Tight versus Loose Specifications in Service Operations

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Abstract

In this exploratory paper we contend that a service specification is an important mechanism which is needed to plan and control the design and delivery of a service. Despite this importance it is surprising that there is limited coverage of the nature of specifications in both the manufacturing and service operations literatures. The purpose of this paper is to explore some of the key differences between a service specification in a mass service and in a professional service. The underlying hypothesis is that mass services will have a tight specification and professional services a loose specification. Based on interviews with senior managers in a UK and a Portuguese bank we found, contrary to expectations, that both mass and professional services made use of tight specifications. Professional services created their customisation from the tightly specified base using skilled staff at the interaction with the customer. We would also seek to challenge the view that mass and professional service processes are distinct, as they both appear to have mass-type tendencies with standardised and tightly controlled cores, and that professional services differ simply through the addition of a degree of customisation.

Introduction

The service quality literature has been dominated by marketing research which has taken a predominantly customer and market perspective. While this is vital in ensuring that the organisation understands the needs of customers, operational activities, concerned with design and delivery, seem to have been somewhat overlooked. One key role for operations managers is to shape customer and market requirements into a service specification to help determine the operational resources required and to plan and control its design and delivery, in particular creating a standard or target for quality control.

In order to encourage a stream of research on this topic this paper focuses on one issue that we believe will have a significant bearing upon the task of developing a service specification, that is, the nature of the process. The purpose of this paper is to explore some of the key differences between a service specification in a mass service and in a professional service. The underlying hypothesis is that mass services will have a tight specification and professional services a loose specification. This difference will impact upon the design of performance management systems including service design and control decisions (see for

example Gap 2 and Gap 3 on Zeithaml *et al.* (1990)) such as how new services are developed, existing services re-designed, and the nature and even the effectiveness of control systems (Schmenner, 1995).

Specifications, sometimes referred to as standards have also a significance beyond an operational context. Indeed specifications could be viewed as coordination mechanisms, which 'glue' operations within the organisation. In fact, as Juran and Gryna (1988) assert specifications, procedures or requirements "can be helpful in clarifying the quality responsibilities of workers", and as such making possible work coordination.

We would suggest that the analysis of specifications should be considered at two different levels. The first considers the operations/organisations dynamics, through which tight/loose links between operations are grasped and the switching from some mechanisms to others is justified. By this we mean that the characteristics of specifications should be analysed concerning a particular context of time and space. The second explores how control is implemented when specifications are not clearly defined. Furthermore, we anticipate that we may be able to understand some of the reasons why some organisations do not clearly specify the products or the processes.

In order to explore the nature and impact of service specifications in mass and professional contexts this paper reviews the literature on service specifications and coordination mechanisms and their usage. It also provides the results of an initial evaluation of the service specifications used for mass and professional services in a UK and a Portuguese bank.

Service typologies - mass to professional services

The notion of mass and professional services at the extreme ends of a service process continuum is now well established. In 1992, empirical work by Silvestro *et al.* (1992) postulated a service process model, which integrated several existing yet differing service classifications into a single framework. Implied in the proposed model was a correlation between volume and variety leading to three main types of process; mass services (high volume and low variety), professional services (low volume and low variety) and service shops (medium volume and variety) (for a more detailed explanation of these service types see Johnston and Clark 2001)

Several other authors have presented other typologies and generalised frameworks for analysing service operations (see for example Chase, 1978, 1981; Schmenner, 1986; Wemmerlov, 1990). Whilst refinements in service classification frameworks continue there is now the potential to make use of these theoretical concepts (Verma, 2000). Indeed, many authors in the service management field have argued that the management of service operations is contingent upon process characteristics, which are captured in the service process model (Schmenner, 1995; Silvestro, 1999; Grönroos, 2000; Johnston and Clark, 2001). Regarding service specifications in particular, Silvestro contends that there are two situations. One exists in professional services, where the customer participates in the process of the development of the service specification, and where there is greater flexibility in meeting customer requirements and the delivery date is important. The second concerns mass services where the service specification is defined before the customer enters the process, and where average response and throughput times are usually delimited in the service design with no or little scope for short term flexibility (Silvestro, 1999).

In order to delimit the scope of this paper we focus on these two extremes of Silvestro's et al. (1992) classification: the professional and the mass services.

The specification concept

Despite the critical importance of a service (or indeed product) specification to operations a review of the literature reveals a limited and somewhat confused coverage. This section summarises some of the main points of convergence.

It seems to be accepted that a specification, sometimes referred to as a standard, is a central element supporting and guiding many operations management (OM) decisions (Juran and Gryna, 1988; Karlsson, 1998, Slack *et al.*, 2001). From the planning to the improvement stages, specifications bring together all the operations manager's activities (Slack *et al.*, 2001) Several authors, in what can be considered the early development of OM as an academic subject, referred to specifications and to standards as key elements in quality planning and control (see for example Ford, 1926; Feigenbaum, 1983; Ishikawa, 1985; Juran and Gryna, 1988). Since then there have been few studies and limited analysis of the specification and associated issues (Karlsson, 1998).

Several authors draw on the manufacturing-based quality definition (Garvin, 1984) of conformance to specifications (Garvin, 1984; Feigenbaum, 1983). Specifications, or standards, establish targets for quality control. But, few authors have detailed what service specifications are or might be. However, the work of these authors should be interpreted in the context of the 80's. This was a time when manufacturing control was the focus of operations managers' attention, and service operations management was still "breaking free from its product-based roots" (Johnston, 1999). The main concern of operations management was then the manufacturing process, and the main objective was the standardization of parts that enables statistical process control.

More recently, Schmenner (1995) asserts that service standards detail the expectations that managers and designers of service operations have toward what service providers "need to do in order to make quality outstanding and keep costs under control". Evans and Lindsay (1996) contend that specifications "are targets and tolerances determined by designers of products and services. Targets are the ideal values for which production should strive; tolerances are specified because designers recognize that in manufacturing it is impossible to meet targets all of the time". Slack et al (2001) state that a specification is the "written, pictorial and graphical information used to define the output of a project, and the accompanying terms and conditions". From a more product-based perspective Evans and Lindsay (1996:13) suggest that product specifications might consist of such attributes as size, form, finish, taste, dimensions, tolerances, material, operational characteristics, and safety features and process specifications include the types of equipment, tools and facilities used in production.

For the purpose of this paper a specification is seen as a requirement that is clearly stated about the necessary features in the design of something, both concerning the output and the process by which the service is delivered. A standard is understood as a target or a level of achievement that is considered acceptable.

Specifications as coordination mechanisms

Specifications have been defined as the goals and leniencies of outputs and processes defined with the aim of clarifying responsibilities of workers and supervisors (Juran and Gryna, 1988). Therefore, specifications seen as a set of requirements or procedures, are a vehicle for establishing coordination between operations and workers. It is important then to consider specifications as coordination mechanisms, and in particular their types and contexts.

As organisational work becomes more complex and specialised, the greater the need for a system of coordination (Blau, 1971). And so, the ideal means of coordination seems to shift from mutual adjustment, to direct supervision to standardisation, first of work processes, then of outputs, or even of skills, finally reverting back to mutual adjustment (Mintzberg, 1983). Consequently, specifications should not be seen as an unchanging issue, neither should they be considered solely inside the operations context. As it is asserted by Mintzberg (1983) "effective structuring requires a consistency among design parameters and contingency factors."

The following table summarises the main characteristics of the typical organisations considered in the two extremes of Silvestro's *et al.* (1992) classification based on work by Mintzberg (1983). In the first case, the professional bureaucracy, a customised service is delivered. In the second case, the machine bureaucracy, a standardised service is provided. In both cases, the coordination is achieved by design through the definition of standards that predetermine what is to be done. Thus, as the two organisations rely primarily on the formalisation of behaviour to achieve coordination, they are considered bureaucratic structures (Blau, 1971; Mintzberg, 1983).

Dimensions	**Professional bureaucracy**	**Machine bureaucracy**
Key coordination mechanism	Standardisation of skills	Standardisation of work
Key part of organisation	Operating core	Technostructure
Specialisation of jobs	Much horizontal specialisation	Much vertical and horizontal specialisation
Training and indoctrination	Much training and indoctrination	Little training and indoctrination
Formalisation of behaviour	Little formalisation	Much formalisation
Grouping	Functional and market	Usually functional
Decentralisation	Horizontal and vertical decentralisation	Limited horizontal and vertical decentralisation
Functioning at the operating core	Skilled, standardised work with much individual autonomy	Routine, formalised work with little discretion
Functioning at the middle line	Controlled by professionals; much mutual adjustment	Elaborated and differentiated; conflict resolution, staff liaison, support of vertical flows.

Table 1. Main characteristics of professional and machine bureaucracies (Mintzberg, 1983).

Interestingly these two kinds of "bureaucracy" differ noticeably in the source of their standardisation. In the machine bureaucracy the standards have their origins inside the organisation and are enforced by line managers. These standards tend to relate to processes and outputs. In professional bureaucracy the standards, mainly generated from the outside (in self-governing associations or organisations, e.g., universities, professional associations, etc.), are concerned with skills and knowledge. Such organisations hire trained and "indoctrinated" specialists, and then give them considerable control over their own work (Mintzberg, 1983).

Control in this context means that the professional works with some independence from his colleagues, but closely related with the clients he serves.

Moreover, each case presents different problems of coordination. On one hand, the machine bureaucracy organisation is obsessed with control, and in the effort of eliminating all possible uncertainty treats people as "means", consequently destroying the meaning of the work contribution to the process or output. On the other hand, standardisation of skills is a loose coordination mechanism, failing to cope with many of the needs that arise in the professional bureaucracy. "Even in the ideal case where every employee is a highly intelligent and skilled expert, there is a need for discipline adherence to regulations" (Blau, 1971).

Weick (1976) expands the notion of loose linkage by the concept of loose coupling. Loose coupling conveys "the image that coupled events are responsive, but that each event also preserves its own identity and some evidence of its physical or logical separateness. (...) Loose coupling also carries connotations of impermanence, dissolvability, and tacitness all of which are potentially crucial properties of the 'glue' that holds organizations together" (Weick, 1976).

Therefore, the two cases represent two different contexts with several particularities that require further investigation.

Weick explores the loose coupling concept by disaggregating the certification and the control stages of operations. The author asserts that "certification" is about the clear definition of who can do things, and who cannot do it, and to whom, and also the specification of who are the customers. It is more related with Gap 2 identified by Zeithaml *et al.* (1990). "Inspection" is concerned with the question of how well is the work done, and so more associated with Gap 3 synthesised by Zeithaml *et al.* (1990). Therefore, "there can be either loose or tight control over either certification or inspection" (Weick, 1976).

Research propositions

Several propositions emerge from the literature:

1. Specifications have a coordination role and as such they evolve over time.
2. The nature of a specification is likely to vary depending on whether the organisation provides a highly customised service or whether the organisation handles service to high volumes of customers.

   The differences in the specification's nature can be decomposed in the following issues:

   - A tight specification will be a clear form of articulated knowledge about process or output standards
   - A loose specification will be a description or other pictorial tool, which strives to communicate tacit knowledge, and consequently tends to rely on the standardisation of skills and knowledge.
3. A loose coupling can exist on the definition stage or on the execution process. So, it is possible to find organisations that have loose specifications and loose control over its execution, organisations which loosely define specifications, but that present a tight control over the execution, and the situation where tight specifications settled and tight control is done over the execution.

An Exploratory Study

This study does not seek to deal comprehensively with all, or indeed any, of these propositions but attempts simply to take a first, tentative step, in exploring the key differences between a service specification in a mass service and in a professional service.

The researchers interviewed top and middle managers of two banks, one in Portugal that provides professional and customised services, and another in the UK, which delivers mass-customised banking services (i.e. both high volume *and* high variety services at the same time). The semi-structured interviews covered the topics of the process and outcome definitions, and the control over those specifications.

Key findings

The mass services studied emphasised the standardisation of products, often justified by legal concerns, and of processes deemed necessary because of the size of the organisations. It was also argued by the company that in the retail-banking sector that it is important to have a basic product and operation that is clearly understood by the customer, and standardisation enabled that simplicity. In the professional services products were more flexible and differentiation was based on customisation (real or perceived) during interaction. These interactions were not standardised but quality (adherence to a 'specification') was assured by having employees 'naturally customer oriented' who worked in teams and were supported by appropriate. The technology provided the contact employee with all the information concerning a particular customer and his behaviour, and about the product details and cross selling opportunities. The team created the right environment for staff to listen to each other's contacts and learn from so doing. Ongoing training, and a culture of self-initiative and adult-to-adult help created a climate for 'wowing the customer' through personalisation of what are otherwise routine banking services.

Of particular interest in the mass customisation service is the challenge the company is facing providing services through the Internet. On the one hand, standardisation and the existent technology enable quality and speed. On the other hand, interaction and personality are limited and so it is the potential for differentiation and perceived customisation.

Contrasting these findings, in the professional service, it was argued that standardisation was impossible because each service provided was unique and all customers were different. Accordingly the professionals work with a high degree of autonomy. However, the organisation was confident of its service quality which it considered to be assured by the 'quality of the professionals'. It was said that exigent recruitment scanned for human and technical skills that guarantee the best performances. As each service delivery goes on over time, a relationship with the customer is maintained, and feedback is continuous. The control of the performance is easily done by this relationship, which is reinforced by the fact that professionals work in teams. While teams tend to be stable and so specialisation is likely to occur, a culture of seriousness and excellence rooted in its leader guarantees the organisation success.

In summary the key findings were:

- Tight specifications were primarily concerned with the banking products and were evident in all three organisations, mass, professional, and mass customised.
- Tight specifications were seen as necessary to support legal requirements and facilitate simplicity of operations and staff training (in product knowledge).

- Customisation was created in the professional and mass-customised service at the point interaction with the customer.
- Such customisation was either real customisation (i.e. flexibility of the product) or perceived (by offering the customer other services that were felt to be appropriate).
- Customisation applied in the professional and mass-customised services was loosely specified and were innate in the belief and behaviours of the individuals involved.
- Loose specifications were controlled by recruiting people with the right skills, on the job training and team working.

Conclusions

Contrary to expectations and the limited literature on this topic, both mass and professional services made use of tight specifications. Professional and mass-customised services created their customisation from the tightly specified base using skilled staff at the interaction with the customer. Earlier we quoted Blau (1971) who maintained that as organisational work becomes more complex and specialised the greater the need for a system of coordination. We would add that as work becomes more complex, through customisation, the need remains for tight specifications of core products and processes but greater and different means of coordination is required to 'control' or oversee the interactions with customers.

Until now, mass and professional service processes have been seen as distinct, at opposite ends of a continuum (Mintzberg, 1983 and Silvestro *et al.* 1992). We would suggest that they both may have mass-type tendencies with standardised and tightly controlled cores, and that professional services differ simply through customisation at some point, in these cases at the point of interaction.

The next phase of this on-going research will be to study two different service industries that provide both a mass and a professional service, a total of four case analyses. It is hoped that this multiple-case study will serve to understand in more detail the differences in service specifications in the two types of services, and how they are designed and controlled.

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