Focus**
2. **Market Expansion**
3. **Competitive Edge**

### 1. Sales Focus

The first stage is to ask the question "where should we focus our Sales effort as a company?"

This is to avoid treating all products the same and to guide resource allocation decisions. In doing this, it is necessary to strike a balance between too broad a focus, which results in dilution of effort and resources, and too narrow a focus, which could result in missed opportunities.

"The underlying concept of examining the organisation against its environment has always been recognised as the only rational way to make resource allocation decisions." (Brown). The first step is to create a market analysis summary. Map rows of competitors against current product families, and estimate the competitor's annual sales for each. Although the figures will sometimes be rough estimates, it is important to see where there are weaknesses in 'market clarity', i.e. the company's understanding of its competitors and markets. It is common, for example, to underestimate the size

of markets and to overestimate your market share. Sometimes the attempt to get this data highlights the weaknesses in knowledge; hence triggering further market analysis.

Alpha BU		Competitor Sales					Year ending:		Jul-08	
Add	Add	Televisions	Visual Display	DVD Players	Amplifiers	Ancillaries	Installation	Knowledge	Aggression	
Philips	Sales	158,654,999	15,702,140	11,512,723	202,338			1	5	
	Market Share	14%	49%	28%	29%	25%	4%			
Toshiba	Sales	10,600,000	54,209,473	351,545,494	23,034,728			3	4	
	Market Share	2%	10%	39%	6%					
Sanyo	Sales	88,978,699	15,700,231	151,289,969	88,978,699			4	1	
	Market Share	17%	3%	17%	24%					
Sony	Sales	95,545,494	7,350,876		412,157			5	2	
	Market Share	18%	1%		0%					
B & Olufson	Sales	53,795,673	81,608,465	1,554,803	24,000,000			1	3	
	Market Share	10%	15%	0%	6%					
Daewoo	Sales	25,899,459	95,545,494	11,893,765	20,000,000			2	4	
	Market Share	5%	18%	1%	5%					
Dixons	Sales	15,289,969	0	11,512,723	95,545,494	10,256,789		3	5	
	Market Share	3%		1%	26%	10%				
Currys	Sales	523,759	0	106,453,984	202,338	5,798,720		1	2	
	Market Share	0%		12%	0%	6%				
Others	Sales	10,000,000	5,000,000	10,000,000	10,000,000	60,000,000	50,000,000	1	1	
	Market Share	2%	1%	1%	3%	59%	96%			
Alpha Co.	Sales	76,421,860	260,014,754	255,009,208	109,753,640	25,112,981	1,860,210			
	Margin	12%	47%	32%	27%	16%	43%			
	Market Share	14%	49%	28%	29%	25%	4%			
Total Market Size		535,709,912	535,131,433	910,772,669	372,129,394	101,168,490	51,860,210			
Market Growth		-2	-1	0	1	2	0			
Strength in Market		1	3	5	2	4	3			
Market Attractiveness		5	2	1	2	4	5			

A Market Analysis summary

The Market Analysis summary shows on one page your estimated market share and the main competitors by product family. It assists the team to have a common understanding of the market situation and make informed decisions about product focus and resource allocation. Using a segmentation matrix to analyse the product portfolio can help the team to make more objective decisions about focus. The one used here is the 'GE Box', a nine box matrix contrasting an assessment of a company's strength or competitive capability against an assessment of market attractiveness, which was developed by General Electric.

		Strength in Market		
		High	Medium	Low
Market Attractiveness	High	Hold	Expand	Expand or Divest
	Medium	Expand	Hold	Hold
	Low	Hold	Hold	Divest

The 'GE Box'

The exact model used is less important than the opportunity for a team to discuss the product portfolio with an element of objectivity. This can be a particular difficulty where managers are protective over 'their' products. The goal is not to slavishly force a decision simply because a product

appears in a particular box, but to guide discussion so that product families are allocated into one of three categories, Divest, Hold or Expand.

**Divest** If a product is identified as ‘Divest’ then the two options are either to simply stop supplying it, or to also to sell the rights to another business. It is important to be careful that a product considered not worth saving does not become a self-fulfilling prophecy. If it is being divested for example mainly because the margins are too small, it is worth checking if the financial picture is accurate, if the margins can be improved through operational improvements and finally what impact its removal would have on the overhead allocation for the remaining products.

**Hold** If a product is identified as ‘Hold’ then it will be retained, but it will not be allocated a large amount of financial or sales team resource. Simply standing still, however, still requires effort. It is important to actively monitor customer sales and margin and to be aware if either are being eroded, so that protective action can be taken. An effective way of doing this is to build another one page summary of existing customers and products.

Alpha BU		Customer Sales						Year ending:		Jul-08	
Add	Add	Televisions	Visual Displays	DVD Players	Amplifiers	Ancillaries	Installation	Others	Totals	Knowledge	
Comet	Sales	19,654,103	29,160,854	71,554,803	21,554,803				141,924,563	1	
	Margin	14%	49%	37%	37%				36%		
Dixons	Sales	158,990	43,354,872	55,412,723	5,412,723	2,758,999	345,567		107,443,874	3	
	Margin	13%	43%	39%	39%	18%	43%		40%		
Currys	Sales	17,804,499	55,712,300	21,762,723	21,762,723	1,182,943			118,225,188	4	
	Margin	14%	53%	35%	35%	15%			40%		
Hofer	Sales	12,153,795	48,381,608	12,554,803	12,554,803	3,804,499			89,449,508	5	
	Margin	14%	43%	20%	20%	19%			32%		
GDK Group	Sales	22,758,999	57,200,653	4,512,723	4,512,723	7,652,872			96,637,970	1	
	Margin	10%	47%	12%	12%	17%			33%		
Tesco	Sales	1,158,973		51,265,723	5,265,723				57,690,419	2	
	Margin	16%		29%	29%				29%		
On Line	Sales	55,494	19,350,652			8,654,103			28,060,249	3	
	Margin	13%	47%			15%			37%		
Wholesale	Sales	58,999	1,235,700	5,712,723	5,712,723		528,763	15,643,876	28,892,784	1	
	Margin	45%	67%	25%	25%		43%	67%	50%		
DBM Group	Sales	58,999	5,610,765	31,276,723	31,276,723		354,672	1,675,339	70,253,221	1	
	Margin	16%	38%	20%	20%		43%	67%	23%		
Sainsbury	Sales	55,494	7,350						62,844	1	
	Margin	13%	65%						19%		
Others	Sales	2,503,515	0	956,264	1,700,696	1,059,565	631,208	15,940,785	22,792,033		
	Margin	20%		10%	10%	10%	43%	67%	52%		
Geographic Sales											
Add	Add	Televisions	Visual Displays	DVD Players	Amplifiers	Ancillaries	Installation	Others	Totals		
UK	Sales	53,795,987	18,160,836	155,480,334	24,059,034	25,110,680	1,860,210	30,214,502	308,681,583		
	Margin	13%	47%	32%	26%	16%	43%	67%	31%		
Norway	Sales	15,899,967	45,700,678	68,127,236	20,233,835			3,001,500	152,963,216		
	Margin	10%	47%	31%	27%			66%	34%		
Holland	Sales	58,999	157,004,535	500,723	20,233,845			500	177,798,602		
	Margin	16%	47%	35%	28%			69%	45%		
S. America	Sales	58,999	15,700	524,723	20,233,823			500	20,833,745		
	Margin	16%	47%	23%	29%			69%	29%		

A Customer / Product grid

This grid summarises the existing products and customers that the company currently has. For ‘Hold’ products the focus is on protecting the existing market sales and margins. If margins are being eroded, then operational actions to reduce costs and reduce investment may be required.

This summary of existing products and customers represents the market opportunity in top left box of the Product-Market Expansion Matrix.

Existing Products Existing Markets	New Products Existing Markets
Existing Products New Markets	New Products New Markets

The Product-Market Expansion Matrix (Ansoff)

**Expand** For 'Expand' products the focus is also on protecting the business in the top left hand box of the matrix, but also penetrating this market further and then examining the other opportunities for further market expansion that are represented by the other three boxes.

## 2. Market Expansion

### Penetrate further into existing market segments with existing products

Companies penetrate markets by gaining competitors customers, attracting non-users of the products, convincing current customers to use more of the company's product and strengthening the competitive advantage. Retaining existing customers is cheaper than attracting new ones, which is why companies engage in relationship marketing activities to retain their high lifetime value customers.

### Enter new market segments with existing products

This involves moving beyond the current customer base towards attracting new customers for its existing products. It often involves the sale of existing products in new international markets or new geographical areas and could also involve exploring new uses for the company's products and services.

- **Who** are you NOT selling to?
- **Where** are you NOT selling?

### Create new products for existing segments

This involves significant new product or service developments and not just minor changes in an existing product of the firm. This tactic may also help to; utilise excess production capacity, counter competitive entry, maintain the company's reputation as a product innovator, exploit new technology and to protect overall market share

- **What** new product or service could you supply?

### **Diversify into new markets with new products**

When a company diversifies, it moves out of its current products and markets into new areas. This may be into either related or unrelated areas. Related diversification may be in the form of backward, forward, and horizontal integration. Backward integration takes place when the company extends its activities towards its inputs such as suppliers of raw materials in the same business. Forward integration involves extending its activities towards its outputs such as distribution in the same business. Horizontal integration involves moving into businesses that are related to its existing activities.

Again, the discussion of opportunities amongst the team and the ideas that this generates is the most important factor. Once new opportunities have been worked through, the final stage for both 'Hold' and 'Expand' products to drive this is to carefully examine the reasons why you win currently business from your competitors and how to sharpen this proposition in the future.

This 4 step reappraisal has been a key factor in the business growth that Mech-Tool has achieved. The strategic shake up of considering options for market expansion gave them the initiative to move beyond their traditional markets, for example:

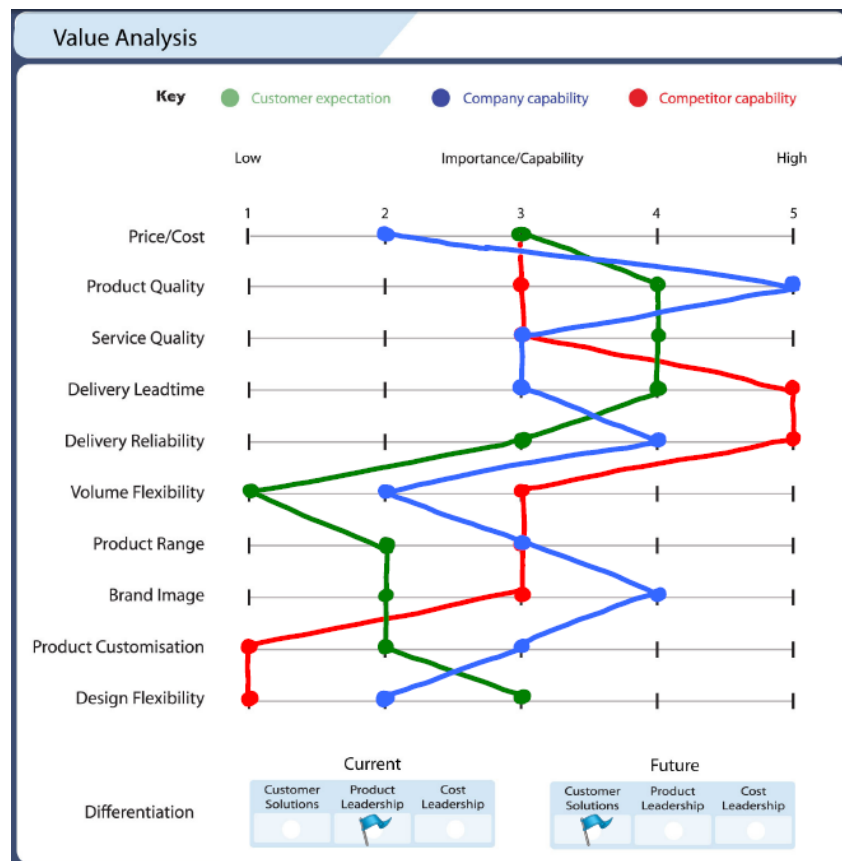
- Licensing manufacture of existing core products into new overseas territories, whilst retaining intellectual property rights and design engineering.
- Adapting core products for applications into the emerging market for offshore renewables.
- Entering into a partnership arrangement with a USA company to manufacture protective insulation systems for the existing UK Defence Submarine Projects and the emerging UK New Nuclear Power Plant build programme. This is a new product and market sector but is an example of 'related diversification' as it builds upon their existing design and manufacturing skills to develop a new product for a new market.

### **3. Competitive Edge**

The final stage is to understand the reasons why customers currently buy from you – what do customers appreciate most about your company and the products - and ensure the business has a clear competitive edge in the future.

This understanding requires an examination of the interplay of Customer perceptions, Competitor capabilities and Company capabilities (Brown, Ohmae).

A SWOT analysis can give a general overview of this interplay, and it can then be further developed using a value analysis chart (Hill).



Value Analysis chart

The Value Analysis should highlight specific areas of strength and weakness relative to customer requirements and the competition. It's important to remember, however, that the chart itself is only as accurate as the level of knowledge of the market and customers. Obviously, the best possible input on customers' perceptions is from customers themselves.

The chart should illustrate the relative benefits that the customer sees when they buy from you, from the specifications of the product itself, the 'add-ons' such as packaging or features and also the services that may be part of the package.

When the understanding of perceived value by the customer is combined with pricing information relative to the competition, then a Value Position chart can be created.



An example Value Position Chart for UK supermarkets

This chart gives a useful snapshot of the current position of the company relative to its competition. From here the team can discuss the best future position to aim for, and the changes in the value offering and pricing that would be required to achieve it.

The key question to seek to answer is to imagine a potential customer asking “Why should I buy from you, rather than from your competition?”

For high value to be perceived by the customer, the answer to this question, i.e. the company’s competitive edge should be:

**Distinctive**      Something which matters to the customers and can be clearly seen to be superior to the competition.

**Measurable**     If it cannot be measured in financial terms, it is probably too vague!

**Sustainable**    Not easily copied or matched by competitors.

A sustainable competitive advantage cannot be created out of thin air but it can be built over time by using the existing points of difference with the competition or by building new ones (Brown).

Once the target competitive edge has been identified it should be validated by customers; do they agree that these factors are important to them?! Finally the team need to consider how it will be built and delivered in practice.

## Supply Chain Design

Once this stage has been completed then the question becomes how to set up the Supply chain to deliver the objectives set, for example:

- New markets: Is the current supply chain footprint sufficient?
- New products: How will these be designed and delivered?
- Expansion: Have we got the capacity?
- Competitive edge: How, practically, will we deliver this now and develop it in the future?

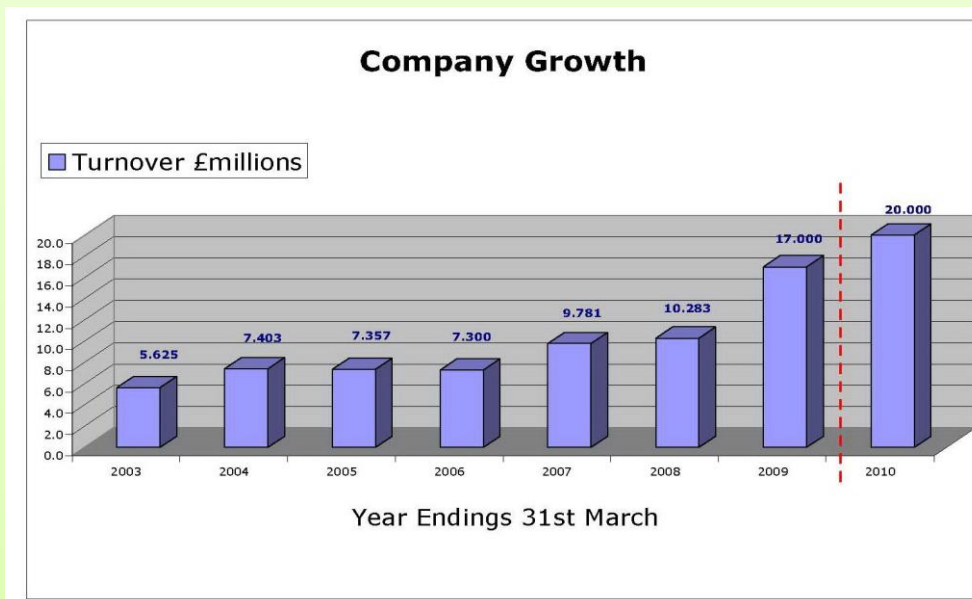
This is a separate area and will not be discussed here, but simply that to point out that by involving Operations and Design teams in the market analysis stage, they should be able to see and build the supply chain and design action plans in the light of the ‘big picture’.

At Mech-Tool, in addition to providing a strategic action plan, the process educated the management team in strategic thinking and gave them a clear picture of the overall business situation.

*“We have now got a strategic direction for the business unit and can see our weak areas, such as market knowledge, and how to fix them.”* Acoustics Business Unit Manager

*“This is the first time we have had a clear focus of what we needed to do to achieve our goals. It’s highlighted strengths and weaknesses we didn’t even know we had!”* Senior Planning Manager

The business has sharpened its competitive edge in the marketplace and has become more proactive seeking new business and building customer relationships. This has led to significant growth but has also highlighted further market expansion for the future.



*“Through our reorganisation and new strategic focus we are ready to expand further into new areas such as nuclear, wind power and defence. Over the next three years we are hoping to take the company to an annual turnover of around £30M.”* Managing Director

In conclusion, this paper presents a strategic process which does not require specialist knowledge as a prerequisite for participation. It seeks to find the balance between over and under analysis of market requirements, ideally to match Einstein’s maxim, “Everything should be made as simple as possible, but no simpler”.

**Tim Waddington** is the Director of the business consultancy V2C Ltd. and has an MBA from Durham Business School. He worked for Philips Electronics before becoming a management consultant in the early 1990s. [tim.waddington@v2c.co.uk](mailto:tim.waddington@v2c.co.uk)

**Keith Bell** is a DBA candidate at Durham Business School and Managing Director of Mech-Tool Engineering Ltd. [keith.bell@mechtool.co.uk](mailto:keith.bell@mechtool.co.uk)

## References

Ansoff, I. (1989), *Corporate Strategy*, Penguin, Harmondsworth.

Brown, R. (1991), Making the product portfolio a basis for action, *Long Range Planning*, Volume 24, Issue 1, Pages 102-110

Christopher, M. (2001), "An Integrated Model for the Design of Agile Supply Chains", *International Journal of Physical Distribution and Logistics Management*, Vol. 30, No. 4, 2001 (with Denis Towill)

Hamel, G. (2000), *Leading the Revolution*, Harvard Business School Press, Boston, MA

Hill, T. (2000), *Manufacturing Strategy*, Palgrave.

Ohmae, K. (1982), *The Art of the Strategist*, McGraw Hill