LOGISTICS AND SUPPLY CHAIN CONTEXT
INTRODUCTION

This chapter lays the foundations of the textbook and explains the origins and application of logistics and supply chain management, as well as giving descriptions of key concepts. A framework for the textbook is developed and this illustrates where each chapter fits in the overall schema of the book, while the various perspectives adopted by the authors when writing this book are also described.

The chapter comprises six core sections:

- The evolution of logistics and supply chain management
- What is logistics?
- What is supply chain management?
- Distinguishing logistics and supply chain management
- Applications to manufacturing and services
- Book framework

LEARNING OBJECTIVES

- Explain the origins of logistics and supply chain management.
- Define both terms and outline how logistics and supply chain management differ from each other.
- Highlight the importance of these areas in both manufacturing and services contexts.
- Identify how best practice logistics and supply chain management can yield both cost reduction and value addition.
THE EVOLUTION OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT

Both logistics and supply chain management (SCM) are fascinating and exciting areas that touch all of our lives. Just think of the many different products that are purchased and consumed each day – how do they reach the customer and at what cost? Although logistics and SCM are areas that have only come to widespread prominence since the mid 1980s, the reality is that they have roots which run much longer than that. Not only are they key aspects of today’s business world, but they are also of importance in the not-for-profit and public sectors. In addition, while the origins of much logistics thinking and practice are in a manufacturing context, we are witnessing increased and highly successful application of logistics and SCM principles in a services context also (just think of the efficiencies that have been driven into many service based activities such as banking and hospitals where the emphasis has shifted to serving more customers, better, faster, cheaper).

The terms logistics and SCM, although often used interchangeably, are distinct and will be defined later in the chapter. First, however, it is appropriate to examine how some key developments have shaped the evolution of these important areas. In fact, five separate and important developments, each of which evolved largely independently, can be identified and are now detailed.

Reduced transport intensity of freight

In the past, international trade was dominated by bulky raw materials. Times have changed however, and in-process and finished products, not raw materials, now play a much greater role in world trade. Some simple examples illustrate this clearly. Compare the value of the various computer products currently being shipped around the world daily with the bulky, low value, agricultural produce shipped around the world a hundred years ago. Agricultural produce, and indeed other comparatively high volume/low value freight, does still of course traverse the world but, in general, the size and value of the freight that is transported today is very different to that of times past. In the case of agriculture, many food producers, rather than transporting bulky foodstuffs, now tend to try and ‘add value’ to the product near to the point of production: for example, rather than ship live chickens, the international poultry trade generally comprises processed, ready-to-cook chicken. The same is true for many other trades, not just in agriculture but across a range of industries, whereby manufacturers try and increase the value : volume ratio of products being shipped. We will see in later chapters that there is also an increasing trend towards having the final value-adding stages in the production of various products as close as possible to the final customer.
Higher value freight is better able to ‘absorb’ transport costs than is low value freight, with the ‘transport cost penalty’ imposed by having to move freight over greater distances often being somewhat offset by the fact that the freight is of higher value. Hence, we refer to a generally reducing transport cost sensitivity of freight.

Indeed for some products it is now not even necessary to ship physical product at all. Just think, for example, of the way much software is now transmitted around the world via the internet. This replacement of physical product by virtual product is referred to as material substitution.

**Falling product prices**

In many markets, increased competition and falling marketplace prices have forced many companies to reduce costs. Just think of the falling prices of many electronics products in recent years, such as DVD players, or the fact that the prices of many motor cars have stayed flat in real terms at best, despite the fact that product specifications, performance and quality have improved dramatically. This has forced companies to focus on other areas where savings can be made, and the storage and movement of inventory is a key area in this regard. Thus companies will seek to ensure that any products (especially those with flat or declining value) being transported are configured (in terms of product design, packaging, etc.) so as to reduce as much as possible their transport cost sensitivity.

**Deregulation of transport**

The important role played by transport in logistics will be discussed later in the book, in Chapters 4 and 8 in particular. There are five principal modes of transport namely air, road, water, rail and pipeline. In recent decades transport markets in many countries have been deregulated by various governments. The essence of effective deregulation is that by removing unnecessary barriers to competition, markets become more contestable and (in theory at least) prices should fall and service should improve. We say ‘in theory’ because the reality in some deregulated markets has been somewhat different (with private monopolies sometimes replacing public ones) but, in general and over the long run, deregulation has had a positive impact on many transport markets, leading to the provision of both more and cheaper services. This of course in turn makes it easier and more efficient to move freight around the world.

A good example is that of Fed Ex, a company which today has one of the world’s largest air freight fleets. Constrained by burdensome government regulations in the USA in the 1970s, it was not until the late 1970s with the deregulation of the US air freight market (which relaxed the rules governing who could operate in the market and how they could operate) that the company was able to expand and grow.
Part One  Logistics and Supply Chain Context

Productivity improvements

Up to the mid 1950s most maritime freight was carried on bulk vessels. This began to change, however, when some ship owners began to carry freight containers. In 1956 an iconoclastic entrepreneur Malcom McLean put 58 aluminium truck bodies aboard an ageing tanker ship (called the Ideal-X), which set sail from Newark to Houston in the USA. This marked the start of containerised transport as we know it today.\(^1\) Containers can be stacked on top of each other on board the ship, thus allowing very efficient space utilisation and cargo handling. Furthermore, freight can now move from origin to destination across many modes and services with greater ease of handling. The introduction and growth of containerisation led to huge change in ports, which previously were dominated by large workforces responsible for manual handling of bulk cargo. Containerisation also reduced the costs of transporting freight by maritime transport and significantly improved its efficiency. Containerisation spread to other modes and various alliances were formed between combinations of transport companies.

There were of course many other improvements in transport, for example in propulsion technologies (faster transport) and the application of various information and communications technologies. Companies like DHL, Fed Ex and UPS have pioneered the use of barcoding and online tracking and tracing of freight, developments that also increase the efficiencies of logistics systems. Another technology, radio frequency identification (RFID), is now emerging and will in time also drive more efficiency into logistics systems. Technology is a very important component and enabler of logistics and SCM, and Chapter 9, in particular, will look in detail at information flows and technology applications.

Emphasis on inventory reduction

The final trend worth noting has been a shift of management and financial attention into analysing where an organisation’s funds are tied up. Inventory management will be covered in detail in Chapter 6, but suffice to say for now that many organisations have become increasingly aware of the fact that often significant funds are lying tied up in unnecessary inventory. Furthermore, it became obvious in the latter years of the twentieth century that often inventory was not well managed. During the decades that followed World War II the responsibility for, and management of, inventory in many firms was very fragmented. The various functions in which inventory played a key role, for example transport, warehousing, purchasing and marketing, were usually considered by managers to be separate and distinct. However, firms began to realise that cost savings and significant efficiency gains could be harnessed from more integrated and focused management of inventory. As far back as 1962, the late Peter Drucker, one of the foremost management thinkers of the twentieth century, wrote a celebrated *Fortune* magazine article entitled ‘The economy’s dark continent’.\(^2\) In this article he suggested that distribution represented the last frontier for significant cost reduction potential in the firm.
Increased market competition and customer requirements also led to the necessity to see improvements in the management of inventory as an essential competitive weapon. In the increasingly competitive, global marketplace firms began to realise that they could leverage marketplace advantage through superior logistics performance. Cost savings were identified through eliminating unnecessary inventory and just-in-time (JIT) deliveries became normal operating practice in many industries. Outsourcing became more common, with suppliers playing a more central role for many manufacturers (subsequent chapters in the book will consider in detail strategies and practices such as JIT, outsourcing, etc.). In more recent years, in particular, competition based on time, for example order to delivery time, became a key success factor (KSF) in many markets.

All of the above five trends, while they emerged independently, have both placed an increased emphasis on the role of transport and inventory, and have led to improvements in the way freight is handled and moved around the world. They have resulted in what is often termed the supply chain revolution.

Before proceeding further it is important to highlight one small, but important, distinction. People often use the terms ‘freight’ and ‘cargo’ interchangeably, however they are in fact distinct, at least in terms of their use within the logistics sector. In essence: cargo = freight + mail. Mail, also known as post, is of course still a very important component of trade and commerce, despite the many technological advances that shape today’s world. It is an important and regular source of revenue for many transport companies, especially airlines. Sometimes people also use the term ‘goods’, usually to refer to freight (not cargo), but we will try to avoid use of this term. Another term worth defining at this juncture is ‘consignment’, which the Collins English Dictionary defines as ‘a shipment of goods consigned’; we could thus regard a consignment as a shipment of freight which is passed on usually to some type of logistics service provider from a manufacturer or other source.

### THE ROLE OF LOGISTICS IN NATIONAL ECONOMIES

The size of the logistics sector varies from country to country. In the UK, for example, it is estimated to be worth £55 billion to the economy, employing approximately 1.7 million people and spanning some 65,000 companies.3

Economists note that a variety of factors determine the wealth and rate of growth of national economies. These factors are many and varied, and range from available energy sources to institutional factors such as a good banking system. In the late 1990s the US economy experienced a rapid rise in productivity. Closer examination of the economic data by researchers at the McKinsey Global Institute revealed the impact on national productivity of developments in the retail sector, and most notably the impact of the giant retailer Wal-Mart.
According to Beinhocker (2006) Wal-Mart’s innovations in large-store formats and highly efficient logistical systems in the late 1980s and early 1990s enabled the company to be 40 percent more productive than its competitors. Wal-Mart has been a global leader in best practice retail logistics, with many other retailers imitating some of its strategies. In the case of the US economy, the increases in Wal-Mart’s productivity led to an ‘innovation race’ with suppliers and other retailers also seeking to enhance their productivity, leading in turn to a rise in whole sector productivity. Wal-Mart is one of the world’s largest companies and in the context of the discussion in this chapter it is interesting to observe the considerable impact and importance of how it organises its logistical systems.

WHAT IS LOGISTICS?

Now that the key developments which have shaped the evolution of logistics and SCM have been outlined, it is appropriate to attempt to describe and define these terms. While at one level defining logistics and SCM might seem an elementary task, it is in fact critically important to define, and differentiate, these terms correctly at this juncture as this will shape your understanding and interpretation of the remainder of this book. First to logistics. The New Oxford Dictionary of English defines logistics as:

the detailed coordination of a complex operation involving many people, facilities, or supplies. Origin late 19th century in the sense ‘movement and supplying of troops and equipment’, from French logistique, from loger lodge

There are various views with regard to the linguistic origins of the word, with some pointing to the Greek adjective logistikos, which means ‘skilled in calculating’ (and which most likely gave us the mathematical term logistic). In Roman and Byzantine times there was a military official who was called Logista. In more recent times we have seen, as in the above definition, the French words logistique and loger. Most agree that the word entered the English language in the nineteenth century, with its application generally seen in military terms and concerned with the organisation of moving, lodging and supplying troops and equipment.

These origins suggest then that logistics has something to do with applications of mathematics and is primarily a military concern. Indeed, the field of military logistics has evolved quite considerably and is now quite sophisticated. Similarly there are many useful applications of mathematics to logistics. Today, however, logistics spans beyond the military and mathematical domains. It was in fact only in the latter decades of the twentieth century that the term logistics entered into common non-military use. The US-based Council of Supply Chain Management Professionals (www.cscmp.org) has adopted the following as part of its definition of logistics management:
Logistics management is that part of supply chain management that plans, implements, and controls the efficient, effective, forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customers’ requirements …

The Chartered Institute of Logistics and Transport (CILT) in the UK (www.ciltuk.org.uk) describes logistics as involving:

Getting the right product to the right place in the right quantity at the right time, in the best condition and at an acceptable cost.

Indeed, two other ‘rights’ could be added to this. Firstly, the right customer, because in many industrial locations today multiple different companies will typically be co-located. Even on the one production line there may be various subcontractors collaborating with the factory owner and there will be clear demarcation lines with regard to who has ownership of what, where and when. Therefore, getting the product to the right place may be only half the journey, the challenge would be to get it to the right customer at this right place. Secondly, there is now a substantial and growing interest in environmental and related issues, and Chapter 14 deals in detail with sustainability. Added to the definition of logistics could thus be the necessity to get the product to the customer in the ‘right way’, meaning in such a way as to cause as little as possible damage to the environment. Thus, in this book we adopt what we call the ‘8 Rs’ definition of logistics.

Logistics was once described as ‘just trucks and sheds’. As the discussion and definition illustrate, and notwithstanding the fact that trucks and sheds (warehouses) are indeed important components of logistics systems, it is obvious that logistics encapsulates much more than this.

Getting some of these ‘Rs’ right may be easy for many, but getting all correct can be quite a challenge. For example, in both retail distribution and in high-value manufacturing it is now quite common to offer suppliers quite specific and narrow time windows within which to deliver freight. Not only will the suppliers be expected to execute deliveries within these strict time limits, but also they may be expected to deliver directly onto a specific retail outlet shelf or factory production cell.

**WHAT IS SUPPLY CHAIN MANAGEMENT?**

The various functions that now comprise the discipline of logistics were regarded as separate and distinct, and managed accordingly, up to the 1960s and 1970s. This
began to change radically, however, in the 1980s and beyond with firms realising the benefits of integration and, more recently, collaboration.

The term supply chain management (SCM) was originally introduced by consultants in the early 1980s and, since then, has received considerable attention. The supply chain is a much wider, intercompany, boundary-spanning concept, than is the case with logistics. Figure 1.1 illustrates the evolution and structure of the integrated supply chain.

Martin Christopher, Professor of Marketing and Logistics at Cranfield School of Management, suggests that the supply chain is the network of organisations that are involved, through upstream (supplier end of the supply chain) and downstream (customer end of the supply chain) linkages, in the different processes and activities that produce value in the form of products and services in the hands of the ultimate consumer. He distinguishes SCM from vertical integration – the latter concept implies ownership or at least control of upstream suppliers and downstream entities, whereas SCM does not necessarily imply any such ownership or control of supply chain partners. In this book we appropriate Professor Christopher’s definition of the supply chain.

The supply chain is the network of organisations that are involved, through upstream and downstream linkages, in the different processes and activities that produce value in the form of products and services in the hands of the ultimate consumer.
It is our view that supply chains encompass a number of key flows:

- physical flows of materials
- flows of information that inform the supply chain
- resources (especially finance, but also others such as people and equipment) which help the supply chain to operate effectively. Furthermore, not all resources in the supply chain are tangible, for example good quality inter-company relationships are often cited as a highly important ingredient of effective supply chains.

An important feature to note with regard to SCM is that it involves taking an ‘end-to-end’ perspective from upstream in the supply chain to the downstream end of the supply chain. Depending on the sector one is looking at, terminology such as the following can be used to describe the end-to-end supply chain:

- Farm to fork
- Cradle to grave
- Dust to rust

A final important point to note at this juncture is that increasingly it is the case that supply chains compete more so than individual firms and products. This represents something of a paradigm shift in terms of how people usually view the global business environment; this important issue is discussed further in Chapter 3.

**DISTINGUISHING LOGISTICS AND SUPPLY CHAIN MANAGEMENT**

Now that logistics and SCM have been defined, the issue of how both terms differ needs to be considered. This is in fact a question that has led

**Supply chain management (SCM)** is the management across a network of upstream and downstream organisations of material, information and resource flows that lead to the creation of value in the form of products and/or services.

Note the use of the word *network* in the definition of the supply chain. While the supply chain is usually depicted as a linear chain (as in Figure 1.1), it is perhaps better to envisage it as a *multidimensional network of collaborating entities*.

Furthermore, such networks can be more fully understood as *systems*; taking a systems view highlights the impact of the interaction that occurs between the various entities. In logistics and SCM these various entities are sometimes referred to as *links* (for example transport services) and *nodes* (for example warehouses). The various links and nodes can of course contemporaneously play different roles across multiple supply chains.

The term ‘echelon’ is sometimes also used to refer to different parts of the supply chain.
to much debate with people often coming up with their own distinctions. It has also been studied by a number of academics. Larson and Halldorsson, for example, surveyed international logistics/SCM experts and identified four different perspectives which are illustrated in Figure 1.2.

SCM in many respects evolved from logistics and the traditionalist view thus regards SCM as a subset of logistics, as if it were an add-on to logistics. In the re-labelling view it is contended that logistics has been re-labelled by the more recent term SCM. Indeed it is worth noting here also that sometimes transport gets re-labelled as logistics, for example the authors have observed heavy goods vehicles where the word ‘logistics’ is painted over the word ‘transport’ on the side of the vehicle! Becoming a professional logistics company, however, requires more than just a name change. In the unionist view logistics is seen as part of a wider entity, SCM. Finally the intersectionist view suggests that there is overlap between parts of both logistics and SCM, but also that each has parts that are separate and distinct.

In this book our approach is to adopt the unionist view; that is, that logistics is part of the wider entity which is SCM. To reiterate what was stated earlier, the supply chain is a much wider, inter-company, boundary-spanning concept, than is the case with logistics. We believe that if you now look again at the definitions of logistics and SCM which are outlined above and the surrounding discussion in this chapter, this will be quite evident.

Figure 1.2  Four perspectives on logistics versus supply chain management. (Source: Larson, P. & Halldorsson, A. (2004)).

Logistics is part of SCM; SCM is a wider, intercompany, boundary-spanning concept, than is the case with logistics.
APPLICATIONS TO MANUFACTURING AND SERVICES

The previous sections have given an insight into the origins and forces shaping the evolution of logistics and SCM. Much of the early application of both logistics and supply chain thinking has been in a manufacturing context and this will be considered in more detail in Chapter 3. It is now generally agreed that for those who take a supply chain view, two dimensions of value often arise, namely cost savings and also service enhancements. This is evident in the Dell case at the end of Part One of the book where the PC maker uses robust logistics strategies and competes using their entire supply chain. Not only do they sell relatively cheap PCs, but they also compete on the basis of certain service attributes (for example the ability for customers to purchase their products online and the fast delivery of purchased products to customers).

More and more manufacturers are using service criteria (for example, after sales service and delivery add-ons) in order to compete. Such has been their success that now many service companies are waking up to the advantages that can be gained from adopting best-in-class logistics practices and taking an end-to-end supply chain view. This is evident across a diverse range of service sectors such as retail, financial services, healthcare and tourism.

In the healthcare sector, for example, expensive advances in medical technology and increasing life expectancy are leading to greater demands on healthcare services with hospitals striving to offer better services at less cost. The average length of stay of patients within hospitals is declining, partly due to technological advances in healthcare, but partly also because increasingly hospitals both take a more holistic supply chain perspective on all aspects of patient care and also increasingly apply core logistics principles to their everyday activities. By eliminating unnecessary blockages and delays (for example by ensuring that required expertise in terms of medical skills and equipment is available when needed), patients get faster access to a range of services, allowing them to get better more quickly and leave hospital earlier, thus leading to improvements in whole system efficiency.

IKEA (WWW.IKEA.COM)

The Scandinavian home furnishings retailer IKEA is a good example of a company that uses best practice logistics and SCM in the manufacturing and services aspects of its business. Many products are manufactured for self-assembly by the customer. They are ‘flat packed’, making them easier to ship and store. Self-assembly is generally straightforward, with many products comprising components that easily assemble together. Even the instruction leaflets often have no words, only pictures, cutting down on the need for multiple language translations. Their network of worldwide stores are usually quite easily accessible and have similar layouts, making the shopping experience as easy and user friendly as possible for customers.
TRIAGE

The concept of triage, originally devised by the French military, is now widely applied in medical emergency situations. Triage involves rapid assessment of patient needs and thus allows those most in need of care to be attended to first. The concept has evolved considerably and has moved beyond merely deciding between those who are critically ill and those who are not, into an activity that tries to match patients with the right care stream. This may involve various downstream activities from trauma care to bypassing hospital emergency departments completely and going straight to an appropriate community care facility. Importantly, more recent applications of triage involve not just assessment once the patient reaches the hospital, but also triage at other upstream points of contact (for example, via telephone or when an ambulance first arrives at an accident scene). Medical triage is an example of the application of logistics practices in a services context and is especially relevant given the pressures on many modern healthcare systems.

BOOK FRAMEWORK

A number of perspectives were adopted by the authors when writing this book; these are reflected in its content and summarised below.

Global perspective

Logistics and SCM are truly global disciplines that underpin international trade and span across international borders. Consequently, this book seeks to reflect this global nature of the subject matter and draws on diverse examples from multiple geographies. It is not our intention to present a particular ‘Western’ perspective on the subject matter, but instead to present a global worldview of what is happening in logistics and SCM today.

The terms ‘international’ and ‘global’ are often used interchangeably in a logistics context, but this is not in fact accurate. ‘International’ is defined by the Collins English Dictionary as ‘of, concerning, or involving two or more nations or nationalities’, while the same dictionary defines ‘global’ as ‘covering, influencing, or relating to the whole world’. This book, then, aims to go beyond a focus on international logistics and to take a broader, whole world, global perspective on logistics and SCM issues.

Both practical and strategic perspectives

The book aims to comprise both a practical element, that is to help the reader to ‘do’ logistics (for example, select carriers, determine how much inventory to carry, select appropriate performance metrics, etc.) and a strategic element (understand the role of logistics and SCM in the wider business context and how it fits with the various functional areas).
In Chapter 15 the desired ‘T shaped’ profile of the effective logistics manager is discussed; suffice to note for now that logistics managers, as well as needing to know how to ‘do’ logistics, also require good interpersonal skills and in addition need to be able to work effectively with various functions such as marketing, finance, etc. As well as this they need to be good strategic thinkers. In this book, the aim is to present a balanced insight across all of these areas. We contend that while it is important to understand how global supply chain strategies are developed, it is also equally important to know how, for example, to calculate the cost of inventory in a warehouse or what information to put on an airwaybill. For a student at any level to have knowledge of supply chain strategy is vacuous, in our view, without concomitant knowledge of how to ‘do’ logistics.

**Logistics is a part of SCM**

As discussed already, the book adopts the unionist view of logistics, that is that logistics is part of the wider entity which is SCM.

**Focus on material, information and resource flows**

The three flows across supply chains, which were detailed above (material, information and resource), are each considered. None are regarded as more important; rather the book recognises the interdependency of each.

**Neutral and nonpolitical perspective adopted**

Despite the economic successes pointed to in Chapter 2, the world is not a perfect place; there are too many conflicts, injustices and poverty pervading in many regions. In this book we have adopted a neutral and nonpolitical perspective; any reference to individuals, situations or countries is only done to illustrate logistics/SCM issues. Our hope is that best practice logistics and SCM, which this book hopes to advance, can help all regions to prosper.

The book is divided into three parts and these are now detailed.

**Part One – Logistics and supply chain context**

This first section sets the context for the book. The growth of logistics and SCM correlates directly with both increasing globalisation and international trade and this is the focus of Chapter 2. Pertinent issues such as trends in foreign direct investment flows (FDI), outsourcing and offshoring are also developed in Chapter 2. Application to both manufacturing and service contexts is highlighted in Part One, as is the relationship of logistics and SCM to other areas of business. Chapter 1 has already given an historical perspective vis-à-vis the origins of logistics and SCM, and in Chapter 3 we will see how in recent decades various strategies (such as leaness and agility) and trends have emerged and shaped the discipline, especially moving it from a producer-push paradigm to one of consumer-pull.
The aim of Part One of the book will be to bring the reader to a position whereby they accept the now generally held maxim that it is increasingly supply chains that compete and not individual products and/or companies. By the end of Part One, the reader will be sufficiently informed to progress to Part Two of the book, which focuses on logistics and supply chain operations.

**Part Two – Logistics and supply chain operations**

The second section of the book focuses on logistics and supply chain operations: how to ‘do’ logistics. The eight chapters in Part Two focus on different aspects of ‘doing’ logistics: how to identify sources for inputs both at home and overseas; how to purchase (trade regulations, terms of trade, supplier partnerships, etc.); how to arrange transportation and cognate value adding logistics activities; how to manage inventory; how to handle material (people requirements, warehouse design, etc.); and how to manage associated flows of resource (people, equipment, logistics providers, etc.), information (including requisite systems requirements) and, perhaps most importantly, money (currency exposures, asset ownership, available working capital, as well as cognate areas such as tax issues and incentives). Technology developments such as RFID (radio frequency identification) have a considerable bearing on logistics and these are given detailed treatment. The area of performance management (usually via various metrics), internally and externally, is of considerable importance in a logistics and SCM context and is also considered in Part Two. The sequence of chapters in Part Two is not accidental and follows the typical ‘cradle to grave/farm to fork/dust to rust’ sequence of many logistics activities.

**Part Three – Supply chain designs**

Having learned how to ‘do’ logistics, the focus of the third and final section of the book will move towards more strategic issues. Given recent significant and world altering events (such as for example 9/11 and the Asian tsunami), a lot of focus in SCM has turned to business continuity management and ensuring supply chains can cope with both uncertainty and the equally strong challenges that arise as a result of growing marketplace competition. This is the focus of Chapter 12, which deals with supply chain vulnerability, risk, robustness and resilience. Chapter 13 considers integration and collaboration in supply chains, while Chapter 14 covers the increasingly important issue of sustainability in the context of logistics and SCM. The concluding chapter in the book (Chapter 15) brings together the key issues covered throughout the book and considers logistics system and supply chain design for the future.

Part One of the book aimed to take you to the point whereby you understand that increasingly it is now supply chains that compete. The end point of the book will be to take you to the position whereby you understand that not only is it true that supply chains compete, but that, more and more, these supply chains are not simple, linear chains, but are instead complex, global, multidimensional, multipartner, networks.
Chapter 1  Introduction

LEARNING REVIEW

The chapter sought to explain the origins of logistics and SCM and both define and differentiate both terms. The importance of these areas to both manufacturing and services has been highlighted and the chapter showed how best practice logistics and SCM can yield both cost reductions and value addition. A framework for the book has also been outlined and the particular perspectives embraced in the book were elucidated.

Now that the origins and meaning of both logistics and SCM have been described, other developments which have been closely associated with the growth of logistics and SCM can be discussed. Chapter 2 looks at both increasing globalisation and international trade. Growth in both of these areas correlates closely with the growth in logistics and SCM, and indeed there is a significant level of interdependence between all of these areas.

QUESTIONS

- Are logistics and SCM only of interest to manufacturers?
- Explain the key developments behind the evolution of logistics and SCM.
- How do logistics and supply chain management differ?
- How can best practice logistics and SCM lead to both cost reduction and service enhancement?
- What are the benefits of deregulation of transport markets? Why does such deregulation sometimes not work out quite as planned?

APPLICATIONS OF LOGISTICS AND SCM IN A SERVICES CONTEXT

In this chapter we outlined key principles and concepts of logistics and SCM and how both can be applied in manufacturing and services contexts. Many application examples will be developed in the following chapters of this book. At this juncture, however, it is worth pausing to consider the application of logistics and SCM in a services context, as many students regard the subjects as only of relevance in a manufacturing context. Think of examples of sectors and organisations where logistics and SCM principles and concepts can be, or are already, applied. In the text above, for example, we developed the application of logistics and SCM principles and concepts to the medical context. Are there other services contexts where similar application is evident?
NOTES


3. www.skillsforlogistics.org


5. The Canadian military (www.forces.gc.ca), for example, define logistics as: ‘Logistics is the provision of resources to support the strategy and tactics of combat forces’.


