



“Transparency Challenges & Understanding Cost-to-Serve”

Professor Richard Wilding OBE, Professor of Supply Chain Strategy



Transparency Challenges and understanding Cost to Serve.

Professor Richard Wilding
Cranfield School of Management

www.richardwilding.info

Prof. Dr. Richard Wilding
Centre for Logistics & Supply Chain Management
Cranfield School of Management, Cranfield, Bedford, England, MK43 0AL
Tel: +44 (0)1234 754170 Fax: +44 (0)1234 751712 Email: Richard.Wilding@cranfield.ac.uk

www.cranfield.ac.uk/som

Notes:



Cranfield School of Management is...

One of the largest postgraduate management schools in Europe...



Cranfield University

- Established 1946
- 2,000 employees
- 3,000 postgraduate students:
 - 73% on taught degrees
 - 27% research
- Two 3*/4* hotels on campus
- Over 10,000 alumni in 110 countries
- 4th busiest airport in the UK!



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Notes:



Professor Richard Wilding OBE,

BSc, PhD, CEng, Eur Ing, FIET, FCILT, FCIPS, PFHEA

Full Professor and Chair in Supply Chain Strategy.

As Chair (Full Professor) in Supply Chain Strategy at the Centre for Logistics and Supply Chain Management, Cranfield School of Management U.K. Richard works with European and International companies on logistics and supply chain projects in all sectors including pharmaceutical, retail, automotive, high technology, food drink and professional services to name a few. He is a highly acclaimed presenter and regularly speaks at Industrial Conferences and has undertaken lecture tours of Europe and Asia at the invitation of local Universities & Confederations of Industry. He has published widely in the area of supply chain management and is Editorial Advisor to a number of top journals in the area.

In recognition of his outstanding achievements & impact in the area of logistics & supply chain management, Richard was appointed an Officer of the Most Excellent Order of the British Empire (OBE) by Queen Elizabeth II in the 2013 New Year Honours for services to Business. His exceptional contribution to engineering was recognized in 2013 by the Institute of Engineering & Technology in awarding him the "Viscount Nuffield Silver Medal for Achievement in Design & Production". He was winner of the "Individual Contribution Award" at the "European Supply Chain Excellence Awards 2010" this is presented to the individual who has made an outstanding contribution to supply chain excellence. In 2009 his biography was entered into the 162nd edition of "Who's Who" described as "Britain's most famous reference book" for those who have "reached the pinnacle of excellence in their field". At the European Supply Chain Distinction Awards 2008, received the 'Distinguished Service Award for Thought Leadership and Service to Supply Chain Management'.

Richard was appointed in 2005 as the first ever Full Professor and Chair of "Supply Chain Risk Management" in the World. This was in recognition of his significant contribution to this subject area. Supply chain risk is still a key focus of his research within the context of an organisations overall Supply Chain Strategy, thus enabling companies to create sustainable and resilient competitive advantage.

His Doctoral research, undertaken while employed at the University of Warwick, applied chaos and complexity science to logistics and supply chain management and resulted in the development of new management guidelines for supply chain re-engineering to mitigate risk. This innovative research received international media coverage including features on the BBC World Service and articles in the Times, Financial Times and New Scientist.

More recently his research into inventory policies of organisations in times of risk & uncertainty resulted in international media coverage including live interviews on BBC1 television news, BBC News 24, BBC Television's "The Money Programme", BBC 5 live and Independent Radio News. The research was also covered by the print media including the Financial Times, Sunday Times, The Guardian, and The Independent newspapers.

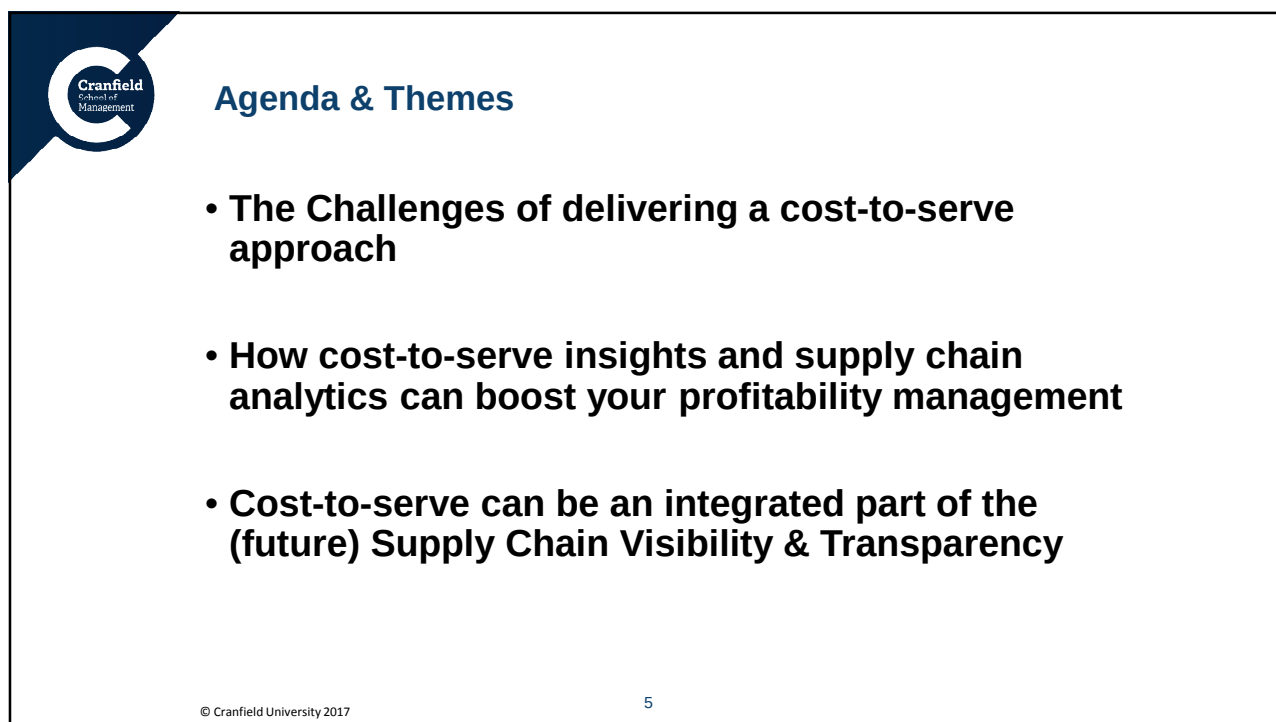
Richard is both a European and Chartered Engineer, he is a chartered fellow of the Institute of Engineering and Technology (Manufacturing Division) (IET), the Chartered Institute of Logistics & Transport (CILT) and the Chartered Institute of Purchasing & Supply (CIPS). Professor Wilding was elected as Chairman of CILT UK in 2015 representing the 18,000 members as a Director and Trustee of the institute. He is a founder & steering Committee Member of the CILT "Logistics Research Network", a global network of academics and practitioners involved in state-of-the-art logistics and supply chain research. He is also Co-Chairman of the CILT "Leaders in Supply Chain" Forum, a group limited to the top 120 Logistics and Supply Chain Directors from Europe. Richard is also a Principal Fellow of The Higher Education Academy (PFHEA), the highest level of award granted by the Academy, for a sustained and effective record of impact at strategic level in academic practice and strategic leadership in teaching and the enhancement of the student learning experience in Higher Education.

Richard's special areas of interest include the creation of collaborative business environments, reducing supply chain vulnerability & risk, time compression and techniques for aligning supply chains to maximise customer value and reduce cost.

Web: www.richardwilding.info LinkedIn Profile: www.linkedin.com/in/richardwilding



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Innovation

“Innovation is all about **creating value, economic value, social value and/or environmental value through **the application of ideas that are new to YOU.**”**



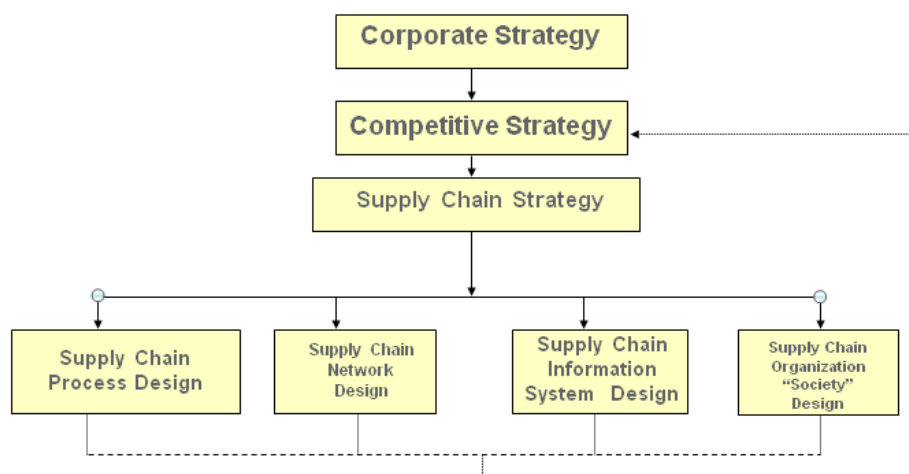
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Designing the Supply Chain



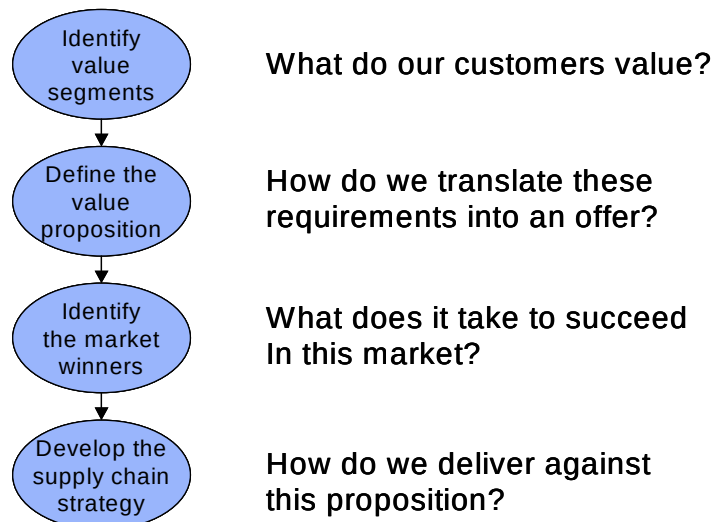
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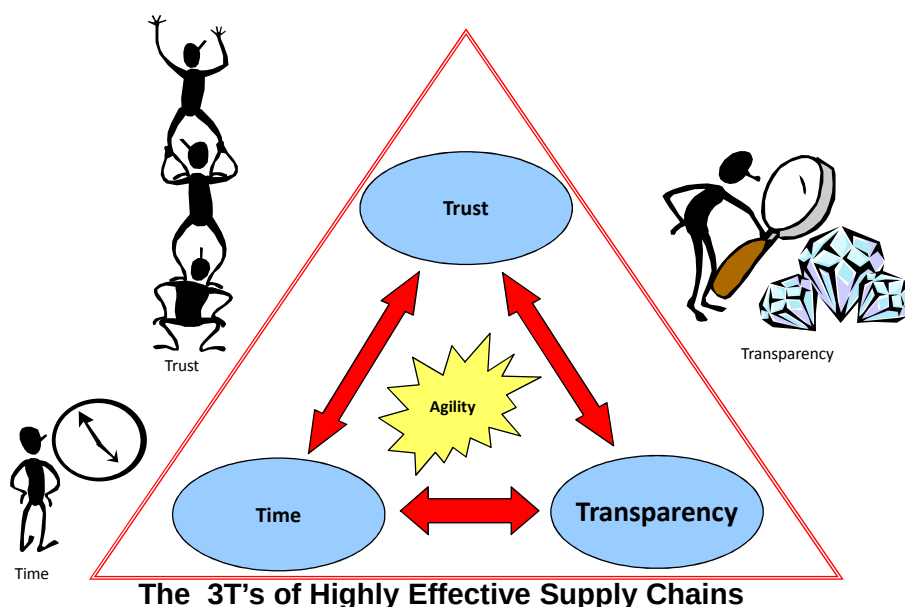
Linking customer value to supply chain strategy



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The 3T's of Highly Effective Supply Chains

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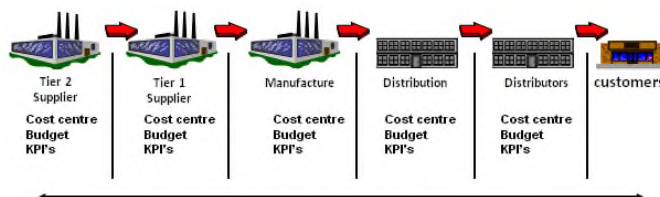
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Transparency of Cost

“The total cost of sourcing, converting and delivering product is seldom the sum of the lowest functional costs of each element in the supply chain”



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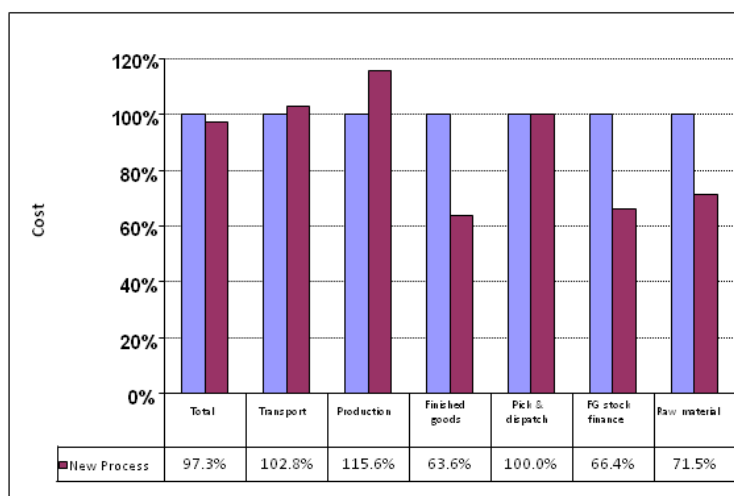
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Transparency of Cost



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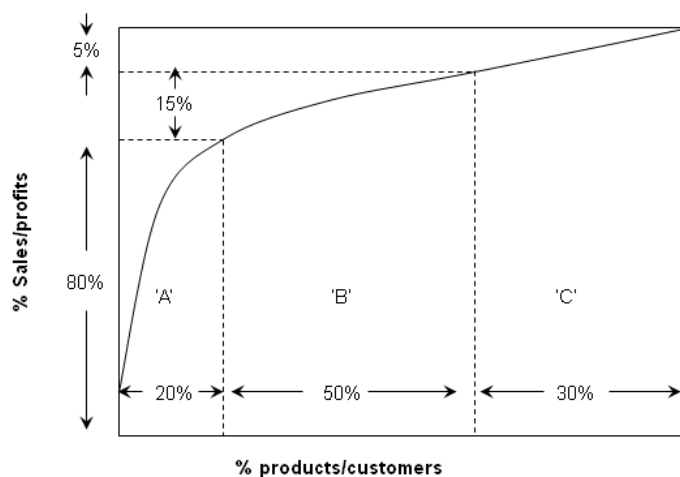
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The ‘Pareto’ or 80/20 rule & Cost to Serve



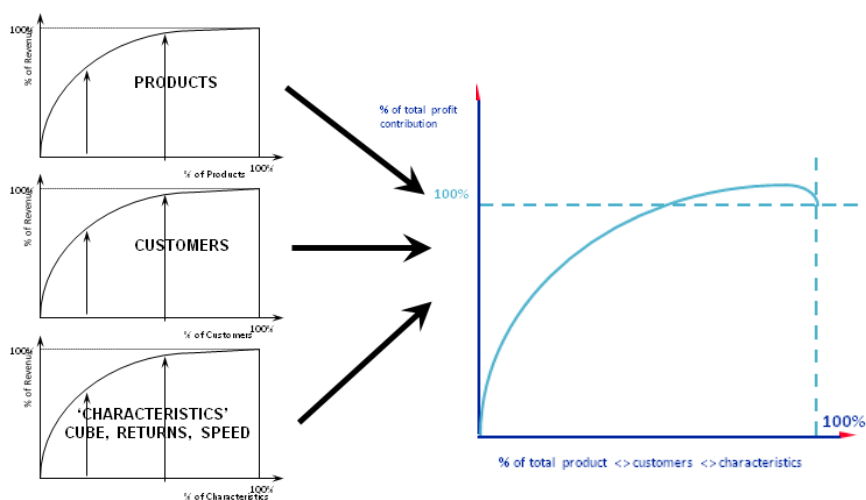
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Product / customer profitability as a result of the chain



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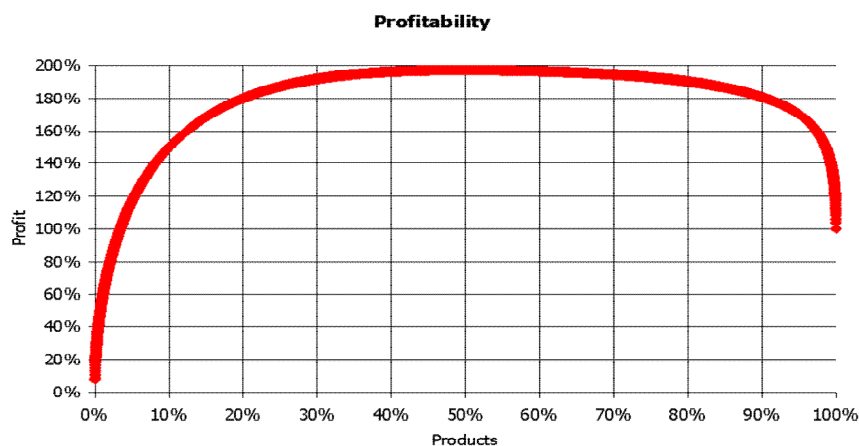
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Source: LCP Consulting Ltd, www.lcpconsulting.com

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Product profitability – an extreme case



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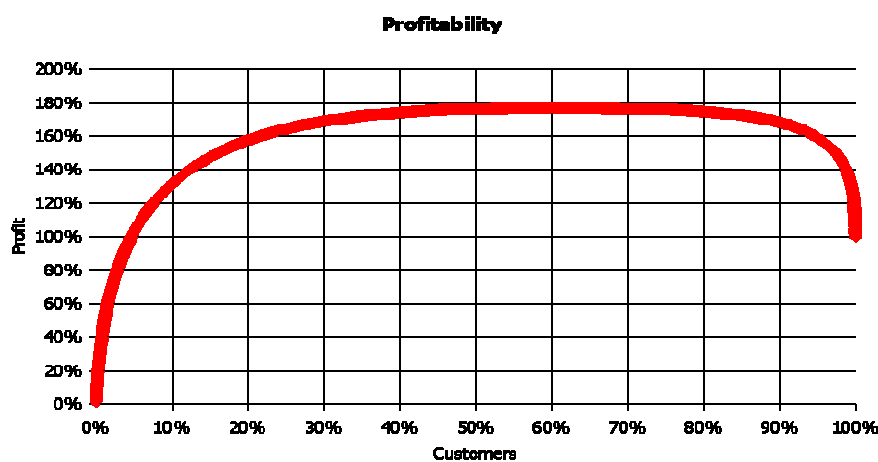
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Source: LCP Consulting Ltd, www.lcpconsulting.com

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Customer profitability – an extreme case



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Source: LCP Consulting Ltd, www.lcpconsulting.com

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Case Study – Apparel

“Where did your profitability go?”

Managing the apparel cost to serve

<https://www.gs1uk.org/our-industries/retail/apparel/cost-to-serve>

Or Google - “GS1 UK Cost to Serve”



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Apparel Retail today



N Brown first-half sales increase but profits fall

Profits fall at Vivienne Westwood, sales up

Bonmarché sales up but profits down

UNIQLO'S PROFITS CONTINUE TO SLIDE

Though sales were up, net profit declined almost 50 percent

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What is cost-to-serve?





Customer + SKU + Service level = Cost-to-serve

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What's behind the loss of profitability?







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Three challenges





Network complexity

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Three challenges





Network complexity



Market volatility

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Three challenges



Network complexity



Market volatility



Lack of visibility



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The two key levers for improving your costs





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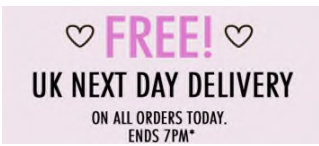


Balancing Strategy Proposition





Peak management



Service promise and proposition management



Investment in infrastructure

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Improving information flows





Supplier relationship management



Inventory management and centralisation



Data integrity



System integration



Internal structure

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Which lever to pull?

Lever 1
balancing strategy proposition

- **Quick win**
- E.g. Charging for home delivery, avoiding Black Friday
- Actioned swiftly
- Can detract from service offer

- **Long term, sustainable**
- E.g. Improving data quality, adopting EDI or RFID
- Add rather than detract from service offer

Lever 2
improved information flows

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Relationship Management - To measure is to know....

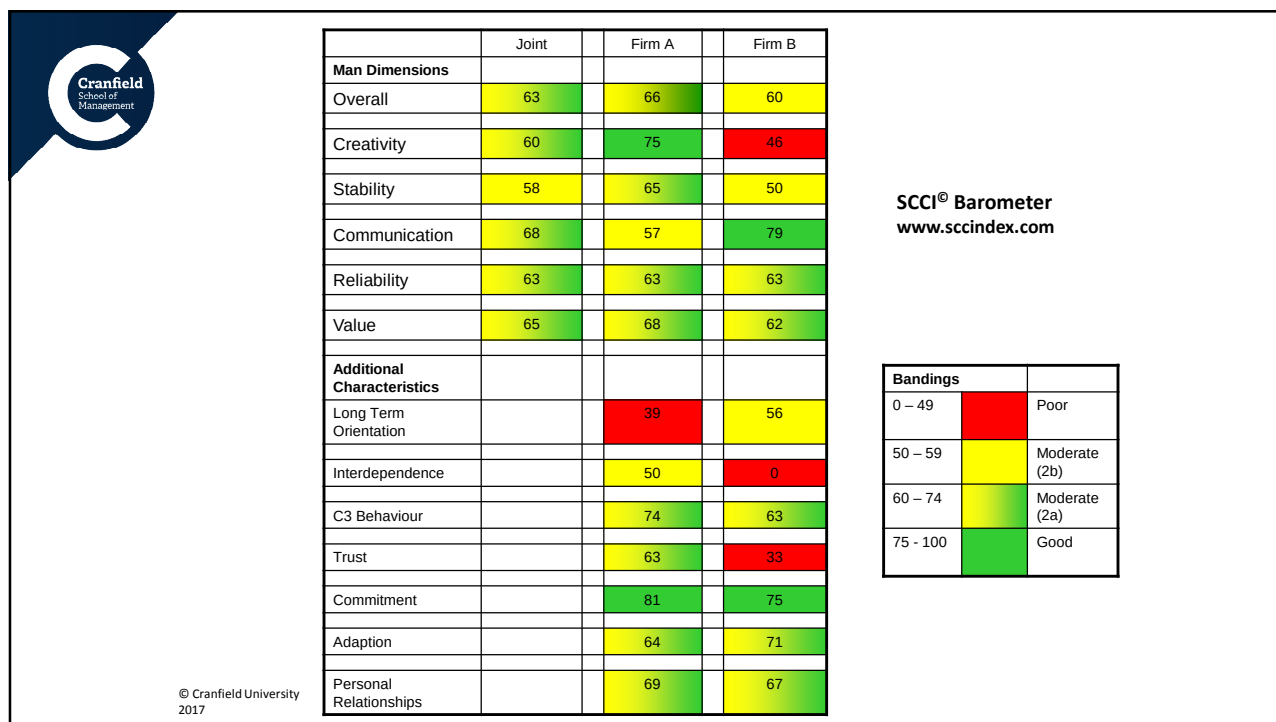
“If you can not measure it, you can not improve it”

Lord Kelvin
(Sir William Thomson)
1824 - 1907

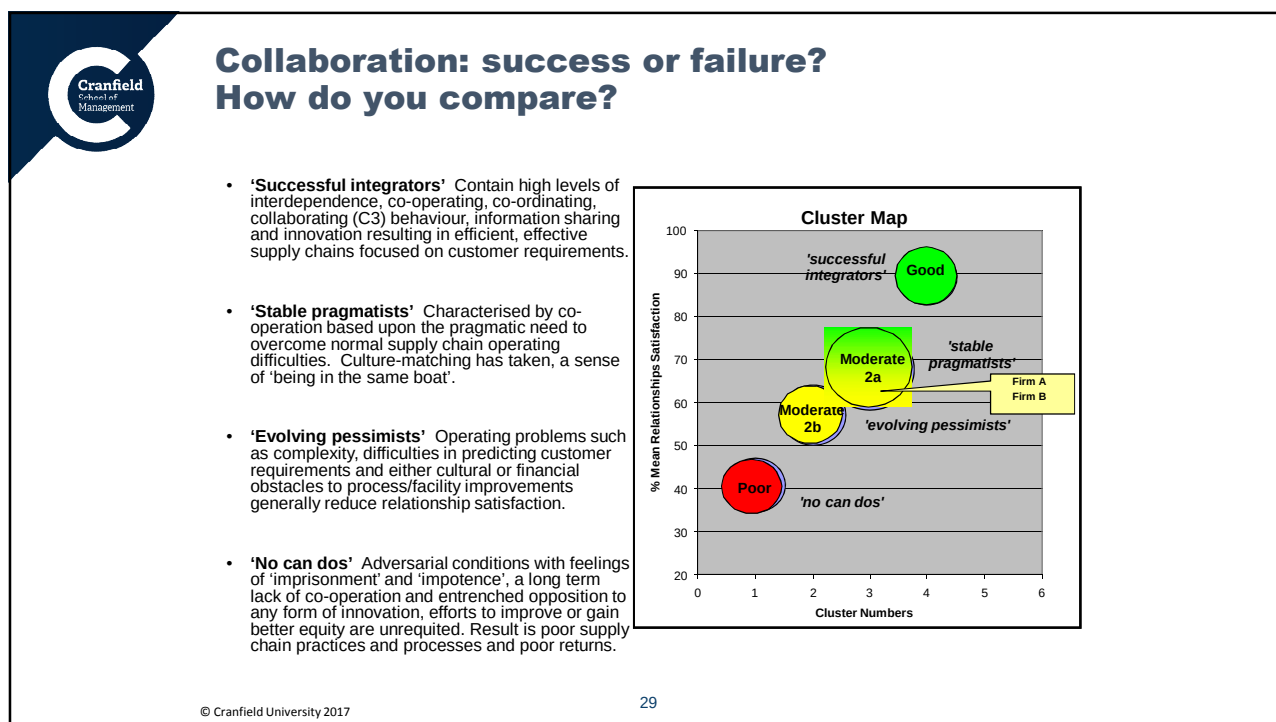


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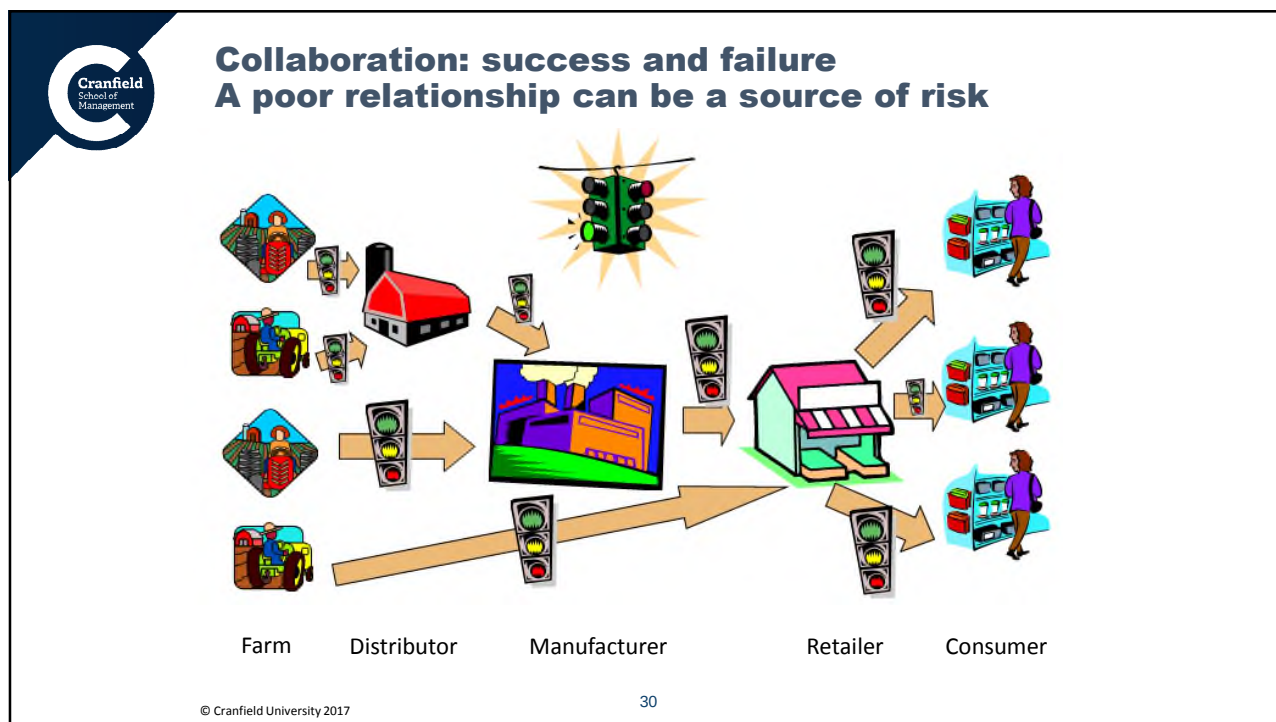
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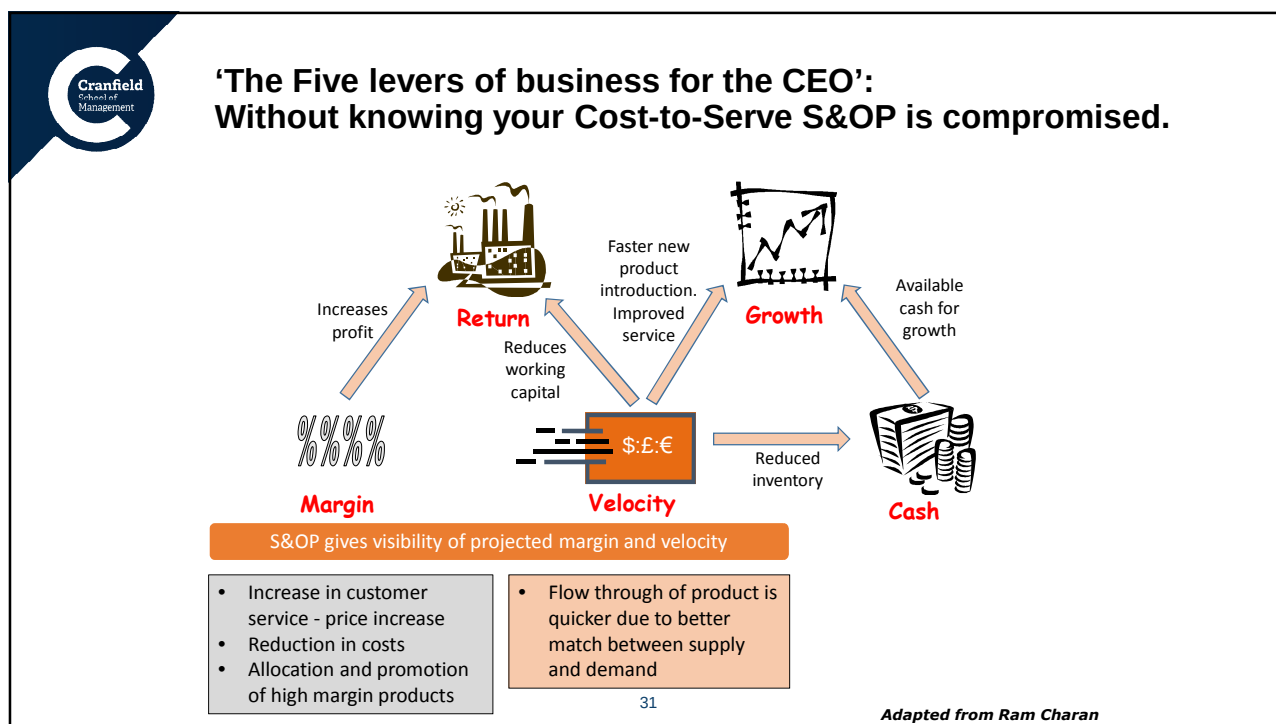
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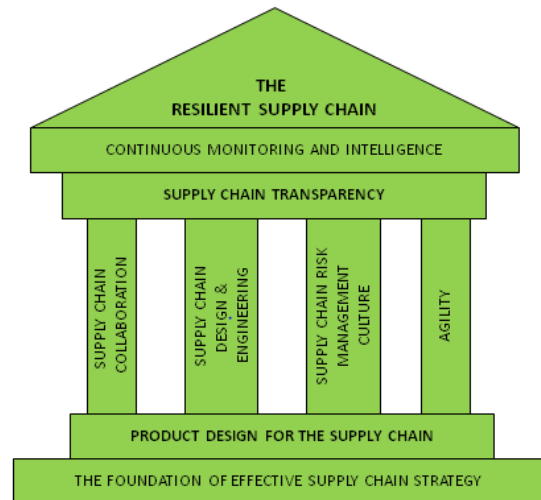


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Building the Resilient Supply Chain requires an understanding of Cost-to-Serve.



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**Understanding Cost-to-Serve is
foundational to gaining competitive
advantage.**

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Links – Keep in Touch

Download the free online iTunesU course, join over 60000 subscribers.

www.richardwilding.info/online-supply-chain-course.html

Download the free “Podcasts” and “Videos”

www.supplychainpodcast.info or visit iTunes.com

www.youtube.com/supplychainpodcast

Cranfield School of Management

www.cranfield.ac.uk/som

Professor Richard Wilding

www.richardwilding.info

www.linkedin.com/in/richardwilding

www.facebook.com/supplychainprofessor

@supplychainprof



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Notes:



Please keep in touch!

If you would like further information on the techniques described in this presentation, for example, supporting journal articles, or would like to discuss the content further, please don't hesitate to contact the author at the following address:



*Professor Richard Wilding OBE
Cranfield School of Management
Cranfield, Bedford, England, MK43 0AL.
Tel: +44 (0)1234 751122
Email: Richard.Wilding@cranfield.ac.uk
Web: www.cranfield.ac.uk/som/lscm
www.richardwilding.info*

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Notes:

Centre for Logistics and Supply Chain Management

Thought leadership. Business results.

www.cranfield.ac.uk/som/clscm

The logo is a dark blue circle with a white border. Inside the circle, the text "Cranfield" is written in a bold, white, sans-serif font. Below it, the words "School of" and "Management" are written in a smaller, white, sans-serif font, stacked vertically.

Cranfield
School of
Management

Cranfield School of Management

Cranfield School of Management is one of the oldest business schools in Europe. As part of Cranfield University, the UK's only wholly postgraduate university, we are uniquely placed to connect technology and leadership. Our contribution to global innovation is world-leading, changing the way society thinks, works and learns.

We are proud of our links with industry. They are an integral part of our history and vital for our future. Management has been part of Cranfield University since the fifties. The University was founded on an old RAF site as the first postgraduate college of aeronautics. The School of Management grew out of industrial need for management training and was formally established in 1967 (although the Cranfield MBA dates back to 1964). The airfield the University grew up around is still in use.

We are globally recognised for our excellence in leadership development and for our powerful industry links and real-world focus.

Key activities

- Leading-edge, collaborative research and consultancy
- Postgraduate degree programmes (MBA, MSc, DBA, PhD)
- Executive development for middle and senior managers
- Customised company programmes



Centre for Logistics and Supply Chain Management

Our Centre is based in the School of Management. It provides an international focal point for advanced teaching and research in the fields of logistics, procurement, supply chain and transportation management.

Engagement Opportunities

We have a global focus and much of our work has an international dimension. This is reflected in our established links with leading centres for supply chain research and practice in North America, South America, Europe and Asia-Pacific.

Our Centre offers a number of programmes and short courses tailored to specific company needs, as well as research and project support opportunities in logistics, distribution and transportation, procurement and supply chain strategy.

- **Masters degrees (full-time and part-time)**
- **Masters theses projects (company-based research)**
- **Open executive programmes**
- **Customised executive programmes**
- **Research clubs: Agile Supply Chain Research Club and Food@Cranfield Research Network**
- **Knowledge transfer partnerships**
- **Research projects tailored to your organisation's needs.**



Masters degrees

Cranfield boasts Europe's largest specialist logistics, procurement and supply chain management faculty and is renowned as a centre of excellence in this field. Many of our faculty are leading experts with international reputations for teaching and have held senior positions in multinational organisations. How we teach is designed to nurture your practical business skills and confidence, and places significant emphasis on real-world challenges. We co-design our Masters degree programmes with senior professional from logistics, procurement and supply industries.

All of our masters programmes are accredited by the Chartered Institute of Logistics and Transport (CILT) and the Chartered Institute of Purchasing and Supply (CIPS).

Executive MSc in Logistics and Supply Chain Management

Our two-year part-time programme is designed for experienced business logistics, supply chain or procurement managers who want to enhance their skills, knowledge and confidence to take on more demanding executive roles. It is also suitable for ambitious professionals who are keen to develop themselves and want a real-world education delivered by faculty who are actively engaged with business.

Full-Time MSc in Logistics and Supply Chain Management

Our one-year full-time programme is designed for recent graduates with a good undergraduate degree who want a broad understanding of logistics and supply chain management to prepare for a first professional role and future career in the field. It is also suitable for early-stage logistics and supply chain professionals looking to enhance their knowledge and skills and move to the next level.

Full-time MSc in Procurement and Supply Chain Management

Our one-year full-time programme is designed for recent graduates with a good undergraduate degree who want a broad understanding of procurement and supply chain and wish to prepare for their first professional role and future career in the field. It is also suitable for early-stage procurement and supply chain professionals looking to enhance their knowledge and skills and move to the next level.



Rankings

Cranfield School of Management was ranked 1st outside US and 12th globally in the Supply Chain Management World 'University 100' annual survey 2016, and 2nd in the Top 20 for Europe, the Middle East and Africa, for providing young people in this field with the skills and mix of expertise required to develop as supply chain leaders of the future.



Masters theses projects (company based research)

Each year, we develop over 100 high calibre professionals through our full-time MSc in Logistics and Supply Chain Management. Your organisation can partner with our Centre to host a Masters project that can provide new business and supply chain insight.

Company projects are a key element of the Cranfield experience. Students are motivated to apply the knowledge gained through their Masters programme in a commercial environment and gain experience working on a real business issue. Projects cover a wide range of topics and are conducted from the end of April to the beginning of September.

Your organisation will gain access to:

- Bright and motivated students working on a project within your business for four months
- Analysis that addresses the business goals of your organisation
- Leading academics in logistics, procurement and supply chain management, and the latest research insights and approaches in the field

- Customised, high quality, low cost and objective research into areas that you may not have the time, resources or expertise to address.

"For some time our business has struggled to get a clear view on the correlation between production and inventory costs to identify the optimal batch size. Further difficulties came from unpredictable demands and seasonality of products. The student delivered a mathematical model that presents a clear picture of the cost correlation and recommendations to reduce the cost to its optimal. The model also recommends a future state scenario to identify benefits from investment. The model is now being rolled out to other manufacturing areas in the UK and then to other business units with Western Europe."

Mark Phillips, PPG



Open executive programmes

Our Centre offers a range of executive programmes which are open to individuals and small company groups (up to 5 attendees).

Supply Chain Management Programme (5 days)

Runs every February, June and October

Our programme has run for over 20 years, attracting experienced professionals who wish to broaden and update their skills and knowledge to the latest thinking and help enhance and influence the management of their organisation's supply chain.

Who should attend?

Supply chain leaders, managers and executives seeking to gain an understanding of the latest thinking, frameworks, tools and implementation techniques required to improve the management of their own supply chain. Marketing, customer service and manufacturing managers and directors who are seeking supply chain integration, or who need to understand the impact of supply chain decisions upon their company's performance, may also find the programme useful.

This programme is extremely beneficial for delegates from different functions within a company, to ensure consistent and supportive action in supply chain management. Previous delegates,

who have just taken on responsibility for supply chain, have also found this a very useful orientation for their new role.

Programme Overview

Supply chain management is becoming increasingly important for organisations and, at the same time, more and more challenging for the individuals responsible. Globalisation is leading to lengthening supply chains, often associated with greater vulnerability to interruptions and delays.

Led by award-winning academics, Professor Richard Wilding OBE and Professor Martin Christopher, our programme delivers the latest thinking in supply chain management, enabling you to manage the complex and dynamic issues within your organisation with confidence.

It is endorsed by The Chartered Institute of Logistics and Transport (CILT), and has been awarded 30 hours' Continuing Professional Development (CPD).



Leading Procurement Strategy Programme (3 days)

Runs every June and November

Who should attend?

Procurement directors and senior procurement managers, in both private and public sector organisations, who wish to excel in the latest strategic procurement practices.

Programme Overview

Our breakthrough programme equips you with the skills, knowledge and tools to lead procurement teams in your organisation, as well as bring the procurement agenda to the highest levels in your organisation.

It will enable you to become a more confident and effective procurement leader with the capability to assess true costs, mitigate risk, drive innovation, support growth and operate at greater levels of efficiency. Our programme has been co-designed by Cranfield School of Management and the Chartered Institute of Procurement and Supply (CIPS) to give you the very latest thinking in procurement and supply management. It is also CIPS accredited, and has been awarded 30 hours' CPD.

Building High Performance Supply Chains

Runs every October/November

Who should attend?

All executives responsible for developing and implementing supply chain strategies. As supply chain improvement is a cross-functional task, it is extremely beneficial if a small team from across your organisation attends to ensure immediate momentum from this programme.

Programme Overview

There is a growing recognition that companies no

longer compete as individual entities but rather as part of a wider supply chain. The strength of these networks is determined by the quality of the relationships that connect partners across the supply chain and by the competitiveness of the business processes that underpin them. In our ground-breaking programme led by Professor Martin Christopher, the latest thinking and best practice from around the world is presented in a highly interactive format.

Supply Chain Co-ordination Toolbox (2.5 days)

Runs every May

Who should attend?

Middle managers in fields of operations, supply chain, logistics, procurement, purchasing, sourcing, order fulfilment, distribution, delivery, demand planning and warehouse planning. It is extremely beneficial for individuals from different functions in a company to attend this programme, to ensure consistent and supportive action in supply chain management.

Programme Overview

Market volatility makes predicting and meeting customer demand more challenging, as the supply chain from which this demand must be met lengthens and expands due to globalisation. For an organisation to be successful, coordination of the multi-faceted functions is essential, and increasingly the use of

sophisticated tools and techniques are necessary to achieve this.

Our programme will develop your ability to use some of the key tools and techniques required for the design and management of a coordinated supply chain on both strategic and operational levels. The concepts and the theory behind these tools will be demonstrated by our experienced faculty. You will then have the opportunity to gain hands on experience of using the tools to solve case study examples based on real world company problems. These interactive practical sessions will allow you to appreciate for yourself the potential power of adopting planning and coordination tools within your organisation.

Customised executive programmes

Cranfield School of Management is ranked among the Top 10 business schools worldwide for bespoke customised executive development, and is a leading provider of award winning programmes for executive education using our unique approach to design and delivery.

With more than 30 years of experience in supply chain executive education, our Centre delivers practical executive education that helps managers progress and businesses flourish, all of which is based on a long-term and personal relationship.

Many of our programmes offer value based training as a proven method to unlock value in your supply chains, by transcending the formal training period to include pre- and post-course interventions, ranging from online learning, to work-based projects, designed to enrich and embed learning and development.

Our programmes inspire individuals to improve businesses. They are practical, challenging and motivating. Managers return to their organisations better equipped to use their personal capabilities to add value to their business.

Working in innovative ways, we offer :

- One of the largest faculty teaching and learning centres in Europe
- World-class expertise in learning design and programme direction
- Thought leaders in logistics, supply chain management and procurement
- Real life solutions underpinned by industrial research.

Current clients include: John Lewis Partnership, Travis Perkins, Chep, SIG, Tetra Pak, Twinning's and BP.

Levels of engagement

We work at all levels across the supply chain organisation. Some examples of the ways we can support supply chain development are detailed below:

Strategy development

Senior executives seeking to maximise business performance and develop practical business solutions can benefit from our structured executive workshops.

Senior management development

Senior managers who may have gained significant expertise, but within a single operational function, can benefit from supply chain executive education to realise their business leadership potential and develop their skills and knowledge.

Strategic alignment and change management

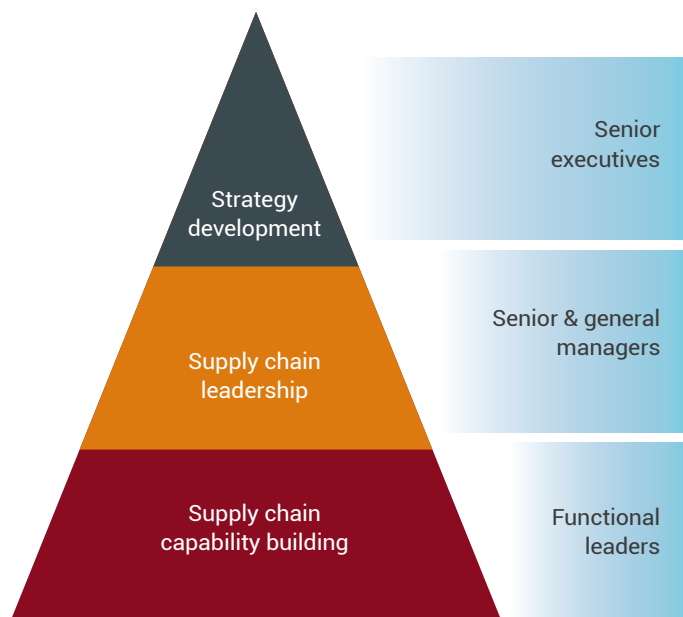
Organisations which lack the breadth and depth of managerial capability to align and integrate their supply chains and bring about change in a way that leads to superior performance.

Career development

High potential, early career professionals who have been recognised by their organisations to have managerial potential, and who want to move their career forward rapidly.

Supply chain capability development

Organisations seeking to develop an internal competency around supply chain management and build the next generation of supply chain leaders.



Our approach

Our programmes are designed around your specific needs. Our starting point is to understand the impact you are seeking to achieve. What is happening in your organisation? How will this learning programme contribute to the achievement of your strategy? What do your people need to be able to do differently?

We partner you with an Executive Development Director (EDD) from our supply chain team. The

EDD works closely with you, from discovery and design, through delivery, to evaluation, on learning programmes that are uniquely created to meet your objectives.

The EDD ensures that together we meet the impact expectations of a complex group of your stakeholders, including senior sponsors, line managers and participants.



Research Clubs

Agile Supply Chain Research Club

The Agile Supply Chain Research Club combines cutting edge research, and, through its membership, develops creative, customised insights into the complexity of today's supply chain environments. The primary focus of the Club is the creation of new knowledge, leading to outputs of value to our industrial partners and our teaching.

Key membership benefits

- Join an interactive forum for addressing challenges within the field to help you improve the practice of supply chain management within your organisation.
- Participate in research projects with leading companies such as Proctor and Gamble, Rolls-Royce and PA Consulting Group.
- Attend our themed quarterly Club meetings with guest speakers.
- Enjoy corporate discounts of between 10- 25% on the Executive DBA, Executive Masters programmes and open specialist executive programmes.

Members include:

Travis Perkins plc


Hewlett Packard
Enterprise

VOLKSWAGEN
GROUP UNITED KINGDOM LTD

Membership fees apply



Food@Cranfield Research Network

The Food@Cranfield Research Network aims to leverage the knowledge base across our University to provide unique solutions to the complex issues facing the food sector. Our network brings together a distinctive combination of expertise to provide access to a range of capabilities depending on the needs of the particular research topics. Our expert academics work with member organisations to develop appropriate solutions and/or responses to the increasingly complex set of challenges facing the sector.

Key membership benefits:

- Help define the focus/themes for the meetings and set the priorities for the network.
- Gain access to a cross functional spread of expertise from across our University.
- Learn from the experience of others.
- Get exclusive early access to leading-edge research prior to publication.
- Enjoy corporate discounts of between 10- 25% on the Executive DBA, Executive Masters programmes and open specialist executive programmes.

Members include:



Membership fees apply



Knowledge Transfer Partnerships – Government funded

Knowledge Transfer Partnerships (KTP) are a UK-wide programme enabling businesses to improve their competitiveness, productivity and performance. KTPs fund access to knowledge, technology and skills in UK academic institutions. When you partner with us you can access skills and expertise to help transform your business into a leading centre of excellence in the logistics and supply chain management field. In practice, we help you to develop a project plan to address a specific business challenge, help to appoint a recently qualified person (known as an associate) to work on each project, and provide academic supervision and support.

KTPs enable new supply chain and marketing capabilities to be embedded into your business for between one to three years. The programme is described in more detail at:

www.gov.uk/guidance/knowledge-transfer-partnerships-what-they-are-and-how-to-apply

Companies we have partnered with on KTPs include British American Tobacco, GS1, Rolls-Royce, Mesh: The Experience Agency, Middlemarch Environmental Creative Ecological Solutions and Addleshaw Goddard.

KTP Case Study: The Blood Supply Chain

The collection, processing, testing and delivery of blood to hospitals within England and North Wales is facilitated by the National Health Service Blood and Transplant (NHSBT). In a typical year they collect 1.9 million units of whole blood from 1.4 million donors. This blood is tested, processed and ultimately transfused to patients in over 300 hospitals.

There are three main constituents in a unit of blood, each with its own shelf life: Red blood cells, 35 days, platelets, 5 days, and fresh frozen plasma, which can last a year. The short and varying shelf lives for these blood products makes the supply chain particularly challenging. In addition a “stock out” is not just an inconvenience, but could potentially result in the death of a patient; so availability is crucial. Three of the major challenges currently faced by the blood supply chain are: collaboration between stakeholders, wastage due to time expiry and changes in demand patterns for blood supplied from a falling donor base.

Cranfield Centre for Logistics and Supply Chain Management partnered with NHSBT on a KTP programme to address these challenges. This resulted in the implementation of new statistical forecasts together with a new process which matches supply and demand more efficiently, resulting in reduced wastage across the supply chain. Mapping techniques were developed which identified new time/cost savings, enabled greater collaboration across the supply chain.

As with many KTP programmes, this was just the start of an on-going relationship. The Centre has continued to work with NHSBT on projects and through Masters' thesis work, exploring ways to achieve improvements to the service in a cost effective way, i.e. at no extra cost to the tax payer.

- We have helped hospitals to improve their wastage due to time expiry through the identification of a set of good management practises. This has made a measureable difference to performance.
- We made recommendations for how blood stock levels could be reduced by decreasing demand by hospitals. This has resulted in fresher blood being delivered to hospitals and reduced wastage.
- We are currently modelling hospital delivery logistics operations to identify how hospitals can share blood units which are close to their expiry date and reduce wastage.



Contacts

Full-time Masters programmes

Dr Denyse Julien, Course Director
T: +44 (0)1234 750111 x2845
E: d.m.julien@cranfield.ac.uk
cranfield.ac.uk/som/masters

Executive Masters programme

Dr Soroosh Saghiri, Course Director
T: +44 (0)1234 751122 x2842
E: s.saghiri@cranfield.ac.uk
cranfield.ac.uk/som/masters

Masters theses projects (company based research)

Dr Hendrik Reefke, Deputy Director full-time MSc in
Logistics and Supply Chain Management
T: +44 (0)1234 751122 x2921
E: hendrik.reefke@cranfield.ac.uk

Open executive programmes

Sandra Marinaro
T: +44 (0)1234 758142
E: s.marinaro@cranfield.ac.uk
cranfield.ac.uk/som/research-centres

Customised company programmes

Noreen Munnelly, Business Development Executive
T: +44 (0)1234 754984
E: n.munnelly@cranfield.ac.uk

Agile Supply Chain Research Club

Dr Heather Skipworth, Senior Research Fellow
T: +44 (0)1234 754515
E: heather.skipworth@cranfield.ac.uk
cranfield.ac.uk/som/research-clubs

Food@Cranfield Research Network

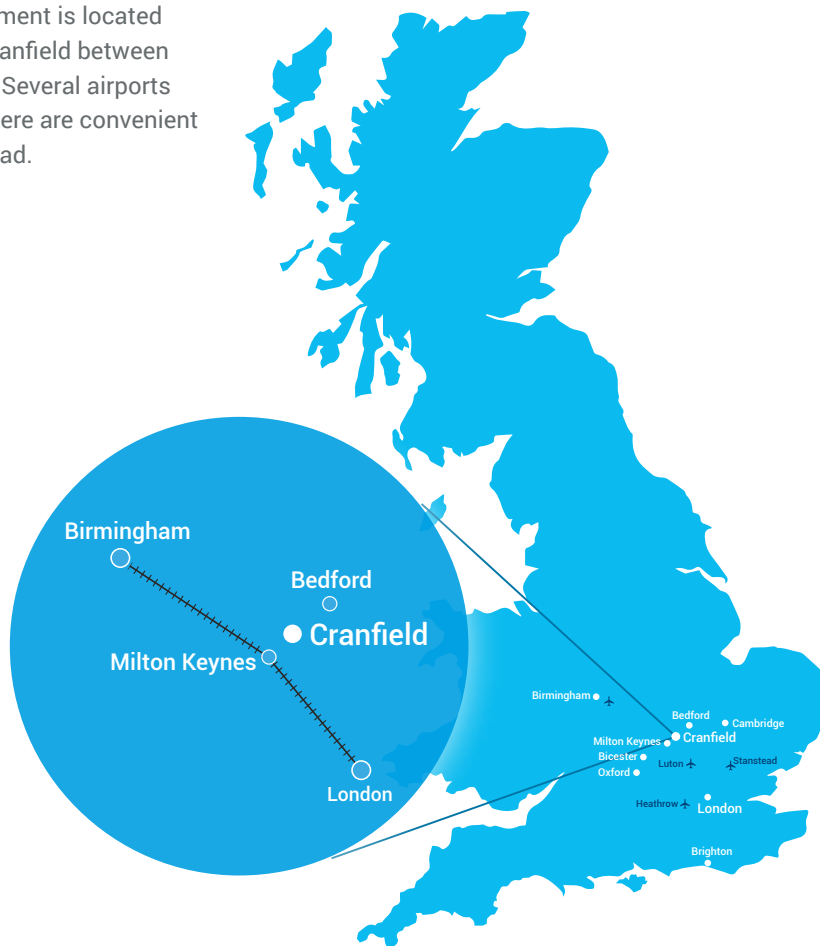
Dr Denyse Julien, Senior Lecturer
T: +44 (0)1234 750111 x2845
E: d.m.julien@cranfield.ac.uk
cranfield.ac.uk/som/research-clubs

Knowledge Transfer Partnerships (KTP)

Noreen Munnelly, Business Development Executive
T: +44 (0)1234 754984
E: n.munnelly@cranfield.ac.uk
cranfield.ac.uk/som/research-centres

Location

Cranfield School of Management is located just outside the village of Cranfield between Bedford and Milton Keynes. Several airports are easily accessible, and there are convenient transport links by rail and road.



Trains:

35 minutes from London (Euston) to Milton Keynes

55 minutes from Birmingham to Milton Keynes

Cranfield School of Management
Cranfield
Bedfordshire
MK43 0AL
England