Analyse and address organisational challenges using real world examples

*Service Operations Management, 5th Edition* is a market-leading text on service operations management which provides a clear understanding of how service performance can be improved in organisations. This text applies underlying theories to the real world challenges faced by service operations managers on a daily basis, by providing a diverse range of examples and illustrations. Each chapter provides a range of tools, frameworks and techniques designed to help you better analyse existing operations and understand ways to deal with operational challenges.

This text can be used to support a dedicated Service Operations Management course, or a service-focused course in Operations Management. It is also ideal for those who want to build on knowledge of the basic principles of operations management, and it serves as a handbook for operations managers in service organisations as they seek to develop and implement operations strategies.

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Service Operations Management
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- PowerPoint and Keynote slides that can be downloaded and used for classroom presentations
- Instructional video screencasts by the author team showing you how we approach the subjects in our own teaching
- Lesson plans
- Opportunities to network, share ideas and provide feedback
- …and much, much more.
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Preface

Introduction

This text is about how to manage and improve the operations in service organisations. The service sector is the largest part of most economies, and is growing. Furthermore, service is an idea that is not confined to the service sector; it has important implications for all types of organisations. And of all aspects of service, its operations activities are especially important. They are the parts of the organisation that create and deliver service to customers. The service could be that delivered to customers inside an organisation, such as staff in other functions, or the service provided by public sector organisations, voluntary organisations, mass transport services, professional services, business-to-business services, retailers, internet services, tourism and hospitality. In this text we do not focus on any particular type of service, but seek to cover the many decisions faced by operations managers in all these organisations. To illustrate this diversity, we have provided examples from many different types of service organisations and from many parts of the world.

Service operations management is important. Operations managers are, more often than not, the people who are responsible for most of the costs in an organisation and most of the revenues. After all, they manage most of the people and physical assets. Operations managers deliver the ‘profit’ (monetary or ‘social’). In this text, we refer to many aspects of ‘business performance’, not simply profit. Although many organisations are motivated by profit, most operations should also be assessed on broader criteria such as long-term costs, revenues, risk, adherence to budgets, customer loyalty and technological leadership.

Service operations management is also very challenging. We have captured many of the challenges that operations managers face every day, and the text is structured around how to deal with those challenges. Managing operations is also exciting because it crosses many conventional disciplines. Service operations often have to deal directly with customers, often in real time, so part of the excitement comes from the immediacy of operations; dealing with the needs of a stream of customers, managing the staff and making operational decisions to ensure the delivery of an appropriate quality of service at an appropriate cost.

The aim of this text

The aim of this text is to provide a clear, authoritative, well-structured, easy-to-read and interesting treatment of service operations management. But conventional management disciplines and functional boundaries are, to some extent, artificial. This is why the reader will find ideas and theories that come from marketing, strategy and human resource management, as well as conventional operations management. Our objective in writing this text is to help students and managers understand how service performance can be improved by studying service delivery and associated management issues. Service delivery is the focus of this text, yet we recognise that success depends not only on the obvious territory of operations in managing processes and resources, but also in understanding how operations managers must be involved in aspects of the organisation’s strategy, the service concept, organisational culture, and the way employees and customers are motivated and managed.
How well a service is delivered reflects the ability of the organisation to pull all these strands together, providing a service that meets the demands of its various stakeholders and providing appropriate and achievable service to customers while meeting required financial targets.

**The Covid-19 pandemic**

This publication was written before the COVID-19 pandemic had its impact on the world and, significantly for this text, on the nature of many service operations. As we go to press, it is not possible to forecast with any degree of confidence how much the pandemic will have affected service operations. That there will be some impact is certain. Exactly what the impact will be, or how much it will affect the day-to-day lives of service operations managers, is less certain. By the time you read this, many service operations practices may have changed. Some ideas that, at the time of writing, were assumed to be fundamental, may have to be adapted. Some types of operation may even no longer exist in their old form. So, if there are the occasional ‘gaps’ between what we have written and current reality, please forgive us. However, be assured that the underlying philosophy of how service operations should be managed, and the central importance of the service sector, will not have altered.

**Who should read this text?**

This is intended as a text for those who want to build on knowledge of the basic principles of operations management. It will also serve as a handbook for operations managers in service organisations as they seek to develop and implement operations strategies. Specifically, it is intended for:

- **Undergraduates** on business studies or joint studies degrees, or those specialising in hospitality, tourism or the public sector, for example, who wish to enhance their understanding of service operations management.
- **MBA students** who are managing service organisations and want to stretch their understanding of the area, and assess and improve their operations.
- **Executives** who want to focus on certain aspects of service delivery, such as customer experience, process design, capacity management, improvement, creating high-performance teams, performance measurement, world-class service or service strategy development, in order to challenge and change their own organisations.

**Distinctive features**

- **Operations focused.** This text has a clear operations focus and is concerned with managing operations. It explores operations-based issues, problems and decisions. It exposes students to the problems faced by service operations managers and helps practising managers deal with those issues. Each of the main chapters addresses how to deal with a particular problem or challenge.
- **Frameworks and tools.** Each chapter provides tools, frameworks and techniques that will help students and managers not only analyse existing operations but also understand better how they can deal with the issues that operations managers face. The frameworks, approaches and techniques will vary from topic to topic and will include, for example:
  - a list of key points to bear in mind when making decisions in a particular area;
  - a diagram or chart showing the relationship between two variables, or sets of variables, to help position an operation or help identify the nature of the relationships;
  - a list of questions, checks or tests that can be applied to a situation;
  - ways of quantifying or assessing qualitative variables;
  - the key stages in undertaking a particular activity.
• **Real-world illustrations.** Operations management is an applied subject, so each chapter includes a number of short illustrations – case examples – from around the world that show how organisations have either identified or dealt with the particular issues being discussed.

• **International.** The real-world illustrations – examples in the text, case examples and case exercises – are drawn from many countries to show the diversity and international nature of operations issues and activities. (We have included a list of the case examples later.)

• **Underpinned by theory.** Appropriate theoretical underpinning and developments are included and we have tried to explain them in an unobtrusive and accessible way. References, web links and suggestions for further reading are provided for anyone wishing to undertake more work in a particular area.

• **Managing people.** A key task for operations managers is managing people, and so this text contains a significant ‘managing people’ element. This includes not only employees but also customers, as well as managing and changing the culture of the organisation as a whole.

• **Technology-based service.** Rarely have technologies had such an impact on services, so information and communications-based technology services are integrated into the text and their operations implications explored.

• **State of the art.** The text contains some of the most recent ideas and information, covering in particular world-class service, performance management, service concept, the customer experience and service processes.

• **Summaries.** Each chapter concludes with a checklist summarising the key points, structured using the main chapter sub-headings.

• **Discussion questions and exercises.** At the end of each chapter there are some questions aimed both at students and at practising managers. We hope that these questions will encourage readers both to test their understanding and to apply the material in the chapter.

• **Further reading.** The topic keeps developing, so we have also provided some suggestions for further reading that should both develop the basics of the topic further and extend its scope.

• **Case exercises.** Each chapter concludes with a case exercise suitable for class discussion. The cases are short but focused on the topic and are a rich source of material for debate and development.

• **Instructor’s manual.** An instructor’s manual is available to lecturers adopting this text. It can be downloaded from www.servops.net and provides detailed questions to go with the cases and bullet-point answers to the questions.

• **Servops.net** is the instructor’s companion website for our text. Besides the instructor’s manual it provides a range of presentations in PowerPoint and Keynote formats to suit a range of teaching styles, experience and time constraints. The site also makes available a series of video screencasts in which the authors explain their approach to teaching each topic. Servops.net also gives instructors a series of lesson plans and handout designs.

**Feedback and ideas**

We would welcome feedback and suggestions to help us develop our text. In particular, we would like to know how you use the text, and if you have any suggestions for web links, readings or case examples. Please do not hesitate to contact either Michael Shulver at michael.shulver@me.com, or Nigel Slack at nigel.slack@wbs.ac.uk
New features for this edition

Since the previous edition of this text, sadly our dear friend and colleague, Bob Johnston, has died. His inspiration and support are missed by all who worked with him. But his enthusiasm and love for service operations management is, hopefully, reflected in this new edition. We have incorporated some new topics and updated the content in several ways, many of which Bob was actively working on.

To help us with this task we welcome Professor Nigel Slack to the author team for this fifth edition of the text. Nigel worked with Bob for many years and brings a wealth of experience in authoring his market-leading texts in operations management and operations strategy.

The previous edition of this text was published in 2012 and the subjects of service operations management and service management have advanced in that time. As a result, we have made quite a few changes to this edition. In particular, we have changed the chapter order to reflect a more up-to-date and logical structure – our apologies in advance to those classes who are still using the fourth edition. This has allowed us to expand our coverage, especially of the topics that have become more prominent since the previous edition. There are more things we want to do in future editions and we always appreciate and welcome the feedback we have had, which has led to many of the changes we have made. In summary, the changes have included:

- A new chapter structure based around four groupings of topics – framing service operations, understanding customers, delivering service and improving service operations. Following on from which:
  - A new, more helpful structure diagram.
  - More emphasis on how the topic being discussed is applied specifically in service organisations.
  - Coverage of the growth in the service sector generally, and the various types of service organisation.
  - A new chapter on service innovation.
  - Although a few of the more relevant case examples from the previous edition are retained, most case examples are new, while others have been updated.
  - We have added ‘worked examples’ in most chapters to help understand how the concepts can be applied.
  - The addition of ‘counterpoint’ features in most chapters that provide comments or criticisms of conventional theory and/or practice.
  - Fourteen new end-of-chapter case exercises (the old ones from the previous edition can be accessed at servops.net).
  - A new look and format.
# Case examples and exercises

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Management: Principles and Practice for Strategic Impact. His best-known publication is the market-leading text, Operations Management (with Alistair Brandon-Jones), now in its ninth edition (2019), published by Pearson – a book that has been translated into several languages. His latest works include Essentials of Operations Management, again published by Pearson, The New CFO and The Operations Advantage, the latter both published by Kogan Page. He is a Chartered Engineer and an Honorary Fellow of the European Operations Management Association.

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The aim of Part I is to introduce some of the fundamentals of service operations that will form the foundation of later topics.

This part consists of four chapters:

1. Introduction to service operations
2. The world of service
3. Service strategy
4. The service concept

**Part I Contents**

**FRAMING SERVICE OPERATIONS**
- Introduction to service operations
- The world of service
- Service strategy
- The service concept

**THE OPERATIONS PERSPECTIVE**

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Chapter 1
Introduction to service operations

Learning objectives

• To define the characteristics of services and understand the implications and limitations of these characteristics
• To be able to explain what service operations management is
• To understand the importance of service operations management
• To be able to understand the multiple perspectives on service operations management
• To gain an appreciation of the challenges faced by service operations managers

This introductory chapter starts by exploring what is meant by service, as distinct from the manufacturing of physical goods, and then looks at the general contribution of operations management before exploring what is distinctive about operations management in service organisations, what its responsibilities are and why it is so important.
Introduction

We all use service operations. Almost certainly we use them every day, and almost certainly they are important in our lives. Service operations treat us when we are ill, transport us to wherever we need to go, serve us meals, sell us goods, connect us to social media, entertain us and (hopefully) educate us. Service operations are everywhere, and we are their customers. Many of us are also responsible for serving others, not only as part of our jobs, but also as part of daily life for our friends and families; providing cooking and cleaning services, ‘taxi’ services, organising holidays and providing emotional support services when needed. But if service is both widespread and important, why aren’t the services that we consume, as customers, better? Why do we wait too long to be seen at a doctor’s surgery? Why are we asked for the same information twice (or more) by the same organisation? Why does the parcel not arrive when it should?

As customers, we all have stories of those times when we have been let down by services and, hopefully, we also have stories of those times when services have delighted us. The difference between good and bad service is how well the services have designed, organised and run their service delivery operations. When service is poor, it is often because those responsible for creating and delivering service have not used their organisational resources effectively. In other words, it is a failure to deploy the principles of service operations management. That is what this text is about – the nature, character and challenges of managing service operations. The principles of service operations management that we describe in this text apply to all types of service organisation, indeed any organisation that uses resources in order to provide some form of service. We give detailed coverage of the main issues and challenges for service operations, and provide the tools and frameworks that managers can use to understand, assess and improve the performance of their operations. While the development of operations management as a discipline has its roots in production management, this text concentrates on those operations issues that are particularly relevant to service organisations.

However, every organisation, without exception, is involved in service to some degree, and so a knowledge and understanding of service operations management can make a real difference to their success. Many of the concepts are equally relevant to manufacturing organisations because all manufacturing companies provide services, such as after-sales service and customer training, and internal services such as HR or IT support. Furthermore, manufacturing organisations are increasingly under pressure to differentiate by enhancing the service aspects of their offering and to increase service revenues. The later sections and chapters of the text deal specifically with these challenges, but first we will introduce several key concepts, starting with what we mean by ‘service’.

1.1 What is ‘service’?

It may seem like an easy question, but answering ‘what is service?’ has proven to be remarkably difficult. One might reasonably reply, ‘as opposed to what?’. Most early definitions of ‘service’ took the question to mean, ‘what is a service, as opposed to a manufactured product?’. From the early 1980s, the main distinction between services and products (now disputed) was that services are characterised by the following:

- Intangibility, in that they are not physical items.
- Heterogeneity, in that they are difficult to standardise.
- Inseparability, in that their production and consumption are simultaneous.
- Perishability, in that they cannot be stored.

These four features of services are known as the ‘IHIP’ characteristics. They are worth studying, even though they have been the subject of some considerable academic debate.
Intangibility

The most obvious characteristic of a product, as opposed to a service, is that it has physical form—one can physically touch a motor vehicle, a garment or a burger. By contrast, a pure service, such as theatre performance, a consultation with a doctor or financial advice, cannot be touched as such. The resources that carry out these services may be tangible, palpable and material, but not the service they provide. As one authority put it, ‘a service is something that can be bought and sold, but which [you] cannot drop on your foot’. Certainly, when compared to physical products, it can be difficult to define the ‘boundary’ of a service. What a product is, and what it is not, is a relatively clear distinction, whereas the limits of what constitutes a service may need constant maintenance. Which is why service operations are frequently at pains to educate customers as to what they can and cannot expect from their services.

However, there are several problems with the idea that all services are intangible. First, many services have a tangible element as part of what they are offering. A motor vehicle service often involves (physical) replacement parts; meals and drinks are an essential element of an air journey; education services may include the provision of physical supplementary material such as (hopefully) books. Second, if we accept the argument that service is intangible, even if the resources providing the service are not, this does not mean that those physical resources are unimportant to how customers view the service. The life-support equipment in an intensive-care unit of a hospital is vital to the service provided, as is the state of the aircraft to an air journey. Third, and related to the last point, customers are unlikely to distinguish between the intangible and tangible elements of service. In fact, for many services, such as some retail services, the quality of service may be judged mostly on the tangible elements of service. Finally, it could be argued that services involve some kinds of changes to customers (or their surrogates, such as their parcels sent by courier), and customers are certainly physical.

Heterogeneity

Heterogeneity means that each time a service is delivered, it will be different because the needs and behaviour of customers will, to some extent, vary. Customer behaviour is never totally predictable. No matter how well a service is designed, customers may still request a service beyond the limits of the service provider. Ask the operator of a bank’s contact (call) centre, or of a technical helpdesk, or emergency service, and they will report on customers asking for service well beyond their scope. Yet such services are directly exposed to their customers’ requests, and they must be dealt with. Moreover, when any service involves an interaction with the service staff of a provider, the exact nature of the contact will inevitably vary each time an interaction takes place. Even with considerable staff training, different staff will probably deal with different customers and their requests in different ways. In fact, neither customer nor service staff behaviour is either totally predictable or controllable, all of which makes achieving standardisation difficult. Yet there are significant cost efficiencies for any operation if it can achieve some degree of standardisation. However, heterogeneity is not exclusively a characteristic of services. Many physical products are valued for their variation. Customised products are valued for their lack of standardisation, as are craft or artistic products, which are idiosyncratic by nature.

Of course, service operations will attempt to reduce the range of possible interactions. They will signpost what a service can and cannot do, they will transfer ‘non-standard’ customers to a more appropriate service and they will provide guidance for staff, all of which can reduce, but not completely eliminate, variety. Such heterogeneity makes the full standardisation of services particularly difficult. Yet technology can help. For example, many years ago, financial services realised the value of ATMs in standardising service (in an admittedly limited way), after which the use of online (internet) banking allowed some scope for inappropriate requests to be filtered out. It is also worth noting that in some services, heterogeneity is welcomed because it can provide avenues for potential development of the service. For example, a customer request could provide the stimulus for a new variant in an organisation’s service offering, or perhaps even the development of a brand-new service.
Inseparability

Inseparability, in this context, means that the production of services and their consumption occurs simultaneously. In other words, the service provider (who ‘produces’ the service) is often physically present when its consumption by a customer takes place. In education services, a tutor explains concepts while students (attempt to) comprehend them, doctors listen to their patients, diagnose them and recommend treatment with the patient present, consultants provide analysis and guidance directly to their clients, and so forth. This is distinctly different to physical products that can be first produced and then consumed by the customer. The implication is that, unlike physical products, services cannot be consumed assynchronously, which, in turn, means that businesses that want to meet all demand for their services must have sufficient capacity in place to meet that demand as it occurs.

Yet, while this inseparability is true of those personal services such as some types of education, healthcare and consultancy, it has never been true for services where it is a customer’s possession or resources that are the ‘recipient’ of the service. So, for example, many widely used business or consumer services, such as transporting freight, laundering clothes or performing routine cleaning, are most commonly performed in the customer’s absence. Furthermore, technology has worked to reduce this characteristic in many services. In education, lectures can be recorded and viewed independent of their creation and student queries can be posted online, to be answered at a later time. Healthcare websites can help customers understand their conditions and advise on further diagnosis or treatment. Most organisations now understand the power of FAQs to decouple the production and consumption of information-based elements of service, and so on. For many services, the ubiquity of asynchronous communication tools such as SMS and email mean that previously face-to-face and immediate communication is now separated in time, to the mutual benefit of the server and the customer. (Asynchronous communications can be sent at any time, without regard to whether or not the receiver is ready.)

Perishability

A further consequence of the difficulty of storing service, and the idea of inseparability, is the characteristic of perishability. It means that services, in effect, have a very short ‘shelf life’. They may even perish in the very instant of their creation: the jokes in a stand-up comedian’s performance perish as they are told. Even if she tells the same joke on the next night, the performance and reaction could be different – it is a different service. Similarly, if a hotel room is not sold for a particular night, it has perished. The same room for sale on the next night is a different service. This means that matching capacity with demand, or managing demand to fit capacity, becomes particularly important to avoid underutilised resources and lost revenue. Often, ‘dynamic’ pricing is used to manage demand. So, for example, hotels will discount their rates in quiet times, or the comedy venue might offer discounted drinks and reduce entry fees in order to fill up demand in the early part of an evening.

However, again there is criticism of this characteristic. Whether one accepts the idea of perishability partly depends on what one regards as ‘stored services’, and partly on how one views the consumption of a service. First, let us deal with the issue of whether services can be stored. For example, the hotel’s ‘room for a night’ cannot be stored, but what is a hotel but a ‘store’ of rooms? All service operations ‘store’ many of the resources that they use to create their services. The resources do not necessarily ‘perish’. Hospitals ‘store’ medical technology, universities ‘store’ knowledge and so on. Second, what is meant by the ‘consumption’ of a service? If ‘consuming’ the performance of a stand-up comedian is simply experiencing the moment of the performance, then that particular service has indeed perished. However, if one treats the utility of the performance, say, in how it makes one feel, then the utility or value of the performance lasts longer. It might make one feel better for weeks or months. It might even change one’s life forever. Medical treatment may be over in hours or minutes, but the effect could sustain for far longer. So, perishability depends on whether it is treated as a time-defined issue, or by judging the continued benefits from a service.
Chapter 1 Introduction to service operations

Table 1.1 Summary of the IHIP characteristics of service

<table>
<thead>
<tr>
<th>IHIP service characteristic</th>
<th>Meaning</th>
<th>Example</th>
<th>Definitional problems with the characteristic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intangibility</td>
<td>Not having physical or material form</td>
<td>Education services (e.g. universities) enhance students’ (intangible) knowledge</td>
<td>Many services include tangible as well as intangible elements. The resources that provide the service are important and tangible. ‘Tangible’ customers are transformed by services.</td>
</tr>
<tr>
<td>Heterogeneity</td>
<td>Every service is different, difficult to standardise</td>
<td>Primary healthcare services should respond to each customer’s (patient’s) individual requirements and treat/advise accordingly</td>
<td>Heterogeneity is not only a characteristic of services.</td>
</tr>
<tr>
<td>Inseparability</td>
<td>Production and consumption are simultaneous</td>
<td>When attending a live theatrical performance, the value lies in the ‘immediacy’ of its presentation</td>
<td>May be true for personal services but has never been true for services where it is a customer’s possession or resources that are the ‘recipient’ of the service.</td>
</tr>
<tr>
<td>Perishability</td>
<td>Service ceases to have value after a relatively short time</td>
<td>If a passenger train service is half empty for a journey, in effect half of that service has ‘perished’; it cannot be used if it has not been used</td>
<td>Even if the activity of performing a service cannot be stored, the resources can. The value of a service can endure far longer that its consumption.</td>
</tr>
</tbody>
</table>

Table 1.1 shows a summary of the IHIP characteristics of service, with an explanation of what each means and some of the definitional criticisms of using each characteristic to define service. From this, and the previous discussion, two points become clear:

- None of the IHIP characteristics is unique to services as opposed to physical products. They are all definitionally questionable to some extent, which explains why a very considerable amount of academic discussion has been generated by them. However, if one is concerned ‘broadly’ and ‘generally’ with how services are different to physical products, and the implications of those differences, then the characteristics are a reasonable starting point.
- Technology has had a significant effect – both on the extent to which the IHIP characteristics apply and how the limits that they place on service operations can be overcome. In particular, the development of information and communication technology has opened up many new types of service offerings. And although these technologies may have diluted the applicability of the IHIP characteristics, of far more importance is the potential they give to the development of services. (We deal with service technology in both Chapters 7 and 11.)

1.2 What is service operations management?

The principles of operations management (in any kind of organisation, service or non-service) are broadly the same. Essentially, operations management is concerned with transforming a set of inputs into outputs. This is usually illustrated as an input–transformation–output model, as shown in Figure 1.1. Some of these inputs, such as people (employees), technology and knowledge, are ‘transforming resources’, and they act on other inputs, such as materials, information
and customers, that are ‘transformed resources’. The purpose of this transformation process is to produce some combination of products and services. Within the transformation process (which is normally referred to simply as ‘the operation’), transforming resources are organised into an interconnected network of processes, through which transformed resources progress.

However, note two important points about an operation’s resources. First, they include not just internal resources, but also those that can conveniently be accessed (usually through suppliers). This means that an operation need not necessarily own the resources that it uses. It could have supply agreements that allow it to access resources as and when there is the need. Second, an operation’s resources are more than the buildings, technology, equipment and facilities that form the physical fabric of the operation. They even include more than the physical presence of the people that staff the operation. They include all the intangible elements, such as skills and knowledge, together with the intrinsic capabilities, relationships and understandings that have developed, such as those with suppliers and customers. In other words, although the easily quantified resources such as technology, facilities and staff are clearly important, it is the knowledge, skills and capabilities that they embody that can be even more important. This concept of the centrality of service resources, and how they create value, is a fundamental principle in the idea of service dominant logic (SDL), which we will describe in the next chapter. SDL distinguishes between operant resources (skills and knowledge that are usually invisible and intangible) and operand resources (tangible assets). SDL views knowledge and skills as the primary basis of a firm’s competitive advantage.

**Resources and processes**

Resources and processes are the two vital ingredients of all operations, and much of operations management is concerned with how they are managed. Both resources and processes are fundamental to how any enterprise creates value. However, it is the interaction between resources and processes that is key to the effectiveness of any operation. They are not physically separate things; they are simply a way of thinking about what goes on in an operation. More importantly, resources and processes impact on each other. An operation’s resources will constrain what its processes are capable of doing. Just as important, the experience gained over time by an operation’s processes can add to the capability of its resources. This mutual dependency of resources and processes is a particularly important point that helps us understand how operations improve their capabilities over time. It is also a point that we shall return to when we examine service operations improvement (see Chapter 15).

How any principles, or any models, are applied in practice will depend on the context in which they are applied. A common principle (for example, that the quality of a product/service should be judged by how it affects its intended customers) can be interpreted in very different ways depending on the nature of the customers being served (for example, their expectations, previous experience, etc.).
How is service operations management different from general operations management?

The input–transformation–output model is a broadly applicable generic model that applies to all types of operation, whether service or manufacturing. So, what is it about service operations that is different? Put simply, it is the relative importance of the various inputs to the transformation process. Whereas in the generic model of operations management, the transformed inputs are classed as some combination of materials, information and customers, service operations management is characterised by the importance of the customer (or the customer’s surrogate) as the central input to the transformation process. So, service operations, such as entertainment, healthcare, education, passenger transport, banking contact centres and hairdressing, ‘transform’ their customers directly. Customers have some degree of ‘presence’ as the service is ‘produced’. These services change something about the customers themselves – for example, their state of mind, physical or mental health, knowledge, location, security or appearance. Other service operations still add value for their customers, but do so by working on (transforming) their customers’ surrogates. For example, most of the operations effort in banks consists of working on their customers’ financial information, mail and parcel delivery services move customers’ letters and packages and garages repair their customers’ vehicles. Because the work on customers’ surrogates does not make them any less of a service, their customers will still judge the performance of their operations in much the same way as in more direct services. Nevertheless, the degree of ‘visibility’ of the service that customers have is an important factor in how a service is managed, and we shall be returning to the issue.

If it is the importance of the customer’s presence in the operation that makes service operations management distinctive, it follows then that ‘service’ will mean different things depending on the type of customer being served and the nature of the service that is being provided. The service provided by a local restaurant or gym will be quite different to that provided by a large cloud computing service, such as Microsoft, to its business customers. Therefore, it is useful to consider service operations not just from the perspective of the operations resources and processes themselves, but also from the perspective of the customers who receive the service. This means that the generic operations management input–transformation–output model needs reconfiguring to reflect both operations and customer perspectives and, just as crucially, the overlap between them. This idea is shown in Figure 1.2. We will deal with each perspective, and then how they overlap.

**Figure 1.2** The input–transformation–output model of operations management interpreted to reflect the high customer-contact nature of service operations management

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Service provided by the operation

THE OPERATIONS PERSPECTIVE

- **INPUTS**
  - Materials
  - Knowledge
  - Staff
  - Technology
  - Facilities
  - and ....

- **PROCESS**
  - EXPERIENCE
  - OUTCOMES
    - ‘Products’
    - Benefits
    - Emotions
    - Judgements
    - Intentions

THE CUSTOMER PERSPECTIVE

Service received by customers
Part I
Framing service operations

Service – the operations perspective

All operations tend to be complex. Service operations managers need to manage the interaction between all the various input resources and shape them into processes. For example, a hospital employs large numbers of staff (or employees – we use the terms interchangeably), with a variety of skills, from cleaners and porters to transplant surgeons. It will care for hundreds of patients each day, through many different specialist departments, each providing a range of treatments. Managing this type of service operation is extremely challenging, not only because managers are dealing with life-and-death situations every hour, but also because of the complexity of the operation. The complexity is in part due to the volumes of patients and the wide range of treatments available, but also due to the fact that, as with many service organisations, hospitals comprise an internal ‘ecosystem’ of many different service processes that must be coordinated and linked together. In effect, a hospital is an extended network of services and processes. For the hospital, these processes include reception services, scanning and diagnostic services, pharmacy services, operating theatres (where procedures are carried out), catering, physiotherapy and so on. In addition, there are the support processes that may not deal with customers (patients) directly, but which indirectly contribute to the smooth running of the hospital. These processes include information systems support, equipment and building maintenance, human resource services, training and finance. Externally, the hospital interacts with other service organisations such as the local ambulance service, social care organisations, voluntary organisations, specialised laboratories and so on.

Services have different characteristics

The consequence of the customer (or surrogate) being present within the service and therefore having some visibility of the operation’s activities can be summarised by the IHIP characteristics that we described earlier. These are:

- Intangibility, in that they are not physical items.
- Heterogeneity, in that they are difficult to standardise.
- Inseparability, in that their production and consumption are simultaneous.
- Perishability, in that they cannot be stored.

And, although these characteristics are not ‘pure’ in the sense that all types of service fully conform to them, they do indicate some of the ways services are different to products.

Table 1.1 showed a summary of the IHIP characteristics of service, with an explanation of what each means and some of the definitional criticisms of using each characteristic to define service. Table 1.2 extends this to show some of the implications for service operations and how any potential negative impact could be limited for each characteristic.

But not all services exhibit these characteristics to the same extent. In fact, different services delivered by the same operation can vary considerably in how they conform to the IHIP characteristics. For example, a university might use a variety of ‘learning experiences’ to educate its customers (students). These might include:

- Conventional, non-interactive lectures, where a relatively large number of students listen to a lecturer give a lecture that she has (probably) given previously and where students take notes as they listen.
- Pre-recorded sessions, where an expert ‘talks to camera’, maybe including some illustrative material. Students can access these sessions online at their convenience.
- Small group tutorials, where students work on exercises and discuss them among themselves, guided by a tutor.
- Individual ‘counselling’ tutorials, where an individual student discusses their learning with a tutor who explores possible gaps in the student’s understanding.

The characteristics of these four services are illustrated in Figure 1.3. In none of the services are there many, if any, tangible elements, although notes may be available online that some students...
may prefer to print. However, on the other characteristics, the services differ widely. At one extreme, individual counselling tutorials are not at all standardised, occur when student and tutor are together and cannot be stored. They are a customised experience. By contrast, each pre-recorded session is totally standardised, students can experience it whenever they want and it is always available in its ‘stored’ state online. It is a ‘product-like’ service.

**Table 1.2** Some implications of the IHIP characteristics on service operations management

<table>
<thead>
<tr>
<th>IHIP service characteristic</th>
<th>Meaning</th>
<th>Implications for managing service operations</th>
<th>Ways of limiting the operations impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intangibility</td>
<td>Not having physical or material form</td>
<td>Difficult to define the ‘boundary’ of intangible elements of service</td>
<td>Manage customers’ expectations as to what the service comprises</td>
</tr>
<tr>
<td>Heterogeneity</td>
<td>Every service is different, difficult to standardise</td>
<td>Customers could ask for elements of service that are difficult to predict and may be outside the operation’s capabilities Difficult to achieve the significant cost efficiencies that result from some degree of standardisation</td>
<td>Manage customer expectations Staff training to cope with a wide variety of requests Transfer of ‘non-standard’ customers to a more appropriate service</td>
</tr>
<tr>
<td>Inseparability</td>
<td>Production and consumption are simultaneous</td>
<td>Services cannot be easily stored To meet all demand, service operations must have sufficient capacity in place to meet demand as it occurs</td>
<td>The use of technology may be able to separate production and consumption Customer guidance can reduce the need for contact (e.g. the use of FAQs on a website)</td>
</tr>
<tr>
<td>Perishability</td>
<td>Service ceases to have value after a relatively short time</td>
<td>Services cannot be easily stored Matching capacity with demand (or vice versa) is important to avoid either underutilised resources or lost revenue</td>
<td>Accurate demand forecasting helps to plan service capacity Capacity and/or demand management helps to match capacity and demand (e.g. through dynamic pricing)</td>
</tr>
</tbody>
</table>

**Figure 1.3** The ‘IHIP’ characteristics applied to four learning services at a university
What is significant about this type of analysis is not simply that different services are, well, different, it is the implications of those differences that is significant. In this case, the pre-recorded session requires the provision of production and editing technology as well as the ability to view the session at any time and on any medium. The individual ‘counselling’ tutorial, by contrast, requires little, if any, technology, but does call for significant diagnostic and counselling skills from the tutor. Planning the availability of the pre-recorded sessions is largely a matter of scheduling their accessibility at the appropriate time to be viewed by students. However, planning the individual tutorials will be more complex. Many tutorials can be scheduled with students in advance, but there will always be the need to allow for ‘emergency’ tutorials for those students with problems. The tasks that operations managers need to engage with if they are to manage the competing requirements of different services include choosing and implementing appropriate technology and facilities, selecting and developing the people who staff the operation, making sure that there is sufficient capacity to meet some level of demand, designing the processes through which customers receive their service and running day-to-day activities.

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**Case example**

Sara Davies is the Team Manager at Scarlets Rugby Club – a service operations manager

It is enjoyed by millions, but managed by a few. Sport is a mass service that needs managing like any other service, and it has one of the most attentive and passionate groups of customers (fans) who are devoted to the team or individuals they support, sometimes fanatically. Managing this type of service requires dedication.

Sara Davies is the Team Manager at Scarlets Rugby Club, and she is a service operations manager. She was prepared for what is a demanding role, partly by her sports development and coaching degree but also by her early experiences in ‘Young Farmers’.

I was a member of Young Farmers from eleven – so the things I learned there about public speaking, taking minutes, doing competitions, and so on, have been very helpful. Also, being club secretary for my university rugby team has been just as helpful as my formal education. I read for a Sports Development and Coaching degree because I thought I wanted to be a Rugby Development Officer, but I never dreamed that I’d be working in professional rugby. As I developed through my university days I was carrying out more of the off-field roles and really enjoyed them. What I like most about the job is the pressure. I may be calm on the outside, but, like the proverbial swan, I’m paddling away like mad underneath. In one of the early meetings with our coach, Brad Mooar, Brad asked us why we do what we do. Most people came back and said, ‘because I love it’, and that is true for me. It would be impossible to deal with the pressure, and the long hours, unless we loved what we do.’

The Scarlets are one of the four professional Welsh rugby union teams and are based at Parc y Scarlets stadium in Llanelli, South Wales. They play in the Pro14 and European Rugby Challenge Cup competitions. Scarlets’ 54-strong squad of players is supported by the head coach and his back-room staff, including playing coaches, strength and conditioning coaches, physiotherapists and analysts. The job of ensuring that the match squad, coaches, support staff, medics and the ‘kit man’ get to every fixture in one piece, in good condition and ready to play, falls to Sara. While the biggest part of Sara’s role concerns travel planning and logistics, and general administration, she is also responsible for player welfare, budget control, match day and match build-up operations, and scheduling player appearances, both for the team and for individual players.

Logistics is particularly important. About 50 per cent of the club’s fixtures take place ‘away’ (from home), with many Pro14 fixtures involving journeys...
to northern parts of the United Kingdom, Ireland and South Africa. European Challenge Cup fixtures could involve trips to anywhere in mainland Europe.

Nearly all flights are with regular commercial airlines but we will charter if we need to. Luckily most of the clubs that we play against in the Pro14 are adjacent to quite good airports, and we can reach these from Cardiff. We’re always looking for ‘high performance’ first, and if there is anything about the travel arrangements that might detract from that aim, then we will seek alternative arrangements such as a charter. Obviously, another aspect of the away fixtures is booking accommodation, meals, accommodating specific diets and so on. For the overseas games, all the equipment has to be packed onto the aircraft, and an important implication of flying with the equipment is that everything has to be inventoried in case the airline or airport security want to inspect any particular bag.

Sara manages several budgets, the biggest of which is for travel to fixtures.

I have my travel budget, but exactly how I spend it is up to me in terms of travel and logistics. I am also aware of staff and player salaries and the medical budgets, which vary considerably from season to season. For example, last season we had a huge number of game-related injuries, most of which we could not predict. However, there are some types of injury that we can predict to some extent, and we try to intervene to prevent these. These include training-based muscle pulls and strains. To try and keep our players in optimum physical condition, we try to mirror the same patterns and levels of activity in the non-playing and playing seasons.

Throughout the year, a great deal of Sara’s time is absorbed by coordinating ‘player appearances’. The range of player appearances is broad and complex. Players may appear at such events as TV interviews, public-speaking occasions, kids’ camps, local charity events, commercial (hospitality) events, shaking hands, kissing babies, leading mascots on to the field and so on.

On every match day we have ‘the match day 23’ (a mix of players and coaching staff) who are involved in meeting children, signing photos, posing for selfies, meeting commercial partners and speaking at pre-match events. The public expectations around player appearances can be challenging. Nearly everyone on the street thinks they know the players, and that the players know them. Many players are good at remembering the names of the fans, but not all. A smile is often not enough, and a ‘not now’ to a selfie request is perceived as rude. This kind of interaction with fans can be especially difficult when the team has lost.

Everything that Sara and the team does has to be carefully planned and scheduled.

Google Calendar is our shared scheduling tool. I find I am literally routinely inputting every day manually all scheduling information into our calendar. Surprisingly, in the playing season things are simpler, because each week is very similar, but pre-season there is a greater variety of activities to be planned. We put in all this data and the schedule shows up on everyone’s phone. Normally, we schedule backwards from a game day. So we have, game day...
Part I Framing service operations

Service – the customer perspective

It is the customer experience that gives service operations management its essential nature. By customer experience we mean the customer’s direct and personal interpretation of, and response to, their participation and interaction in the service process and its outputs. The experience involves the customer’s journey through a series of contact points and process steps. An experience is perceived purely from the point of view of an individual customer and is inherently personal, existing only in the customer’s mind. This means that no two people can have the same experience. And, while customers often experience service in social or work groups, the experience is essentially an individual one.

The customer experience is made up of many different aspects. Partly, it is a response to the degree and nature of personal interaction with service staff. Yet individual customers may also interpret a service based on the reaction of the social or work group within which they receive service. If your work group likes a service, it could influence your reaction to it. Customers will also react to their perception of the responsiveness and flexibility of customer-facing staff. Another influence on the customer experience is the perceived degree of intimacy with the service. Even those service settings that are mediated by information technology and which seem impersonal, such as internet-based services, may try to promote a convincing illusion of intimacy and service. Finally, the extent to which the customer feels valued by the service organisation can have a profound impact on the service experience. Value may be demonstrated by ‘qualifying behaviours’, such as the courtesy and competence of staff, but also in signals of friendliness and pleasure at serving the customer. A simple ‘Hello Mrs Phillips, nice to see you again!’ can be powerful in building positive service experiences.

Service outcomes

Service outcomes describe, from the customer perspective, the results of being processed and of having their ‘state’ (mental and/or physical) changed by their experience. The main categories of outcome are ‘products’, benefits, emotions, judgements and intentions (see Figure 1.2):

- **Products.** The qualifying outcome of service is the ‘functional’ output of the process and experience. Products are outputs such as the food and drink provided by a restaurant, or the ability of a delegate on a training course to construct a spreadsheet, or the new heart for the transplant patient. Products are qualifying in the sense that unless they are delivered up to a baseline or threshold level of performance, then the other outcomes are largely irrelevant.

- **Benefits.** Provided the service product is delivered confidently under specification, then the next outcome on which the customer judges service are the benefits provided. Benefits are one of the main reasons why a customer will have chosen the service provider. Benefits inform the
customer perception or judgement on whether and to what degree they have ‘profited’ or gained from the service provided, their experience of it and the ‘products’ provided. The customer makes a judgement as to how well their requirements and needs have been met. Ultimately, the perception of benefits is a judgement about quite a broad conception of value. The patient who has undergone the heart operation will benefit from a longer and more active life. The benefits for students will be better job prospects or higher salaries and/or new capabilities and skills. The benefit of using a firm of consultants may be reduced costs and/or greater commercial success. The judgement about benefits includes consideration of the financial cost of invoking the service, the time committed by the customer and the relative and sometimes long-term advantage accrued.

- **Emotions.** Experiencing a service results in the customer feeling emotions, of which there are many hundreds, including joy, surprise, love, fear, anger, shame and sadness. In a hospital, the patient hopefully experiences a well-managed stay, where they feel at ease and assured throughout, with minimal pain and inconvenience. A student at a university may have an enjoyable and challenging experience, with some memorable lectures and seminars and exciting extra-curricular activities. A senior manager employing a firm of consultants will hopefully feel assured, with increased confidence to pursue a particular strategy. The latter example is quite important, as it is too easy to consider emotions only in the context of business-to-customer services. Recipients of internal service and business-to-business service can and will have feelings about their service provider, which in turn are derived from their experiences.

- **Judgements.** As was indicated in our earlier discussion of benefits, an outcome of the service from a customer’s point of view will be their conscious or unconscious assessment of the service provided, their experience and the perceived benefits gained. The customer will make judgements about their perceived value of the service received, but also about issues such as fairness (or equity). The idea of value is complicated, but here we will define it as the customer’s assessment of the service provided, their experience and the benefits derived, weighed against all the costs involved. These assessments and feelings, conscious or unconscious, will then be manifested as a feeling of satisfaction or dissatisfaction (an emotion) about the overall service as well as individual elements of it.

- **Intentions.** The customer’s judgements, good, bad or indifferent, will result in intentions such as the intention to repurchase or not, the intention to recommend the received service to others, or the intention to complain or not. These intentions may or may not result in action.

The outcomes described above are not mutually exclusive. The customer’s evaluation of any one component will have an influence on other outcomes. (This was implicit in viewing the product as a ‘qualifying’ outcome.) There is a hierarchy building through the outcomes, and customers’ judgement in one area can reinforce but also detract from (or balance) the judgement of other outcomes. For example, an inspirational learning experience may help a student better understand their subject material and thus benefit from greater knowledge and confidence. However, outcomes may conflict – for example, when a patient feels disappointed that the outcome of their operation was unsuccessful (of no benefit for the patient), yet the patient is nevertheless highly satisfied with the way they were treated during their hospital stay (the experience). Often customers are unable to make informed judgements about certain outcomes (as in the case of this patient). Customers may feel uncertainty about whether a garage service is doing ‘appropriate’ things under the hood of their car. Most people have little idea what is going on in the innards of their vehicles. Therefore, those things that the customer can understand often inform the judgement of outcomes. In the case of garage, it might be the comfort of the sofa in the waiting room, or the quality of coffee from the coffee machine.

The outcomes discussed above are those that can be directly perceived and/or experienced by the customer. There is also another set of outcomes that may or may not be visible to and appreciated by the customer, but are important because if they are not achieved to a satisfactory level, the more direct customer outcomes would not be achieved either. For example, a hospital may have clinical targets such as waiting times, numbers of operations to be performed and recovery rates. They are also likely to have operational targets such as theatre utilisation rates, and financial targets such as
adherence to budgets. These overarching organisational outcomes are concerned with meeting targets and objectives. To be successful, an operation has to meet both its desired customer outcomes and organisational outcomes. Service operations management plays a vital role in achieving both these aims.

**Where the operations and customer perspectives meet**

An understanding of both the operations and customer perspectives is important for service operations managers. Yet the core of most services is where these two perspectives meet. Indeed, customer participation is the very nature of service. One of the most important, intriguing and challenging aspects of managing service operations (certainly when compared to manufacturing operations) is that service operations ‘process’ customers or their surrogates. The theme park cannot physically provide the rides unless customers turn up, a nurse cannot give an injection unless the patient is physically in the same place. This means that the customer’s experience is an intrinsic part of the operation’s process (as was implied in Figure 1.2). As a result, the customer sees much of the process and, in many cases, plays a key role in the process itself, as well as receiving the service – thus service is a two-way flow between operation and customer. However, it is important to note that customers may not see and/or experience the whole of the process; they will only be involved in the ‘front office’ (the overlapping section in Figure 1.2). The ‘back office’ contains tasks that are carried out usually unseen by the customer, such as cooking the food in restaurants, or baggage handling at an airport. This overlap of the process and the customer’s experience, together with the direct involvement of the customer in many services, makes the job of a service operations manager particularly challenging, exciting and, at times, frustrating.

**Co-production and co-creation**

The terms ‘co-production’ and ‘co-creation’ are used to indicate those circumstances when customers collaborate with the service operation to produce/create value. This was an idea that emerged over 40 years ago, originally describing the way citizens could get more involved in public sector services. It is not unusual for customers to play a central part in the services they receive. They take themselves around the supermarket shelves, pick the items, take them to the check out, sometimes scan them, then pack them and transport them to the car. Alternatively, they could reduce the extent of their participation and go for a home delivery service that lets the retailer pick, pack and deliver the goods, though customers still have to get involved in ordering online. Similarly, patients visiting the doctor with an ailment are required to describe their symptoms and discuss alternative treatments.

This idea of customer involvement is important because, in effect, the distinction between the traditional roles of ‘producer’ and ‘consumer’ are blurred. The term co-creation comes from the verb ‘to create’, which means bringing something into existence, together with ‘co-’, which simply means together with another or others. However, there is some considerable terminological confusion in how these terms are used. Service writers use the terms co-production and co-creation in different ways. Some authorities use ‘co-creation’ of services as the term to describe all types of customer involvement, engagement, participation or collaboration with the service provider, in one or all of the stages of the service process. Others use the terms co-creation and co-production as indicating a spectrum, with customer participation in the design stages of service development being called co-creation and the later stages termed co-production.

The various stages of the development/delivery of a service can be represented in various ways. In Figure 1.4 the stages are: conceiving the idea for the nature of the service (ideation), evaluating the proposed service, designing the details of the service process and actually producing it, prior to its consumption by the customer. Each of these stages can be undertaken with the active collaboration of customers.

- At the **ideation** stage, customers can contribute original service ideas, maybe based on their own needs. For example, on a clothing retailer’s online customer forum, customers can not only vote for the clothing designs that they would like to see produced, but also propose their own designs.
Customers can also be involved in the evaluation of ideas for new services. One company that develops measurement software uses its online community of customers to collaborate in judging how well its services can solve members’ problems.

During the design stage, customers can be asked to comment on the detailed service process. For example, DHL (the mail and logistics company) runs co-creation workshops with its customers.

As regards co-production of a service experience, it is a central tenet of service operations management that, unlike physical goods, services are always ‘co-produced’. Failure to recognise this unique character of a service and its implications will limit any attempt to improve service delivery.

‘Co-consumption’ is a slightly more difficult concept – one where terminological confusion is especially marked, and one that is closely related to ‘peer-to-peer’ activity. There are many different terms and definitions to describe it, including ‘collaborative consumption’, the ‘sharing economy’, ‘crowd-based capitalism’, ‘access-based consumption’ and so on. Much of this activity takes place through platforms that allow renting, sharing, lending, swapping, sharing or gifting. However there are also opportunities for commercial providers to develop services that promote sharing – for example, vehicle-sharing services. IKEA, the furniture and home-ware retailer, has also engaged in co-consumption. It noticed that some of its customers were selling their used furniture through second-hand retailers, so it developed its own site where its customers can sell their used IKEA furniture. Even if it does not profit directly, IKEA is creating value for its customers by contributing to a ‘second-hand community’ for its products.

It could be possible for every stage to be carried out with the total involvement of customers, without any ‘behind the scenes’ work away from the customer; however, this is unlikely. Although, in the collaborative process, both the operations and their customers bring resources (time, effort, knowledge, etc.) to the joint effort, the operations will almost certainly have either taken the initiative to collaborate, or have managed the collaboration. And, while collaboration could take place at any stage, for most services it is difficult to avoid in the production stage. For participation in services such as haircuts, medical consultations or concerts, customers are typically present, as their physical presence is required to provide the information that is necessary for the service to be successfully delivered.
1.3 What are service operations managers responsible for?

Overall, service operations management is concerned with the control of resources and processes that deliver value. And although it might be tempting to limit the scope of the subject to exclude all physical ‘goods production’, we do not do that because, as we have argued previously, service exists even in environments that are predominantly concerned with tangible goods. So, service operations management encompasses the activities, decisions and responsibilities of managers in all organisations that provide service. It is worth noting, however, that service operations managers are often just called ‘operations managers’, though many other titles are used, such as managing partners in consultancy firms, nursing managers in hospitals, head teachers in schools, fleet managers in transport companies, call centre managers, customer service managers, restaurant managers and so on. Service operations managers may be responsible for managing either ‘front-office’ operations (the parts of the process that a customer might see), or the ‘back-office’ operations (the parts of the operation invisible to the customer), or indeed both. This distinction between front- and back-office operations can be important and we will be returning to it. For example, the back-office operations of a resort hotel could include a wide range of activities such as water treatment plants, laundry, catering, etc., all of which are largely hidden from the guests’ view. The front-office operations include restaurants, accommodation and water sports, for example.

More specifically, service operations managers have a number of common responsibilities, including:

- Understanding the trends in how service is developing in different industries (covered in Chapter 2).
- Setting a sound strategic direction in which their operation can develop (covered in Chapter 3).
- Clarifying their ‘service concept’ and harnessing it in the development of their services (covered in Chapter 4).
- Looking after the organisation’s customers (sometimes referred to as clients, users, patients or students, etc.) or surrogates, such as their parcels or orders (covered in Chapter 5).
Managing service quality by shaping their customers’ expectations over what service they will receive and in shaping their customers’ perceptions (covered in Chapter 6).

The design of the service operation’s resources and how they impact on their customers’ experience (covered in Chapter 7).

Developing service staff and ensuring their welfare (covered in Chapter 8).

Shaping the culture of the organisation in such a way as to provide an ethical framework as well as encouraging innovation and improvement (covered in Chapter 9).

Developing the relationships with suppliers and customers in their supply network and shaping its configuration (covered in Chapter 10).

The detailed design of their service processes that provide service for the customer (covered in Chapter 11).

Managing the operation’s performance on an ongoing basis (covered in Chapter 12).

Managing the match (if appropriate) between an organisation’s capacity to serve its customers and the demand for its services (covered in Chapter 13).

Innovating in the development of new services in partnership with other parts of the organisation (covered in Chapter 14).

Continually striving to improve the value the operation gives to its customers and the organisation (covered in Chapter 15).

Learning, both from their ongoing activities and from other organisations, in order to improve their services (covered in Chapters 16 and 17).

In order to make sense of all the various responsibilities of service operations managers, in this text we classify them under four headings, as illustrated in Figure 1.5.

- Framing service operations includes chapters on the types of service, their characteristics and the trends in service operations, the meaning and role of service strategy, and the nature of the service concept and development.
- Understanding service people, including the staff who provide service and the customers who consume it, and the relationship between them, is the subject of this section.

Figure 1.5 The tasks of service operations management can be classified as those that configure service operations, understand people (staff and customers), deliver service and improve service operations.
• Delivering service looks in more detail at the design of the service process, and how all services should be viewed in the context of their network, the importance of ongoing management of service performance and service resource capacity.
• Improving service operations examines the ideas of new service development and principles of continuous improvement, as well as improvement by learning from problems and learning from other operations.

Back and front ‘offices’

A distinction that we will keep returning to at several points in this text is that between what are known as ‘back-office’ and ‘front-office’ service operations or processes. Put simply, back-office processes are those that are necessary for the whole operation to work effectively, but are usually not fully visible to the customer. Front-office processes are those that the customer sees. Almost all service operations have both back and front offices, and service operations managers are usually responsible for both. The various service operations within the English National Opera (ENO, see the case example) provide a good example of this.

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Case example

English National Opera

The English National Opera (ENO) is based in London and is one of the two principal opera companies in London, along with the Royal Opera at Covent Garden. The company stages a wide range of shows, not just the classical opera repertoire. It has produced several Broadway and other musical shows, including The Lion King. It is also busy. In a typical week, three shows will be on stage, three will be in rehearsal and two or three shows undergoing design and development.

The ENO’s artistic director chooses the exact productions, and then appoints a producer for each project. At the ENO, the producer is more of a project manager, and works alongside the artistic director to see the whole development process through from the beginning of planning to the first night. Although customers to the ENO obviously come for the performance itself, without a whole network of back-office services working together the productions could never be staged. These services are under the charge of the ENO’s technical director, who is responsible for all technical and production departments. His teams provide technical service and support to currently running productions, as well as guiding new productions from conception through to the first performance night.

These ‘back-office’ processes involve a wide range of disparate activities, from stage management, prop design and construction, provision of food and drink for the artists and staff, to lighting design and installation, the provision of costumes and many others... all hidden from the view of the customer.

Here are some of them:

The drawing office. The drawing office is an integral part of the company. They will draw up the plans for the construction workshop as well as producing a model of the final production environment. The model is the reference that the director and designer will use to visualise what they want in each scene.

Set designers. Once the model has been built, the technical production team works with the in-house teams and external construction companies to ensure that the design is built to the director’s requirements. The design has to fit a budget and has to fit into the theatre!

Lighting. The lighting of the production has to be designed and then managed for each run. Lighting design has to consider the soloists, chorus, the props and of course has to be responsive to the music. Lighting can make or break a production as it establishes the atmosphere of the production in the minds of the audience.
Stage management. After four to six weeks of rehearsals, the show gets closer to the first night. The first night can be an exciting but scary time, because if anything goes wrong, there is a very small amount of time to get it right. Everything that happens technically and that the audience sees in a live performance is ‘queued-up’ by the stage manager, one of the most pressured of back-office jobs. They have to be a person who thrives on high pressure and be able to cope with the possibility of things going wrong – and then responding quickly when they do.

Sound design. It is the soloists, the chorus and the orchestra that generate most of the sound in a production, but there is also a need for other sound effects such as the sound of weapons, explosives, birdsong, waves, etc. The sound design team provides all of these. Increasingly, shows incorporate multimedia. For example, the ENO’s production of The Magic Flute had a sound effects artist (called a foley artist) and, unusually, a video effects artist in charge of live video effects.

The props workshop. The props workshop has a team of both employed and freelance makers, but is also able to call on subcontract production companies. The in-house workshop has to coordinate with the subcontractors and liaise with all in-house departments (designers, prop supervisors and art directors), as well as supporting live productions and those in development. The props workshop is also responsible for the curation and reuse of older props.

The show team. This is one of the largest back-office service teams. The show team is the group who move giant props on and off the stage and sometimes around the stage. In a production of the opera Billy Budd, the ENO needed 25 people just to do one set move within a scene. When it came to the very dramatic battle scene in the opera, the stage crew was in full costume being part of the action.

Wigs and make-up. The wigs and make-up team also handle the prosthetics used by the artists. It includes several permanent hairdressers, make-up artists, prosthetics designers and colourists. In addition to their core job making wigs, the hairdressers also provide an interpersonal service counselling and supporting artists.

Millinery (hats). One surprisingly large technical department, is the millinery department, who look after not only hats but also masks and prop costumes. Like the props workshop and the costume department, the millinery team provides an ongoing service to the company in live productions, a project role in production design and development, and also a curation job looking after the vast store of hats and masks held in humidity-controlled storage.

The costume department. The costume team oversee the whole process of costume production, use, re-use and curation. It works from drawings provided by the production designer, and is responsible for sourcing individual items of clothing and fabrics that can be incorporated into costumes. This involves visits to many vendors to inspect and obtain fabric samples for the design team. These vendors are not confined to traditional fabric manufacturers. For example, table lamps and placemats have been used for headdresses and shoulder pads in one production of Aida, and potato sacks to make jackets for another.

The joint efforts of all the teams come together on opening night – an occasion that can cause mixed emotions for ENO staff. There is relief that at last the first night has arrived, and there is also excitement at the eventual fulfilment of all their efforts. It is not uncommon for staff to be moved to tears by the general emotion of the moment, especially after working on a production for two years.
1.4 Why is service operations management important?

By now it is becoming clear that service operations managers have an important and responsible role because they:

- are responsible for managing the design and delivery of services to an organisation’s customers, and therefore its success at generating revenues or achieving its social goals;
- are responsible for managing most of the organisation’s resources, and therefore costs and investments; and
- have a significant impact on the ability of the organisation to innovate and improve its performance.

Given the nature of service operations management and the far-ranging responsibilities of service operations managers, clearly their success is not simply derived from performing a good technical task, such as educating a student, delivering a project on time, or providing a holiday. Good service operations management is critically dependent on good technical performance, but just as importantly is dependent on provision of good experiences. Good experiences make technical delivery, and in fact the whole service, better for the customer, better for staff, better for the organisation and also better for society and the environment.

**Good service operations management is better for customers**

Customers will be satisfied, even delighted, if they are provided with the right service, a good experience and the desired outcomes. However, one problem for service managers is that the customer’s idea of what represents value may well vary from customer to customer and may shift through time, and even from day to day. For example, thrifty customers may think of value as getting more for their money. Other customers will perhaps be prepared to pay more in order to receive a higher-specification service. Still others will value the – possibly illusory – boost in social standing from broadcasting that they are able to afford to be customers of high-status services (even though the specification may be no better than for a lower-priced service). The service operations manager must be aware of the full range of influences on the customer’s assessment of value, and indeed on the range of definitions of value itself. An important ingredient in gaining this understanding is appreciating the relationship between the service brand values, as communicated to the customer, and the reality of customers’ experience. The service operations manager has to be alert to potential mismatches in communicated and real brand values.

**Good service operations management is better for staff**

Good service operations management and the provision of the right services, experiences and outcomes for the customer will also mean a better experience for service staff:

- Customers will be friendlier and easier to deal with if they are satisfied and the service and experience met their needs than if the opposite were the case. Who doesn’t want a happy and friendly work environment?
- When the service operation works well and generates the right outcomes, there will be fewer problems (with consequent rework) and therefore less hassle and disruption for the staff, and fewer (unpleasant) complaints to deal with.
- Customers who are generally satisfied tend to be more tolerant, so when things do go wrong they are much more accepting than they might otherwise have been, again making life easier for the staff.
- A smooth operation with contented customers sends clear signals that things are going well, thus staff are more likely to have pride in both the job they do and the organisation they work for.
**Good service operations management is better for the organisation**

Delivering the right service and experience through good service operations management delivers many organisational benefits:

- Satisfied customers who perceive value from the service are more likely to return. Such customers are also more likely to provide positive word of mouth and recommend the organisation and its services to others, thus generating more revenue. In non-profit domains, positive word of mouth can ensure healthy funding streams such as government grants and charitable donations, and also strengthen the organisation’s legitimacy and ‘license to operate’.
- Better service operations management means improved processes that should be more efficient and so cheaper to run, in turn reducing the organisation’s costs.
- Increased revenue and/or reduced costs will improve the profitability and/or viability of the organisation. In the non-profit domain, increasing demand for the organisation’s services will not deliver increased revenue, but will be a powerful component of arguments for increased funding. Similarly, efficient and effective use of resources provides evidence that the organisation can be trusted with scarce funding, ensuring long-term viability.
- Better services nearly always provide the organisation with a source of competitive advantage. In many areas of this text we in fact argue that service is probably the most important differentiator among competing offerings.
- Better and more efficient services will enhance the organisation’s reputation and brand. By the same token, poor service can quickly damage reputations that may have taken several decades to establish. Many forms of risk can be mitigated, and often insured against, but this is not the case with brands and reputations.

**Good service operations management is better for society and the environment**

Like any type of operation, service operations have a responsibility to consider how their day-to-day activities impact on society and the environment. They must accept responsibility for the impact they have on society and balance the external ‘societal’ consequences of their actions with the more direct internal consequences, such as profit. Some ways that operations can impact the social bottom-line performance, both positively and negatively, include the following:

- Customer safety (directly or indirectly) from services.
- Employment impact of an operation’s location.
- Overselling to customers, or providing inaccurate information.
- Repetitive or alienating work for service staff.
- Workplace stress on staff.
- Reducing transport-related energy.
- Noise pollution, fume and emission pollution.
- Recovery to minimise impact of service failures, including complaint handling.

Delivering the right services and experiences should also enable the organisation to achieve its goals, objectives or mission, and so support the achievement of the organisation’s strategic intent. Good service operations management that thinks both reactively and proactively about service should be able to help shape and develop the organisation’s future intent, and develop skills and competencies that will support future development of the organisation.
1.5 Challenges for service operations management

All aspects of management present challenges: marketing managers must impose a segmentation view of their markets that tries to make sense of often intrinsically confusing markets; accounting managers must try to allocate costs and revenues so that one can gain a realistic reflection of investment returns; and IT manager must deal with technical complexity. Generally, operations managers face challenges related to their breadth of responsibility and complexity. The issues faced by service operations managers are similar to those faced by any operations manager, but also have specific characteristics related to the nature of service itself. Service staff often have to deal with customers ‘face to face’ and cope with their, sometimes unreasonable, requests with courtesy and efficiency. Service technology is not only developing rapidly, but also can puzzle customers. The service processes have to be designed so as to create the right perceived experience for the customers while generating the right outcomes, both for the customer (‘products’, benefits and emotions) and the organisation (revenue, cost management, achievement of strategic aims, etc.). In this section, we will cover some of the main problems and challenges facing service operations managers; while each operation has its own particular demands, there are a number of key challenges faced by most, if not all, service operations and service operations managers. These challenges are:

- Balancing the operations and customer perspectives.
- Managing multiple customer groups.
- Managing tactically and strategically.

Balancing the operations and customer perspectives

No operations manager in any industry can ignore the views of their customers. But in service operations, once again it is the intimate degree of customer contact that makes how customers experience, and react to, the operation’s resources and processes a prime consideration. A key challenge (and sometimes a difficulty) for many managers in service operations is that they see things from an internal, organisational viewpoint. They are on the inside of the organisation, looking out at the customer. And, although taking an operations perspective helps to understand the ‘technical’ nature of the service provided, it can overly focus on the inputs that have to be managed. This includes the customer, who is often seen as a simple ‘input’ to be processed, rather than as a person. There can be too much of a focus on making sure that all the processes are working well to the exclusion of customers’ feelings. Managers, quite naturally, spend their time worrying about managing their resources and processes, managing capacity, scheduling people, meeting performance targets and financial goals (see Chapters 10 to 13).

However, the customers will see (the same) things from a very different ‘outside’ perspective (see Figure 1.6). They are interested in the service received, their experience and the outcomes such as how they feel, the ‘products’ they receive and how they benefit from the service. Customers of the service are less concerned with the management of resources and processes; they want a good experience, they want to have a good outcome and to benefit from the service. This difference in perception can lead to conflicts in operating practice that have to be reconciled by service operations managers. For example, nursery staff in a childcare facility may see their key activities as child development and education, whereas the parent (as customer) may see it as an expensive babysitting service while s/he is at work. These different views may cause conflicts that must be managed. For example, if a parent is delayed at work, they may expect the childcare service to wait a while for them, whereas the staff may (reasonably) expect the parent to be on time or make alternative arrangements should they be late. The childcare service may try to manage this conflict by, say, educating customers to let the staff know when there is the possibility of them being late, charging for any extra time, etc. But whatever ‘solutions’ are adopted, service operations managers have a responsibility to understand and manage their relationship with the customer (Chapter 5), manage customer expectations and perceptions (Chapter 6) and deliver the customer experience (Chapter 7). All are significant challenges in managing service operations.
Seeing things from a customer point of view can be surprising and revealing in service organisations. Table 1.3 illustrates these two perspectives for three different services: hip replacement surgery, education and consultancy.

Recognising both of these perspectives is important. Operations managers need to manage their operations to create their services; they need to manage their suppliers, people, facilities, processes and technology (see Chapters 8, 10, and 11), but at the same time they need to recognise how their efforts create value for the customer, which in turn creates value for the organisation. Indeed, some people argue that the customer is the ultimate arbiter of the value an organisation creates and delivers. While value is delivered through the process and the service, it is located in the customer’s experience and the outcomes for the customer.\(^{12}\)

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### Table 1.3 The operations and customer perspectives

<table>
<thead>
<tr>
<th>Service</th>
<th>The operations perspective</th>
<th>The customer perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgery</td>
<td>GP, nurses, surgeon, bed, operating theatre</td>
<td>Diagnosis, operation, aftercare</td>
</tr>
<tr>
<td>Education</td>
<td>Lectures, library, computers, seminar rooms</td>
<td>Timetabling, lectures, exams, marking</td>
</tr>
<tr>
<td>Consultancy</td>
<td>Consultants, information, skills, knowledge</td>
<td>Data collection and analysis</td>
</tr>
</tbody>
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\(^{12}\) See Chapter 11 for a detailed discussion of the customer perspective.
There are many organisations that talk about developing a ‘customer focus’ or becoming ‘customer oriented’, and an obvious way to start this process is to develop a better understanding of the customer perspective. Yet, no service operation can afford not to work out how it should reconcile its customer and operations perspectives. An important influence on this will be the overall strategy of the organisation (see the following case example, ‘Two award-winning airlines with different strategies’).

**Case example**

**Two award-winning airlines with different strategies**

People can have strong opinions about air travel, and it is not a new phenomenon. The first UK civilian aircraft departed from the UK’s first airport, Hounslow Heath Aerodrome in Middlesex, over 100 years ago (it only went to Lympne in Kent). The UK’s first daily international service was to Le Bourget, near Paris. Even then, there were complaints. On one of the first Paris flights, it was so bumpy and uncomfortable that, between them, the only two passengers drank a whole bottle of brandy, apparently to calm their nerves. It was also expensive. The two-and-a-half-hour journey in a converted biplane bomber cost £21 (about £1,000 in today’s money). And it is still these two factors, the quality of service and the price of a flight, that largely govern airlines’ success today. Two of the airlines that regularly feature in passenger surveys’ ‘top ten’ rankings in their respective categories are easyJet and Cathay Pacific. But their strategies, and their balance between operations and customer perspectives, are very different.

**easyJet**

easyJet is a UK-based low-cost, point-to-point airline, established in 1995 by Greek Cypriot businessman Stelios Haji-Ioannou. It operates a fleet of Airbus A320 family aircraft. It uses the now well-established low-cost model first developed by Southwest Airlines in the USA. It is based on using one type (or family) of aircraft, resulting in operating and maintenance benefits, and what it calls ‘cutting out the things that don’t matter to keep it lean’ and ‘making it [its processes] easy’. This means keeping costs low by not selling connecting flights or providing free food on board. It also means maintaining high aircraft utilisation, and working on achieving quick turnaround times on the ground. Its relatively young fleet (reducing ownership and maintenance costs) have a configuration that gives a higher number of seats per aircraft than some equivalent airlines.

easyJet’s focus on efficiency is a clue to its emphasis on the operations perspective of service operations management. It says that it constantly drives efficiency and invests ‘only where it matters most to our customers and our people’. Of course, this does not mean that the company ignores how its customers view its service. Far from it. It is very much aware of the importance of customer loyalty. easyJet says that it understands that its customers have increasing choice and their expectations are rising, which is why it strives to give customers reasons to choose to spend more with easyJet, including offering a compelling customer loyalty programme. However, it also stresses that it will continue to ‘invest in efficiency, developing customer solutions that drive operating efficiencies while meeting customers’ evolving needs’.

**Cathay Pacific Airways**

Cathay Pacific Airways is an international airline based in Hong Kong, offering scheduled passenger and cargo services to around 230 destinations in 53 countries or territories. The airline owns Dragonair and is also a major shareholder in Air Hong Kong, an all-cargo carrier operating in the Asian region. Cathay Pacific and its subsidiaries and associates employ over 32,400 people worldwide, with around 20,000 staff in Hong Kong, making it one of Hong Kong’s biggest employers. The airline is a founder member of the ‘oneworld’ global alliance, whose combined network serves almost 700 destinations in 150 countries worldwide. It operates a mixed fleet including several types of both Airbus and Boeing aircraft. The company’s vision is to make Cathay Pacific the most admired airline in the world by:

- Ensuring safety comes first.
- Providing ‘Service Straight from the Heart’.
- Encouraging product leadership.
- Providing rewarding career opportunities.
Managing multiple customer groups

Many service organisations do not serve a homogeneous group of customers; they often serve, in different ways, different types of customers. The needs and expectations of different customer groups can be complex. They may receive service singly some of the time, but in social or work groups at other times. They may even occupy different roles at different times in the service process. And while the difficulty of separating the various needs of customers is a common issue for all types of business, the high-contact nature of service can raise extra difficulties. If a manufacturer has two products, it could make each in separate factories or departments where each could focus on whatever skills are needed for their product. In service operations, it is often the same resources and processes that are exposed to different customer needs.

For example, a major museum, such as the Natural History Museum in London, has to accommodate the needs of leisure visitors coming to the museum singly and in small family groups. It also has to look after schoolchildren visiting in large groups during the weekdays. In the evenings there might be corporate hospitality events in which visitors are entertained and fed among fossilised dinosaurs. Then there are the professional scientists (archaeologists, etc.) who may require the attention of specialised staff. All of these types of customer have different needs, yet all use more or less the same resources. Even if the more basic needs of these groups are similar, their ‘higher-level’ specific needs will probably be very different. The dilemma for any service operations manager is how to respond to the specific needs of particular groups without detracting from the ability to serve other groups. Very often, this means making some difficult choices about how a service is designed and run. (See the worked example on the Long Ridge Gliding Club.)
Long Ridge Gliding Club is a not-for-profit organisation run by its members. Its location makes it an ideal place to practice ridge soaring and cross-country flying. The club steward provides a bar and basic catering services and inexpensive bunkrooms are available for club members wishing to stay overnight. It has a membership of around 150 pilots, some of whom have their own gliders, but the club has its own fleet available to its members. The club also offers trial flights to members of the public by selling ‘trial flight gift vouchers’, often bought as presents. These ‘casual flyers’ can book flights in advance or just turn up and fly on a first-come, first-served basis. The club’s website encourages people to:

> Experience the friendly atmosphere and enjoy the thrill of soaring above Long Ridge’s dramatic scenery. You could soon be in the air. Our knowledgeable staff will be happy to advise you, and our team of professional instructors will make this a really memorable experience.

If the conditions are right, the casual flyers may get a relatively long flight – although at busy times the instructors may feel under pressure to return to the ground to give another lesson. Even when the weather is poor, the instructors still do their best to get people airborne but they are restricted to a ‘circuit’: a take-off, immediate circle and land.

Essential tasks such as maintaining the gliders, towing them to the launch point and staffing the launching winches, is done on a voluntary basis by club members. It takes a minimum of five experienced people (club members) to be able to launch one glider. Among the club’s membership are qualified instructors who provide instruction both for the club’s members and the casual flyers. Club members are expected to help each other and any casual flyers to get airborne while they wait their turn to fly. Even when a flight has been pre-booked, casual flyers may then be kept waiting for up to two hours before their flight, depending on how many club members are present. The casual flyers are encouraged to help out with the routine tasks but often seem reluctant to do so. This was one of the many problems caused by the club offering its services to casual flyers.

**What the club did**

As the club chairman said:

> We were under pressure from members to end trial flights for casual flyers because they reduce the number of flights members can have in a day. Some members complained that they sometimes spend most of their day working to get these people into the air and miss out on flying themselves. Yet casual flyers brought in useful income. The issue was that the needs and expectations of the club members were really quite different from those of the casual flyers. [Our analysis is shown in Figure 1.7.] Members are enthusiasts who want to develop their skills in the sport; casuals tend to be one-time thrill seekers. Club members just get on with the job and know what to do whereas the casuals need customer service – friendliness, attention, explanation and reassurance. We didn’t want to end trial flights, but we couldn’t continue as we were because we were alienating our members. Nor could we create two separate sets of resources to look after the two types of customers – we just weren’t big enough. What we did was try to change our processes to deal better with the casuals without unduly affecting the members. We made sure that there was always someone to ‘meet and greet’ them and give a thorough flight briefing and a minimum flight time. We changed our website to manage the casuals’ expectations in line with the service delivered. We made it clear that they may have to wait and may only get a short flight in bad weather. We also ‘sold’ the idea that helping with winching, and glider preparation, was ‘part of the package’. With club members, we stressed the financial importance of casuals and the need to give them a good experience.
Managing tactically and strategically

A consequence of the high levels of customer contact in most service operations, where the customer is an input to, and involved in, the service process, is that operations management is characterised by its immediacy. In fact, a significant part of the excitement of managing service operations is the necessity to solve problems in real time. Customers can be dissatisfied if their request or complaint is not dealt with promptly. A passenger wanting to purchase a ticket for immediate travel may not be willing to return if the agent is busy. Streams of aircraft coming in to land cannot easily be put on hold while equipment is serviced or controllers take a break. Children screaming for attention or in danger of hurting themselves in a nursery likewise cannot be ignored. Furthermore, during a service encounter it is not always possible to undo what has been done or said in the heat of the moment. Customers will remember promises made that cannot be kept. Unlike in manufacturing organisations, where it is possible to scrap defective products and remake them, in service there is no ‘undo’ or ‘rewind’ button. There is the constant challenge of dealing with the needs of a stream of customers, managing the staff and making operational decisions to ensure the delivery of an appropriate quality of service at an appropriate cost. It is understandable, therefore, that many service operations managers concentrate their time and effort on managing these tactical day-to-day operations.

First, the pressure on the operation to deliver its day-to-day services may leave little time for medium-term operations improvement activities or longer-term strategic thinking. For example, it is difficult for a head teacher to put time into dealing with solving major underlying problems, such
as poor facilities, inadequate funding or high levels of absenteeism, when they are heavily involved in ‘the now’. The head teacher is distracted by more pressing tasks such as trying to find part-time staff to cover for sudden absences, recruiting new staff to vacant posts, processing the many queries and requests that land in the email inbox each day and dealing with any student behavioural problems.

Second, service operations managers, because of the nature of the job and often their background, tend to feel more comfortable with the unambiguous and rational nature of many short-term tactical decisions. The more intuitive processes required for strategic thinking are quite different, and excuses are found to put them to one side. The head teacher is likely to have been promoted through the profession and they may get a ‘buzz’ and feel more comfortable in dealing with students and the curriculum. They may be less inclined to put time into the ‘less exciting’ and ‘less pressing’ tasks of data collection, analysis, report writing and high-level debate and discussion with various parties to try to resolve underlying and longer-term issues.

The danger of the immediacy of dealing with high-customer-contact issues is that it can lead to an exclusively short-term focus. As a result, the development and strategic aspects of operations management are frequently neglected and a disproportionate amount of time is spent on managing the day-to-day operations. In some organisations this problem is perpetuated by not giving senior service operations managers a seat at the boardroom table (or its equivalent). Given they are responsible for most of the organisation’s assets, people, costs and revenue, this omission would seem shortsighted.

Effective service operations managers are those who can pay attention to, and create time in their day for, both strategic issues and day-to-day operations. This calls for them to have something of a split personality. They do need to focus on detail: to have a grasp of what is happening, and what should be happening, within the operation. Yet, at the same time, they also need a more strategic vision that sets the resource and process decisions that make up the bulk of an operations manager’s role in a wider and longer-term context. Much of what makes anyone a successful operations manager is how these strategic and operational perspectives are brought together.

Again, the tendency of operations managers to over-focus on the short term is not limited to service operations. It is a general one, but arguably it is more prominent in service operations because of the nature of service. Working at the overlap between operations and customer perspectives, service operations managers also have a unique view of how short-term problems can be caused by longer-term strategic decisions. After all, they are the people who make things happen, they are the people who implement strategy. Not only that, but because of their experience in dealing directly with customers, they are the person likely to be most aware of the problems in current service delivery. This means that there is often significant potential for service operations managers to contribute in the form of process and market innovations. In fact, customer dissatisfaction is usually more than just a signpost of an unmet customer need, it is the stimulus for longer-term service innovations (see Chapter 16 on learning from problems).

1.6 Summary

**Why study services?** – We all use service operations every day. They are important in our lives: treating us when we are ill, transporting us, serving our meals, selling us goods, connecting us to social media and so on. Many of us are also responsible for serving others, either as part of our jobs, or as part of daily life for our friends and families. Yet, if service is so important, why does service often disappoint? It is often because of a failure to deploy the principles of service operations management. And, although the development of operations management as a discipline has its roots in production management, service operations management concentrates on those operations issues that are particularly relevant to service organisations.
What is ‘service’? – Most early definitions of ‘service’ focus on its difference compared with manufacturing. Often, the main distinctions between services and products were seen as:

- Intangibility, in that they are not physical items.
- Heterogeneity, in that they are difficult to standardise.
- Inseparability, in that their production and consumption are simultaneous.
- Perishability, in that they cannot be stored.

These features of services are known as the ‘IHIP’ characteristics, and have been the subject of considerable academic debate because:

- None of the IHIP characteristics is unique to services as opposed to physical products.
- Technology has had a significant effect on the extent to which the IHIP characteristics apply and how the limits that they place on service operations can be overcome.

Service operations management – The principles of operations management in any kind of organisation are broadly the same. It is concerned with transforming a set of inputs into outputs. This is usually illustrated as an input–transformation–output model. Resources and processes are the two vital ingredients of all operations, and much of operations management is concerned with how they are managed. It is the importance of the customer’s (or customer surrogate’s) presence in the operation that makes service operations management distinctive. So, service operations management needs to reflect both operations and customer perspectives, and the overlap between them. Not all services exhibit the IHIP characteristics to the same extent, and different services delivered by the same operation can vary considerably in how they conform to the characteristics. From the customer perspective, ‘service outcomes’ describe the results of being processed and of having their ‘state’ changed by their experience. The main categories of outcome are ‘products’, benefits, emotions, judgements and intentions. Both the operations and customer perspectives are important, but it is where the two perspectives meet that is the core of most services. This has led to the concepts of ‘co-production’ and ‘co-creation’, both of which are used to indicate those circumstances when customers collaborate with the service operation to produce/create value.

Service operations managers’ responsibilities – Overall, service operations management is concerned with the control of resources and processes that deliver value. Here, we classify them under four headings.

- Framing service operations.
- Understanding service people.
- Delivering service.
- Improving service operations.

The importance of service operations management – Service operations managers have an important and responsible role because they are responsible for managing the design and delivery of services, are responsible for managing most of an organisation’s resources, and therefore costs and investments, and have a significant impact on the ability of the organisation to innovate and improve its performance. Good service operations management is better for the customer, better for staff, better for the organisation and also better for society and the environment.

The challenges for service operations management – Of the many challenges facing service operations managers there are a number of key challenges faced by most, if not all, service operations. These are:

- Balancing the operations and customer perspectives.
- Managing multiple customer groups.
- Managing tactically and strategically.
1. Rent the Runway (RTR), is a privately-owned service that rents out clothes, handbags and jewellery. It has a dry-cleaning warehouse that is the biggest in the world, processing 2,000 items per hour. It started by renting out formal dresses for weddings and other events. Eventually, it grew to the point where three-quarters of its clients used it to rent work clothes. Subscribers can rent four items at any one time. Turnaround has to be quick: returned clothes are washed, repaired if necessary and any stains removed. Most items are in and out in less than a day. (a) How does this service compare to a conventional garment retailer in terms of its IHIP characteristics? (b) What do you think are its main service operations management responsibilities?

2. An increasingly popular service model in business is that companies should earn revenues from subscribers rather than sell products or service as single ‘items’. What do you think are the advantages and disadvantages of this type of service?

3. Reread the case example on the English National Opera. Consider the list of back-office departments in the case. (a) For each of the departments described, what aspects of their job do not involve directly ‘making’ something? (b) How would you categorise the ‘non-making’ activity in each department?

4. The IHIP characteristics that we introduced in the chapter are used to distinguish service from goods-producing operations. We also made clear that they were controversial and that they could be viewed as spectra rather than simple yes/no distinctions. With these characteristics in mind, think about how the music industry has developed over the last two or three decades, as its main ‘products’ have moved from CD (or vinyl), through downloaded music, to streaming services. Referring back to Figure 1.3, position these three offerings on the IHIP characteristics scales.

5. Again, thinking about the music industry, where do ‘live performances’ fit on the scales?

6. Consider three services: first, a business servicing heating, ventilation and air-conditioning facilities; second, an emergency plumbing service; and third, a disaster emergency charity. Again, using Figure 1.3, how does each service fit on the IHIP scales?

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Case exercise

European Airlines Group

The European Airlines Group was formed from the merger of two airlines – Airandor and Sky. Sky Airways was a major European airline with routes predominantly in Europe but offering daily flights to New York, Johannesburg, Mumbai and St Petersburg. It regarded itself as the senior partner in the merger, largely because Airandor was in a very weak financial position prior to the merger. Airandor was a more regional airline, operating in Europe and South America out of its headquarters in Madrid. However, both airlines, particularly Airandor, suffered from high operating costs.

Over the two years following the merger, Bernie Williamson, the Chief Executive of European Airlines Group, steered Airandor to profitability through aggressive cost-cutting, including a headcount reduction at its Madrid headquarters, and renegotiation of contracts for pilots, cabin staff and engineering staff. Another area in which costs were cut was service levels, including food provision on both short and long haul. Business and first-class food and service levels remained largely unchanged, but on both long- and short-haul economy class flights, food was no longer provided as part of the ticket price. Passengers could purchase food if they wished, from a menu that was of a higher specification than the ‘free’ food provided previously.

Cost-cutting also took place at Sky Airways. Contracts had been renegotiated for all cabin staff and pilots, with a move to flexible contracts for engineering staff. ‘Free’ food was discontinued for short-haul economy passengers when the airline partnered with a high-end supermarket chain to offer premium sandwiches and snacks.
Both airlines scored poorly on all metrics used by industry commentators and review sites such as Skytrax. Although, interestingly, customer perceptions of food quality at Airandor had increased marginally since the move from free food to purchased food, which improved the airline’s position overall on airline rating sites (5/10 on Skytrax). While its service quality and general ratings were poor, Airandor was at least now profitable and on an upward trajectory in terms of both profitability and service quality. These improvements took place despite limited investment in terms of new aircraft, or facilities at its Madrid hub. By contrast, over the same time period, Sky Airways received considerable investment in new aircraft, especially on short-haul routes. Unfortunately, possibly as a result of several years of cost-cutting, service quality had decreased dramatically to the point where one of the leading consumer advocacy groups in the UK rated the airline at just ‘third from the bottom’ of its customer satisfaction league table. On the Skytrax league table, Sky Airways had fallen to a score of 5/10 for customer satisfaction, with equally poor ratings across all aspects of service performance. Both airlines received the same 3 out of 5 stars for food quality.

At the meeting of Sky’s executive board, Bernie Williamson expressed concern at the growing number of complaints Sky was receiving and the decline in online customer ratings. With the low-cost operators competing aggressively on short, and more recently, long haul, Williamson was under continuous and increasing pressure to cut cost per available seat mile (CASM). Typically, fuel represented 33 per cent of Sky’s operating costs and labour about 23 per cent. The fleet modernisation programme meant that the fuel cost percentage (fuel CASM) was forecast to reduce considerably in the future. It was also envisaged that labour costs would continue to improve by changes to working practices, more headcount reductions and hopefully labour productivity gains. However, Williamson was aware that there were trade-offs in reducing labour CASM. While the exact causal connections were not completely clear, he was convinced that there was a link between labour CASM improvements and customer satisfaction scores. However, further removing complimentary meals – even on long haul – was seen as a way to both increase revenue per available seat mile (RASM) and reduce cost (CASM).

Williamson’s analysis of the customer complaints had revealed that the majority of Sky’s problems were in the areas of customer service and food quality. The airline achieved good scores in terms of punctuality, with on-time levels similar to other carriers operating from its London hub. However, the food and beverage scores from the rating companies seemed to agree with the direct complaints from customers. Around 72 per cent of the complaints received were about the on-board catering. The remaining complaints concerned an equal number of stories about lost luggage, delayed luggage and poor service from cabin staff.

Given his desire to increase RASM, which had remained largely unchanged for some years, and reduce CASM, Williamson was keen to hear ideas from his team as to how they could deal with the service and food quality problems. This was an opportunity seized upon by Angela Carter-Smith, Sky’s recently appointed Marketing Director. Angela suggested attempting to increase revenue, along with some cost-cutting. She argued that the airline should consider abandoning complimentary pre-packed and reheated meals in economy class in favour of the business-class style of service, whereby pre-ordered food is pre-cooked but heated, assembled and served in front of the customers. The food costs, she suggested, would be little different but, ‘simply require more time by cabin attendants, which they have on the longer flights’. When Bernie reminded her that they needed to provide an upgraded service for the premium-fare passengers too, she added that the answer here was to provide an increased range of ‘culturally sensitive’ meals: flying to and from Mumbai for example, the food should be Indian, while on flights to Johannesburg it should have a distinct African flavour. All eyes then turned to Peter Greenwood, the operations director, who had his head in his hands and was groaning. He promised to ‘look into it’ and report back at the next meeting.

The next day Peter made time to talk about the rising trend in complaints to Christina Towers, the catering subcontract manager, Justin Maude, a senior cabin attendant, and David Goh, senior gate manager.

Christina Towers explained:

The problem we have, like all other catering companies, is consistency. Although we can specify menus, portions and costs there are inevitably wide variations in quantity and quality loaded at various airports around the world. At our hub, we have complete control, but anywhere elsewhere we are at the mercy of the local catering contractors. We have the biggest problems at the furthest
Part I Framing service operations

destinations. You also put us under pressure to reduce costs, so we only try to load the precise number of meals and ingredients required in order to reduce wastage and space required. Passengers can order their meals via the website and our app, but they can do so up until four hours before boarding, so we have to do some forecasting. It is not easy making pre-flight predictions about both numbers and choices, and you cannot expect it to be right 100 per cent of the time without substantially increasing the number of meals loaded over and above passenger predictions. It is not cost effective and it is weight prohibitive to load two of every meal option, even for a business-class passenger who would expect, more than anyone else, to receive their first choice. To be honest, I think we would get fewer complaints if we reduced choice.

Justin Maude added:

You would not believe the difficulties we face in providing something as simple as meals to passengers. We frequently have to explain to passengers, in all the cabins, why they can’t have their first choice of meal – even when they have pre-ordered and paid. This creates a great deal of stress for the crew. There is just no room for more meals on board; the galleys are really tight for space. As to seat-side preparation, don’t get me started. It is tight enough doing this in business class. In economy, it is not going to happen, sorry. The biggest problem we have is over passengers who order special meals for religious, dietary or health reasons. I reckon one in five is not loaded on to the aircraft. Sometimes we have passengers on board who ask whether the food contains nuts and we have no idea. We can only offer them water and bread rolls to be safe. I think we should ensure the caterers let us know the contents of every meal and always provide extra vegetarian and kosher meals because passengers don’t always remember to pre-book them. As to nuts, why are we even bothering?

A complete ban would make sense. Another problem is caused by the last-minute passengers whom you want us to take to fill seats, so we often have to ask for more meals shortly before take-off. I know this causes problems but, unlike a restaurant, during flight there is nowhere to find additional supplies. I think it would help if we could have fewer meals, so pre-purchased only, that need less preparation time and take less space, so we can load more meals in anticipation of an increase in passengers and also load additional special meals, just in case.

David Goh then added his views:

The main problem I have is ten minutes before take-off when we find that the incorrect quantity, quality and meal type are loaded and the crew request extra meals. We often end up delaying a plane and missing a slot while the caterers rush over half-a-dozen extra meals. We should let the plane go. I am sure not everyone actually wants a meal. They only eat because they are bored. I think we should stop providing meals altogether, certainly on the short hauls. Tourist-class passengers often eat at the airport anyway and we already provide food for business class in the executive lounges.

Peter had not dared raise the idea of changing the methods of service in tourist class and increasing the range and type of meals to business-class passengers. His thoughts turned to how he could explain to the board the difference between what might be desirable and what is deliverable and appropriate.

Questions

1. What problems does Peter Greenwood face?
2. If you were Peter Greenwood, what would you say to the board?
3. In particular, what recommendations would you make about unbundling the complimentary meals service on long-haul economy?

Further reading


Notes

4 We are grateful for the cooperation of Sara Davies, whose interview formed the basis for this example.
5 The National Federation of Young Farmers’ Clubs is a rural youth organisation in the United Kingdom. The Federation covers various Young Farmers’ Clubs throughout England and Wales, helping support young people in agriculture and the countryside.
9 https://nerc.ukri.org/planetearth/stories/1855/
13 The information for this example is taken from the two airlines’ respective websites.
14 This worked example is based on a case study written by Shirley Johnston and published in previous editions of this text.
15 This case is an updated and adapted version of the ‘Sky Airways’ case originally written by Robert Johnston and Bridgette Sullivan-Taylor, Warwick Business School, and published in earlier editions of this text.
Chapter 2
The world of service

Now we have established what service operations management is and why it is important, this chapter looks at the many different types of service organisation that exist, the importance of service in most economies and some developments in how we think about service. The position of this topic in our model of service operations management is shown in Figure 2.1.

Learning objectives

• To be able to identify the main types of service organisation
• To understand the importance and growing significance of service in most economies
• To be able to describe some of the more recent developments in how we think about service
Introduction

If service operations and the service economy in general are both widespread and important, as we established in the previous chapter, then what are the broad trends that have shaped the service industries that we experience today, what types of service operation have to be managed by service operations managers and how is the way in which we think about service changing? Putting our current understanding of service operations in its broad historical context is important because it allows us to distinguish between what is changing in service and what is not. For example, if one were to visit a healthcare operation, such as a general hospital, of 20 years ago, some of the technology and medical treatments would look very different, yet the service experience would probably be basically very similar.

But first we need to establish a number of important points that are prerequisites for understanding the importance of services in our everyday lives. These are:

- That services are everywhere. The types of service that are active in the economy are many and various.
- That services are most of what we do and what we consume. Services are increasingly important economically in most parts of the world.
- That services are the way of the future. Many of the new ideas of how business is developing stress the centrality of service.

2.1 Services are everywhere

Services are everywhere – you can’t avoid them. All of us are customers and users of a wide range of services, both commercial and public, whether they be education services, transport services, childcare services, hospitals, internet or high-street retailers, holiday firms, restaurants or music...
streaming. We come into contact with service operations every single day, continually experiencing and consuming their services. But, the term ‘service operations’ covers a far broader field than these ‘everyday’ services that we buy or receive as individuals, or the ‘personal’ services that we provide to each other. It includes the services that organisations provide to each other, such as procurement or consulting services. It includes the public services that governments, or their agencies, provide, such as social services, police services or fire and rescue services. It includes the many and wide range of services provided by non-profit and voluntary organisations, such as faith organisations or international aid organisations. It also includes all the ‘internal’ services that organisations depend on to run effectively: for example, information technology (IT) services, human resources (HR), support services, finance and accounting services, and so on. Even in manufacturing companies, there is a service element to what they produce. Very few (if any) producers of physical products can neglect how they serve their customers in ways other than delivery of the core product.

The purpose of this section is to illustrate the huge scope of service organisations; however, classifying the many different types of service is not always straightforward. For example, should a gym be classed as being a healthcare service, an entertainment service or even a dating service? Different clients may see it in different ways. But, accepting some degree of ambiguity in classification, Figure 2.2 gives a general idea of the relative size, in economic terms, of various types of service in a relatively service-heavy economy (the UK).

While the data in Figure 2.2 is illustrative of many relatively developed economies, an alternative (and more revealing) classification of services is based on the nature of who, or what, is performing the service and who, or what is receiving it. We treat this next.

**Figure 2.2** UK economy service sectors, share of gross output (2014)
Types of service – B2B, B2C and so on

A common, and useful, framework for classifying services derives from the early days of e-commerce. It divides services as generated by, and intended for, either businesses, government (or their agencies) or customers. The framework is shown in Table 2.1. Envisioning how each entity interacts with each other results in nine categories of service.

**Business-to-business (B2B) services**

Business-to-business (B2B) services are provided by businesses for other businesses or organisations. The IT company SAP, for example, is a market leader in enterprise application software; it provides a range of services to its business customers that help its customers (also businesses) to manage their systems and decision making. Other B2B services include consulting services, outsourced catering services, buildings maintenance or leasing and supporting equipment, corporate travel services, financial services and market research. Some B2B service companies also sell their services directly to individual consumers (B2C, see the next category). For example, Microsoft is known to individual consumers because of its well-known software products, but its sales to other businesses make it also one of the largest B2B companies in the world.

The decision to purchase a B2B service is usually made by professionals within the customer organisation, but they may not be the actual end users of the service. So, selling B2B services often means dealing with multiple contacts in a customer organisation. For example, consultants may have to work with a wide range of employees in their client organisations and maintain relationships at different levels in the organisation. Relationships can be complex, especially when the users or recipients of a service are not the purchasers, and this purchasing group may in turn be different from those who commission or specify the service standards. Moreover, B2B relationships may last for a long time, so the challenge is for the relationship to be maintained without becoming complacent and the customer or supplier being taken for granted.

**Business-to-consumer (B2C) services**

Business-to-consumer (B2C) services are those that individual customers purchase from service-providing businesses for themselves, or on behalf of another individual. B2C is one of the largest classes of service types, with services ranging from leisure services such as hotels, restaurants, entertainment streaming, retail (online and high street), etc.

### Table 2.1  A service classification derived from ecommerce

<table>
<thead>
<tr>
<th>From – To</th>
<th>Business</th>
<th>Government</th>
<th>Consumer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Business</strong></td>
<td><strong>Business-to-business (B2B)</strong> services include corporate banking, consultancy, courier services, etc.</td>
<td><strong>Business-to-government (B2G)</strong> services include outsourced waste disposal, economic research, etc.</td>
<td><strong>Business-to-consumer (B2C)</strong> services include entertainment streaming, retail (online and high street)</td>
</tr>
<tr>
<td><strong>Government</strong></td>
<td><strong>Government-to-business (G2B)</strong> services include legal advice, planning guidance, environmental compliance, etc.</td>
<td><strong>Government-to-government (G2G)</strong> services include information provision, legal guidance, etc.</td>
<td><strong>Government-to-consumer (G2C)</strong> services include security, justice and healthcare provision, etc.</td>
</tr>
<tr>
<td><strong>Consumer</strong></td>
<td><strong>Consumer-to-business (C2B)</strong> services include online reviews, focus groups, reverse auctions, etc.</td>
<td><strong>Consumer-to-government (C2G)</strong> services include tax payment, information provision, etc.</td>
<td><strong>Consumer-to-consumer (C2C)</strong> sometimes termed peer-to-peer (P2P) services include social networks, video sharing, sales sites, etc.</td>
</tr>
</tbody>
</table>
sports provision, retail services (both ‘high street’ and online), travel services such as airlines and bus companies, and financial services such as banks and insurance providers, through to professional services such as lawyers and accountants.

The decision to purchase B2C services usually lies with the individuals who consume them. However, individuals are, well, individual. We are all different in some way. The challenge lies in providing consistent service to a wide variety (and often high volume) of customers whose individual perceptions are not always well understood. Each customer has their own special needs and expectations of the service provided and, to make matters more difficult, these may change for the same individual from day to day. Also, because an operation may serve so many customers, it faces a major challenge in keeping the experience fresh for the next new customer. It may be the first and only time the customer experiences this service, although the customer may be just one out of hundreds that an individual member of staff sees in a day. In addition, many B2C service operations have the added complication of the need for consistency across many points of contact with customers, frequently spread nationally if not globally. For example, a hotel chain may have hotels in all parts of the world, yet its reputation will depend on achieving a standard of service that is both appropriate to its intended market position and consistent throughout its chain.

**Business-to-government (B2G) services**

Business-to-government (B2G) services are the services that are offered by commercial organisations to national or local government, or their agencies. Usually this involves either providing services that facilitate the normal work of government departments, or providing services to the public on behalf of government. These types of services are also sometimes called business-to-administration (B2A) services. Common examples of B2G services include contracted refuse collection and disposal, major construction projects and public awareness advertising campaigns.

The decision to purchase this type of service is often influenced by other than purely economic considerations. Public bodies are usually governed, or at least influenced, by political issues. Moreover, because taxpayers’ money is (directly or indirectly) involved, all transactions should be fully accountable and transparent. Public bodies will be anxious to demonstrate that their purchases represent good taxpayer value. So, businesses trading with government will need to show how their services exemplify value and benefits to the public as well as complying with public policy. At the same time, businesses may hold the expertise to influence public policy. B2G organisations, therefore, may also have a lobbying or influencing role.

**Government-to-government (G2G) services**

Government, whether national or local, is complex. It usually involves many separate departments, public bodies or agencies, each with a different focus and set of responsibilities. Yet each of these often needs to provide service to other government departments. For example, tax authorities rely on the accurate provision of personal information such as births, deaths and other changes in personal circumstances that are usually registered with separate bodies. If the departments giving or receiving service are organisationally close (for example in the same local government authority), they could be classed as ‘internal services’, with all the issues associated with that kind of service (see later in the chapter).

There is usually no ‘decision to purchase’, as such, in this type of service. Separate parts of government rarely have any choice as to from where they receive their services. Each body is usually mandated to provide what is, in effect, an internal monopoly service. Obviously this might lead to a lack of sanctions on a service if it fails to perform adequately. There are also challenges common to all internal services. Research carried out by the UK government into how its services are delivered concluded that the ‘silos’ (organisational boundaries) between different areas of government delivering the same service to a user are one of the biggest barriers to delivering good services. In response, it expanded its programme of cross-government ‘service communities’ to bring together everyone involved in delivering a particular service.
Government-to-consumer (public) services (G2C)

Government-to-consumer (public) services (G2C), or government-to-citizen services, are those that are provided by central or local government for individuals in the community at large. Funding comes either through various forms of business and individual taxation, or a direct charge to the individual, or a combination of both. The funding is then largely allocated by policies set by government. Examples include the provision of security through defence forces and police, justice systems such as courts and the prison service, healthcare services such as hospitals and primary care (depending on how a country chooses to fund healthcare, this may be provided privately, by the state, or a combination of the two), primary, secondary and tertiary education, and so forth.

Again, there is not usually a ‘decision to purchase’ this type of service, as such. In fact, citizens may have little day-to-day choice. Services are funded through taxation with the allocation of resources influenced by political processes. The challenge lies in balancing the various political pressures and providing acceptable public services. Some public services are provided for the good of society at large and are not necessarily loved by those who have to deal with them. Prisons, police services and tax collectors may fall into this category. In addition, public services are under continual scrutiny to provide ‘best-value’ services. Nor can public sector organisations use the pricing mechanism to regulate demand, particularly with essential services. A public health service must make policy decisions as to how much resource can be devoted to heart operations, to maternity services and so on. Expenditure on intensive care units, accident and emergency provision and very expensive drugs are particularly sensitive since lives are at stake, but inevitably there will be times when demand outstrips supply or costs exceed budgets, meaning that there is an implied rationing of the supply of services.

Consumer-to-business (C2B) services

Consumer-to-business (C2B) services are those where customers offer their services to businesses. Although it is not a very large category of service, there are examples, such as when customers offer online reviews of products or services they have received, or when they participate in a support forum or focus group. In all three examples, a business is extracting value from the willingness of individual consumers to participate in supporting a business transaction. However, consumers, as a broader group, do benefit from the shared knowledge. This type of feedback may be more formal – for example, some companies organise online communities to provide comments on the development of their offerings. Sometimes a fee is paid to the consumer by the business – for example, a blogger may be recruited as an ‘influencer’ to promote the business’s offerings. This type of service also includes ‘reverse auctions’, where customers post the price they are willing to pay for a product or service they wish to buy. In some countries, electricity consumers may also generate some of their own (through solar panels, etc.), which, when in surplus, energy companies buy back. More controversially, customers of some social media businesses may not always realise that they have consented to be C2B providers when their personal data is sold to other businesses.

Consumer-to-government (C2G) services

This is another relatively small category. Consumer-to-government (C2G) services are when individual citizens provide ‘service’ to government. Often this is unpaid, as in providing earnings information for tax purposes. Once more, there is no decision to purchase – citizens either volunteer (for example, applying for a driving licence) or are required (providing tax information) to engage in the service. But this does not mean that such services should not be carefully designed. For example, a government department responsible for the issuance of driving licences can make life easier for itself, and its citizens, by providing all necessary information and building in all necessary links, on one web page. Also the use by government of the voluntary sector to, for example, clean up littered sites, could be included in this category.