Service operations management: return to roots

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Abstract Over the last 20 years we have witnessed the emergence of a large-scale, world-wide academic movement concerned with the management of services. This paper charts the role and impact of operations management on this movement and proposes that the current key focus for service academics should be with the application of frameworks and techniques. Also suggests that as the service movement has grown, with increasing overlap between the subjects of operations, marketing and HRM for example, there is a need to “return to roots”. Contends that service academics, in their bid to develop cross-functional service management material, may have lost, or inadvertently ignored, the strength of their core disciplines. Re-focusing on the traditional strengths of operations management, such as performance quality, design, and operational improvement, might help provide a greater rigour to the developing subject of service management. Discusses nine areas for service operations research and suggests specific research questions. The topics include linking operational performance to business drivers, performance measurement and operations improvement, service design, service technology, the design of internal networks and managing service capacity.

Introduction

“Service” captured the interest and imagination of operations management (OM) academics in the 1980s. The service movement was driven, in part, by a realisation that classes were filled with students who would be, or were, involved in non-manufacturing tasks. There was some disillusion felt with the existing operations management material, by both the students and by academics. Economic batch quantities, line balancing and stock control are just a few of the topics widely taught then which bore little relation to the key issues faced by managers running service operations. That is not to say that these tools and techniques were of no value, but customer service, service quality and service design were central issues facing many service operations managers, yet there were no tools or techniques to help them in these matters.

The need for service-based material was also timely. It matched the emerging realisation of the importance of the customer and a more customer-oriented view of operations. This was a significant shift away from the more internally-focused efficiency view of operations management. It also fitted with a growing “strategic” trend in operations. This questioned the traditional reactive role of operations and attempted to make the subject more market-oriented by understanding how operations could not only support but also help develop a strategic advantage (see for example Hayes and Wheelwright, 1984; Hill, 1985, 1989; Skinner, 1974, 1985).

Service operations have great appeal, and they are all around us. There is a plethora of examples and experiences and, indeed, research data that can be
gleaned from everyday life: service operations are all-pervasive. They are therefore a normal part of our students’ lives. They can easily relate to the problems of scheduling hospital beds, the layout of a multiplex cinema or the quality of a retail encounter. Although undoubtedly important, car factories, paper mills and plastic coating lines can seem remote from many people’s lives. Furthermore, each one of us is almost constantly playing out some role or other within a service operation. As students sit in a lecture they are playing a part in a service experience, just as we are delivering, or rather orchestrating, that service. As they go to the library, or to eat, or to socialise, they are having interactive service experiences. Service “factories” are everywhere. "The mall is my factory” is the title of a reflective piece on service operations by Chase (1996). Operations academics, just like operations practitioners, tend to be enthusiasts. On plant tours, students experience their teacher’s fascination and insights into the processes and the systems and procedures that support them. Student feedback lays testimony to their enthusiasm, understanding and fascination with all things operational. Service operations are even more compelling. The full title of Chase’s paper is “The mall is my factory: reflections of a service junkie”. In it he provides some tell-tale signs of the service operations “junkie” which might sound uncomfortably familiar to many service operations academics:

- You ask the resort hotel manager if you could peek at the reservation system while you are on vacation rather than spending an afternoon on the beach.
- You go out of your way to visit theme parks in Korea just to benchmark them against Disneyland.
- You are more interested in the planes and taxis you took to get to the factory tour than you are in the factory.
- You provide unsolicited feedback to your dentist on how the scheduling and appointments system could be improved.

I would like to add a couple more:

- Your partner is reluctant to be taken to a restaurant to celebrate your wedding anniversary in case something goes wrong.
- Your children will only go with you to the theme park if you promise not to debrief them on the way home.

This growing and compelling interest in service was happening in many parts of the world and in different functional areas (Brown et al., 1994; Grönroos, 1994; Johnston, 1994; Schneider, 1994). In marketing, accounting and HRM for example, academics were waking up to their service-based students. There was growing concern about the product-based nature of their material. Marketing seemed preoccupied with the marketing of white goods. Accountancy academics used examples which were based around an imaginary product, the "widget". Ironically, this has become the accepted name for a beer can insert which forces
gas into the beer when the can is opened, in order to provide a creamy head. (No doubt the majority of OM academics will have opened up a can to have a look!) Thus the service management movement was born in many different disciplines by people united by a shared enthusiasm and interest for all things intangible.

From these early beginnings, a large-scale, world-wide movement gained pace and membership. Over the last ten to 20 years this has had a profound effect on research and teaching. The service operations movement, like the service marketing movement, has been characterised by a number of stages; an initial realisation of the difference between goods and service, the development of conceptual frameworks and the empirical testing of these frameworks (see Brown et al., 1994). I would contend that we are now entering a fourth stage concerned with the application of the tools and frameworks to improve service management. I would also contend that as the service movement has grown, with increasing overlap between the subjects of operations, marketing and HRM for example, this fourth stage is also characterised by a “return to roots”, a realisation that we might have lost, or inadvertently ignored, the strength of our core disciplines and the need to bring a sense of academic rigour and depth to the developing subject of service management.

The next sections briefly chart the development of operations through the first three stages and lay out the challenges as we enter this fourth stage in the development of service operations management. Several areas for future research are discussed.

**Stage one - service awakening**

Before 1980, business academics were primarily concerned with the production, marketing and management of physical goods. By 1955 the service sector accounted for just over 50 per cent of the UK’s gross domestic product, overtaking the product-based sectors. Yet it took another 20 years before the operations management academics of the day started to apply their knowledge and skills to service operations. Operations management in 1970 was known as production management (see for example Chase and Aquilano, 1973). It had developed out of an even more focused view of operations, factory management (see for example Lockyer, 1962). Factory management was the name given to the search for efficiency in the post-industrial revolution era based upon Frederick Taylor’s philosophy of scientific management (1911). Production management was concerned with applying method study techniques, production planning and control, capacity management and materials management, for example in production settings, with examples coming from a wider base than “pure” manufacturing and including examples such as distribution, transportation, hospitals, libraries and publishers (see for example Adam and Ebert, 1982; Evans et al., 1984; Stevenson, 1982; Wild, 1980).

In the 1970s there was an emerging recognition of service operations and the first two texts to place some emphasis on the service sector were Johnson et al. (1972) and Buffa (1976). Both books were entitled Operations Management “to reflect the growing emphasis on the breadth of application of production
management concepts and techniques... (in) non-manufacturing and service industries as well as manufacturing" (Buffa, 1976).

The authors’ good intentions are not borne out by the content of their books. Johnson et al. used the word “service” just once in chapter 1 and then reverted to discussion of the traditional production management techniques in manufacturing settings, with the exception of some discussion of mathematical programming applied to distribution systems and the scheduling of service and transportation systems. Buffa, likewise, recognised the existence and indeed importance of service and dedicated two chapters to the application of queuing theory, aggregate planning and scheduling in hospitals. One may argue that they were simply paying lip service. I would argue that they began the transformation of the subject.

The service movement appears to have gathered greater momentum in the field of marketing. Johnson’s dissertation (1969) was the first to ask the question “Are goods and services really different?” (quoted in Brown et al., 1994). Judd (1964) proposed a typology of service and Rathmell (1966) encouraged marketers to devote more attention to the service sector. The first two service books were written by Johnson (1964) (a monograph) and Rathmell (1974). Shostack (1977) wrote “a landmark article” (Brown et al., 1994) “which was to alter the course of our thinking” (Kotler quoted in Grönroos, 1990) which challenged marketers to provide concepts, guidance, terminology and rules from the service sector. Europeans, Keith Blois, John Bateson, Pierre Eiglier and Eric Langeard, joined the American-led initiative with service contributions of their own (see for example Bateson, 1977; Blois, 1974; Eiglier and Langeard, 1977).

Service operations was a little slower off the mark, as service operations management was “essentially operations research (OR) applied to service settings” (Chase, 1996). A major breakthrough came in 1976 with the publication of Earl Sasser’s article “Match supply and demand in service industries” in the Harvard Business Review, followed two years later by the pioneering textbook Management of Service Operations (Sasser et al., 1978) containing what are now regarded as classic cases and issues. Dick Chase also wrote a service article for the HBR “Where does the customer fit in a service operation?” (1978). He challenged the operations management community to consider two types of operations; the traditional back office factory and the customer-facing, customer-contact front office. Chase and Sasser et al. provided academic credibility and authority to the study of customer-based operations. Other papers with distinct operations themes included “Production-line approach to service” (Levitt, 1972), “Quality control in a service business” (Hostage, 1975), “The new back office focuses on customer service” (Matteis, 1979) and “Marketing’s potential for improving productivity in service industries” (Lovelock and Young, 1979). Levitt’s paper is still proving a rich source of inspiration for recent papers (see, for example, Bowen and Youngdahl, 1998).

In essence, stage one (referred to by Brown et al. (1994) using the analogy of the development of the human species) was the “crawling out” stage and was characterised by recognition of the existence of service. The nature of academic
work was primarily descriptive and focused on the difference between goods and services (Brown et al., 1994). Chase (1996) described this as the “classification era”. Although Levitt et al. and colleagues had started the service operations revolution, service operations was still very wedded to its factory roots. Furthermore, whilst there was awareness of some of the efforts in other functions (Chase, 1996), the concept of a cross-functional subject of service management was some way off. Research was undertaken in subject areas with little or no cross-fertilisation. Figure 1 summarises the characteristics of this stage in the development of service operations management.

### Stage two - breaking free from product-based roots

The period between 1980 and 1985 was a time of “high interest and enthusiasm” in services (Brown et al., 1994). It was accepted that services were different from goods (though that debate rumbled on (see, for example, Lockyer (1986) and Morris and Johnston (1987)). During this “scurrying about” period (Brown et al., 1994), many substantive issues were debated. The work was principally conceptual in nature and was characterised by the development of frameworks to help understand the characteristics of service and service management (see, for example, Bowen and Schneider, 1985; Grönroos, 1984; Parasuraman et al., 1985). Service operations academics continued their work on “customer operations” (for example, Chase, 1981; Maister and Lovelock, 1982). This focus on the customer and the service encounter was growing apace in the other functions. Publications on this topic included “The critical incident as a technique for analysing the service encounter” (Bitner et al., 1985), “Boundary spanning role employees and the service encounter: some guidelines for management research” (Bowen and Schneider, 1985) and “Perceived control and the service encounter” (Bateson, 1985).

Operations academics were also breaking ground with new perspectives on traditional themes. Wyckoff (1984), for example, wrote what might be considered an early TQM paper “New tools for achieving service quality”. In this period the first two service operations management texts were written (Fitzsimmons and

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<td>services are different</td>
<td>growing awareness of the importance of service, customer operations and customer contact</td>
<td>OM, MKT, HRM</td>
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**Figure 1.** Stage one - service awakening
Sullivan, 1982; Voss et al., 1985). We also witnessed the first “challenge” papers on service operations research; “The service sector: challenges and imperatives for research in operations management” (Sullivan, 1982) and “Service operations management: research and application” (Mabbert, 1982).

The main characteristic of stage two was that the study of service appeared to have broken free from its product-based roots. There was also recognition of, and reference to, the research undertaken in the other disciplines undertaking service research.

The epitome of this era was the well-regarded paper by Parasuraman et al., “A conceptual model of service quality and its implications for future research” (1985). This was a major step in the development of the cross-functional subject of service management. Service quality was a topic which was seen as important by all of the different functional areas and where they could all make a contribution. This landmark article (and subsequent studies by the authors) not only stimulated a huge amount of activity in the marketing area but threw down the gauntlet to the operations area, as it was realised that other functional areas had important things to say about a topic which had traditionally been seen as “operations”. It was also a different approach to quality, in stark contrast to the statistical process control (SPC) approach. This was also the case when Shostack’s article “Designing services that deliver” (1984) was seized upon by marketers as they moved into process mapping, previously a cornerstone of operations management.

Interest in internally-focused service operations did not cease, however (see, for example, Blois, 1984; Johnston and Morris, 1985).

There was also recognition of cross-functional issues in papers such as “The employee as customer” (Berry, 1981) and in a text by Eiglier and Langeard Servuction (1987) which combined aspects of marketing and production, though the text is subtitled “Le marketing des services”. We also witnessed the production of what might be regarded as the first service management text (Normann, 1984). The service management area was also gaining some degree of respectability with the publication of two journals; The Service Industries Journal in 1980 and the Journal of Professional Services Marketing in 1985.

For operations this was a period when the nature of service and service operations was classified as a prelude to the development of tools and concepts. The dimensions included customer contact time (Chase, 1981), degree of customisation (Maister and Lovelock, 1982 and Johnston and Morris, 1985), the amount of judgement exercised by front office staff (Lovelock, 1983), whether the value was added in the front or back office (Maister, 1983), the operation’s product or process focus (Johnston and Morris, 1985). These discussions resulted in the now widely-accepted categorisation of service operations; mass, professional and service shop (see, for example, Schmenner, 1986; Silvestro et al., 1992).

The key characteristics of stage two are summarised in Figure 2.
Stage three - the service management era

The third stage in the development of the service movement, which Brown described as the “walking erect” stage, has been characterised by the cross-disciplinary nature of service research; a coming together of disciplines. Marketing, operations and HRM, in particular, brought together their various strengths and perspectives to issues of common concern. This period, from around 1985 to 1995, was the era of service management (as distinct from service marketing or service operations); a subject whose strength lies in its cross-disciplinary nature and approaches. Three interdisciplinary conferences began, the International Research Seminar, hosted by Eric Langeard and Pierre Eiglier from the Université Aix-Marseille; the Quality in Services (QUIS), alternating between Sweden and USA; and the Frontiers in Service Conference at Vanderbilt, USA.

The research undertaken in this stage was predominantly concerned with the empirical testing of ideas and frameworks resulting in underpinned and tested models (see, for example, Bitner et al., 1990; Collier, 1991; Fitzgerald et al., 1991; Parasuraman et al., 1988; Rust and Oliver, 1994). Conceptual frameworks and ideas continued to emerge to form the basis for fresh empirical work. This period was certainly an important milestone in the development of the subject. Chase (1996) referred to this stage as the “theory testing/empirical era” where we “have been moving from developing conceptual frameworks to refining their dimensions and validating them empirically”. Industry-focused studies, survey research and case studies seem to have dominated this stage of development.
Some of the main operations-oriented issues that were being researched are contained in Table I (this list is not meant to be complete or comprehensive but simply indicative of the wide range and depth of issues being researched).

There was also a realisation that service management and service operations in particular might be able to make some new contributions to the core production-oriented operations management field. The benefits of a customer-based approach, the role of service in the product mix and the development of service-based strategies were all contributions that were offered to the manufacturing community (see, for example, Booms and Bitner, 1981; Bowen et al., 1989; Fry et al., 1994; Quinn et al., 1990). Figure 3 illustrates the points relating to stage three.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Selected references</th>
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<tr>
<td>Customer relationships</td>
<td>Storbacka, 1995; Storbacka et al., 1994</td>
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<td>Failure prevention in services</td>
<td>Chase and Stewart, 1994; Kelley et al., 1993; Stauss, 1993</td>
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<tr>
<td>Internal services</td>
<td>Gremler et al., 1994; Mattsson, 1992; Vandermerwe and Gilbert, 1991</td>
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<td>JIT in services</td>
<td>Duclos et al., 1995</td>
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<td>Managing the customer</td>
<td>Bowen, 1986; Johnston, 1989; Mills and Morris, 1986</td>
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<td>Performance measurement</td>
<td>Brignall et al., 1992; Fitzgerald et al., 1991</td>
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<td>Process control</td>
<td>Haynes and DuVall, 1992</td>
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<td>Quality measurement</td>
<td>Babakus and Bolier, 1992; Cronin and Taylor, 1992, 1994; Finn and Lamb, 1991; Parasuraman et al., 1988</td>
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<td>Satisfying the customer</td>
<td>Anderson and Fornell, 1994; Bitner and Hubbert, 1994; Danaher and Mattsson, 1994; Johnston, 1995a</td>
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<td>Service capacity</td>
<td>Armistead and Clark, 1994a; Lovelock, 1992</td>
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<td>Service design</td>
<td>Behara and Chase, 1993; Fitzsimmons and Maurer, 1991; Gouillart and Sturdivant, 1994; Katz et al., 1991; Shapiro et al., 1992</td>
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<td>Service encounter</td>
<td>Bitner et al., 1990; Bowen and Schneider, 1985; Czepiel et al., 1985; Lewis and Entwistle, 1990</td>
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<td>Service environment</td>
<td>Bitner, 1992; Wakefield and Blodgett, 1994</td>
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<td>Service focus</td>
<td>Davidow and Uttal, 1989a; Kimes and Johnston, 1990; Van Dierdonck and Brandt, 1988</td>
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<td>Service operations strategy</td>
<td>Armistead, 1990</td>
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<td>Service productivity</td>
<td>Armistead et al., 1988</td>
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<td>Service quality</td>
<td>Andersson, 1991; Rust and Oliver, 1994; Zeithami et al., 1990</td>
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<td>Service recovery</td>
<td>Armistead and Clark, 1994b; Bell and Zemke, 1987; Edvardsson, 1992; Hart et al., 1990; Johnston, 1995c; Kelley and Davis, 1994</td>
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<td>Service technology</td>
<td>Collier, 1985; Faulhaber et al., 1986</td>
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<td>TQM in services</td>
<td>Davidow and Uttal, 1989b; Desler and Farrow, 1990</td>
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<td>Yield management</td>
<td>Kimes, 1989</td>
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<td>Zero defections</td>
<td>Reichheld, 1996; Reichheld and Sasser, 1990</td>
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Table 1. Some OM research issues 1985-1995
Stage four – return to roots?

My belief is that we have now entered a fourth stage: one that could be considered the final step in the creation of a “mature” subject which has been in evidence since 1995: the intention and ability to be prescriptive (Johnston, 1996). A stage when much (but not necessarily all) of the material can be taken and applied, and where the outcome of its application can be predicted (see, for example, Berry, 1995; Heskett et al., 1997; Rust and Oliver, 1994). Collier (1994), for example, has been developing models to show the relationship between perceived service quality and operational performance. Heskett et al. (1997), Rust and Oliver (1994) and Voss and Johnston (1995) have been undertaking empirical work to understand the links between operations drivers, for example, quality, staff satisfaction, internal quality, and outcomes such as profit and customer satisfaction. It is this type of work that seems set to continue for some years to come.

However, a new significant wind of change is that the previous trend towards cross-functional work seems in reverse. I believe we are witnessing some tensions between the functions. Indeed I would venture to suggest that rather than seeing a continuance of the overlapping of the areas of marketing,
operations and HRM, for example, we are witnessing their moving apart from each other. This change is driven by a basic desire to re-establish the service material within the core disciplines. It appears that we have forgotten, or mislaid, our established roots and academics have focused on material and approaches depicted in the circles in the last column of Figure 4. We seem to have been swept along on the tide of interest in service focused predominantly from a customer perspective. Whilst there is nothing unhealthy, or indeed inappropriate, in this, we seem to have ignored the strength that our core discipline has to offer. In service quality, for example, we have focused on customer-based notions of service quality but appear to have ignored quality of conformance and the delivery of customer-based quality, surely key issues for operations managers.

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<td>characteristics of service and service management</td>
<td>conceptual frameworks</td>
<td>challenge to existing operations paradigms and the development of “customer operations”</td>
<td>OM MKT HRM</td>
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<tr>
<td>THREE</td>
<td>empirical</td>
<td>development and testing of frameworks</td>
<td>large amount of service material based on new cross-functionally derived models</td>
<td>development of service processes, quality, failure, design and technology with a view that service could contribute to manufacturing</td>
<td>OM MKT HRM</td>
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<td>FOUR</td>
<td>applied</td>
<td>prescription</td>
<td>linking operations drivers to outcomes</td>
<td>the return to roots – the need to re-focus service operations towards traditional operational issues and approaches</td>
<td>OM MKT HRM</td>
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Figure 4. Stage four – return to roots?
and academics. In service design, we seem to have followed the blueprinting movement but we appear to have ignored the process of design in favour of this descriptive activity and the relationship between important, and often ignored, back-office activities in favour of customer-facing processes.

A service operations management agenda

This growing awareness of the need to re-operationalise service management material has led to an attempt to develop an agenda[1]. This section identifies some possible research issues and questions emphasising the core operational issues.

1. Linking operational performance to business drivers

Developing the work of Voss and Johnston (1995), Roth et al. (1997) and the pioneering work on the service profit chain by Heskett et al. (1997), there is growing awareness of the importance of linking business drivers such as leadership, customer orientation and more operational issues such as benchmarking, quality control and service design, with their impact on business performance. Although the work cited above has made significant inroads into this area, there is much more work to do. Indeed there is significant practitioner interest in this area, witnessed by the growing interest in the use of the Baldrige criteria and the UK/European Foundation for Quality Awards on this side of the Atlantic. Chase points out the important roles that operations can play in this movement: “service operations is the appropriate discipline to begin to move business from its current emphasis on reengineering to the next step – revenue enhancement” (Chase, 1996). Two key research questions are:

(1) What are the most efficient operational profit levers and under what circumstances?

(2) Can we map the relationships between the controllable and the outcome variables?

2. Performance measurement and operations improvement

Despite some major work in the performance measurement area (Fitzgerald et al., 1991; Kaplan and Norton, 1996; Lynch and Cross, 1991), many organisations seem reluctant to critically review and develop their performance measurement systems. The balanced scorecard, although a major step forward for many organisations, has led to a degree of complacency once an organisation, and its SBUs, have found measures to fit all four boxes. (One organisation was pleased to have developed new measures including “number of staff training days” and “number of processes benchmarked” without any concern as to whether any improvements resulted from these activities):

- How can we develop frameworks to help organisations review the nature and effect of the performance measures used?
3. Guarantees, complaints and service recovery – tools for performance improvement

I believe that much organisational practice in the area of complaints and recovery has regressed into mere marketing ploys. Complaints procedures in some organisations have become mechanisms to pass on tokens or small pay-outs to disgruntled customers. Guarantees often seem little more than your statutory rights, or an "opportunity" to purchase insurance so that, if the product or service fails, the vendor is not troubled with the problem (and so is unaware of the in-built problems of their products or services). Service recovery appears to have become reactive, with staff carefully listening to, sympathising with, and then paying off the customer but never sorting out the root problem. (At a recent visit to a hotel, I informed the manager about a whole series of problems I had encountered during a ten-hour stay. Without making notes of any of them, she kindly offered me another breakfast free of charge.):

- How can we link complaints and failures to organisational improvement?
- How can organisational learning develop from mistakes?
- How can organisations be proactive in finding and dealing with mistakes before their customers tell them (or more often don't tell them)?
- What are good service guarantees and how can they be operationalised?
- What evidence is there that complaints, guarantees or service recovery drive improvements within an organisation?
- How is learning best captured and applied?

4. People management

Despite some excellent additions to the literature in the HRM area (such as Berry, 1995; Schneider and Bowen, 1995), operations academics need to retrace their roots and focus on the design of jobs. The problem is not knowing that customers expect empathy, reliability, assurance etc., but delivering it time after time, month after month, week after week, day after day, hour after hour. (A recent BBC documentary portrays a heterosexual male prostitute in Australia providing service to his clients, hour after hour, sometimes for a week at a time.) We need to understand how all employees can deliver constant and consistent high levels of service and how we can design jobs and motivate employees to do this:
5. Service design
The service design models used in the literature are strongly based upon product design processes, yet there is some evidence that product design processes are not used, or indeed applicable, in service situations (Shulver and Slack, 1997). Do we understand how services are designed from conception to consumption and how existing product-based models can be applied?:

- What is a service design?
- How is a service concept developed into a service?
- What is a service concept?
- What are the most effective methods of developing a service?
- What are good design tools and techniques?
- Seamless service is a great idea for a customer but how does one achieve this in most “silo-based” organisations?
- How can the World Wide Web be utilised to create new services, even virtual services and the use of virtual reality simulations in service (no, I don't have the prostitute in mind)?
- How do we capture the technological dimensions of the next century?

6. Service technology
There are a few documented examples of technological disasters, yet there are many more but less well-known, or documented, examples of technological successes. One reason for failure is that technology is often superimposed on inefficient, outdated operational systems, in the expectation that it will overcome inherent problems (Lewis and Chambers, 1997). Unfortunately there is only limited material in the service literature about the difficulties of implementing new technology, or indeed any categorisation of the various types of technologies in use. It would also appear that managers seem to have a difficulty in assessing the “true” impact of new technology (Lewis and Chambers, 1997). Furthermore, investment in service technology does not appear to have significantly reduced costs for the provision of services. Brunsdon and Walley (1997) refer to this as the “productivity paradox”:

- What are the categories of service technologies and their relative impact?
- What are the inherent difficulties in implementing new technology?
- What are the success factors?
7. **The design of internal networks**

Gremler et al. (1994) define internal service encounters as the didactic interrelation between an internal customer and an internal service provider. The supply chain literature, however, has moved away from such simplistic relationships to the idea of networks of relationships (see, for example, Harland, 1996). This network approach needs to underpin future research in the internal customer chain. Can notions of external quality and customer satisfaction be used with internal supply chains? Slack et al. (1995) stated that internal customers cannot be treated in exactly the same way as external customers. External customers usually, though not always, operate in a free market. The internal customer is often a captive customer and so many of the current concepts of service quality and performance measurement from an external customer perspective (e.g., customer satisfaction) have found little credence in internal customer-supplier relationships. This seems to be changing as organisations are looking increasingly at contracting-out internal services:

- Can supply chain networks be implemented within organisations?
- How well does service quality translate to internal supply networks?
- What is the relationship between internal service quality and staff satisfaction and external quality and customer satisfaction?
- How can organisations cost and value internal services?

8. **The service encounter**

The service encounter is the crux of service delivery, yet how much do we know about which are the right scripts, attitudes, behaviours to achieve the desired effect? How do we ensure that each encounter in a service process has the right cumulative effect on customers' overall perceived service quality:

- What are the "right" scripts for different types of service?
- Do we know how to design and control the series of encounters that comprise the service process?

9. **Managing service capacity**

Some work exists in the management of service capacity in terms of staff scheduling (see, for example, Goodale and Tunc, 1998; T Thompson, 1996). Strategies for managing demand and supply in service operations have also been documented; however, there has been little advancement since the first paper by Sasser in 1976. Yet this is an area which is fundamental to the planning and control of service. Another issue, the subject of a preliminary investigation, is the relationship between capacity levels and the level of service quality delivered. Clark and James (1997) provide some conceptual models of intuitively-derived relationships between resource utilisation and service quality. Is it now...
possible to derive empirically these functions and assess strategies for effective resource utilisation linked to required quality levels?

- What are appropriate capacity strategies? How does customer contact relate to types of strategies?
- What is the relationship of capacity levels and capacity strategies to the level of service quality delivered, for example?
- How can organisations best manage their quality-capacity relationships?

Conclusion

My view is that in stage four we are seeing a return to roots, which is no bad thing. This will add new depth and grounding to the literature on service management. In operations it will allow us and encourage us to undertake research and make strong statements about things which we understand (quality, design and improvement, for example). But somehow we need to add this depth and focus without losing the richness that has developed as different functional areas have come together to share areas of common interest. I think that holding these areas together will be a greater challenge to service academics over the next few years than the research agendas to which we are compellingly and enthusiastically drawn.

Note

1. This agenda is partly based upon discussions with Dick Chase, Peter Docherty, Christopher Easingwood, Ulf Karlsson, Jos Lemmink, Jan Mattsson, David Tansik and Chris Voss at the Service Operations Research Workshop, Chalmers University, Gothenburg, 19-21 September 1997.

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