

Fifth Edition

# LOGISTICS MANAGEMENT AND STRATEGY

COMPETING THROUGH THE SUPPLY CHAIN

Alan Harrison

Remko van Hoek

Heather Skipworth





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Alan Harrison Remko van Hoek Heather Skipworth

'Well written and contains a wealth of valuable ideas and concepts.'

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**Alan Harrison** was Professor of Operations and Logistics at Cranfield School of Management, and Director of Research at The Cranfield Centre for Logistics and Supply Chain Management.

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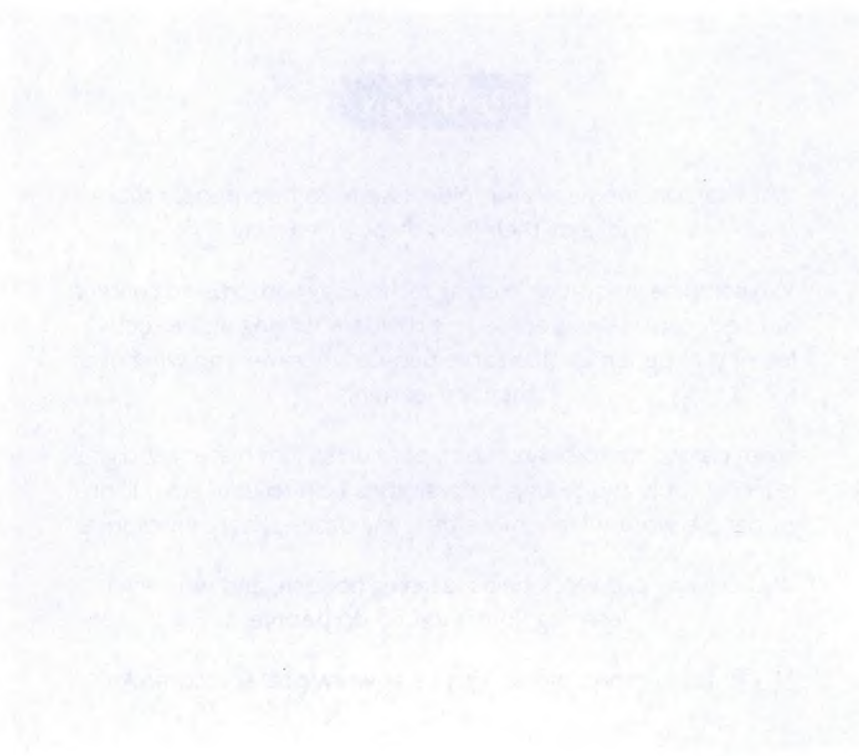
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# Logistics Management and Strategy



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Competing through the supply chain

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**Heather Skipworth**

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To Cathi, Nick, Katie, Maryl, Ticho, Dylan, Jason, Rade,  
Luka and Daniel, with love.



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### Lecturer Resources

For password-protected online resources tailored to support the use of this textbook in teaching, please visit [www.pearsoned.co.uk/harrison](http://www.pearsoned.co.uk/harrison)







## Personal foreword

I am honoured to be asked to write a personal foreword to the latest edition of *Logistics Management and Strategy*. Alan, my husband until his untimely death in October 2012, was justifiably proud of this book; it epitomises his approach to teaching and training, delivering applied theory and research to satisfy rigorous academic enquiry, in a format attractive and useful to busy practitioners and new recruits to the industry. He would be delighted to see his work reach a fifth edition; he relished the challenge of developing a popular and trusted resource, ever seeking to progress in the light of latest thinking and innovation.

Before his death, Alan chose his colleague Heather to take on the authorship of this book with co-author Remko, knowing she would treat his work exactly as he would hers – with respect, a critical eye and determination to improve. This edition builds on the foundation of his achievement whilst passing the baton to the next generation. Heather and Remko, I salute you, and wish you, this book and all its readers every success.

Catherine Maryon  
October 2013





# Professional foreword

I am delighted to introduce *Logistics Management and Strategy*, now in its fifth edition, a further aid in our ability to drive our understanding of such a critical part of the business environment. In Bausch & Lomb logistics remains a key area of management attention, given its central role in customer service and the opportunities it provides for cost control, two fundamental essentials for any global business today.

Bausch & Lomb is committed to producing state-of-the-art optical products, from contact lenses to cataract surgery and the fast-growing optical pharmaceutical markets. These complex supply chains cover five continents and serve varying types of customers including hospitals, opticians and multiple retailers. They involve stock-keeping units (SKUs) requiring temperature control, serial traceability and sterility, and make for a diverse and challenging set of logistics demands.

When you then add these challenges to a range of over 100,000 SKUs – with some products being offered in over 7,000 different refractive powers/pack sizes – then you can understand why utilising the very latest approaches to logistics management and strategy is absolutely crucial.

In recent years we have invested heavily in automated warehouses, such as at our site in Amsterdam, recently recognised as one of the 'top 10' logistics facilities in the Netherlands. We have also developed our utilisation of agile logistics. This has been addressed by reducing the number of base products produced in our 17 factories, whilst increasing our customer responsiveness through postponement of labelling, bundling, promotional artwork and language compliance. In this regard, being a member of the Agile Supply Chain Research Club at Cranfield and working with Alan, and more recently Heather, has been a rewarding and beneficial experience. I note that some of our experience has been invested in Chapter 7.

In the last two years, Bausch & Lomb has greatly reduced inventory holdings through a number of logistics initiatives – improving working capital whilst maintaining, and even improving, customer service levels.

But the fight goes on, and it is with texts such as *Logistics Management and Strategy* in your armoury that you can continue to drive further improvements in your supply chain. The great aspect of this text is its readability; it does not seek to lecture the reader, but imparts its wisdom in a straightforward and practical manner. Fundamentally, I believe that is the essence of the science of logistics. Every element of our complex logistical environment is captured in this book with new sections including: segmented supply chain strategy, supply chain investment decisions, global governance, a wide range of agile practices and corporate social responsibility – all adding to the rich content.

In introducing this collaboration between Alan and Remko, and now Heather, my parentage springs to mind. This was another Anglo-Dutch partnership, albeit with different outcomes!

I have spent the last 30 years in logistics, working in both British and Dutch environments. The last 15 of these years have been in a global role. I was fortunate

to work with Alan for many years and it was a terrible loss to the world of supply chain when Alan sadly passed away but this book is part of a tremendous legacy which he left to us all.

The output of Alan's, Remko's and Heather's collaboration rings true in so many areas and offers methods and approaches that will continue to drive our improvements in the coming years.

Paul Mayhew MSc, MCILT  
Global Supply Chain Director  
Johnson Matthey



# Preface

Logistics has been emerging from Peter Drucker's shadowy description as 'the economy's dark continent' for some years. From its largely military origins, logistics has accelerated into becoming one of the key business issues of the day, presenting formidable challenges for managers and occupying some of the best minds. Its relatively slow route to this exalted position can be attributed to two causes. First, logistics is a cross-functional subject. In the past, it has, rightly, drawn on contributions from marketing, finance, operations and corporate strategy. Within the organisation, a more appropriate description would be a *business process*, cutting across functional boundaries yet with a contribution from each. Second, logistics extends beyond the boundaries of the organisation into the supply chain. Here, it engages with the complexities of synchronising the movement of materials and information between many business processes. The *systems nature* of logistics has proved a particularly difficult lesson to learn, and individual organisations still often think that they can optimise profit conditions for themselves by exploiting their partners in the supply chain. Often they can – in the short term. But winners in one area are matched by losers in another, and the losers are unable to invest or develop the capabilities needed to keep the chain healthy in the long term. The emergence of logistics has, therefore, been dependent on the development of a cross-functional model of the organisation, and on an understanding of the need to integrate business processes across the supply network.

Whilst its maturity as a discipline in its own right is still far from complete, we believe that it is time to take a current and fresh look at logistics management and strategy. Tools and concepts to enable integration of the supply chain are starting to work well. Competitive advantage in tomorrow's world will come from responding to end-customers better than competition. Logistics plays a vital role in this response, and it is this role that we seek to describe in this book.

The globalisation of logistics assumes that quality can be duplicated anywhere, that risks are relatively small, and that sustainability does not really matter. Case study 4.2 quotes an environmental activist as saying, 'We are producing food in one corner of the world, packing it in another and then shipping it somewhere else. It's mad.' The reality is that 21st-century supply chains are developing very different profiles from those developed by the mindsets of 10 or 20 years ago. Risk will become more important. Plans will need to be in place to prevent or mitigate the impact of financial, operational and political uncertainty. It is both environmentally and economically right to focus on sustainability. Logistics stands at the heart of this debate.

This text has a clear European foundation (its currency is the euro) and an international appeal. In line with the globalisation of logistics, we have included cases from other parts of the world than Europe – diverse though European logistics solutions are – including South Africa, the United States, Japan, China and Australia.



Accordingly, we start in Part One with the strategic role of logistics in the supply chain. We continue by developing the marketing perspective by explaining our view of 'putting the end-customer first'. Part One finishes by exploring the concept of value and logistics costs. In Part Two, we review leveraging logistics operations in terms of their global dimensions, and of the lead-time frontier. Part Two continues by examining the challenges of coordinating manufacturing and retail processes, and the impact on logistics of just-in-time and the agile supply chain. Part Three reviews working together, first in terms of integrating the supply chain and second in terms of sourcing and supply management. Our book ends with Part Four, in which we outline the logistics future challenge.

This text is intended for MSc students on logistics courses, and as an accompanying text for open learning courses such as global MSc degrees and virtual universities. It will also be attractive as a management textbook and as recommended reading on MBA options in logistics and supply chain management.

In the second edition, we listened carefully to students and to reviewers alike and set out to build on the foundation of our initial offering. We updated much of the material whilst keeping the clear structure and presentation of the first edition. There were lots of new cases and we updated others. We attempted to touch on many of the exciting developments in this rapidly expanding body of knowledge, such as governance councils, the prospects for a radio frequency identification device (RFID) and the future of exchanges.

The third edition retained the clarity and up-to-date content that have become hallmarks of the previous editions. It continued to provide further new and updated cases to illustrate developments in the subject. Chapters 6, 7 and 10 were largely reconstructed, but we also made many improvements to other chapters resulting from our research and work with industrial partners.

The fourth edition built on the foundations we had developed so far, whilst continuing to update the content and keep it abreast of the rapidly developing logistics body of knowledge. Many of the cases were updated too and new ones introduced. Chapters 6 and 7 were again largely reconstructed, and we refocused Chapter 9 around sourcing and supply management. We continued to develop the theme of sustainable logistics, which we classify as a competitive priority right from the start.

We worked with Alan on the fifth edition before his death, after which we continued without his direct intervention, but very much within his guidance. This edition carries forward the healthy tradition established for this book by further developing areas on the basis of the latest research and providing cases to illustrate practice. In response to reviewers we have further developed the alignment between marketing and supply chain culminating in a new expanded section on segmented supply chain strategy in Chapter 2. We also took the opportunity to reconstruct and expand Chapter 3 on value and logistics costs, equipping the reader with the latest thinking on improving liquidity through supply chain management and approaches to making capital investment decisions. Risk readiness in Chapter 4 has also been updated in the light of recent food scares, such as the horsemeat scandal. Related to this, a new section has also been added to Chapter 4 to address the global governance of supply chains.



Agility is not new but the concept has developed across organisational and relational practices. Chapter 7 has been reconstructed and expanded to reflect the body of knowledge now available on supply chains able to respond to unpredictable demand. Chapter 10 reflects the changing future and revisits corporate social responsibility from the perspective of supply chain trade-offs. Humanitarian logistics is also a new section here, which is in response to the growing number of humanitarian crises – both political and natural – and the need for existing supply chain strategies to be applied to save lives! As with all previous editions, many of the cases have been updated and new ones introduced. In response to reviewers, we have introduced more global cases, such as the Li & Fung case and also food supply chain cases.

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We hope that our book will offer support to further professional development in logistics and supply chain management, which is needed today more than ever before. In particular, we hope that it encourages you to challenge existing thinking, and to break old mindsets by creating a new and more innovative future. Transformation of supply chains is a focus for everyone in the 21st century. Since we launched this textbook in 2001, it has become a European best seller – and is popular in Australia, Singapore and South Africa. It is also developing an important following in the United States. Our book has also been launched in local language formats in Japan, Brazil, Russia, China, Poland, Mongolia and the Ukraine.





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## Figures

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## Tables

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