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**Service Design:  
Imperatives, Processes and Communication**

**by**

**Michael John Shulver**

**A thesis submitted in partial fulfilment of the requirements for the degree of  
Doctor of Philosophy in Industrial and Business Studies**

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# Declaration

Except for commonly understood and accepted ideas, or where specific reference is made, the work reported in this dissertation is my own and includes nothing that is the outcome of work done in collaboration. No part of this dissertation has been previously submitted to any university for any degree, diploma or other qualification.

M. J. Shulver

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# Summary

This research was an investigation into the nature of new service design (NSD) activity. The thesis researched literature on NSD and established limits of its applicability. Also developed was NSD process and content theory outside such limits.

The research was a multiple site case study. At the level of case-sites the study used the interpretative approach called “explanation-building;” the development of narratives that explained data using concepts from the literature review. The “cross-case” analysis tested these theoretical concepts and allowed the emergence of new empirical categories, and the development of new theoretical categories and hypotheses.

Imperatives and stimuli for NSD were a mix of environmental pressure and pressure to deploy resources. Demand-side pressure for variety and the propensity of the resource-base to continually enhance capability mean that service organisations are inevitably exposed to resource or market risk.

The organisational response should respect the nature and extent of risk exposure; internal ‘imbalances’ between resource capability and market needs must be redressed in the NSD response.

The applicability of “stage-gate” models of NSD is limited to those contexts where the service is analogous to a manufactured good. In addition there are six other contexts with corresponding process ideals.

Unless the outcome of the NSD process is holistic, implementation problems are the result. Holistic NSDs include a strategic rationale, the proposed market offering, process implications and structural or infrastructural resource implications.

The initial configuration of NSD communication devices is dependent on the nature of the NSD process. If NSD is focussed on resource / process development then the vernacular of NSD tends to be resource / process descriptions. If NSD addresses exposure to market risk, then NSD constructs tend to be marketing devices. Thus during the NSD process the NSD need not be holistic, by the end of the process it should be.

# **Chapter 1 – Background to the research**

## **Introduction**

The aim of this short chapter is to provide a brief background to the research as well as an overview of the key research questions. The chapter begins by “setting the scene;” doing so by highlighting problems with extant research into design in the service sector. Next several research “gaps” are identified as is an outline of the path towards their closure; the thesis’ conclusion.

The chapter then moves on to provide an outline of the six remaining chapters of the work wherein extant literature is discussed, a research method is established, evidence is collected, and analysed, and conclusions are established.

Finally, the chapter includes some summary information on delimitation of scope of the research as well as key definitions and assumptions.

## **Service design**

Most contributions to the NSD literature come from the service management literature. Service Management itself probably became a recognised field around the mid-1980s (Brown; Fisk, and Bitner 1994) and was itself a subset of three overlapping fields of research: operations management; marketing and HRM. Within the service management literature by far the majority of writing on NSD, especially NSD processes was produced by service marketing academics. This research has typically explored the application of FMCG models of design to services and the



work implicitly limited itself to services that are “goods-like.” (Scheuing, E. E. and Johnson 1989;Bowers 1987;Bowers 1989) Even newer works in the Operations Management field (e.g., (Johnson and Menor 1997;Johnson; Menor; Roth, and Chase 2000;Edvardsson; Gustafsson; Johnson, and Sandén 2000)) accept uncritically this normative literature and assume that such models can apply in general service contexts. In the mid 1990s several Scandinavian authors developed conceptualisations of NSD, that were divorced from the goods models. (Edvardsson; Haglund, and Mattsson 1995;Edvardsson and Olsson 1996;Gummesson 1994;Grönroos 1994) However, all except Gummesson have reverted to earlier – goods like – perspectives in their current work. (Edvardsson and others 2000)

Perhaps the largest subset of the NSD literature is the success-levels literature. Key authors are de Brentani (de Brentani 1995;de Brentani 1989;de Brentani 1993) and Martin and Horne. (Martin and Horne 1995;Martin and Horne 1993) The work of all three authors is derived from large-scale statistical studies of NSD practice. As such they are useful in identifying potential theoretical variables. However, what such studies do not and cannot do, is develop relationships amongst the many endogenous variables – behaviours, processes, structures ... etc. – that in combination may lead to NSD success. Attempts to understand, benchmark and audit such variables have been carried out in the product development arena – for example (Chiesa and others 1996) (Coughlan and Brady 1995) – but no similar work has been done in the service sector.

Two streams of work that have had a major influence (Chase and Youngdahl 1992) on both NSD teaching and research are Shostack’s work on service blueprinting

(Shostack 1987) and Heskett's seminal material on the "service concept." (Heskett 1987)

### **The research gaps**

Viewing the development of NSD literature from a marketing perspective it appears to be relatively mature and the practitioner utility of extant theoretical concepts is rarely challenged. However, if one takes a holistic perspective on the NSD literature – one that includes an operations management perspective, and, to an extent a HRM one – then conspicuous gaps and shortcomings can be identified. Chapter 2 will show that current NSD process literature appears to be of limited applicability and these limits have not been established. Given that there are limits, NSD process theory and practitioner prescription outside such limits has not been published. Secondly, most NSD process literature is predicated on the assumption that NSD activity is explicit or "conscious" activity on the part of the service firm. However, evidence presented in Chapter 2 suggests that this is often not the case, and that service firms frequently "drift" into NSD. Given that problems, failure, service drift, accident or any other type of stimuli apart from firm intent may result in NSD, questions on the nature and impact of NSD stimuli should therefore be investigated.



## **This research**

Research in NSD has been piecemeal and largely unstructured, and as a result the research described in this thesis is largely concerned with theory development rather than theory testing. Therefore no simple research hypotheses are presented here, rather, to provide focus and structure, two guiding propositions are used:

1. That a general theory of new service design can be developed.

and specifically, that:

2. That the impact of design stimuli on service design processes can be understood.

These high level propositions are expanded considerably in Chapter 2 where they are developed into specific constructs that guide the research. In Chapter 3 they become a series of detailed research questions. Theory was developed from asking these questions of a multiple-site case-study in the European service sector and by carrying out a meta-analysis of previous research. The essence of the latter is reported in Chapter 2 and provides more detailed analytical frameworks that guided the case-study investigation. In the first proposition the use of the word general is crucial; it reflects the implicit – but not stated – limitations of prior research into NSD, and also emphasises that this research will explore NSD in a broad spectrum of contexts.

For both propositions theory was developed by mapping environmental and other NSD stimuli and the corresponding response in the form of NSD across case sites

that were outside the bounded contexts of previous research. The theory takes the form of a series of archetypal modes of service design, and for each archetype there is an associated NSD stimulus as well as a description of appropriate NSD processes.

## **The thesis**

After this introductory chapter, the five main chapters describe the research in detail:

### **Chapter 2: Literature review**

Chapter two reviews literature pertaining to new service design that has emerged in three main areas: operations management, marketing and human resources theory. Because this thesis has an operations perspective the operations section of chapter 2 is by far the largest. This section on operations serves also to provide a context for discussion of the service management field, within which most comment on service design resides. The Main conclusions of the review are that:

- the notion that strategy formulation – and its articulation as new services – should be primarily market-driven was challenged. Newer ideas balance the design imperatives from markets and competitors with an imperative – sometimes implicit – to “lever” resources into new market-spaces. New service design may be one of the key mechanisms for this “levering.”

- at the firm level – the tactical response to change pressure could either be "conscious" or "unconscious," and that the unconscious reaction of the service resources may be the reason why services seem to "just happen."
- the majority of the literature on service design processes discussed the design of goods-like outcomes. It was further argued that this area of research represented only a small part of a continuum of service design activity. At the other extreme of the continuum would be services that were not goods-like, were not easy to define or specify, that are such that their implementation would have a major impact on the service organisation. This argument was developed into the – hopefully self-evident – idea that the use of design process models is contingent on the nature of the service being designed.
- that there was little agreement on what should constitute a service design. Further, it was suggested that the constitution of the design was contingent on the type of design process adopted.

## Research Questions

Several research questions – including supplementary questions – of this thesis emerge from these conclusions and are listed below. Each of the three question areas is developed in a corresponding section at the end of chapter 2.

## Research Question 1 – design imperatives

*1. What are, and should be the imperatives to develop NSDs?*

Supplementary questions:

*1a) To what extent are environmental (external) or internal (resource) factors the imperatives for NSD?*

*1b) How should environmental or internal inputs be managed in the NSD process?*

*1c) What are, and should be the nature of tactical responses to NSD imperatives?*

## Research Question 2 – design processes

*2. What does, and should the NSD process look like in non goods-like service environments?*

Supplementary questions:

*2a) To what extent are stage-gate models used in NSD?*

*2b) Is the use of stage-gate, and other models of NSD contingent?*

*2c) If so, what are the contingencies of adoption?*

*2d) In particular, is the initial imperative for the NSD activity a factor?*

## Research Question 3 – NSDs / design communication constructs

*3. What is, and should constitute an NSD communication construct?*

Supplementary questions:



3a) *What influences the constitution of the communication construct?*

3b) *For a given service design, what effect does position in the design process have on the constitution of the design construct?*

### **Justification for the research**

Besides developing theoretical conclusions and questions on the nature of service design, chapter 2 also provides argument for carrying out research in this area. The following points summarise the conclusions of this argument:

1. In the context of increasing sector growth there remains a relative neglect in the literature on service creation, that is, service design.
2. Most of the debate in the service quality literature centres on the nature of perceived quality and the management of this perception. Management activity that remedies design failure is waste. Rarely considered is the management, *ex ante*, of encounter satisfaction and quality, that is, re-design and design.
3. In the creation of services, the specification of server capability and discretion is an important activity. Even in mass-services the design of dynamic server capabilities may be as, if not more, important than specification of fixed elements such as facilities, process maps and role-scripts. In many respects, servers manage the creative process that constitutes each unique service encounter. So the specifying the boundary of encounter roles and the training of servers in this micro-design management activity is also important.

4. Many services may be the subject of evolution as much as explicit design.

However, the portability of services, especially across-borders may be critically dependent on codifying service outcomes, processes and resource requirements.

These points and others are justified with evidence and argument in chapter 2, and support the conclusion that NSD is an important, but neglected area of research.

### **Chapter 3: Methodology**

Chapter 3 begins by reflecting the author's concerns about the logical form and epistemological basis of current research in the social sciences. These concerns are addressed in a methodological approach that is a compromise between the "hard science," or Popperian perspective on scientific method, and the more interpretative approaches often adopted in the social science and humanities fields. The chapter shows one way in which these two perspectives do not necessarily conflict, and can be merged.

The chapter then moves on to a discussion of appropriate research strategies and concludes that the most appropriate strategy to address the questions raised in chapter 2 would be a multiple site case study using qualitative data.

Finally the chapter explores the interpretation and analysis of case study data. The selected analytic strategies being appropriate to the evidence types: at the level of each case-site; the interpretative approach called "explanation-building" (Yin 1994) is used. The essence of this approach being the development of a narrative that both describes and explains the case-site data, and critically, does so using the concepts, frameworks and empirical categories emergent from the literature review. So the

case-site report is not just a description, but also an initial analysis. The next phase of analysis, the “cross-case” or case-study analysis is primarily “theory-building” (Flynn and others 1990) and is used to both test theoretical concepts discussed in the literature review, and also to develop general theoretical constructs on NSD.

#### **Chapter 4: Case site description and site analysis**

In chapter 4 seven case-sites were analysed individually using the investigative framework developed in chapters 2 and 3. In this chapter a “rationalisation” process also took place in which the data collected at each case site was presented using the NSD vernacular developed in chapter 2, thus allowing for easier comparison in chapter 5. The detailed rationale for choosing the case sites is presented in Chapter 3, but in essence the sites were chosen to represent contexts different – in fact “opposite polar types” (Eisenhardt 1989) – from that discussed in the extant NSD research. That is, contexts in which services were not goods-like, were not easy to define or specify and were such that their implementation had significant impact on the service organisation. The seven case-sites were as follows:

##### **All Bar One**

This case concerns the design of a new type of bar; “All Bar One” for the Bass Taverns group. The bar was designed to appeal to a young, white-collar clientele – office workers, secretaries and young managers – and in particular, was to be female friendly. The bar was designed to attract a good proportion of men as customers but in an environment that would be safe for women.



## Big Pit

Big Pit is a former National Coal Board [NCB] coal-mine, that is now used to tell the story of coal-mining in South Wales. Big Pit is owned and managed by the Big Pit [Blaenafon] Trust Ltd.. The Trust's activities include mine tours, surface exhibits, a retail shop and a cafeteria. This case explores the design of both mine tours and the ongoing design of surface facilities.

## NatWest Lending Centres

At the time of writing NatWest Retail Banking Services was one of the leading financial service businesses in the UK. It delivered a wide range of services to individuals and small business customers through around 1,750 branches as well as by telephone and a network of ATMs. The case looks at how the bank designed a generic retail credit and lending management centre that was to be built at ten sites across the UK.

## Earth Galleries – Natural History Museum

In 1985 the London Geological Museum was inherited by the Natural History Museum in Kensington, London. As a result the Geological Museum acquired a new mission and a new target audience. This case concerns the museum's response to its changed environment in terms of the design and development of several galleries within the (now) Earth Galleries.



Renaissance Solutions Inc.

Renaissance Solutions' was a management consultancy founded by Robert Kaplan and David Norton. Kaplan and Norton were famous for their series of papers on "The Balanced Scorecard;" the result of research called out in the 1980s and early 1990s into the design of strategic control systems. The case explores the development of a new consulting service based on the Balanced Scorecard idea.

Sofitel

This case analyses the design of a new customer loyalty card and programme, "Exclusive Card," at Sofitel; an international hotel network based primarily in mainland Europe. Sofitel is part of "Groupe Accor," and is the group's premier hotel brand providing hospitality service at the 5-star level.

Wolverhampton NHS Healthcare Trust

Wolverhampton NHS Healthcare Trust provides primary care services to the community of Wolverhampton and its environs. One of the service portfolios that the Trust felt it was delivering badly was learning disabilities services. The Trust set about re-designing Learning Disabilities services and the case report covers both the re-design and implementation of the new service(s).

Each case-site is approximately 3000 words in length. Their inclusion in the main-body of the text as opposed to an appendix could be questioned. The response would be firstly that the case-site reports do not just provide the "meat" of the analysis, but are an integral part of it. The analytical framework developed in chapters 2 and 3 is first applied in the site-level investigation of chapter 4. Secondly, a great deal of the

contextual richness that results from the writing of in-depth, qualitative case reports can only be communicated by exposing the continuous narrative of the cases themselves.

## **Chapter 5: Cross-case analysis**

In chapter 4 analysis was carried out at the level of each case-site on the three main question areas. In chapter 5 the level of analysis shifts to the overall case study. The chapter initially presents the analysis under each research question area separately. However, there is inevitably a degree of overlap amongst these questions. In particular the first section on NSD imperatives strays into discussion of organisational responses to such imperatives. Theoretical propositions derived from the analysis are presented in the 2<sup>nd</sup> half of the chapter. These are a suggested typology of general modes of service innovation and NSD, along with contingencies and appropriate processes for each mode.

In essence chapter 5 was where an attempt was made to answer explicitly, using the case study, three key questions about design and innovation in services:

1. what stimulates / drives design activity in services?
2. what is, and should be the organisation's response – in terms of NSD process – to these stimuli?
3. what is the vernacular of NSD, that is what communication constructs are used in, and produced at the end of the NSD process?

The findings were as follows:

The initial stimulus for innovation was usually an “imbalance” between resource capability and market needs. Across the study, external threats and problems that might necessitate NSD activity were many and varied. However, at the level of the “next cause” there was a degree of commonality amongst case sites. At all sites the initial change stimulus highlighted a misalignment of the separate elements (service strategy, service concept, service processes, structural and infrastructural resources) of the service, and service design activity appeared to be an “adjustment and alignment” activity, wherein these service elements realigned. The service organisation is balanced between – broadly – two risk categories. Market risk and resource risk. Perturbations can then be seen as exposure to one or more risk groups, and the design activity is the actions of the firm in attempting to minimise such risk.

The risk trade-off viewpoint provided a basis for a typology of service design modes. By categorising service design modes on the basis of the type and extent of risk exposure structure was imposed on a seemingly infinite variety of innovation modes and processes. The risk perspective highlighted seven broad types of service design / re-design modes. Crudely, service organisations can either:

1. Develop new marketing concepts within the constraints of existing processes.
2. Develop new marketing concepts that necessitate a degree of process change.
3. Develop marketing concepts that require significant changes to, or development of new processes and other resources.
4. Adopt the minimum risk path to the new service. That is, they can develop service and service process concurrently.



5. Improve processes but without the need for significant re-branding or re-marketing.
6. Develop new processes that will necessitate new marketing concepts.
7. Develop both processes and other resources to the extent that new marketing concepts *and* strategic re-evaluation is required.

Obviously the long-term innovation path can involve a combination of these archetypal modes. The archetypal innovation modes also offered a new perspective on the types of process model that might be appropriate for each mode and the chapter concluded by discussing these process types.

## **Chapter 6: Conclusions, reflections and further work**

This chapter begins as a concluding chapter in the “traditional” sense, in that it does little except explicitly and formally answer the research questions. The chapter does so by repeating the research questions and supplementary questions of chapter 2 and provides answers by extracting and interpreting – sometimes at a “meta” level – the analysis of chapter 5.

The second half of the chapter reflects on the intellectual and practical journey that the PhD represents. Discussed will be those areas of the research and write-up that, with hindsight, would have been handled differently, as well as those areas where the author has concerns over conclusions, method, epistemology ... and so on. Chapter 6 also includes a discussion of emergent empirical and theoretical issues as well as those areas that were – in chapter 2 – identified as important areas of NSD research, but were because of space constraints excluded from the main analysis.

Related to this issue is the subject of future directions for NSD research, in particular, research building on the ideas in this thesis. Therefore a section of this last chapter is dedicated to future work. Finally, the chapter explores the practical implications of the research and offers some comment on potential applications of the research's findings.

## **Definitions**

Definitions adopted by decisions are often not uniform, so key and controversial terms are defined in this section to establish the position taken in this research.(Perry 1994)

### *Design:*

a preliminary plan, sketch , or concept, for the making or production of an artefact  
the process of producing these (Thompson 1995)

*Innovation:* the general (and ongoing) process of change to organisations, products, services and processes (Tidd, 1996; Damanpour, 1991, Corbett, 1994).

## **Delimitation of scope and key assumptions**

In attempting to delimit the scope of the research here reported one of the most challenging issues concerned the separation of design activity from the inevitable and ongoing change in service organisations. The original intent – discussed in detail in chapter 3 – was to focus on specific NSD projects. However, it became apparent during the evidence collection phase of the research that the case-sites rarely provided such clear-cut distinctions between the “main” design project under investigation and smaller-scale and ongoing NSD. In the end it was apparent that no general rule could be applied. Instead the researcher relied on his discretion and reported the logic that limited the scope of each case-site report within the report itself.

Another delimitation discussed in chapter 3 but worth summarising here concerns the range of issues – pertaining to NSD – and the range of organisations that would be discussed in the thesis. The researcher’s time and material resources were not a major influence on the scope of the work, nor was access to case sites. The researcher had ample time and funding for interviews, and organisations provided excellent access to both staff and material. Methodological considerations aside – see chapter 3 – ultimately, it was the word limit for the dissertation that provided the most useful guide in defining limits to the research.



So then, whilst discussed at length in chapter 3, it is as well to state these explicit boundaries to the research problem:

The research will be a seven-site case study looking at, where possible, discrete NSD projects. Selected sites will be of the “opposed” polar type to those already explored in the extant NSD literature, viz. large-scale NSD projects in service-shop or professional service environments. Data will be interpreted by “explanation building” and this will be followed by theory development based on the “grounded theory” approach.

The specific research questions are:

- 1. What are, and should be the imperatives to develop NSDs?*
- 2. What does, and should the NSD process look like in non goods-like service environments?*
- 3. What is, and should constitute an NSD communication construct?*

Theoretical constructs developed to answer these questions will initially be bounded to the case-site context, however, when coupled with a meta-analysis of the extant NSD research they will be presented as general NSD theory.

## **Summary**

This chapter laid the foundations for the thesis. It introduced the research problem, research questions and fundamental propositions. Then the research was justified, definitions were presented, the methodology was briefly described and justified, the

thesis was outlined and the limitations / delimitations were given. On these foundations, the thesis can proceed with a detailed description of the research. Chapter 2 constitutes the first part of this description; a review of extant research on NSD, set in the context of more general research on service marketing, operations management and human resource management in the service sector.



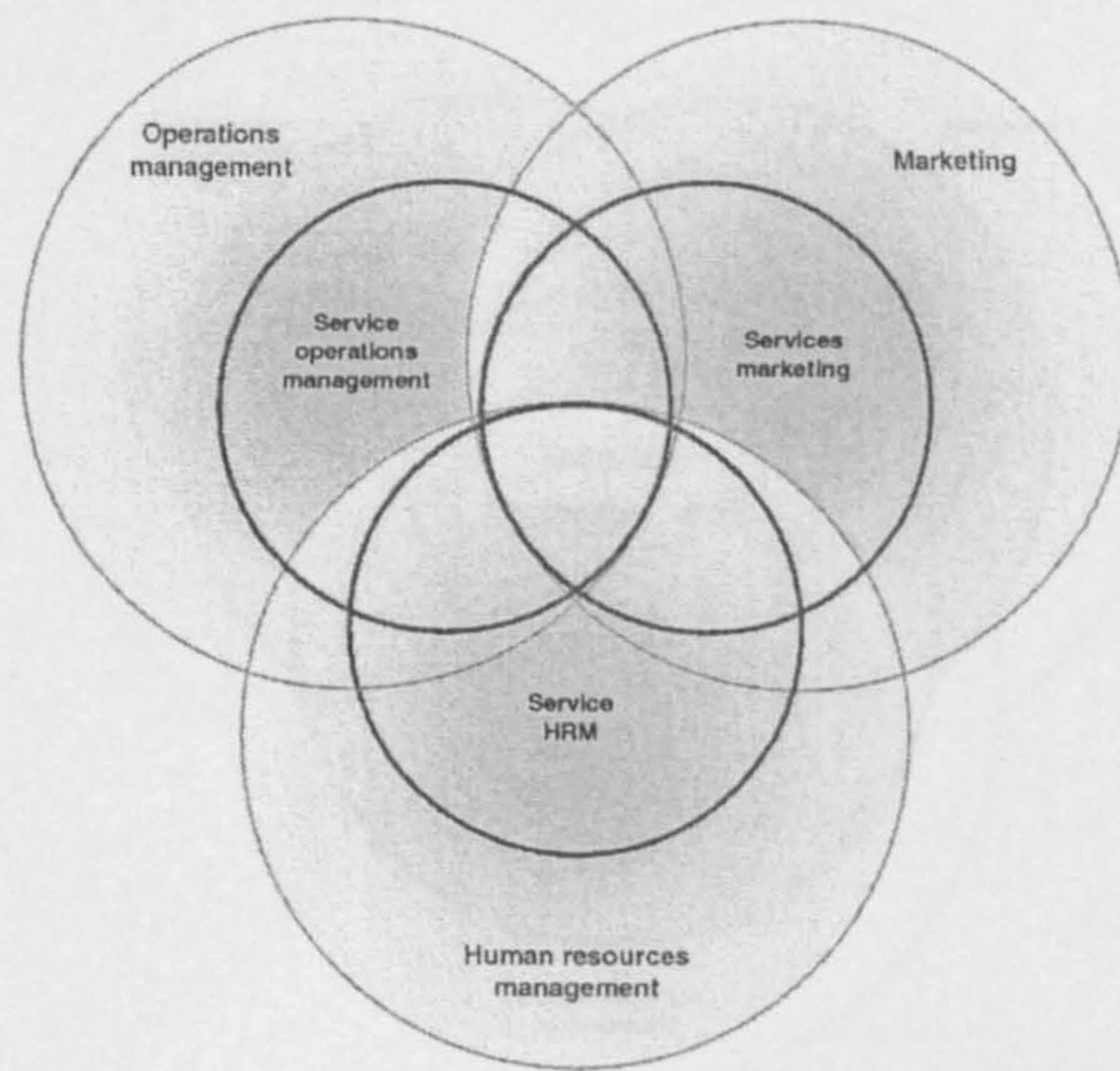
## Chapter 2 – Literature Review - Service design

The objective of this chapter is to review previous research on the theme of service design, and to set this in the context of general business management theory. A second objective of the chapter is to identify gaps in the body of knowledge on service design, and to raise questions on the limitations of previously published literature. The final objective is to establish the research questions of this thesis.

Three academic fields offered the majority of comment on the design of services. These were operations management, marketing and to a lesser extent (by volume), human resources management (HRM).

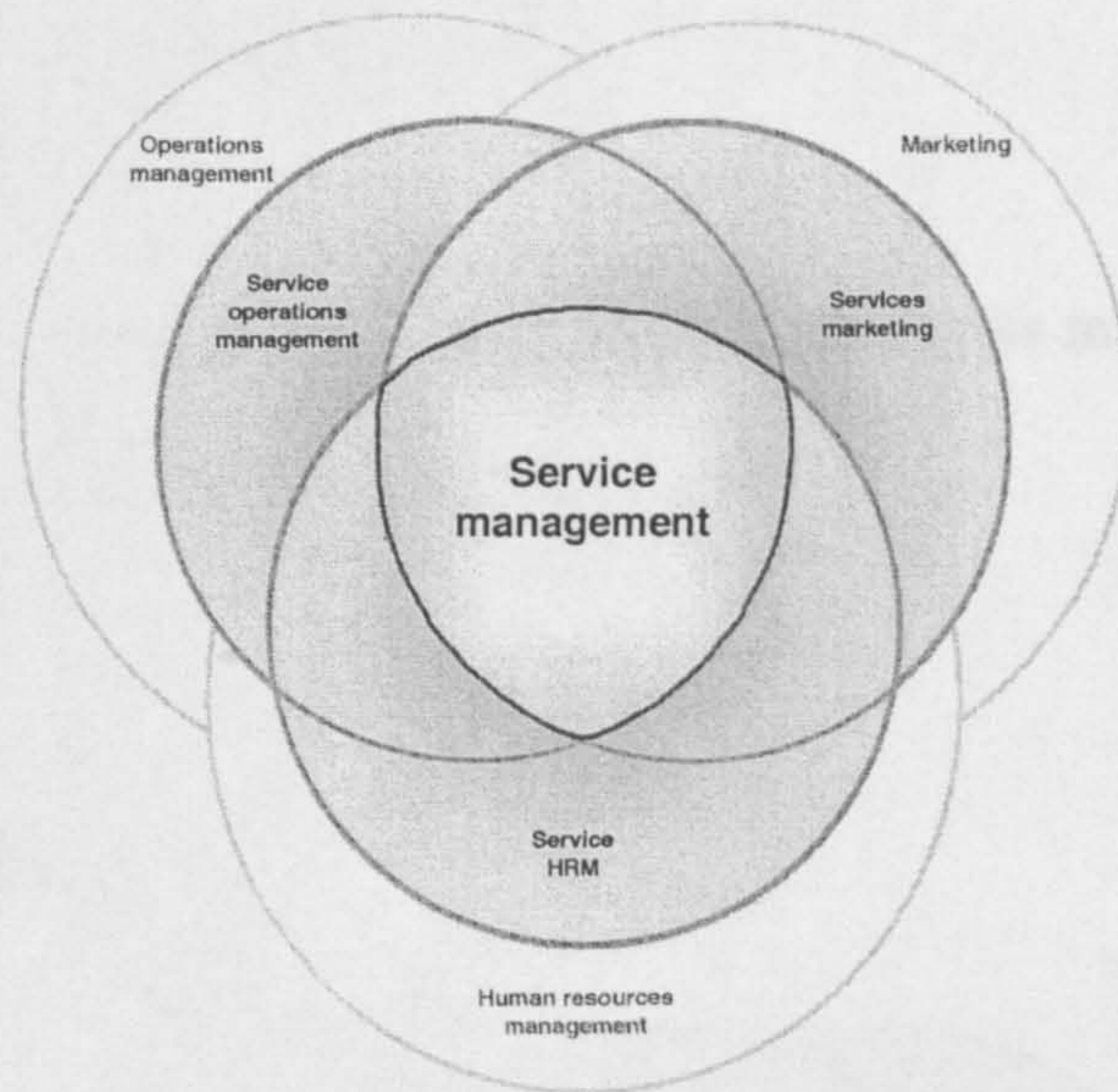
Specific sub fields of marketing, operations management and HRM were responsible for contributions to service design theory. Within marketing was the sub field of service marketing and within operations management was the area of service operations management. Academics in the respective fields have formally recognised both areas. Also apparent, though not perhaps not as widely recognised was the existence of a “services” subset of the HRM literature.





The last twenty years has seen rapid growth in contributions to the fields of service operations management, service marketing and service HRM. These linked fields are now of a size that suggests the existence of a new, cross-disciplinary academic field of "Service Management." (Johnston 1994; Gummesson 1994b; Grönroos 1994; Schneider 1994; Brown; Fisk, and Bitner 1994)





Most comment on the immediate discipline of service design sits within the parent service management theory. The cross-functional nature of service management therefore gave the researcher a choice of perspectives from which to approach these parent and immediate disciplines. These are obviously the marketing, HRM and operations perspectives, or any of these in combination.

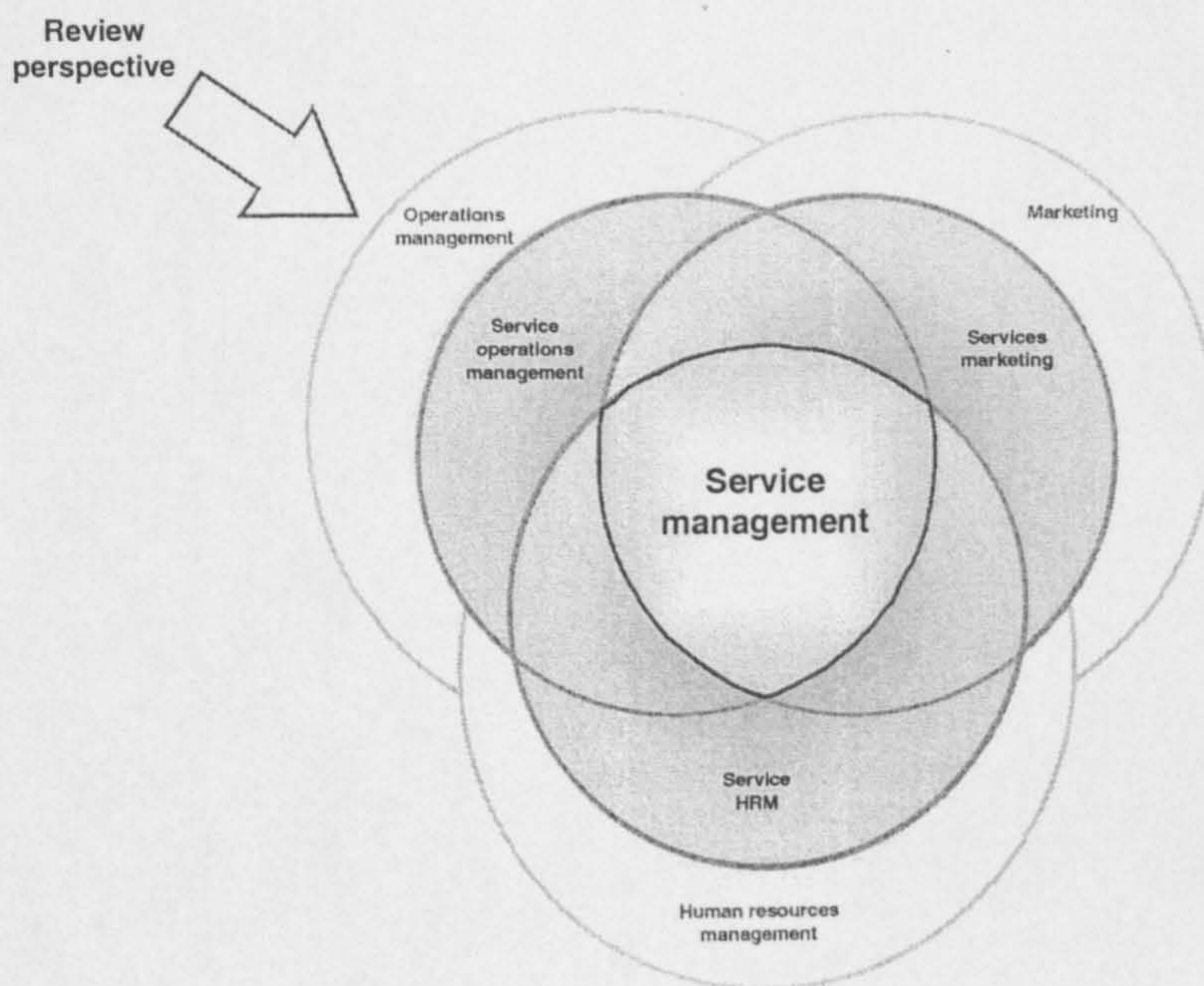
The literature review approaches service design from an operations management perspective for two reasons:

Of the possibly unanswered questions relating to service design, the ones that had the most intuitive appeal concerned the design process. These were the questions concerning processes for; transforming an existing service into a new service, and; creating a new service from nothing. Operations management is concerned largely



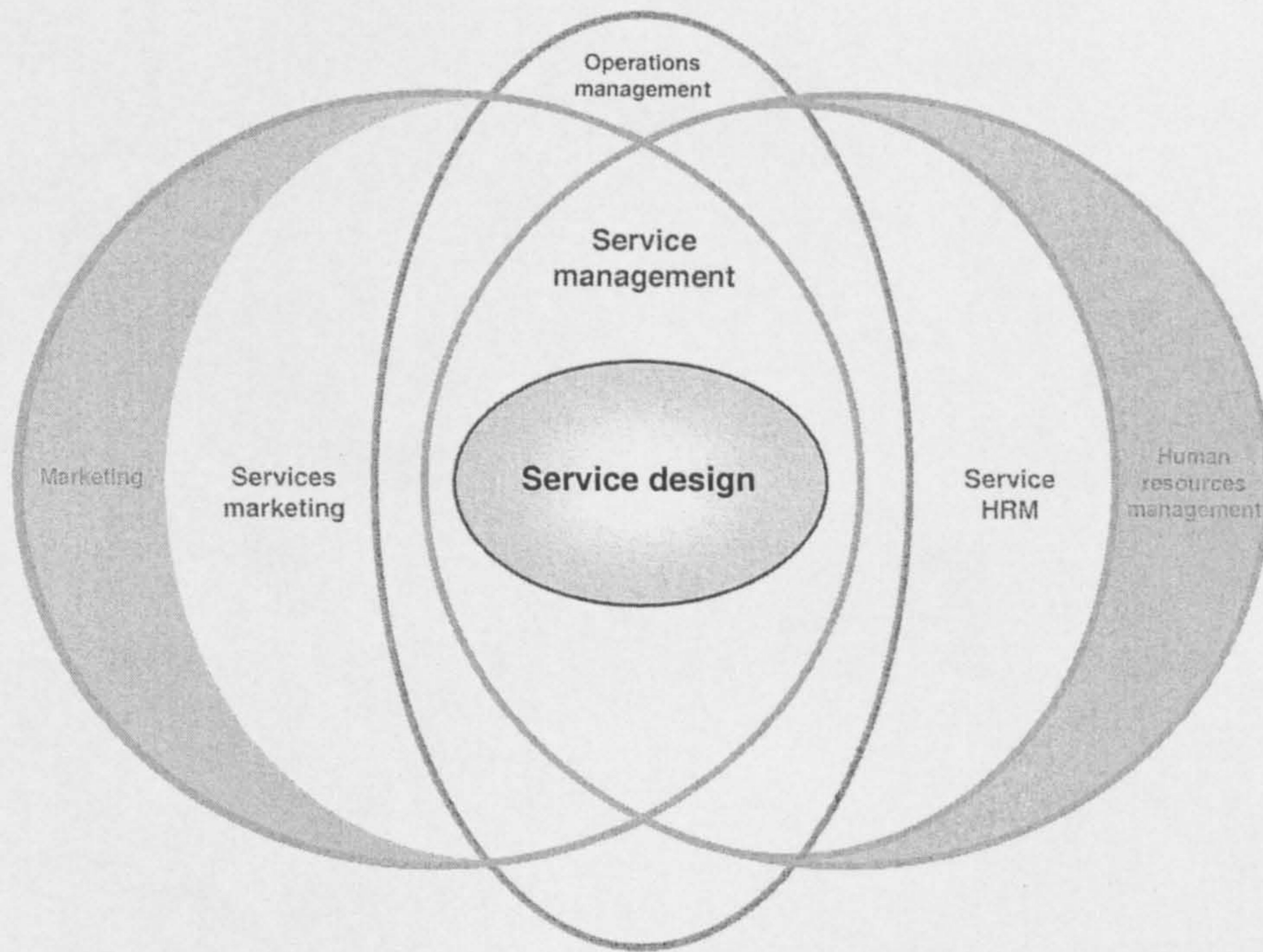
with managing processes. (The assumed importance of questions concerning service design processes is justified later.)

This author has worked as a practitioner in operations management, and at the time of writing was an academic in this field.



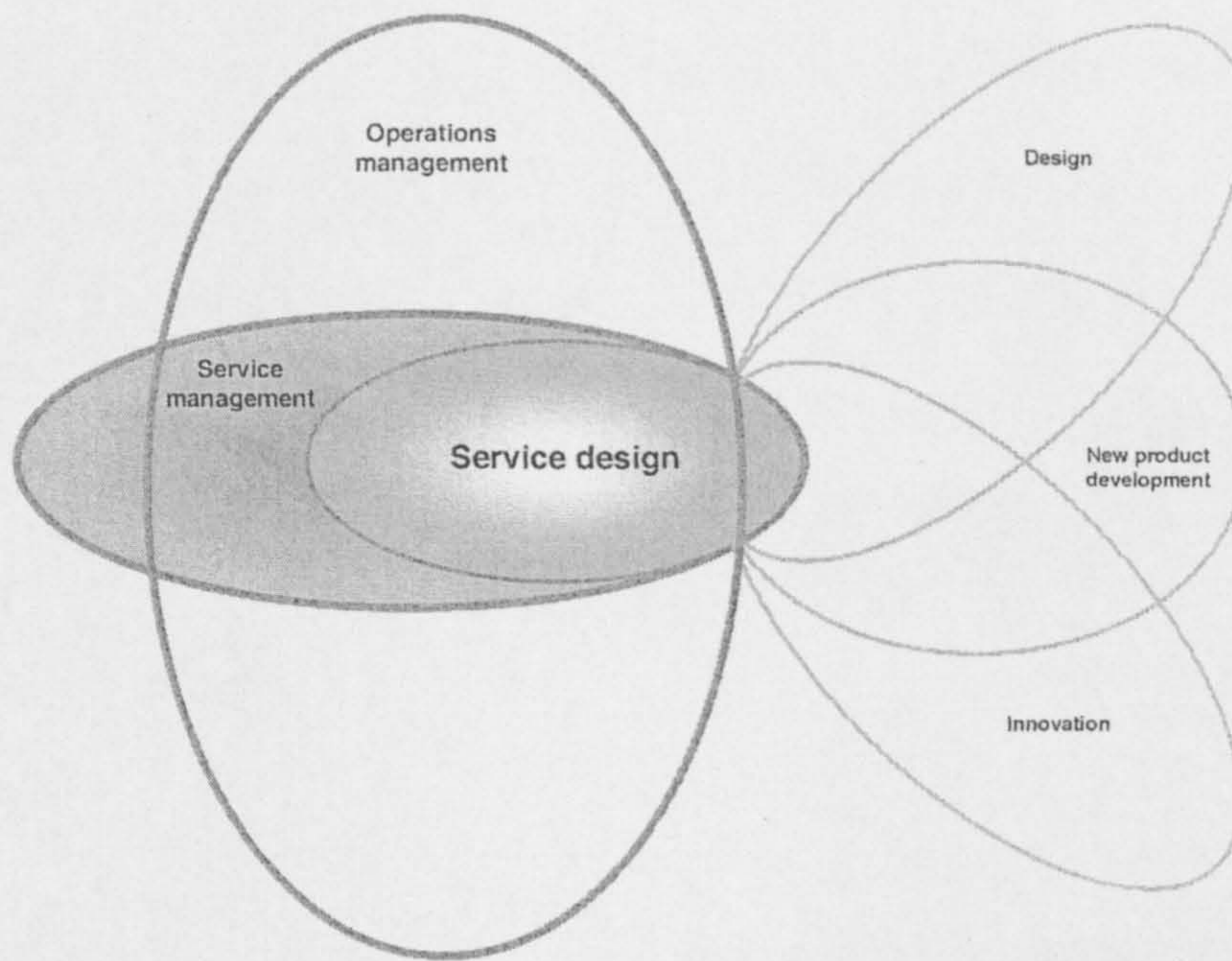
The above considerations allowed the researcher to further structure the literature review. The subject of operations management receives a brief overview to provide context for the review of the parent discipline, service management. Following the overview of operations management is some background material on the emergence of service marketing and service HRM. Next reviewed is the service management discipline followed by a review of service design literature.





The chapter occasionally visits the related literatures of product design, new product development management, and product innovation. Each of these literatures is much larger than the service design literature. They are not subject to thorough review, rather they are used to shed light – where appropriate – on grey areas of the service design literature.





## Operations management

This section briefly introduces operations management and sketches its recent development. The section also outlines the direction of current and future concerns in the field.

### **What is operations management?**

“Operations Management” by Slack et al.; the leading European text in operations management describes operations management as the management of creative processes. (Slack; Chambers; Harland; Harrison, and Johnston 1998) The content of Slack et al. addresses the design, planning, control and improvement of operations in both service and manufacturing organisations. Most other currently available texts in operations management discuss broadly the same issues. The authors of these texts



claim they are set in manufacturing and service contexts (Buffa and Sarin 1987;Chase 1995;Evans 1993;Krajewski and Larry 1996;Hill 1991;Muhlemann and Oakland 1992;Wild 1995) however, it has been argued that a manufacturing bias prevails. (Johnston 1994) (Johnston 1999a) Johnston's view is easily supported; the seven texts referenced above, reveal, with the exception of Chase, less than twenty percent by volume as "service oriented." A little over fifty percent of the content of Slack et al. is service oriented.

Similar bias exists in operations management journals. A typical example is the journal of the European Operations Management Association, "The International Journal of Operations & Production Management." Perusal of the issues for 1987 – 1997 revealed 93% of the 900 or so articles were predominantly concerned with manufacturing. This finding echoes Johnston's view that in operations management articles, the emphasis is on; "internal efficiency, (a) quantitative (orientation) and manufacturing." (Johnston 1994)

### **Specific operations management subjects**

Two related operations management philosophies have seen widespread acceptance and development between both practitioners and academics in the 1980s and 1990s. These are just in time (JIT) and total quality management (TQM). Manufacturing organisations were the main adopters of JIT approaches. However, certain TQM precepts have seen widespread adoption by both manufacturing and service businesses. (Silvestro 1995) Quality management continues to be the most discussed theme in operations management literature. (Wild 1995) Consistently viewed as

important in a recent survey (Sower and others 1997) of operations management “classics” were quality texts. Seen as major contributors to the field were names such as Joseph Juran, W. Edwards Deming and Philip Crosby. Awards such as the European Quality Award and the Baldrige National Quality Award in the U.S. continue to develop practitioner awareness of quality concepts. (Wild 1995)

Manufacturing and Operations Strategy paradigms developed in the 70s and 80s addressed the notion of focus and trade-offs in operations. The argument went that operations cannot excel on all performance objectives and therefore managers must develop focused operations. The focussed operations could then carry out a limited range of tasks “very well.” (Wild 1995) (Slack and others 1998) Manufacturing and operations strategy remains the subject of much discussion in operations management; in 1996 the annual conference of the European Operations Management Association was dedicated to the subject. Some authors (for example, (Hayes and Wheelwright 1984; Hayes and others 1996) (Slack and Lewis 2000)) suggest that the development of “operations strategy” shifted perspective from the idea of the operations function as strategy *implementers* (Skinner 1985) to one where operations are involved in *formulating* strategies. Johnston contends that the operations function is as a result becoming more outward facing and is working more closely with other functions. (Johnston 1994; Johnston 1999a) Johnston also argues that the strategic imperative discussed earlier is forcing the increasing “servicisation<sup>1</sup>” of operations management. He suggests along with many other

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<sup>1</sup> Also known as “servitisation” (Vandermerwe and Rada 1988).



authors, that; “service, how the goods are delivered to the customer and how the customer is treated, provides many manufacturing organisations with a competitive edge.” (Johnston 1994;Johnston 1999a) (Chase and Hayes 1991) (Reichheld and Sasser 1990) Attending to “how the goods are delivered” necessitates increasing emphasis on the internal customer – supplier relationship and internal service transactions. This change is a shift from concern with a particular element of the internal transaction; the internal exchange of tangibles, to a more general perspective in which both tangibles and service elements are considered holistically.

“Servicisation” then, represents a “coming of age:” the simplistic and “transaction of tangibles” emphasis that characterised most 20<sup>th</sup> century operations is changing to consideration of the *totality* of a series of interactions. Alongside the increasing internal (firm) awareness of the importance of services, there is also a growing recognition of the important role of services in world economies. In Europe 59% of employment is in the service sector and in the UK it is close to 70%. Services also account for similar percentages of GDP. (Dibb and others 2000)

In operations management journals, articles on functional integration, both amongst operations and other business functions, and amongst functions internal to operations, represent a small proportion of the total. The majority of articles being concerned with the optimisation of individual operations functions and processes. For example the 1997/98 issues of the European journal; “The International Journal of Operations Management,” include some eight percent of articles that could be viewed as “integrative,” whereas in the US journals (Journal of Operations

Management, Decision Sciences) the figure is even lower, around five percent. These figures may not be surprising; an integrative article may have much value and meaning, but might find it hard to compete for journal space with “robust,” “functional optimisation” papers.

However, there are some successful examples of the shift in perspective from “functional” to “integrative and holistic”; an extreme example being the Business Process Re-engineering (BPR) literature. BPR challenges traditional functional perspectives in business and operations management and forces managers to take a “process perspective.” This perspective enables them to appreciate the connections between each functional specialisation required to meet the needs of the external customer. The “connections” being very much the services, in particular the service transaction protocols that ensure smooth and seamless flow to the customer. For most of the nineties BPR has been of interest to operations practitioners as well as academics. Several well-publicised successes generated the interest. These included: Rank Xerox UK, Digital Equipment, IBM, ICL and Levi-Strauss. (Davenport 1993) (Hammer and Champy 1993) Radical or step changes in management practice and processes characterise the BPR approach to improvement in operations. (Hammer and Champy 1993) This approach contrasts markedly with the incremental approach to improvement proposed by the TQM and JIT philosophies.

Regarded by some authors (Lamming 1999;Cox 1997) as another holistic perspective, Supply Chain Management claims to look at the total chain of exchange in business. This chain going from the original source of raw materials, through



manufacturing, assembling, distributing and retailing to end customers. However the last ten years worth of supply chain management research, as reported in the mainstream operations management journals, reveals a literature largely concerned with dyadic relationships between purchasers and suppliers. Elements of service are considered in the Supply Chain literature; in particular transaction protocols to ensure mutual learning (and usually control) (Cox 1997;De Toni and others 1994) and perhaps most importantly, the upstream extension of visibility and control for risk management purposes (Lewis 2001).

Several authors (Bartlett and Ghoshal 1986;Bartlett and Ghoshal 1987;Väläkangas and Lehtinen 1994;Bradley 1991) explore the migration of operations capacity to countries outside the “home” base. Seen as an inevitable result of the requirement to reduce costs, such internationalisation often means relocation to developing economies. Other benefits will include market access and organisational learning opportunities. (Bolisani and Scarso 1995) An extreme variety of strategies and possible solutions exist for internationalising operations (Bolisani and Scarso 1995) mainly a result of intense and ongoing research into the areas of cost reduction and market access. Excepting the area of technology acquisition, less researched is the opportunity for organisational learning via internationalisation. (Bradley 1991) Internationalisation may in some respects be a consequence of the “commoditisation” of core manufacturing operations. That is, after decades of applying JIT and TQM philosophies the “rules” for optimising the productive process are well established and documented. This means that manufacturing firms are less reliant on regional skill-sets, and core-manufacturing operations are

relatively easy to transfer to regions with low labour and structural costs. Thus internationalisation reduces the importance of manufacturing to being an area for cost reduction, and the remainder; service, may become the main area in which firms can lever value.

Performance measurement has attracted the attention of many authors over the last decade. Previously the subject resided in the domains of operations management and management accounting. However, since the publication of Kaplan and Norton's series of papers on the Balanced Scorecard (Kaplan and Norton 1992; Kaplan and Norton 1996b) the subject has been seen as one that requires both a strategic and holistic approach. (Olve and others 2000) Kaplan and Norton's ideas about strategic alignment of measures, relevance and strategic control were not new. Many of their ideas can be traced to earlier authors such as Anthony and Dearden (Anthony and Dearden 1980), or even – if clothed in rather complex language – in Oliver Williamson's transaction economics work. (Williamson 1975) However, Kaplan and Norton presented several key principles underpinning measurement and control system design that *in combination* were both novel and intuitively appealing. One serious problem with Kaplan and Norton's work – as it was presented in their early papers and book (Kaplan and Norton 1996a) – was the absence of any link between measurement systems and action. (Neely 1998) This lack was addressed by practitioners in the mid to late 90s but it was not until 2000 that Kaplan and Norton updated their own work. (Shulver and others 2000; Kaplan and Norton 2000) Secondly, the Balanced Scorecard approach, in its pure form, only considers the



interests of secondary<sup>2</sup> stakeholders as indirect inputs to the strategic decision-making process. In a world in which stakeholders such as regulators and pressure groups are achieving significant power and influence, some authors argue that this somewhat arrogant approach is inappropriate. (Kennerley and Neely 2000) Neely's "Performance Prism" approach addresses these concerns by broadening the scope of performance measurement and management. (Neely and Adams 2000; Kennerley and Neely 2000)

### **Future trends**

One major contribution to cost reduction in internationalisation is the location of manufacturing capacity in areas with environmental regulation that is less stringent than the "home" country's. International legislation however, may force operations to apply home country regulations to all operations, whatever their location. (Grove and others 1996) Today, most companies in the developed world are under pressure to address environmental concerns. By the end of the century, environmental expenditures could reach a total of 3-6% of revenues, an increase on current expenditures of around 75%. (Gupta 1995) Operations managers deal with most activity in organisations. Therefore, by default they manage the greatest sources of pollution and other environmental damage. (Curtin 1996) Operations managers also however have the greatest potential to develop and manage systems to alleviate and prevent environmental damage. Such "green operations challenges" will include designing environmentally sound products and services, waste minimisation

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<sup>2</sup> Groups or individuals other the senior management team and the organisation's owners.

programs, pollution prevention, recycling and ensuring sustainable raw-materials development. The latter requirement to exploit raw materials in a sustainable way is a further incentive for operations managers to take a network, or supply-chain perspective. (Bhat 2000) The “greening” of the supply chain being in many respects the creation of a “closed loop” supply chain. Closing the supply chain loop will necessitate development of new operations functions, but also the development of new behaviours, as well as protocols for such behaviours, that is, services.

### **Operations management – summary**

In more than one way, it appears that operations management has changed from what was historically an inward-looking discipline to an outward-looking one. The attention to process epitomised by developments like JIT, TQM and BPR is still an important concern in the discipline. However, what once was a focus wholly on internal efficiency in manufacturing, is now becoming, albeit slowly, a broader concern for managing total efficiency, quality and, in recent years, sustainability. The attention to process has also therefore, developed into a concern with the *whole* process. Overarching this shift from special to general operations is service. Service processes can be seen as the general cases that *include* core manufacturing processes, and service transactions are the general transactions, a constituent of which are goods transactions. The change in focus has also applied to the series of customer / supplier interactions, extending beyond the traditional firm boundaries to include the total supply chain. Operations management is also concerned with managing beyond the “now.” Operations are becoming less concerned with managing transactions with

suppliers and customers and more concerned with developing ongoing relationships. Environmental concerns are also forcing operations managers to look beyond the firm / customer transaction; managers and academics are increasingly therefore, concerned with the eventual “closing of the loop” in the supply chain, and the recycling of both products and service waste.

The development of Service Management as a discipline may be a key factor in the move away from a discrete product and transaction emphasis. The increasing attention paid to service management by both academics and practitioners is testament to this. So, service is important, increasingly so.

## Service marketing

This section briefly introduces the subject of service marketing. Then the section explores some topical service marketing issues, and ends with a short comment on future trends.

### **What is service marketing?**

Services marketing did not exist as an academic field in 1970. However, by 1990 the field was a fast-growing sub discipline of marketing. (Berry and Parasuraman 1993) In its early days the field addressed traditional marketing concerns from a service perspective. These included; identifying customer needs and wants, defining and measuring their importance, determining target markets and deciding which services can best serve them. (Zeithaml and Bitner 1999)



General marketing textbooks currently popular in the UK on undergraduate and postgraduate courses revealed very little integration of service management issues. (Dibb and others 2000;Kotler 1999;Doyle 1994) Typically these texts contained one chapter dedicated to service marketing. Limited discussion of products' service aspects occurred in the main body of the texts. Stated at the outset in some texts was the idea that the concepts discussed in relation to products were applicable to services. Usually a "services chapter" would then discuss some differences between goods and service marketing. (Mercer 1996) As will be seen later, the assumption concerning the service sector applicability of goods-marketing models may be invalid.

Current marketing journals reveal a service marketing content similar to that for service management in operations management journals. That is, about 7-9% of all journal articles discussed service management issues (see for example: Journal of Marketing Management and Journal of Marketing). This compares favourably with the position between 1980 and 1985 when the Journal of Marketing published only four such papers in total. A publication dedicated to service marketing appeared in 1987, "The Journal of Services Marketing." The same year also saw the start of the International Journal of Service Industry Management, a general service management journal that featured many service marketing articles. In the last decade several texts appeared with the phrase "service marketing" or similar words in the title. (Bateson 1995;Lovelock 1995;Grönroos 2000;Zeithaml and Bitner 1999)(Bateson, 1995a; Lovelock, 1996a; Grönroos, 1990; Zeithaml, 1996)



The last ten years has seen explosive growth in the service marketing literature. Topics now include; quality, design, process control, capacity management, demand management, supply management and organisational issues. Also reflected in the literature is the cross-functional nature of service marketing practice; these days, service marketing journals frequently explore operations and human resource issues. (Brown and others 1994)

### **Specific service marketing subjects**

Service quality is the area that receives most attention in service marketing literature. Debate focuses on four main areas: the nature of service quality, how to develop service quality, how to implement service quality, and finally how to assess service quality. (Rust and Oliver 1994;Brown 1991) A milestone in the growth of the service quality measurement literature was the development of a conceptual model of service quality by Parasuraman, Zeithaml and Berry; the “Gap” model. (Parasuraman and others 1985) Underpinning the Gap model is a unified definition of quality as the degree of fit between customers’ expectation of the service and their perception of actual performance. This definition is unified in that it links the service provider’s domain – activities and systems aimed at meeting customer expectations – with the customer’s domain – their perception of received quality.

Built on the foundations of the gap model was the service quality instrument, SERVQUAL. SERVQUAL measures service quality on five “dimensions.” These are; tangibles, reliability, responsiveness, assurance and empathy. The developers of

the instrument proposed that customers create expectations of performance on these service “dimensions,” observe actual performance and later form perceptions of performance. The instrument compares perceptions and expectations through difference scores. For the “expectations” determination, the datum is an idealised excellent service provider. SERVQUAL was first developed in 1988 and there is ongoing argument over the applicability of the tool. (Parasuraman 1995) Also the subject of debate is the choice and exact meaning of the particular SERVQUAL items (Carman 1990) (Parasuraman 1995). A SERVQUAL component that may be of particular relevance to this thesis is the “management perception of consumer expectations of service quality.” It may be that focus on management *perception* may be a distraction from objective assessment of consumer expectations via such tools as Quality Function Deployment (QFD) (discussed later). This issue is analogous to the way JIT philosophies question the validity of the economic order quantity (EOQ) in inventory management. The JIT argument goes that an EOQ induces complacency, and discourages managers from questioning inventories *per se*. (Slack and others 1998)

Research in service satisfaction predates the emergence of the service marketing discipline. (Cardozo 1965) Brigham Young University is host to the annual conference on consumer satisfaction, dissatisfaction and complaining behaviour. Associated with this conference is an annual journal that typically includes about 11 articles per edition. (Hunt 1997) Analysis of the content of this journal reveals a preoccupation with managing consumer satisfaction by changed behaviours and improved systems, rather than by designing-out potential dissatisfaction at service



inception. Articles discussing customer satisfaction and dissatisfaction also appear in the mainstream marketing and service management journals (Crosby 1991;Johnston 1994;Johnston 1999a) and the same focus – on post hoc satisfaction management – prevails.

Management of service encounters and experiences receives considerable attention in the marketing and service management literatures. The prevalent assumption is that service encounters are important contributors to overall customer satisfaction, the perception of quality, and loyalty. (for example, see (Cronin and others 2000)) Much of the research focuses on interactions between front-line service staff and customers. In particular, the research on service encounters is concerned with:

- Managing customer and employee interactions and understanding how customers evaluate service encounters. (Schneider 1994)
- Customer involvement in service encounters. (Johnston and Clark 2001) (pages 92 – 97)
- The role of tangible elements of the service in particular the physical environment. (Bitner 1992;Brown 1992)

As with the literature on consumer satisfaction, the service encounters literature rarely explores design intent with regard to the processes surrounding and supporting the consumer interaction. With the exception of the design of “waits” (for example, (Durrande-Moreau 1999;Jones and Peppiat 1996)), design intent is usually considered in the context of tangibles and facilities design (for example, (Gremier

and others 1994;Bitner 1992)) and there seems to be an assumption that encounters are merely evaluated and managed. For example, the “scripting” of service encounters, whilst an everyday experience, receives limited coverage in service marketing journals. (Hubbert and others 1995;Bon and Pras 1984)

Brown argues that as customer expectations of services are on the increase, the result is front-line staff assuming the role of consultant and salesperson more frequently. (Brown and others 1994) Brown goes on to say that managing such encounters to maximise customer satisfaction, understanding of customers, and selling opportunities will be a ripe area for future research. However, two other potentially powerful approaches to encounter support are perhaps being neglected. One is role-scripting (Solomon and others 1985) as mentioned above, and the other is increasing the emphasis on explicit capability mapping and design. The latter has been explored in the manufacturing context (Lewis 1997) and in services the empowerment literature (Bell and Zemke 1990b;Bettencourt and Gwinner 1996) touches on capability design.

Relationship marketing and customer retention studies are concerned with managing the relationship between firms and customers to maintain loyalty. Some specific issues addressed by the studies include service recovery, service guarantees and customer defection. The argument goes (Boote 1998) that customer satisfaction is never going to reach 100% in services, so there will be a constant requirement for research into; complaining behaviour, managing complaints and the interactions between front-line employees and dissatisfied customers. Once again, the research in



these areas largely concerns managing consequences of system or consumer failures. (Boote 1998) Little attention is paid to the ex-ante removal by design of: potential failure modes; or of preventative maintenance.

Another area of current research; internal marketing, is a core research subject in operations management and HRM literature. Internal marketing is concerned with the notion that all staff and managers have a customer. Furthermore, these internal customers must “buy-in” to the service and “be happy” in their jobs if they are to deliver end customer satisfaction. (Dibb and others 2000;Kotler 1999;Doyle 1994) Though relatively new to marketing academics, such ideas are the established wisdom of operations management. Unfortunately, most work on internal marketing in the service marketing literature (for example; (Zeithaml and Bitner 1999;Bettencourt and Gwinner 1996;Lovelock 1995)) appears to focus on persuasion and manipulation of service staff rather than engagement via decision-making involvement. The management of service staff in creative or evaluative design roles is rarely addressed. (Gremler and others 2000)

### **Future trends**

The interest in service quality as a research area will undoubtedly remain strong. (Dick and others 2001;Gummesson 1994b;Johnston and Clark 2001) Shifts in emphasis seem to be mirroring those in manufacturing quality research. As the field matures, quality tools and techniques like SERVQUAL, are gradually being honed into more sophisticated instruments. (Newman 2001) Writers are also developing a

deeper understanding of concepts and terms in the service quality vernacular. For example, recent work on consumer satisfaction and dissatisfaction and the “zone of tolerance” (Johnston 1998) is producing precise definitions for terms that hitherto had been used loosely.

The ongoing argument over the exact meaning and relevance of SERVQUAL terms is in some ways distracting writers from developing new instruments to measure service. (Newman 2001) In 1991 Brown argued for a shift to more practical considerations such as studies of the links between quality and performance improvement, and business results. (Brown 1991) This call is equally valid today. (Newman 2001)

Designing-out consumer dissatisfaction and service failures will hopefully receive as much attention in future as the management of failure. There are already signs that this is happening, for example, the explicit and *ex-ante* management of encounter satisfaction by design is being addressed by the empowerment literature. Capability-mapping tools from the manufacturing competencies literature are seeing limited use in services (Mills and Lewis 1997), and these may have much potential for development as encounter-design tools. (Bettencourt and Gwinner 1996;Hubbert and others 1995)

The concept of the supply chain and its management – usually referred to as “reverse marketing” in service marketing parlance – has received virtually no attention by service marketing academics. (Ellram and others 1999) However, as more and more



services have process elements subcontracted, service marketing academics may need to develop this holistic perspective on the external elements of the supply chain.

Studies of technology infusion in services are thin on the ground. The increasing use and development of technology in services is inevitable and this demands research attention. (Walley 1995) Of particular relevance in this thesis may be the impact of new technology as a service design imperative.

### **Service marketing – summary**

In a way that is almost the reverse of changes in the operations management literature, the growth of service marketing literature represents a change in perspective from external to internal. Services marketing breaks from the traditional outward-looking focus of the marketing discipline to a more balanced perspective, where internal, relationship and supply-chain concerns are addressed. The largest research area, quality, is well developed but continues to be the focus of research effort. In particular the sub-fields of satisfaction / dissatisfaction and measurement are very active. Lacking in research attention is the notion of building-in quality from the inception of the service, that is, design quality. Other growing areas are crossovers into HRM literature and the encounters / experiences literature. Implicit in service marketing's emphasis on *post-hoc* management of quality, satisfaction, complaints and internal marketing is an absence of emphasis on how to; articulate design intent and manage *ex-ante* design choice. This lack runs counter to TQM tenets like "right first time." If the service marketing field is serious about the

quality message then it may need to urgently address a serious gap, that is, service design.

## Service HRM

This section briefly introduces the subject of HRM in the service context. Then the section explores some topical service HRM issues, and ends with a short comment on future trends.

### What is service HRM?

HRM concerns the policies, practices and procedures of organisations for the attraction, selection and management of employee(Zeithaml and Bitner 1999)s. HRM literature predominantly explores attraction, recruitment and, in particular, the administration of employees. The service HRM literature is also concerned with these issues but exhibits a bias towards management policies and practices for service employees. (Schneider 1994) The literature on HRM and services is not vast, and most of this literature appears in the service marketing journals. However, as Schneider points out: “service delivery is carried out by employees most of the time, so the link between service management and HRM is, (and should be,) strong.” (Schneider 1994)



## Specific service HRM subjects

Traditionally, HRM, like operations management has tended to be internally focussed in that HRM is deemed to be effective when; “internally defined standards of employee effectiveness are enhanced by HRM practices.” (Bowen 1986)

Management focus has traditionally been on sales, accuracy, reliability, telephone talk time, rather than less tangible aspects such as courtesy (whilst speaking on the phone), and customer retention behaviour. (Lovelock 1994; Reichheld and Sasser 1990) The reason for this internal focus is similar to that for operations management. Operations management practices and HRM practices that satisfied operations management requirements were themselves historically focused on “production efficiency,” and the external (or customer) focus was left to marketing. (Bowen and Lawler 1992) When the HRM field developed it accommodated employee satisfaction rather than customer satisfaction. (Schneider 1994; Rust and others 1996)

Recruitment and selection, socialisation and training, and supervision and leadership have also focussed on improving performance against internally set and internally relevant standards. (Schneider 1994; Gratton 1994) Some authors argue that HRM policies, practices and procedures need to move away from this internal focus and instead concentrate on external constituents, especially customers. (Kingman-Brundage and others 1995) Schneider reports a move towards using customer perceived service quality (directly) as the criterion for the effectiveness of HRM. He also reports a move to introduce employee perceptions and feelings into the logic of customer service quality. However, his 1994 work gives little practical advice on measuring these factors. (Schneider 1994)

Zeithaml and Bitner point out a contrast between service and manufacturing organisations in that in the former, lower level employees occupy a boundary spanning role, whereas in manufacturing operations it is usually only the senior managers who deal directly with the customer. The lower level employees in some service business then experience role ambiguity and conflict as they attempt to meet the demands of both employer and customers. (Zeithaml and Bitner 1999) These observations may have important implications for the design of services. Whether management likes it or not, lower-level service employees will, because of the nature of services, be involved in *constant* re-design of the service as they perform subtle – and perhaps not so subtle – customisations. It may be that these employees, because of this fact and their high degree of exposure to the customer, may be in a better position to make creative and evaluative design contributions than marketing departments and “management” in general.

Several authors discuss empirical findings, which show that “positive work climates,” and “positive HRM practices” are positively correlated with superior service quality. (Heskett and others 1994;Heskett and others 1997;Schlesinger and Heskett 1991) This body of work also gives advice on the management of “positive climates and practices.” However, little has been written on the *ex-ante* determination of HRM implications of new services. (Silvestro 2000) A related issue is staff and management selection for new service roles; an area regarded by some authors as a crucial service quality ingredient. (Berry and others 1994) The majority of the service HRM literature considers managing and motivating *existing* staff to



deliver new services. With the exception of recent empirical work on French professional services (Gadrey and others 1995) there is little published work on the design of *new* service roles. An exception is Schneider and Bowen, who presented a practical framework for using competence maps in this context and demonstrated the use of competence maps as management and staff selection tools. (Schneider and Bowen 1995)

Task standardisation, and measurement of performance with respect to predetermined task standards have traditionally been seen as an ideal mechanism for supervisory and quality control. (Grönroos 2000) However, such supervisory systems may not always work so easily in the context of high customer contact services, with their inherent high degrees of discretion and variety. Not only are front-line staff required to problem-solve; as discussed below under “discretion” and “empowerment;” but are also required to use their intelligence in customising the service experience according to their best judgement. Monitoring such interactions according to pre-determined standards is difficult. (Grönroos 2000; Bettencourt and Gwinner 1996) Grönroos argues that supervision in high customer contact services should primarily be concerned with encouragement and support to employees rather than imposing rigid adherence to set standards. Despite exposing the difficulties of supervisory management in services, Grönroos avoids detailed discussion of how employee performance is to be measured objectively in high-contact environments.

A solution suggested by Bitner et al. is the “critical incident technique.” (Bitner and Hubbert 1994) Originally developed by in the 50s the technique is a systematic

method of identifying underlying sources of satisfaction and dissatisfaction in service encounters. In common usage the technique is inductive, using qualitative analysis of narrative; the incidents, for classification. This approach is known as “content analysis” and was primarily a tool of sociologists. (Willer and Willer 1973)

An incident is defined as “any observable human activity that is complete enough to permit inferences and predictions to be made about the person performing the act.” (Waller and Waller 1973) A critical incident is one that contributes to or detracts from the general aim of the activity on a significant way. (Bitner and Hubbert 1994; Johnston 1999b) Despite being largely a categorisation tool, the technique does offer managers an opportunity to add substance to high customer contact aphorisms such as the need to be “friendly, efficient and professional.” Managers may not understand the underlying mechanisms behind such issues, but the technique may allow them to link such concepts with actual server behaviour. Further, the *ex-ante* mapping of potential critical incidents might be a means of structuring and easing definitional effort in service role design and staff selection.

Bitran and Hoech stress the importance to service quality of the personal relationship between customer and front-line server. (Bitran and Hoech 1990) They go on to argue the importance of training and motivation of staff in order that they treat customers respectfully and stress that in practice this means attention to employee feedback and objective measures of actual performance as well as customer-perceived performance. In turn such information inputs should be reflected in appropriate re-design of the service and improved specifications. This may be only partially true; the quality of feedback will be proportionate to the skills, experience



and knowledge of the server. The Walt Disney Company is well aware of the dangers of using transient front-line employees' perceptions of customer relations, and only solicits feedback from those "cast members" who elect to make longer commitments to the company; that is, salaried staff. (Van Maanen 1989)

Zemke and Bell advocate the use of experienced staff as "coaches." They argue that there is "nothing magical" or secret about training and coaching of staff, but firms must merely do it with proper attention to detail. (Bell and Zemke 1990a) Zemke and Bell also point out that effective coaches will also make good performance analysts and role models. Where coaching and training may become difficult is where no models or role-scripts exist, that is, during the *ex-ante* design of a service. One answer may be to use suitable structural models of the new service from which both role competence maps can be developed – perhaps via critical incident analysis – and coaches recruited to train staff in *types* of situational response. Competence maps and critical incidents may allow task and role boundary-mapping in professional services, but this may be difficult in service shops or mass-services where the human raw material is less skilled and qualified. In such contexts, a high degree of definitional effort may be required to create realistic role scripts on which new staff can be trained and assessed.

In research in the US hospitality and retail sectors, Bitner et al. found that front-line employees are well-oriented towards customer satisfaction and did identify with and understand customer needs in service encounters. Further more the front-line staff had a respect for customers and a genuine desire to deliver excellent service.

However, Bitner found that a frequent reason for staff failing to deliver was *inadequate or poorly designed systems*, poor or non-existent recovery strategies, or lack of knowledge. (Bitner and Hubbert 1994) Such poorly designed human processes may be a consequence of the high definitional effort involved in role and competence mapping.

### **Future trends**

Back in 1986 Schmenner prophesied that because of (supply side) pressure to control and to reduce costs, many services would move towards the “service factory” posture wherein labour intensity and customisation are low. (Schmenner 1986) There are certain service categories that will find it more difficult to standardise however. Maister and Lovelock defined those industries where service providers facilitate transactions and relationships or buy and sell other goods and services as “facilitator services.” (Maister and Lovelock 1982) Examples are up-market travel agencies, executive employment agencies and estate agents. Here the front-line service provider recruits and serves both buyer and seller. Service providers are often, if not professionals, highly skilled individuals with a high degree of tacit knowledge of their business. Furthermore, on the demand side service organisations face constant pressure to provide “mass-customisation,” in the extreme; “anything the customer wants, profitably, any time they want it, anywhere they want it, any way they want it.” (Pine 1993) In the middle of these opposed forces is the front line service provider, and their role in an organisation designed using mass-customisation principles is unclear. (Hart 1995) Pine argues that server discretion and



empowerment are cornerstones of mass-customisation. Grönroos further stresses the importance of devolving decision-making authority. He argues that in the highly customised environment of the front-line service provider and their customer(s) there is little or no time for consultation and “bumping” decisions up the hierarchy. Front-line staff must therefore be granted the discretion, and be sufficiently capable to make prompt decisions to correct quality problems. Grönroos argued that such problem-solving is the only opportunity to manage the “moment of truth.” (Grönroos 1994) Grönroos also argues that the alternative, wherein the customer interaction is simplified by limiting received variety and front-line staff have discretion to handle only a limited number of operations, leads to “stupification.”

In a customised server / customer environment, the necessary use of skilled and flexible staff is almost certain to incur a wage-cost trade-off. Perhaps in realising this, some authors have modified Pine’s pure definition of mass-customisation to a somewhat more real-world; “the use of flexible processes and organisational structures to produce varied and often individually customised products and services at the low cost of a standardised, mass-production system. (Hart 1995) In both the content of Hart’s definition and the 1995 article, a role for skilled and flexible staff appears notably absent. Hart, perhaps realistically, confines the human underpinning of his view of mass customisation to organisational *structures* for organisational readiness. It may be that Pine’s idea of mass-customisation is a white elephant, and that Hart’s *illusion of customisation* may be a more appropriate model for some service-shop, and most mass-service environments. Hart’s approach could have profound implications for service design; creating the illusion of customisation in the

absence of flexible “actors” may necessitate a great deal of *ex-ante* definitional effort on the part of designers, particularly in the area of role-scripting.

### **Service HRM – summary**

Again, changes in services HRM appear to concern the question of internal or external focus. Traditional HRM which was largely concerned with internal goals and measures of success seems to be beginning to look outward, to both customer-defined measures of performance for service personnel, and also in targeting recruitment policy and practice at particular market segments. A design consequence of this change may be the need to integrate internal and consumer perspectives on server roles, in order to map task competencies or role definitions.

Another change is the migration towards the extremes of the volume – variety axis. By this it is meant that many services are moving towards extremes of standardisation and automation and others are moving in the opposite direction with consequent need for front-line discretion and empowerment. Management challenges may be in managing these extremes: standardisation without stupification, and empowerment without chaos. A design difficulty particular to the empowerment context may be the *ex-ante* determination of degrees of empowerment and requisite competence maps in the absence of models for the new service. In the standardised environment the key design problem may be dealing with a lack of critical design contributions from contact staff.



## Service Management

This section traces recent paradigmatic development in service management and maps several topical service management issues. Finally, the section ends with a comment on possible future research issues.

### Developments in the last decade

Published in 1994, a special edition of the “International Journal of Service Industry Management” bore the title “Service Management – An Appraisal and an Agenda for the Future.” In this issue several authors suggested that the development of Service Management represented major shifts in management thinking. Developed by all authors contributing to the special issue was the theme of change from a “traditional” goods, or product-centred view of business to a more “holistic” view. (Grönroos 1994;Johnston 1994;Brown and others 1994;Gummesson 1994b)

The development of the academic field of service management appears to mirror a move in the general business management literature, from goods focused management to service focused management. The strategic imperative may be one reason for this shift in focus. Organisations have realised that the *core good* offers a limited competitive edge. This means that they need to look elsewhere for competitive advantage; that is, “from improved: delivery performance, treatment of the customer and supporting services,” (Johnston 1994) in other words, service. As the basis of competition changes, so grows the appropriate academic field.

Gummesson characterises the shift as a move from a focus on goods, technology, engineering, mass manufacturing and marketing and productivity (the producer perspective) to a focus on service, the total offering, interaction and value (the customer perspective). (Gummesson 1994b) The last term may be the most important; there appears to be a growing acceptance of the idea that value, and therefore profitability, even for “commodity” goods and services, can be further levered by service (Johnston and Clark 2001).

Many authors suggest that a second reason for the shift to service focused management is the increased importance and size of the service sector, that in western economies now accounts for something over 70% of GDP and employment. (Fitzsimmons and Fitzsimmons 1998;Dibb and others 2000) However, the size of the sector may not be the independent variable. Businesses may be moving from product-based utility to total utility (Grönroos 1994) *as a result* of increased competition. So, the increased size of the service sector may not in fact be a cause of the increased emphasis on service, but is a consequence of it and increasing competitive pressure in the global economy.

### **A cross-functional discipline**

Many authors comment that service management is cross-functional and the academic discipline of service management is a total management perspective (for example; (Johnston and Clark 2001;Van Looy and others 1998;Grönroos 2000)). A perusal of the citations in this and the last two sections reveals the same names



cropping up again and again. Authors who began writing in mainstream marketing journals now contribute regularly to service management journals and to a lesser extent to operations management journals. Similarly, operations management academics who focus on services are published in the service marketing journals. There is a similar crossover between the service HRM area and both service marketing and service operations management, though the links are less strong. Lovelock argues that the interdependence between marketing, operations and human resources has, “encouraged researchers in the field of service management to cross functional boundaries, leading both marketing and operations specialists to involve themselves in human resource issues to a degree that would have been unthinkable when the study of management was dominated by a manufacturing mind-set.” (Lovelock 1995) A systematic analysis of the key characteristics of services explained one reason for this interdependence. (Stuart and Tax 1997) Stuart and Tax showed that managing customer contact, physical evidence, capacity, demand and supply-chain management, maintaining consistent quality conformance in production and delivery and expressing intangibles all challenge traditional assumptions that lead to functional separation. (Stuart and Tax 1994) They argue that the “bundle” of tasks that are the lot of the service manager – and server – cannot be tackled from a single perspective, and so in some ways the development of the field is as inevitable as the development of the practice.

## Quality

In the two European service management journals; The International Journal of Service Industry Management, and The Service Industries Journal, some currently popular “quality” subjects are service satisfaction and dissatisfaction, the nature of customer value, communicating quality service, consumer perceptions expectations and quality in service design and delivery.

The definition and measurement of quality is also the subject of many debates: “Quality is difficult to define, describe and measure in services. While quality and quality control measures have long existed for tangible goods, few such measures have traditionally existed for services. In essence, quality is determined by imprecise individual factors: perceptions, expectations and experiences of customers and providers, and in some cases, additional parties such as public officials.” (Brown 1991)

A notion that receives widespread comment in the service management and general operations management literature is that quality is an integrated part of management activity and not a separate function. The customer-contact example given by Stuart and Tax described earlier in this section supports this point. Gummesson even goes as far as to conclude that, “Quality is the integrating concept between production-orientation and marketing-orientation, between technology and customer satisfaction. (Gummesson 1994b) Reinforced in the work of Parasuraman, Zeithaml and Berry is this integrative nature of service quality. Specifically, their “Gap-



Model” of service quality presented in their 1985 paper introduced a conceptual model of service quality. Characterised as the discrepancy or gap between their perceptions and expectations, the model explained service quality as defined by customers. (Parasuraman and others 1985) Their research revealed that this service quality gap depended on four internal quality gaps:

- Gap 1 the consumer expectation-management perception gap;
- Gap 2 the management perception-service quality specification gap;
- Gap 3 the service quality specification-service delivery gap;
- Gap 4 the service delivery-external communications gap.

Later work that investigated the factors influencing these gaps lead to the development of the SERVQUAL quality measurement instrument. (Parasuraman and others 1988) Gaps 1 and 2 are of particular relevance in this thesis as both are addressed partially by good design. In the context of design, the wording of Gap 1 however, can itself mislead, as it may encourage reliance on perception rather than objective assessment of consumer expectations. Design tools exist that can circumvent this potential problem, for example; Quality Function Deployment. Alternatively, intermediaries such as market research consultants can solicit consumer design input more objectively. Addressing Gap 2 is perhaps the core design activity – the articulation of consumer expectations as the elements of a service specification.

Since its initial airing in 1985 several authors (Finn and Lamb 1991; Babakus and Boller 1992; Cronin and Taylor 1992; Newman 2001) have raised concerns about the gap model and the SERVQUAL instrument. However, Parasuraman has presented counter arguments and revised the model several times since its inception. (Parasuraman 1995) Still, some issues of concern remain. The service quality paradigm underpinning the gap model and SERVQUAL is that productivity and quality measures refer only to the provider. (Gummesson 1994b) Gummesson suggests however, that “we should talk about interactive productivity (and quality) stressing the interdependence and mutual benefits from interaction.”

The Gap model and SERVQUAL uses five principle dimensions on which customers are encouraged to judge a company's service:

- Tangibles - the appearance of physical facilities, equipment, personnel and communication materials.
- Reliability - the ability to perform the promised service dependably and accurately.
- Responsiveness - willingness to help customers and to provide prompt service.
- Assurance - the knowledge and courtesy of employees and their ability to convey trust and confidence.
- Empathy - provision of caring, individualised attention to customers.

The SERVQUAL instrument requires consumers to abstract from a dynamic and interactive encounter-environment to a static and essentially passive internalisation



of a “dead” encounter, in order to make the assessment. Further, perceptions of service quality are modified by prior perceptions (Johnston 1998) and therefore abstraction to assessment of general firm levels of service quality may mask important details of encounter satisfaction and dissatisfaction. It seems that, as a tool for assessing the organisation, SERVQUAL is withstanding the test of time. However, its general nature means that at the important level of the service encounter, it can only deliver aggregate information that hides the richness and detail of real interactions. Gummesson’s call for more research into consumer perceptions of the interaction is implicit recognition of this “moving goalpost” nature of service quality. The implications for service design are considerable; it is almost that in most service contexts, even the mass service, necessitate the design of dynamic capabilities as opposed to static constructs.

### **Service networks**

Gummesson develops this idea of the uncertainty inherent in service quality and service interactions to the level of the service firm. This viewpoint, the *network* perspective, is receiving increasing coverage in the service management literature (Ojasalo 2000). This view challenges the idea that businesses are well-defined entities, with clear hierarchies and boundaries. The new perspective sees companies as networks or virtual organisations with a web of internal and external relationships. Such network organisations have “a continuously changing shape with fuzzy boundaries around (core competencies).” (Gummesson 1994b)

Addressing these more recent ideas on service quality and service networks is a relatively new theme in the service management literature. This new theme, relationship marketing, is a move away from the established marketing-mix idea. Gummesson characterised the marketing-mix approach as; “manipulative, not addressing customer needs and (lacking) regard to process.” (Gummesson 1994a) In contrast the relationship marketing approach recognises the extended network of the organisation and the customer-organisation interaction. As Grönroos puts it, the new thinking is a; “move from short-term transactions to long-term relationships.” (Grönroos 2000)

### **Learning from relationships**

Several authors discuss the idea of abandoning the totally reactive posture in customer interactions. Instead, exploitation of learning opportunities becomes a key outcome from the interaction. (Glynn and Lehtinen 1995; de Burca 1995; Schneider and Bowen 1995) Some authors describe this shift in emphasis as a way of addressing “service marketing myopia.” (Gummesson 1994a) Gummesson describes the new focus as an escape from maintenance of customer ignorance, institutionalised cheating, superficial market research and marginal cosmetic changes (in offerings). Whereas the new approach promises education, improved ethical standards, customer insight and genuine innovation. (Gummesson 1994a)

The notion of developing relationships from which to learn about the detail of consumer interactions, rather than the aggregate perception of the firm may itself be



a recognition of the deficiencies of provider-focused ideas of service quality. However, instruments like SERVQUAL are in use by practitioners and academics alike. By contrast, no similar relationship marketing learning tools have received such widespread acceptance. Understanding the sequence of consumer interactions and their impact on consumer satisfaction may be one of the most important inputs to service design. Therefore the refinement of methods and tools like critical incident technique, and service transaction analysis for mapping such interactions may be an important area for research.

## Personnel

Discussed by many writers are the *roles* of personnel in service organisations, and the consequent importance of careful human resource management. (Schlesinger and Heskett 1991; Lovelock 1994; Bon and Pras 1984; Bitran and Hoech 1990) Lovelock places particular stress on the importance of a user-friendly staff environment. In particular, he emphasises the impact on service quality of good facilities design for both consumers *and* staff.

Schlesinger and Heskett discuss ways of breaking what they call the “cycle of failure” in services (Schlesinger and Heskett 1991) that largely involve attention to the needs of service staff. In this cycle indifferent staff attitudes towards customers and consequent poor service translate into poor perceptions of service by the customer. Reduced sales and customer dissatisfaction fuels further reductions in employee satisfaction; and staff turnover is encouraged. High turnover causes further deterioration of service quality, and so on. Besides careful staff selection and accurate job information for prospective employees, suggested ways to break the cycle include: employee empowerment, employee education and feedback. Schneider also stresses the importance of selecting individual service staffs who are appropriate for the particular market segments served. (Schneider 1994) From the preceding discussion emerge two issues that may be of great importance for service design. One is the necessity of *ex ante* consideration of people-specifications as a component of the design communication construct, and the other is empowerment.



The degree of empowerment and, to a lesser extent the degree of discretion granted to service staff may determine the degree of uncontrolled design or “service creep.”

A related point to that discussed in the last paragraph is the internal development of personnel, and the effect such development has on the development of the total service. For example, Schneider suggests using and developing employees in a diagnostic sense; “they can be effective (auditors) of the degree to which companies internally address specific customer-focus factors.” (Schneider 1994) Such an auditing role for senior service staff could conceivably be extended to a design *monitoring and control* one in order to oversee and manage “service creep.”

### **Internationalisation of services**

The 1980s saw massive growth in the international trade of services. Particular areas of activity were in advertising, where UK and US agencies grew largely by acquisition, and legal services, especially those originally based in the US. (Normann 2000) Other areas of international growth were accountancy, financial and investment services, and consultancy. However, the debate on global competition does not appear to have encompassed the service sector to the extent that it has explored internationalisation in manufacturing. In particular the literature on global strategy has only discussed services management issues where they are also relevant to manufacturing industry and the particular problems of international service delivery have been largely ignored. (Segal-Horn 1998; Välikangas and Lehtinen 1994) The “servicisation” of manufacturing firms suggests that this debate should be

increased and expanded in scope. In particular the cross-boarder portability of service concepts and designs may be a fruitful area for research.

Normann (Normann 2000) suggests that the drivers for internationalisation in services are the same as for manufacturing. Normann proposes that these are the need for senior management challenge, the need to maintain the momentum of growth (perhaps because growth in the home market is blocked), or customers are going global and the service firm follows suit. Of particular relevance in this thesis is that in some service firms the service “formula” is perceived to be so successful in the home country that managers believe that it must succeed abroad. The fact that many “formulas,” or designs fail to make the cross-border leap successfully suggests that not only do service managers misunderstand the reasons for success in the home country, but also may not understand what service design elements are portable and what requires customisation for the new market. Normann also reminds us that internationalisation may of course come about by accident (Normann 2000) however, he oddly neglects some obvious reasons for going global: cost reduction and de-regulation.

Some authors suggest that the growth and internationalisation of services is largely due to the international marketing of products. (Bradley 1991;Dibb and others 2000) It is suggested that services such as foreign market intelligence and analysis, product re-design and engineering services, and the establishment of after-sales and maintenance services to support “globalised products” all follow product

internationalisation. Bradley also suggests that services develop in order to support manufacturing firms in overcoming barriers to internationalisation.

However, these views fly in the face of the evidence; service exports for the UK and US have consistently made up for an ever increasing deficit in manufacturing exports. Further, for these countries the largest percentage of service trade surpluses are in the tourism and transportation sectors. (Zeithaml and Bitner 1999) In no sense can these sectors be seen as solely providing support services for manufacturing. These facts and prima face evidence suggests that service firms internationalise frequently independently of manufacturing activities. It may be that internationalisation related to manufacturing should be viewed as a subset of overall service internationalisation.

Segal-Horn advances the more balanced view that for services, as for manufacturing, there is no single force pushing for globalisation. Instead the drivers are a combination of; cultural homogenisation; removal of industry barriers via deregulation; the development of information technology and service industry concentration. (Segal-Horn 1998) In later work Segal-Horn also suggests that some service organisations internationalise in order to acquire, develop or lever core competencies. (Segal-Horn 1999)



## **Barriers to internationalisation**

Normann argues that one of the barriers to exporting services is the need to also export the service delivery system, thus making internationalisation a much more difficult management task than for manufacturing. (Normann 2000) Bradley supports this view, however little evidence is presented to support it. Certainly in the information processing, financial services and consulting arenas there is no reason why home-base capacity cannot be utilised effectively to support local front-office activities, indeed this already happens in many services. Where barriers exist, obvious components of these barriers could be employee culture (Lovelock 1994), and the potential for consumer participation and the availability (or lack) of local resources (labour, management, suppliers, structure, infrastructure). Segal-Horn also suggests that the service firms' aspirations to achieve local control of quality and interaction work against a global strategy. (Segal-Horn 1998) An area not explored in the internationalisation literature is local consumer expertise. Many services need to educate consumers in appropriate behaviour. In the home base such education can derive from the examples of other consumers in the service process. However, a newly exported service cannot exploit this consumer expertise, as it does not exist. In this respect the exported service is like a newly designed service in the home base; it requires tacit consumer expertise to be made explicit as part of the service design.

## **Future service management research**

The last general review of the service management field appeared in a special edition of the International Journal of Service Industry Management (IJSM) in 1994. In one

of the articles Evert Gummesson, in a review of service management fundamentals of stated:

“... a deviation from the existing knowledge base is a necessary condition for development. Service management got off the ground by breaking with existing paradigms. When a science has reached maturity and becomes institutionalised in budgets, research institutes, curricula, buildings, conference series, the “publish or perish” rat-race, confession to mainstream knowledge and the need to relate to the international jet-set of the discipline, it is closest to senility and petrification. Existing research results become so dominant that new thinking is inhibited and new paradigms and quantum leaps are killed by abortion. The newcomers are served knowledge which allows them to contribute with vertical thinking when lateral thinking is imperative. (preferable), but prevalent in practice, is that both vertical and lateral thinking should co-exist. Otherwise there will be no scholarship, just research, and scientists are turned into mere technicians.” (Gummesson 1994b)

Gummesson’s warning and appeal could apply to many social-science disciplines. His call was for scholars to move sideways, outside existing paradigms in terms of method, perspective and content. After seven years it seems that his words remain equally valid as a comment on the field and its future challenges, and are echoed in several more current works (Grönroos 2000) (pages 5 – 6) (Fitzsimmons and Fitzsimmons 1998) (pages 27 – 34) (Van Looy and others 1998) (page 21).

## **Cross-functional research**

One of the ways in which the subject of service management could change is in further broadening its perspective. The idea that service management already provides a holistic perspective on management issues is shared by many of the authors cited throughout this chapter. In the 1994 special edition of *IJSM* all contributors called for more cross-functional research. However, in the seven years since publication of the edition, no articles in *IJSM*, or its sister journal; the *Journal of Service Research* were anything like cross functional. Stuart and Tax went further and proposed that not only research, but service management education also should be approached from a multi-disciplinary perspective. (Stuart and Tax 1994) In later work they reinforced this view with particular reference to service quality and design. (Stuart and Tax 1996b)

## **Service networks**

The network perspective has provided rich insights into intra and inter-firm coordination in the manufacturing sector but this area is less well developed in the service management literature, with most work considering dyadic relationships rather than the whole supply chain. (Harland and Night 1999) (Ojasalo 2000) De Burca also argues that the network perspective will provide better insights into the nature of service supply chain interactions than the relationship-marketing approach. Specifically there is doubt over whether the relationship marketing approach is specific enough to adequately comprehend both inter-firm and consumer relationships. It may be that a natural separation is in order with service supply chain



models addressing intra and inter-firm networks and relationship marketing theory focussing on consumer markets and networks.

### **Conclusions from review of parent theory**

As was indicated earlier, service design was not addressed as a specific topic because it receives a detailed review in the next section. However the importance of design was implicit in nearly all other subjects discussed above:

In the context of increasing sector growth, the first conclusion from the service management review is that, there remains a relative neglect in the literature on service creation, that is, service design.

If it is anything, service management is cross-functional in both perspective and content. Therefore research attention to the creation of services must be holistic.

The service quality literature has a conspicuous gap. Most of the debate in the service quality literature centres on the nature of perceived quality and managing this perception. Perhaps this is not surprising when one considers that so much service quality literature appears in service marketing journals and is written by marketing academics. What of absolute quality, or conformance to specification? The notion of absolute quality is not strange to practitioners. Clinicians for example, are familiar with managing both the quality of the core service as well managing perceptions of peripheral services. In managing core service quality some of the basic lessons from

manufacturing may have to be revisited. However, one fundamental issue that affects both core service and perceived service will be basic design quality. Management activity that remedies design failure is waste. So, at both firm and encounter level, much service quality research appears to focus on assessing and managing quality reactively within service constraints. Rarely considered is the management, *ex ante*, of encounter satisfaction and quality, that is, re-design and design.

In recognising the importance of understanding and managing encounter satisfaction, there must also be a recognition that the encounter-manager, the server, is closest to the consumer's perception of the experience-sequence in the service process. In the creation of services then, the specification of server capability and discretion may be an important activity. Even in mass-services the design of dynamic server capabilities may be as, if not more, important than specification of fixed elements such as facilities, process maps and role-scripts. In many respects, servers manage the creative process that constitutes each unique service encounter. So the specifying the boundary of encounter roles and the training of servers in this micro-design management activity is also important. Further, if it is accepted that servers are best placed to understand the (largely) internalised consumer perception of a sequence of interactions, then the management and articulation of their creative and evaluative contributions may be critical activities.

The development of the service supply chain perspective and relationship marketing respectively reflect the increasing importance of supplier and consumer networks. This view, taken in conjunction with the view that design is important per se, leads

to the conclusion that supplier and consumer networks may be important considerations as both inputs to, and the subjects of service design.

Many services may be the subject of evolution as much as explicit design. However, the portability of services, especially across-borders may be critically dependent on codifying service outcomes, processes and resource requirements. Further, consumer expertise may have to be made explicit and incorporated into the design communication construct.



# Service Design

## Introduction

The preceding sections highlighted the call for basic research into the area of service design. The call being a response to the relative neglect of design in the service management area; a marked contrast with the vast literatures on product design, new product development and innovation. So what then is basic research? Several writers on research methodology (Easterby-Smith and others 1991;Gummesson 1991;Yin 1994) argue that in the absence of existing frameworks or models, that is, in a new or neglected area of study, the researcher should resort to asking four simple questions: Why? How? What? and Who? In the context of this research these questions can be expanded to:

1. Why are new services designed? (What are the drivers for new service design?)
2. What is a service design? (What are the characteristics and dimensions of the artefact that is a design?)
3. How are new services designed? (What processes are used in creating a new service?)
4. Who designs services? (Who are the designers, and what do they do?)

A holistic investigation of NSD would address all four questions. However, it was anticipated that a comprehensive investigation of all questions to the depth appropriate for a PhD thesis would mean exceeding the allowable word-limit for

PhD submission. It was therefore necessary to limit the scope of the research to a smaller group of questions.

Determining which question area to “drop” was surprisingly easy as will become apparent on reading chapters 4 and 5. It may be obvious already, but it will be shown that isolated discussion of either design imperatives, the response in terms of process choice and the outcome of the process – the NSD – is almost impossible. By contrast, service “designers” can be discussed as a discrete subject.

The fourth question concerning service designers and design roles was therefore removed from the literature review and the formal analysis of chapters 4 and 5. This said, the subject could not be abandoned completely and is revisited as an – almost inevitable – emergent research issue in chapter 7.

Thus the first three of the four question areas listed previously will be used to structure this review of service design. (Note that these questions do not constitute the research questions of this thesis, they are merely used, in a structural vacuum, as a framework for the review.) However, before the review some terms and definitions will be explored.

The Concise Oxford Dictionary defines design: “Design *n.* & *v.* •*n.* 1 a preliminary plan, sketch, or concept, for the making or production of a building, machine, garment, etc. b the art of producing these ... 3 a plan, purpose or intention. 4 a an example or a completed version of a sketch, concept, or pattern. b an established

version of a product (*one of our most popular designs*). •*v.tr.* 1 produce a design for (a building, machine, picture, garment, etc.). 2 intend, plan, or purpose ...”

By the dictionary definition then, *design* may be seen as both a process and a series of outcomes. The *design process* is the creation of a plan, or description of an artefact that may not yet exist. The plan or description is *the design*. The literature on service design revealed no alternative definitions of design or related activities. Many writers on product design, new product development and innovation have attempted to define in detail, the process and content of design. (For example; (Bruce and Biemans 1995;Conran 1996;Clark and Fujimoto 1991;Clark and Wheelwright 1994;Wheelwright and Clark 1992;Utterback 1996).) Definitions vary in detail, but are essentially similar to the dictionary definition cited above. However, there is some disagreement on the definition of innovation and its relationship to design. Some authors argue that innovation is an initial stage in a creative process in which a new idea or concept is created “in the mind” (Conran 1996;Pugh 1991;Walsh 1992) from whence it is detailed and made explicit in the design process. Others see innovation as an ongoing process of change to products, services and processes (Tidd and others 1997;Damanpour 1991) Whatever the perspective on innovation, it is not so easy to separate it from design. If innovation is seen as the initial creative phase of a process, then it is inevitably followed by further innovation as the design is enacted. (Conran 1996) This is a common human experience; people have ideas, and as they make them real and detailed they have more ideas; how to improve the initial idea, that its not a good idea ... and so on. If innovation is viewed as an ongoing process, then decisions – implicit and explicit – will still be made on



change. These change decisions, however small, implicit or unstructured constitute – by the above definition of design – a design process in which the “plan” is the artefact undergoing change. So design and innovation are different but are probably inseparable. Internal idea generation – that is, internal to the mind of an individual – without review is conceivable, but seems unlikely.

The notion of *implicit design* is not necessarily a contradiction in terms. Every artefact made by humans has been designed, but not every artefact is the output of a formalised design process. However, every artefact will have, wholly or partly, been accepted or rejected by humans, and choice, and the realisation of design intent has been exercised.

So service design concerns the creation of artefacts that describe new or existing services. These artefacts may be prototype services, archetypal examples of existing services, or abstractions such as drawings, plans or process diagrams. The artefact is a service design, and the process of creation is *service design*. Because of the confusion over the meaning of innovation discussed above, it is worth establishing how the term will be used in this thesis. Idea-generation will be used instead of innovation to describe the initial stages of the creative process and innovation will be used as a general term for service change that includes idea generation and design. This use of idea-generation aligns with the use of the phrase in the product and service design literature on stage-gate models of the design process (discussed later). So service design is the explicit and implicit decision making activity that turns ideas into artefacts; the service designs, that can in-turn be implemented as new services.

## Why do new services come about?

Heskett argues that service firms can and should carry out a rational analysis of consumers, and couple this with an understanding of potential relative performance that in turn allows them to produce a “service concept.” The service concept is a rudimentary description of the new service. (Heskett 1986) Amongst other things, it answers the questions: what customers, and what outcomes? The relative performance of competitors and consumer taste is constantly changing. Therefore Heskett’s approach implies that the optimal service concept choice is constantly “running away” from the service firm. This “distance” between the optimal service concept and the actual service concept is the imperative to innovate and design new services. The service firm can respond by designing services that out-perform the competition, address new consumer tastes or both.

Despite his use – in this context – of the term “service vision,” Heskett’s posture is essentially reactive. Lovelock points out the dangers inherent in this approach; of losing direction and blindly following the “concept gap.” For example, such an approach might lead to short to medium term profitability, at the expense of developing skills or technology which predicates long term profitability. ((Lovelock 1992b) pages 6 – 8) Lovelock does not ignore the importance of “leveraging,” (getting the most out of) current resources. He stresses that balancing such leveraging should be a choice about the future strategic direction of the firm. Implied in this approach is the design of new services that optimise the service concept for long-term profit potential. However, designing new services in this way may also optimise the learning and development opportunities inherent in designing and



operating the new service. That is, the design process itself is seen as a major opportunity for organisational learning. Essentially, Lovelock advocates that designing new services, firms not only look outwards at markets and competitors, but look inwards at the impact of the new service design and the service design process on long term capability development.

Besides consideration of the industry environment and potential relative performance, other factors can influence the chosen strategic direction of the firm, and therefore the choice of service designs. Grant argues that firms should not ignore their overarching goals and values, and their organisation and systems. (Grant 1991) Goals and values may refer to the personal vision of company founders or other senior personnel. In not-for-profit organisations, they could be the manifestation of the firm's constitution. Closely linked to the success of a new service design may be its cultural acceptability, and the ability of the firm's organisational structure and management systems to adapt to it. Therefore, Grant argues, there are three more design considerations for the service firm: Is the new service aligned with organisational goals and values? Should the firm design new services that fit existing structures and systems? Should the firm change structures and systems to suit the new service designs. (Grant 1991)

Firms may not understand, or be aware of the influences on the direction of strategic development. However, these influences will guide the firm along many possible strategic directions (Mintzberg 1987) Many authors have proposed generic strategic directions for the firm, and these generic directions have been incorporated into



strategy frameworks. For example Ansoff's strategy matrix, Porter's generic strategies, Mintzberg's five family groupings and Johnson and Scholes' "strategy clock." (Ansoff 1988;Porter 1980;Porter 1985;Mintzberg 1987;Johnson and Scholes 1993) These generic strategies (or groups of strategies) include consolidation, market penetration, market development, product (and service) development, differentiation, segmentation, diversification and so on. Whether adopted explicitly or otherwise, the generic strategy may provide thematic guidance for new service designs. (Johnson and Scholes 1993)

The generic strategy describes the way in which the service firm chooses to compete in broad terms. Several authors have proposed prescriptive methods for bridging the gap between the generic strategic choice and the definition of specific markets and services. (Hill 2000;Armistead 1990;Armistead and Clark 1994) Hill's methodology articulates this general choice in terms of specific competitive dimensions. His work has primarily been concerned with manufacturing organisations, however, the use of his methodology has been explored in a service context (Fitzsimmons and Fitzsimmons 1998). Hill used the term order-winners to describe product characteristics that sold products in the marketplace. Order-qualifiers were those characteristics necessary to enter the marketplace. Certain characteristics were order-losing-sensitive. Fitzsimmons and Fitzsimmons rephrase these characteristic-groupings as service-winners, qualifiers and service losers. Within each characteristic-group, Hill's methodology places one or more general or partial measures of performance according to the guiding generic strategy.

For example, consider a car service company that decided on a generic strategy of differentiation. Order qualifiers would be “givens” for the sector such as; courtesy cars or lifts to and from home / work, a coffee machine, a waiting lounge and competitive pricing. Service winners would be those dimensions that consumers will use to make a choice on whether to engage the new service. Such dimensions could be; guaranteed courtesy cars, newspapers, a one-year, no questions guarantee on repairs, a collection service whereby cars are collected from the customers works car park, and so on. Service losers would be things like; the failure to repair a mechanical problem, dirtying of the car by technicians, rude treatment by service staff or failure to return telephone calls.

The partial measure of product or service performance would thus be dependent on the specific service. However, general measures of performance are quality, flexibility, dependability, speed and cost. (Slack and others 1998) In the example of the garage-services company, the service differentiators fall under general performance objectives of quality and dependability. Slack describes these general measures of performance as the operations’ strategic performance objectives and the generic strategy interpretation process as operations strategy development. These general performance objectives are useful summary devices; it may be easier for service firms to articulate the “bundles” of partial performance criteria for new services – that also follows the generic strategy –, *and then* to group these criteria into general strategic categories. In other words, the *specific* performance criteria – and strategic rationale - for the new service design are developed *before* the general articulation of strategic intent in the form; “we compete on quality,” or “we compete

on flexibility and reliability,” and so on. Another advantage of this approach is that it forces firms to articulate design decision in only in terms of strategically relevant performance criteria, as opposed to “selecting” such measures from arbitrary “categories.” (Shulver and others 2000)

Armistead, in his discussion of strategy implementation is more specific. He describes the development of service operations strategy as answering a set of questions on: operational focus, the operations task, delivery system choices and performance measurement. (Armistead 1990) Essentially, Armistead’s approach shifts the focus in strategy interpretation from, specifying minima for partial measures of performance, to broader consideration of operations-specific management issues. These issues fall into six categories: demand dimensions, customer service dimensions, the nature of the conversion process, culture, business objectives and constraints. Both the Hill and Armistead approaches allow the articulation of a generic business strategy in terms of performance criteria for new service designs.

## **Resources**

A consequence of the conventional, outward-looking approach to strategy formulation and its articulation as service design choice is the problem of strategic drift highlighted by Lovelock. (Lovelock 1992c) Lovelock suggests that an over-emphasis on responding to market demands can leave the firm up an “evolutionary dead-end;” that is, in perhaps a declining market, with a market-specific capability-



set. An understanding of resources and capabilities may provide alternative source of strategic direction for new service design that negates this drift. In recent years, several authors have promoted this challenge to the traditional view. (For example: (Grant 1991;Conner and Prahalad 1996;Nonaka 1991)) This resource-based view is articulated by Grant: “(In) a world where customer preferences are volatile, the identity of customers is changing, and the technologies for serving customer requirements are continually evolving, an externally focused orientation does not provide a secure foundation for formulating long-term strategy. When the external environment is in a state of flux, the firm’s own resources and capabilities may be a much more stable basis on which to define its identity. Hence, a definition of a business in terms of what it is capable of doing may offer a more durable basis for strategy than a definition based upon the needs which the business seeks to satisfy.” (Grant 1991)

This literature on the resource-based view of the firm, operations capabilities and core competencies has grown over the last 12 years or so. Important contributors were Wernerfelt and Prahalad and Hamel. (Wernerfelt 1995;Prahalad and Hamel 1990) It is now being both operationalised and brought closer to operations strategy and new product development, for example, through the work Leonard-Barton (Leonard-Barton 1992) and Mills and Lewis. (Mills and Lewis 1997) Most of the competencies literature is concerned with manufacturing operations. However, some work in the related “organisational learning” field is cross-sectoral (Quinn and others 1996;Quinn 1992) In addition, Dougherty and Hardy looked at innovation-to-

organisation problems (including access to resources) for innovators in manufacturing and services. (Dougherty and Hardy 1996)

The competencies ideas suggest that potential for effective “bundling” of service resources is an innovation imperative. “Effective” refers to potential relative performance with respect to competitor capabilities and customer (or other constituency) imperatives. In particular, Kogut and Zander suggest that: “(New) learning, such as innovations, are products of a firm’s combinative capabilities to generate new applications from existing knowledge.” (Kogut and Zander 1992) This view echoes the sentiments of Grant expressed earlier, not only are capabilities a firm foundation for strategy development, but they also provide the “stepping stones” from which firms can make the incremental “capability stretches” that are new service designs.

### **Specific new service design triggers**

Strategic considerations aside, certain external and internal stimuli may invoke, in the form of new service designs, a tactical response from the service firm. These stimuli could include:

- Immediate market opportunity or constituency pressure.
- Out-of-context events (“new to the world” events that trigger service responses – for example the HIV virus, the advent of network computing and the internet)
- Service failure

- Personnel and management changes
- Changes in legislation
- De-regulation
- Privatisation
- Improved inter and intra-firm communication
- Changing internal and external success criteria
- New technology push
- Synergies and serendipity
- Dialogue with suppliers and active customers
- Internal idea proliferation

Sources: (Tidd and others 1997;Heskett 1990)

The list is neither exhaustive nor in itself innovative. The interesting point may be however, not so much in the list items, but in the nature of the tactical responses. Following on from Lovelock's ideas about the dangers of strategic drift, we could ask the question: Are the responses to these stimuli – in the form of new service designs – “intelligent” (conscious) or autonomic and instinctive? The latter design response bringing with it the potential for, once again, a trip down an evolutionary dead end. Glynn defines organisational intelligence as:

“an organisation's capability to process, interpret, encode, manipulate, and access information in a purposeful, *goal directed manner*, so it can increase its adaptive potential in the environment in which it operates.” (Glynn 1996) (authors italics)



The absence of purpose and goals may therefore be characteristic of a lack of organisational intelligence or consciousness. All the stimuli listed have the potential to generate an autonomic response from the service firm via the medium of new services. An intelligent or conscious response to these stimuli would follow management decision over whether, for example, the proposed new service is consistent with the firm's service strategy; is within the capability of the resource set, will generate required business results, and so on. Similarly the lack of such consideration implies organisational unconsciousness. Perhaps autonomic organisational responses are an explanation for the often repeated observation that, "new services (just) happen." (Rathmell 1974) Certainly one interpretation of the innovation, organisational learning and competencies literatures is that services seem to "just happen" because of the powerful and direct influence of external and internal stimuli (Glynn 1996; Kogut and Zander 1992; Senge 1990) in the absence of strategic oversight. Such stimuli may have a direct influence on the existing service resources, on new service outcomes, new service processes and the service design process itself. In practice, the majority resource in services is people and their individual and group capability. It may be that the response of this resource to its own agenda and environmental stimuli, is one of the important drivers for new service design.

Discussion of whether organisations are intelligent is beyond the scope of this thesis. Nevertheless, even if the concept is used only as a metaphor, it leads on to the more directly relevant issue of how service organisations respond to tactical design stimuli. In particular how direct stimulation of service resources by innovation triggers leads to new service designs.

So several resource-related issues may provide a key to understanding both the direction of and the constraints on new service design (NSD) at both the tactical and strategic levels:

- understanding the nature of the firm's resources;
- what they are potentially good at (in relation to actual and latent markets);
- what they are constrained by, and;
- in the case of human resources, what their personal and group agendas are.

That resources have an effect on service design should be obvious; how they influence service design is less clear. The resource base may give the service firm perspective, implicit strategic guidance and a set of constraints for NSD. Firms may generally explore NSD possibilities within "capability horizons" but may occasionally explore outside this capability envelope. New service designs may be the result of the firm's combinative capabilities with respect to its existing and potential resource base. Alternatively, new services that demand resource capability outside the existing capability envelope may be developed. This latter approach to NSD is likely to involve greater risk than NSD activity that utilises "internal combination." The degree of risk, may, in turn, be proportional to the degree of stretch of the resource envelope.

Lewis provides a mapping tool that may be of help in understanding these risk trade-offs incurred during the NSD process. (Lewis 2001) Authors in the competencies

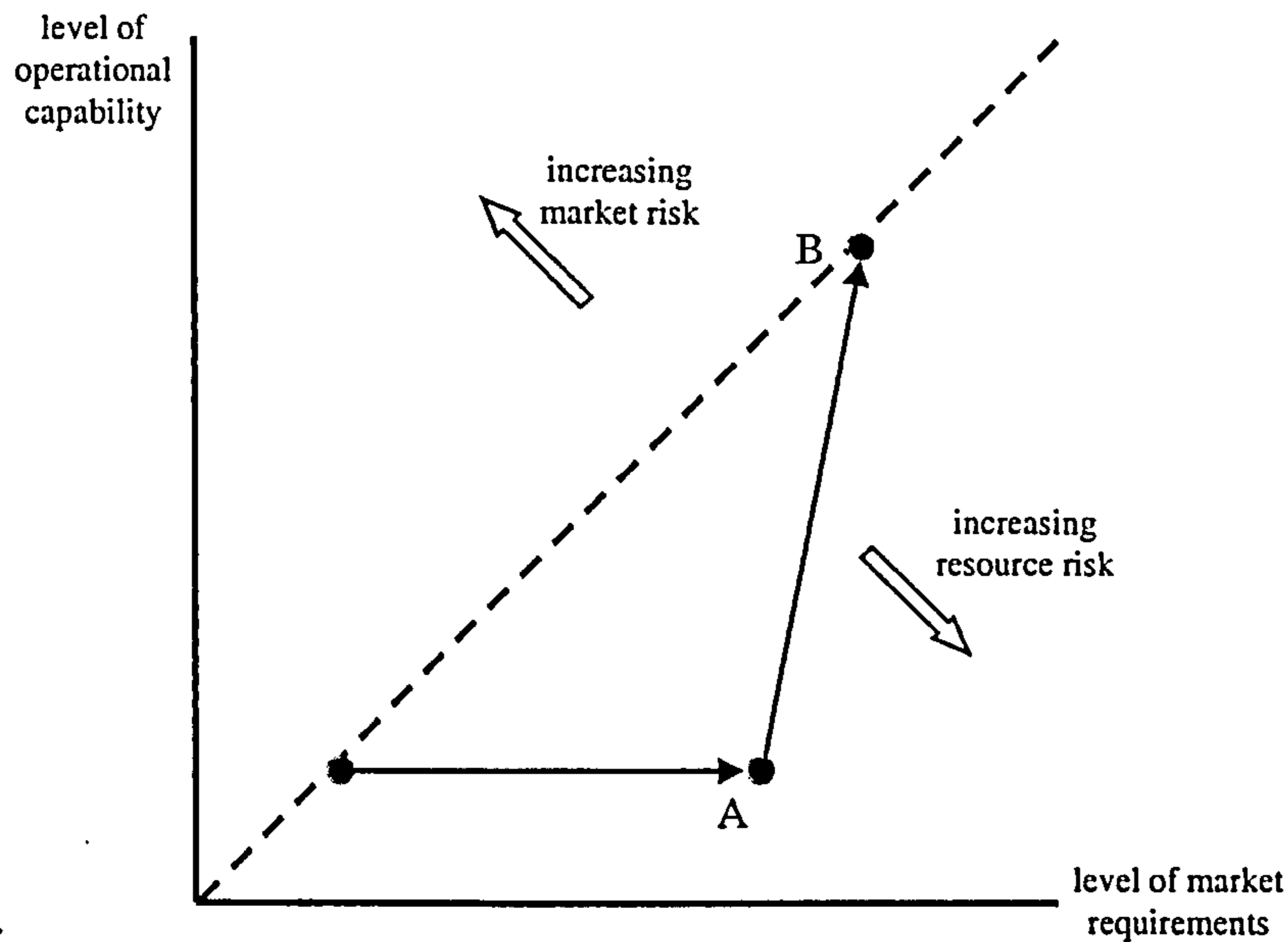
literature talk about the idea that that the firm is forever reconciling the continual dynamics of its external environment with the capability of its internal resources. (Grant 1991) Lewis goes one step further to suggest that in the process of this reconciliation, firms are usually engaged in a trade-off between market and resource risk.

For example, a firm may respond to changing consumer needs by a modification of its market offering. However, unless resource development is concurrent with development of the new market offering, the firm will, albeit temporarily, be exposed to the risk of operational failure until resource capability is aligned with the new marketing concept. Similarly, if new resource capability is developed without obvious market potential, the firm is exposed to a degree of market risk in that there are no returns from investment in development of the new resource. Lewis suggests that mapping a firm's history as a series of trade-offs between market and resource risk can provide valuable insights into firm innovation and learning.

In the context of this thesis, mapping market and resource risk trade-offs may provide an understanding of how deliberative strategy, market pull and resource push influence firm's NSD decisions and autonomic behaviour at both strategic and tactical levels. It may also be the case that a more sophisticated analysis that assesses the degree of risk exposure would reveal still more about firm design intent and practice. For example, there may be significant differences in risk exposure between a mere process modification and changes to skill sets or facilities. Lewis represents



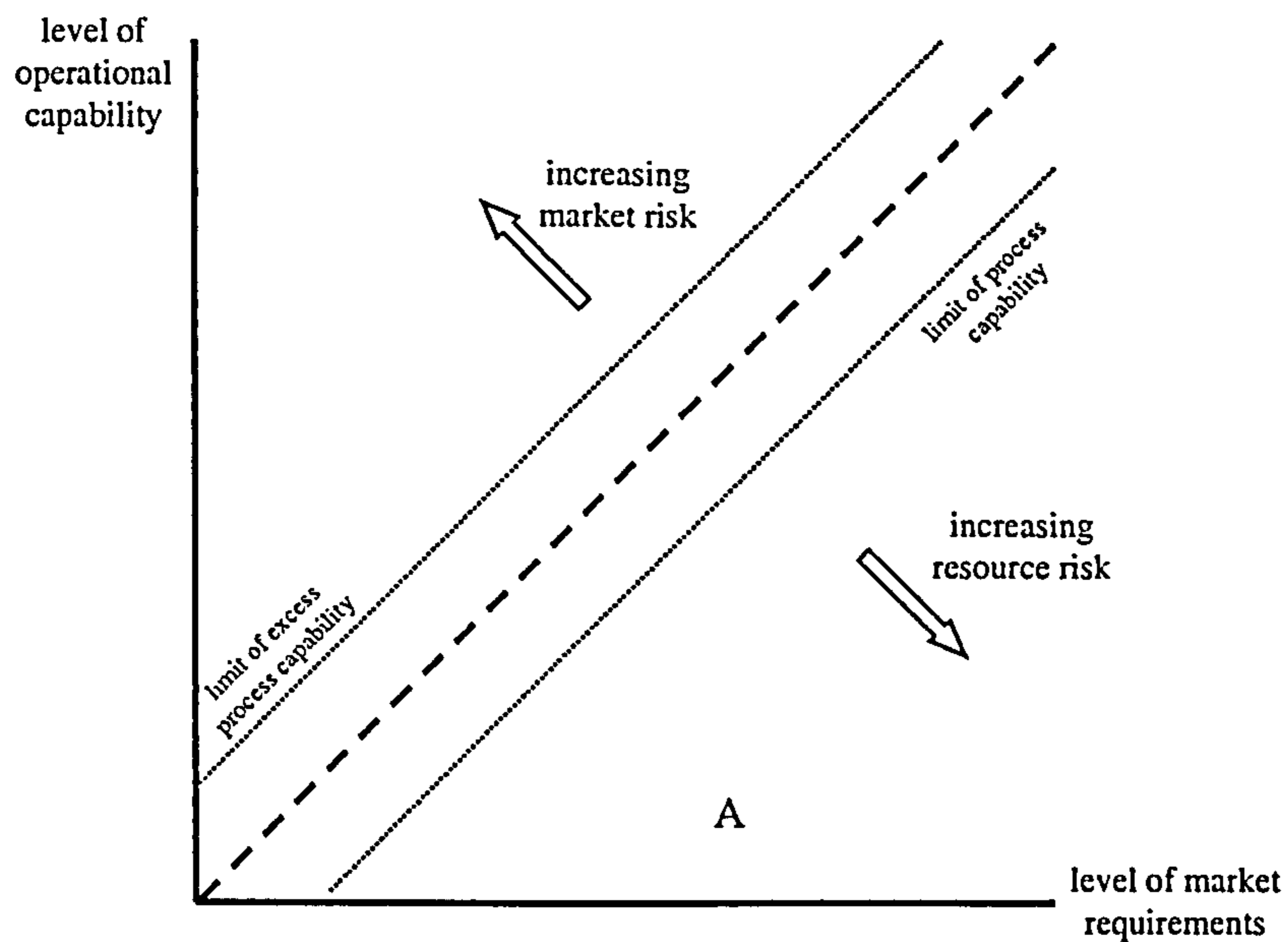
the balance of market and resource risk using diagrams like that in the following figure.



Alignment, between the level of operational capability and the level of market requirements (or between market and resource risk exposure respectively) is represented by the dashed diagonal through the origin. The “path” of an organisation as it develops processes and other resources or, raises or lowers market expectations is represented by the lines to points “A” and “B.”

In practice the diagonal line is more likely to be a “zone.” This is because capability is difficult to precisely define (Leonard 1995), and the organisation may have

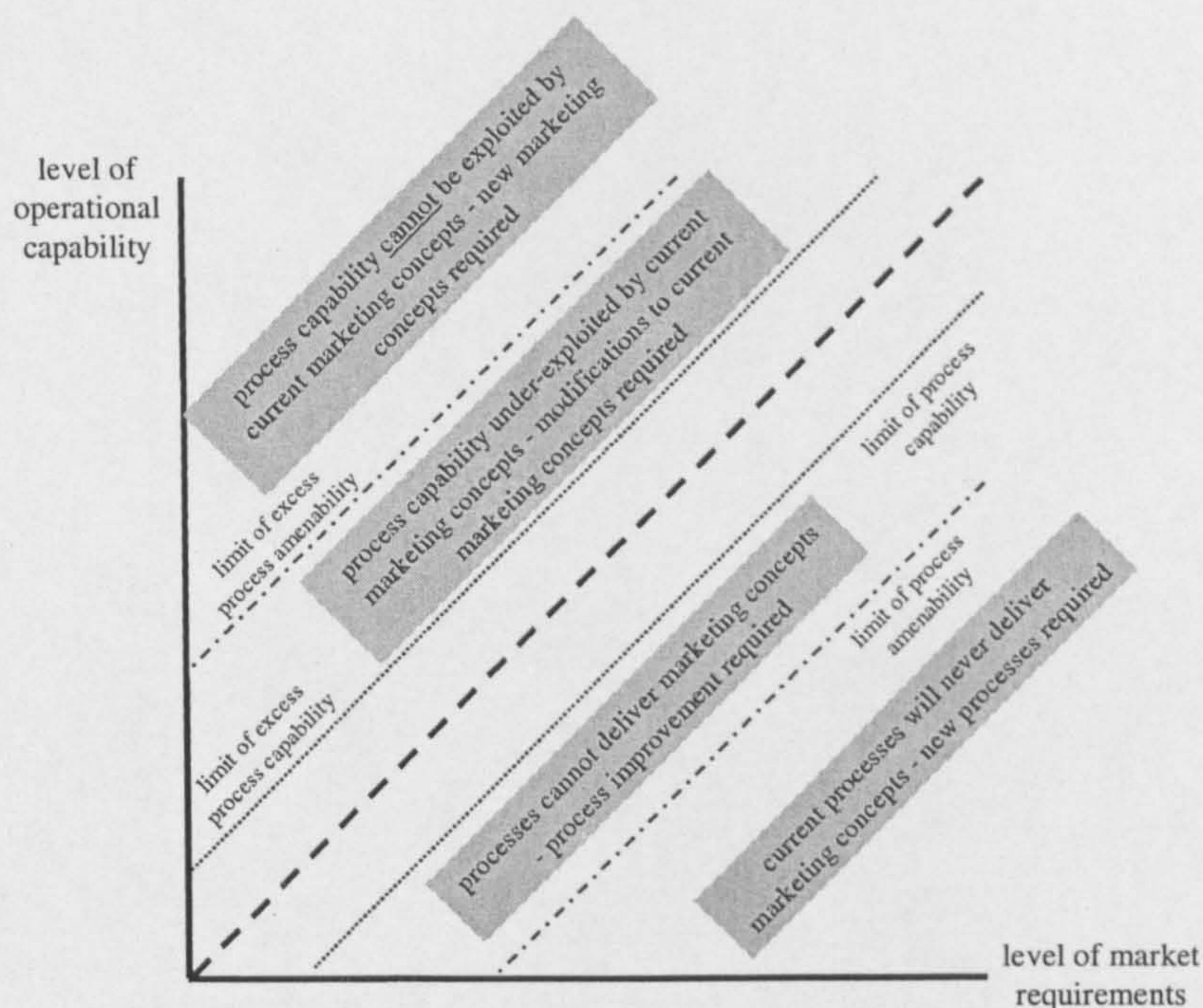
acceptable limits of either excess process capability or process over-stretch. These limits are marked in the following figure.



With sufficient resource investment the “limit of process capability” could be extended (in the figure; away from the “alignment” diagonal). However, there may come a point where process enhancements, no matter how great, would be unable to support certain marketing concepts or market requirements. In this situation the service organisation can invest in new structural or infrastructural assets, and so increase the range and development potential of its processes. Alternatively, it can elect not to offer the new service or respond to the new market requirements. This development potential of existing processes is what Hart has called “process amenability” (Hart 1995). In the following figure the limit to this potential is therefore called the “limit of process amenability;” beyond this limit new services



will normally require the development of new fixed assets such as machinery, buildings, information systems, and so on.



By the same token, there will be a limit to the development extent of excess process capability; where for example operational improvements require hard-asset development as well as process improvement. In this situation an organisation would find itself unable to exploit new processes with existing marketing concepts, but would have to develop “new to the firm” marketing concepts. This boundary is referred to in the previous figure as the limit of excess process amenability.

If NSD stimuli are conceptualised in the manner described above, then it should be self evident that the nature of the operational response to risk exposure may be dependent on the nature and degree of that exposure. Accordingly, the risk-



management response in the arena of NSD should be different in each case. Mapping both stimuli and organisational responses may throw light on this issue.

### **Service design imperatives – summary**

This section has explored possible drivers for design in services, some strategic, some tactical. The section has exposed a paradigmatic shift in prescriptions on strategy formulation and articulation that may have major implications for service design. The notion that strategy formulation – and its articulation as new services – should be primarily market-driven is being challenged. Some authors advocate understanding and acknowledging the resource base's potential for long term development as a “balancing ingredient” in strategy formulation. Other authors go further. The new view balances the design imperatives from markets and competitors with a clear imperative to “lever” resources into new market-spaces. New service design may be one of the key mechanisms for this “levering.” This new perspective is expressed most strongly in the development of the resource-based approach to strategy formulation.

It was recognised that all organisations are subject to tactical pressures for change. It was also suggested that the response to these tactical pressures could either be “conscious” or “unconscious,” and that the unconscious reaction of the service resources may be the reason why services seem to “just happen.”

Finally, it was suggested that a practical method by which innovation and design imperatives could be understood would be to map the firm's position over time on a map of market and resource risk. Further, that detailing any risk maps to include the degree of risk exposure might provide further insights into tactical and strategic NSD response.

How are services designed?

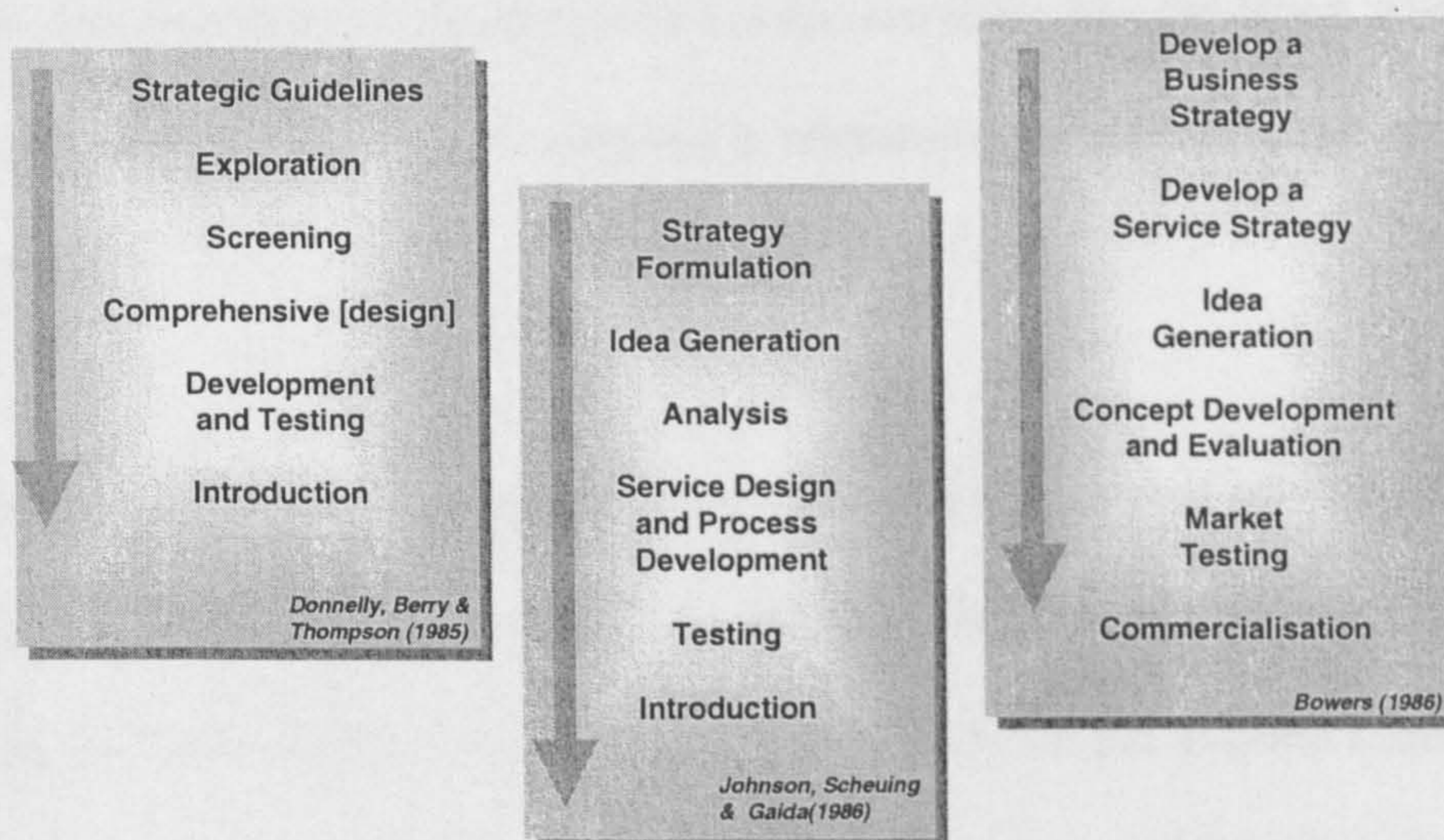
### **Service design process models**

The existing literature on service design processes is sparse. Much of the design process literature explores the applicability to services of manufactured goods models of product design, in particular the Booz Allen & Hamilton models. (Booz 1982) Several authors (Shostack 1987;Stuart and Tax 1996a;Stuart and Tax 1996b;Edvardsson and others 1995;Edvardsson and Olsson 1996) have challenged the validity of applying these goods-based models of design to services. A major criticism of goods-based models of service design is that they make no provision for variety at the point of delivery. (McLaughlin 1996) That is, goods-based design processes are concerned with the design of stable artefacts, whereas service artefacts – dependent on interaction – vary in proportion to the number of provider – consumer interactions. It may be that this is because the existing literature concerning application of goods-based models is only rooted in the context of goods-



like service development. (Bowers 1989; Scheuing, E. E. and Johnson 1989) A second criticism is that the orderly and sequential nature of the goods models of design is unable to accommodate the whole-organisation scope of service design. (Edvardsson and others 1995; Kingman-Brundage and others 1995) That is, service design is not merely about designing a new *thing* that essentially the same organisation can produce along with older designs of *thing*. Service design implies designing, to varying degrees, a new organisation.

#### DESIGN STAGE MODELS



#### Adapted goods models

Empirical work in the U.S. Health-care sector (Bowers 1987) tested the Booz Allen & Hamilton model. Hospitals in Bowers' survey did not routinely carry out any of the steps in the Booz Allen & Hamilton model apart from step 5, the business analysis. The lack of use of any formal service design / development approach in



hospitals results in the proposition from Bowers that developing new services in hospitals is not a market-driven activity. Bowers goes on to say that the new service design activities that hospitals tend to neglect are the ones that are designed to encourage feedback from the external environment.

Bowers stresses that the service development and evaluation phases are iterative and that as input is received from the external publics, contact employees, and management, operation details of the new service will change. Without discussion of why the hospitals in the study did not use anything like the Booz Allen & Hamilton mode, Bowers goes on to propose a normative, sequential stage model of service design.

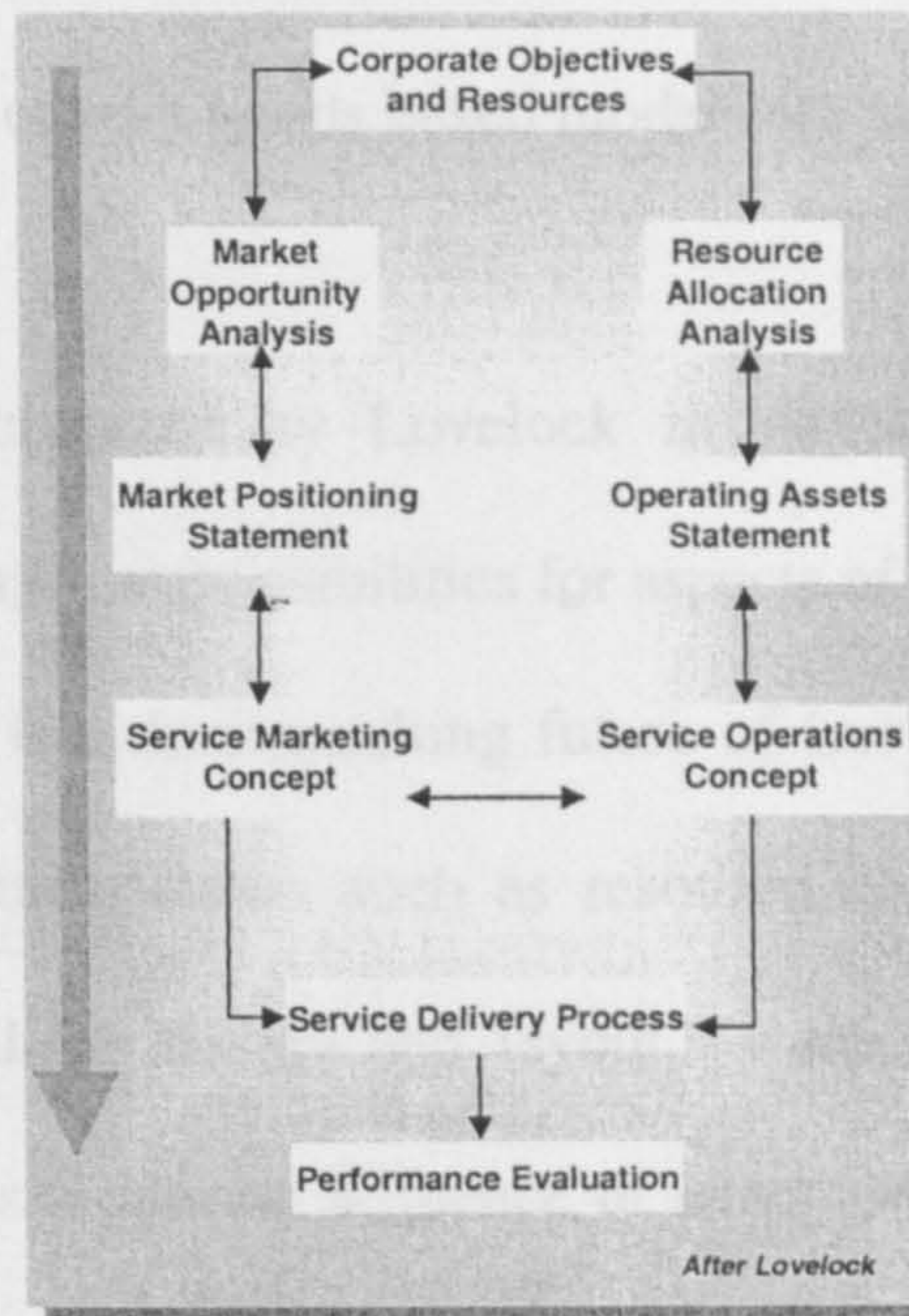
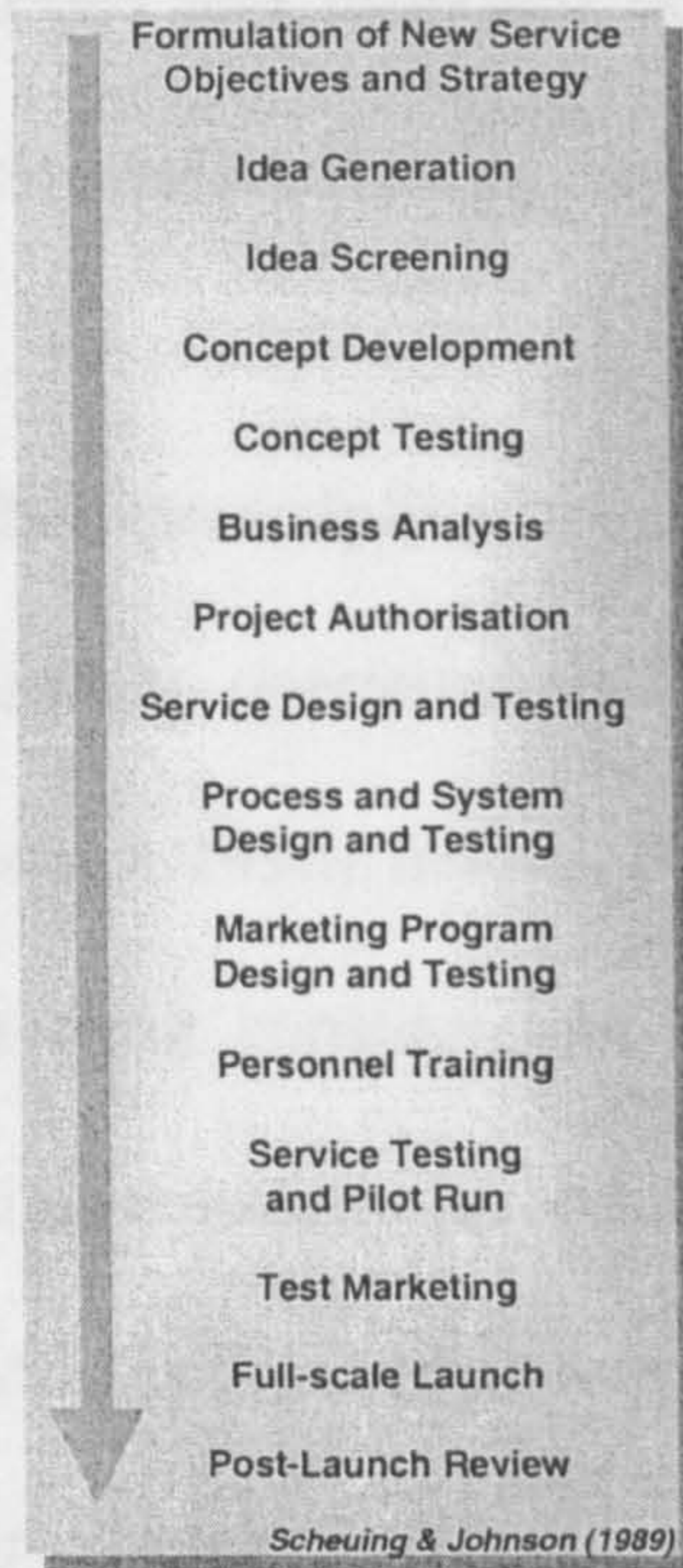
Later work based on empirical survey research in financial services (Scheuing, E. E. and Johnson 1989) was used to advance the *components* of a more elaborate derivative of the Booz Allen & Hamilton model, but the implied sequential nature of the normative model was not supported. The survey work referred to in the paper attempted to assess the degree of detail and sophistication present in new service development processes in savings institutions. A key finding was that many service businesses lack appropriate new service development structures and processes.

When the authors go on to describe their proposed normative model they emphasise the fact that there is considerable interplay between design and testing functions during the evolution of a new service. They claim that their model takes into account the iterative nature of service design. The model also claims to highlight key service

design stimuli. The core design stages in the model involve designing and refining the new service as well as the delivery system and marketing program. Also covered briefly is the testing of a pilot of the service and the necessity for a post launch review. (Scheuing, E. E. and Johnson 1989)

Scheuing et al. argue that in service businesses: the use of formal new service development processes and structures is limited; that most firms use new service project teams in an ad hoc manner. With each team developing its own, more or less unique process. As indicated above, the authors go on to suggest a normative design process model, however, the question of why such models are rarely used in practice is not pursued.





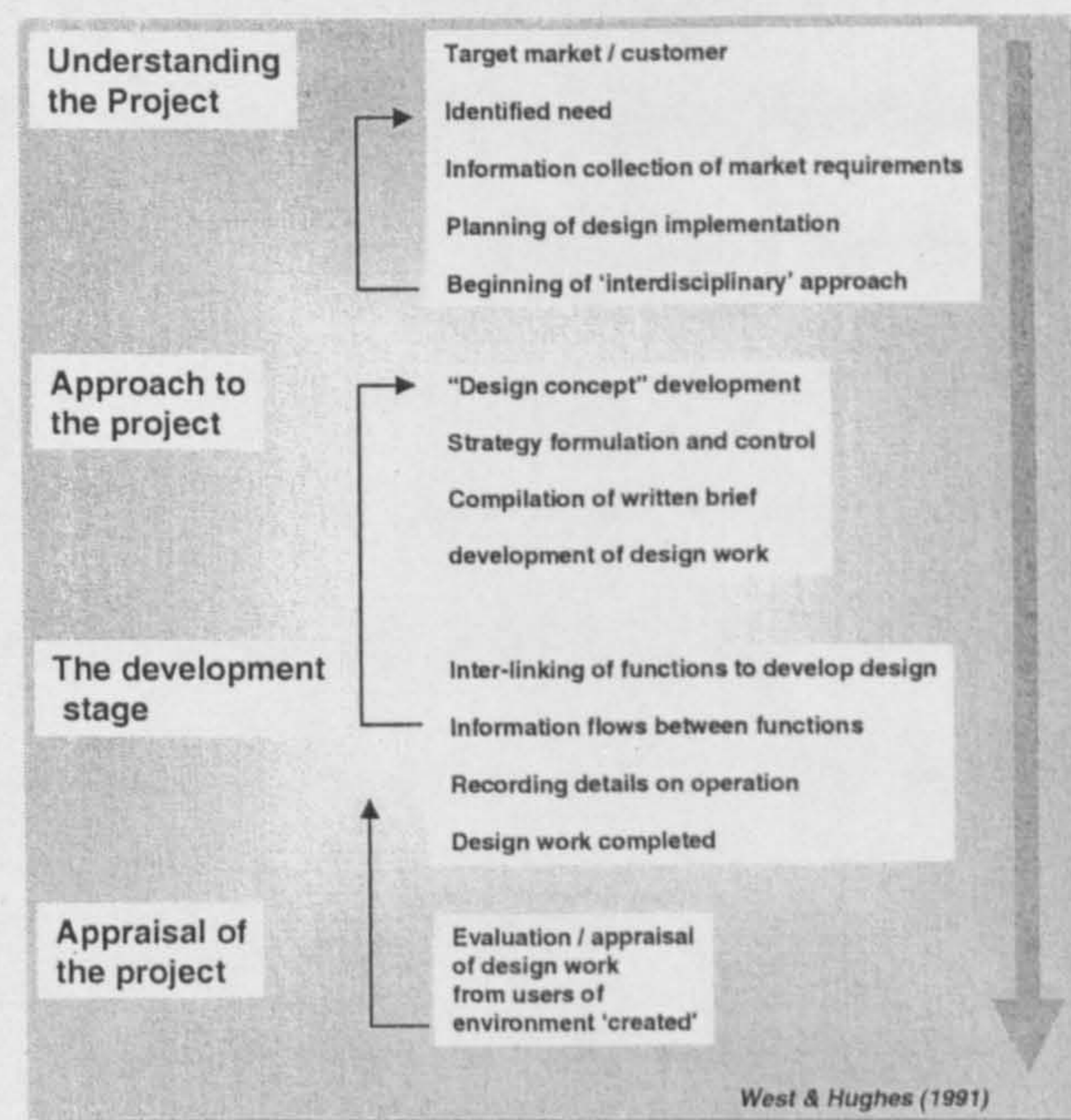
Bowers later broadens his research base to encompass banks and insurance companies (Bowers 1989) and finds that a number of activities in the Booz Allen & Hamilton model are not carried out very often. These are formalised idea generation, product development and testing or market testing. Bowers' work appears to be underpinned by the assumption that a sequential stage-model is the ideal. Although no evidence is presented to support a sequence (firms surveyed were asked whether they carried out certain activities, and not whether they carried them out in any order) Bowers however goes on to propose a normative model of service design based on the start-point; the Booz Allen & Hamilton model.

An essential characteristic of the literature outlined above is that it identified many problems with goods based models of service design. However, the authors



developed and proposed normative service design models based on goods design models whilst avoiding the question of why goods based models are under stress.

Another prescriptive model is introduced by Lovelock in which he separates functional – operations and marketing – responsibilities for aspects of service design. (Lovelock 1995) Indeed, this latter is a distinguishing feature of Lovelock’s model; the explicit consideration of operations issues such as resource requirements and existing resources, scheduling, facilities design and layout, ... etc.. The Lovelock model, like its predecessors, implies a definite sequence of events though there are fewer of them, and they are broader in scope. Lovelock also indicates that there is a degree of iteration between stages of the model.





Like Scheuing et al., West and Hughes synthesised from the existing literature an elaborate idealised, iterative stage model which was subsequently tested against hotel service design practice. (West and Hughes. J. 1991) As with the Scheuing work, the model components were validated but there was little evidence to support the proposed sequence.

Research in Swedish Telecommunications and transport services found that where there were stages in the service development process, that these overlapped and discrete stages were difficult to identify. (Edvardsson and others 1995) Edvardsson also found that although the service design processes observed had much in common with the Scheuing and Johnson model, the sequential nature of the latter's model was not observed in practice. Later work by Edvardsson and Olsen introduced a normative service development model that in some respects resembled Lovelock's 1996 model. The model proposed concurrent development of the service concept, system and process. Their model stressed that it was the possibilities for service (or prerequisites) that were being designed and developed and not the service itself. (Edvardsson and Olsson 1996) This followed on from their earlier work explaining the difficulty of designing the *complete* service when the received service would always be unique. (Edvardsson and others 1995) Edvardsson and Olsen's work therefore recognised the "limited scope" criticism of the earlier goods-based design models. However, in the latest iteration of Edvardsson's ideas his model seems to have returned to one very similar to the normative stage-gate models discussed at the beginning of this section (Edvardsson and others 2000).

## Processes and success-levels

Research in the US into levels of success of service innovations found; “no significant difference between successful and unsuccessful firms on the basis of the formality of their service innovation processes.” In fact, the “successful firms (were) somewhat more skewed towards an ad hoc development process.” So perhaps it should be no surprise to find that there has been little adoption of formal / normative models of new service development by service firms. (Martin and Horne 1993)

However, it should be noted that Martin and Horne did discover a link between levels of success and whether firms carried out certain elements recommended by the normative models of service design. Of particular importance seemed to be the assessment “synergistic fit” (a fit with the existing service strategy and resource capability) of new services. This finding was supported by similar work in the UK financial services sector. (Story and Easingwood 1993)

Again in the UK financial services sector, work by Edgett and Parkinson showed that “ingredients in the development process [...] can help contribute to success,” and that there is a “correlation between the eventual success of a new product and the development process activities undertaken.” (Edgett and Parkinson 1994) However, Edgett and Parkinson present no evidence to suggest that a sequential stage model is important for the success of service design outcomes. (Edgett 1994)

Finally, it noteworthy that the most recent book on new service development by Fitzsimmons and Fitzsimmons only makes a fleeting reference to service design



processes, and this only in the context of a review of the NSD literature (Fitzsimmons and Fitzsimmons 2000). Attempts to understand, benchmark and audit innovation success variables have been carried out in the product development arena – for example (Chiesa and others 1996) (Coughlan and Brady 1995) – but no similar work has been done in the service sector. A recent work by Storey and Kelly touches on this issue, but their paper merely explores possible measures as opposed to the business processes underpinning them. (Storey and Kelly 2001)

### **Design processes – discussion**

Design process models, especially the goods-based models, at best have limited empirical support. Where empirical work has been done to uncover extant design processes it has been in specific elements of the service sector. These sectors were US health-care, consumer telecommunications and financial services. The research looked at services that could be characterised as very “product-like.” For example, a health-care insurance package, a consumer telephone service product or a financial-service product. Another characteristic of the services researched was that they were designed, for the most part to function within the constraints of existing service structure and infrastructure. So, for example, a retail bank could choose amongst a number of student banking product designs which would utilise the service staff, facilities, structures and so on in essentially the same way as would previous offerings.

Nearly all authors imply that with a little “tweaking”, the goods models of design are applicable in services. This despite the fact that highlighted frequently were problems with the goods-models. Goods-like services; usually services which can be “packaged,” for example Cable and Wireless’s “one-to-one” mobile phone service in-a-box; or Hewlett-Packard’s printer maintenance contract in-a-box “Support-Pack”, are commonplace. With respect to service design it is possible that they represent one end of a continuum of service design outcomes. At the other extreme of the continuum would be services that were not goods-like, were not easy to define or specify, that are such that their implementation would have a major impact on the service organisation and require major changes to structure, infrastructure, staff, and so on. Such high-impact and broad scope service designs may require different service design processes to goods-like services discussed earlier. Edvardsson hints at this possibility in his 1995 work. (Edvardsson and others 1995) Edvardsson’s terminology seems particularly useful when describing this end of the spectrum of services that can be designed. That is, the subject and outcome of the design process is a set of prerequisites for the service rather than the outcome itself.

Several authors have discussed outcome-focused design processes, however there has been an assumption that these models have universal applicability. (Bowers 1987;Bowers 1989;Scheuing. E. E. and Johnson 1989) This thesis will investigate the idea that the use of such process models is and should be contingent.

The first contingency may be that the use of process type is contingent on the goods-like or outcome-like nature of the service as opposed to the prerequisite-like nature



of the service being designed. The second – related – contingency may be linked to the initial imperative for creating a new service. For example, referring back to the last section on design imperatives, if we look at the position where market risk (as a result of resource development) is created, then it would seem that a logical response for the service firm would be development of new marketing concepts. In this way using goods models of design to develop new marketing concepts that would be delivered from within the new “resource envelope” would seem appropriate. However, if the opposite were true and resource development lagged behind the new marketing concept(s), then the appropriate design response would be the creation of new processes and other resources.

The independent variable, “nature,” may have several component variables, and not just the outcome / prerequisite alternative. These components may include issues like scope, novelty, organisational impact, investment requirements, and so on. Understanding and categorising these variables may be an essential first step in understanding the contingencies of process adoption. That is, what specific characteristics of the new service design influence process adoption?

The dependent variable, “process,” is likely to have several component variables. These could be the descriptors of the process. For example, the extent to which the process is sequential or iterative, the organisational scope of the process, the number and type of stages, and so on. The goods-like models of service design also include the notion of screening. That is, several ideas, concepts and prototypes are screened during the design process. In the screening process various filters (for example,

functional screens such as marketing screens, finance screens, human-resources screens) are applied to the design communication constructs. In essence the service-design process is one of elimination of unsuitable options. Again, it may be that such an approach is contingent. The contingency in this case could be the degree to which the service being designed is the outcome or the prerequisite. Outcomes, expressed in terms of target consumers and consumer outcomes are relatively easy to express. However, describing prerequisites involves describing almost the whole service organisation; resources, processes and strategy. The complete description of such is a complex and time-consuming task. It may be unlikely that organisations would attempt to describe a multiplicity of service prerequisite configurations in order to filter or screen these. If this last proposition is accepted, then the implication is that one concept or idea for the service is created and this is developed or nurtured during the design process. So, once again there may be a continuum of service design processes. At one extreme is the filtering / screening goods model, and at the other is the approach suggested above, that of nurturing of a concept to successive layers of increasing complexity. The second question area should therefore attempt to unearth the dependent variables that are themselves descriptors of "process."

Implicit in the discussion of the last few paragraphs is the assumption that design characteristics and process choice are linked. The final area for investigation should be to map any relationships between the independent and dependent variables, that is, to determine what service design characteristics lead to specific process types?



## **Design processes – summary**

The scant existing literature on service design process was presented and a number of problems with this literature were identified:

- Where empirically grounded the previous research was limited to specific (and usually) goods-like services.
- Goods-based models of service design could not account for all types of new service and new service development.
- The sequential nature of most normative models of service design meant that they were unlikely to prove useful in all contexts and, that where used in a descriptive sense they did not mirror reality.

Several themes for research questions grew out of these problems and these will possibly explain the reality of service design, be able to predict process adoption, and offer some guide for process choice.

What is a service design?

### **Communication constructs**

The last section on the service design process has already hinted that the elements of a service design are not clearly understood. This overlap between question areas is hopefully anticipated intuitively. Design is both a process and a series (sometimes infinite) of outcomes. The outcome is a communication construct – a description of how to “build” and run the service. Characteristics of the communication construct such as “detail” or “comprehensiveness” will change over time in any creative process. Therefore processes and communication constructs used in processes are linked. Taking a snapshot of the design communication construct at different times may therefore reveal constituents such as different levels of detail and scope, audience-specific emphasis, political bias, and so on.

In the service management literature three main types of design communication construct emerge. These key elements being the new service idea, the service concept, and the detailed service design.



## New service ideas

The Concise Oxford Dictionary defines an idea:

idea *n.* 1 a conception or plan formed by mental effort. 2a a mental impression or notion; a concept. b a vague belief or fancy. 3 an intention, purpose or essential feature. 4 an archetype or pattern as distinguished from its realisation in individual cases. 5 *Philos.* a (in Platonism) an externally existing pattern of which individual things in any class are imperfect copies. b a concept of pure reason which transcends experience.

Most elements of this definition appear to relate to a construct internal to an individual. It seems unlikely that, except for the simplest and easily describable ideas, that the integrity of an idea could be maintained after dissemination. Therefore, when discussing the notion of an idea in a social or group context, it follows that the idea is, of necessity, a *simple* or *uncomplicated* plan or conception. In most stage-gate models of service design the new service idea is rarely defined, but as it appears early on – in the models – it also, of necessity must be a simple or rudimentary plan or conception of the new service. This view of the new service idea is implicit in the literature discussed below.

In his work on UK banks and building societies Edgett found that a new service development success factor was the existence of a well established idea-screening process in place to determine which new ideas will be given the go-ahead (Edgett

and Parkinson 1994). Edgett does not define in detail the *idea*, but in this context it seems to refer to a simple description of the service, but one that is sufficiently elaborate to allow functional screening.

Bowers, in his 1989 work on U.S. hospitals, banks and building societies found that idea generation (a formal process for soliciting ideas for new products) was not routinely carried out by organisations developing new services (Bowers 1987). In Bowers work, the implication is that the *idea* is a simple construct, but one that is meaningful and accessible to a variety of functions in the service organisation.

In empirical studies based on (primarily) Swedish Telecom's services, Edvardsson and Olsson (Edvardsson and Olsson 1996) suggest that, "the *idea* for the new service is systematically and critically evaluated, taking into account the external and internal (factors). Further, a commercial assessment is made by means of a general cost and income analysis." So, the service idea is the construct that is used to make an initial determination of the feasibility of a new service. Edvardsson and Olsson imply that the initial idea is gradually fleshed out to a preliminary concept during this evaluation phase of the service design process.

Martin and Horne, in a broad study across the US service sector found little evidence of formal idea generation techniques (Martin and Horne 1993). "Staff (idea generation) input is minimal in each participating firm, (when they do come, ideas come) from line personnel interacting in the marketplace." Martin and Horne also describe how, based on perceptions of competitors' activities, customer



communications, and / or customer behaviour, improvements to current offerings are suggested. They surmise that this indicates a poorly defined or non-existent service charter. Since the ideas for new service offerings are driven by market interaction, the service charter (the boundaries within which each new offering will be developed) is understood informally. New ideas stay within unwritten, but understood acceptable parameters (Martin and Horne 1993). Martin and Horne's findings back up Lovelock's suggestion that unmanaged idea input is an important input to strategic drift discussed earlier. (Lovelock 1992a) (Lovelock 1994) (pp 354 – 356).

In later work Martin and Horne further supported these findings and showed that sophisticated idea-generation techniques were hardly used by service innovators, and that the most likely sources of innovations were competitor information and customer canvassing. Although Martin and Horne do not define what they mean by a new service idea, it is implied that it (the idea) is the outcome of an informal generation and filtering process.

The goods-based perspective on design argues that simple descriptions of the new service are developed and these are then screened or filtered in a "development funnel." The notion of the development funnel was popularised by Hayes and Wheelwright in the eighties and constitutes operations screens, marketing screens, finance screens and so on. The principle being that the separate functions test the acceptability and feasibility of new product ideas. (Hayes and others 1988) (pages 295 – 298) When applied to new services the ideas are primarily embryonic service-

concepts (see below) developed by marketing staff. (Bowers 1987;Bowers 1989;Scheuing. E. E. and Johnson 1989) Which is where the notion of idea generation and screening comes under stress. It is difficult to imagine the operations function of a firm for example, committing to the acceptability and feasibility of an embryonic marketing concept without detailed analysis. The notion of screening multiple ideas in this way also seems challenging, to say the least. It could be that such idea generation and screening is appropriate where definitional effort is low, and here we return to the nature of the service being designed. Perhaps idea screening is appropriate when designing goods-like services. The important characteristic of such services is that they are usually “variations on a theme.” As discussed in the last section on process, the information content of the new service idea need not be high given that structural and infrastructural contexts are the same for all variations. So it follows that, for certain goods-like services definitional effort, and hence idea generation and screening is possible and appropriate. However, at the other end of the continuum discussed in earlier, for example, for broad-scope and large-scale service design it is difficult to imagine the necessary investment in definitional effort taking place to generate and properly screen multiple ideas.

Another way of conceptualising the idea generation and screening process is to see it as one where a single idea is gradually honed. Screening in this case would refer to elements of the new service idea. So the core idea is refined, or fleshed-out by the screening process. This view therefore implies that the idea is a sophisticated construct, more like a proto-service concept or specification. It could also be however that an idea is a (for example) customers’ description of modifications to an



existing offering. In this case, the idea is indeed a sophisticated construct as it relies on the availability of a complete description (or tacit understanding) of the detail of the existing service offering.

In summary there appear to be different ideas on the nature of new service ideas: at one extreme there are the simple marketing conceptions of the new service, at the other a complex (and perhaps internal) single construct. The former may be numerous in beginning of the service design process, the latter are fewer in number, perhaps only one. Despite the lack of a formal definition for the new service idea, it remains part of the vernacular of service – and product – design. Of necessity the new service idea will be referred to frequently in this thesis. Therefore, there remains a requirement for a working definition of the new service idea. This will be:

*new service idea: a simple description of consumer outcomes resulting from the proposed new service.*

This definition is not meant to represent an ideal, but merely reflects the majority conception of the new service idea implicit in the reviewed service management literature. Weaknesses in the conception will be explored further in the analysis chapter of this thesis.

## The service concept

The Concise Oxford Dictionary definition of “concept” is:

concept *n.* 1 a general notion; an abstract idea. 2 *colloq.* an idea or invention to help sell or publicise a commodity. 3 *Philos.* an idea or mental picture of a group or class of objects formed by combining all their aspects.

As with the definition of an idea, this definition of concept appears to refer to an internal or mental vision possessed by an individual. The concept differs from the idea only in terms of its complexity, as the definition of idea stresses vagueness, fancy, impression and notion, whereas the definition of a concept does not. Therefore it seems safe to infer that the universal definition of a concept (and hence service concept), is still very much a mental and rudimentary picture of something, but is more elaborate, complex and detailed than an idea (or new service idea).

Edvardsson and Olsson (Edvardsson and Olsson 1996) describe the service concept as “the prototype for the service, that is, the customer utility and the benefits (value for the user) which the service and its various sub-services are intended to provide and convey to the customer. The service concept covers both the description of the customer needs to be satisfied and how they are to be satisfied in the form of the content of the service or the design of the service package, for example, expressed in terms of core service and supporting services. The service concept is a detailed



description of what is to be done for the customer (that is, what needs and wishes are to be satisfied) and how this is to be achieved (that is, the service offer).”

Heskett’s version of the service concept is similar; “The service concept should include:

- the important elements of the service to be provided, stated in terms of results for customers,
- an explanation of how these elements are supposed to be perceived by the target market segment, by the market in general, and by employees as a whole.
- Finally, the service concept should suggest efforts in terms of the manner in which the service is designed, delivered and marketed.” (Heskett 1986)

Clark et al suggest that Heskett’s definition hints at the potential for mismatch between what an organisation does and how it wishes to be perceived. (Clark and others 2000) Heskett’s definition also implicitly underplays process (“... should suggest...”) and therefore emphasises perception and consumer outcomes. In this sense both Heskett and Edvardsson’s service concept should perhaps more accurately be called a service marketing concept.

Collier describes the service concept as a “customer benefit package;” the bundle of goods used in the delivery of service or removed from the system by the customer.

Collier also includes in the concept the environment in which the goods and services are provided, and the way the customer and his or her belongings are treated. (Collier 1994) Once again, the emphasis in Collier's definition is very much on the marketing concept for the service.

Lovelock as with his work on design process models splits the service concept into a service marketing concept and a service operations concept.

“(The service marketing concept should) clarify the benefits offered to customers and costs they will incur in return. This marketing concept considers both core and supplementary services, reliability levels for these services, and where and when customers will be able to have access to them. Costs include time, mental effort, and physical effort. (In parallel with this one needs to) establish a service operations concept, which stipulates the geographic scope and scheduling of operations, describes facilities design and layout, and indicates how and when operating assets should be deployed to perform specific tasks. The operations concept also addresses opportunities for leveraging through intermediaries or the customers themselves. Finally it clarifies which tasks will be assigned to front stage and backstage operations.” (Lovelock 1995)

Some authors suggest a detailed and systematic articulation of the service concept as the start point of the service design process using quality function deployment (QFD). Here the service concept is stated as a bundle of relationships between customer requirements and particular service encounters. (Stuart and Tax 1996b)



Clark et al argue that the fragmentation of the service concept into marketing and operations components is not advantageous. “Much of what has been written about the service concept emphasises either a marketing or an operations viewpoint, but this is not helpful for service managers because it reinforces functional divisions and leads to a fragmented view of service management.” (Clark and others 2000) From a practitioner perspective this argument makes intuitive sense, however, from a theoretical or academic perspective there may be value in dis-aggregating the service concept when using it as a descriptive tool. Whether desirable or not, marketing and operations staff historically do “not talk the same language.” Therefore in order to describe with integrity each groups’ design communication constructs, different terminology may be required and it may be necessary to separate marketing and operations concepts.

Clark et al go on to describe the service concept as “service in the mind (Johnston and Clark 2001);” or “the mental picture that is held by customers, employees and shareholders about the service provided by the organisation.” (Clark and others 2000) They list the attributes of a service concept as:

- value: what consumers are willing to pay for
- form and function: the overall shape of the service, how it is created and how it operates
- experience: the experience as perceived by customers, and

- outcomes: the benefits, stated or assumed, that it provides the customer and the organisation.

This implicit definition of the service concept places greater emphasis on the operational aspects of the new service than most of the earlier definitions, however, a marketing emphasis remains.

There seems to be a reasonably consistent view of the constitution of the service concept. Most academics implicitly define the service concept as a detailed statement of “what customers” and “what outcomes” with one or two authors introducing consideration of delivery processes and other resources. Notions of concept screening have been advanced by service marketing academics (Bowers 1987; Bowers 1989; Scheuing, E. E. and Johnson 1989), but using the same argument against idea screening (see above) we see that this approach might be unrealistic for certain categories of service innovation. In other words, concept screening, like idea screening may only be applicable to goods-like – or easily defined – services.

One other problem with the service concept is that it is primarily a theoretical concept. There is little documentation of its use by practitioners. Accepting that practitioners may not use the exact term “service concept” one would expect any theoretical concept to have been abstracted from some empirical observations.

However this was not so. (Heskett 1986)



## **The service concept – summary**

Clark et al's views concerning the need for alignment and integration in the ex ante description of services have obvious validity. However, there may remain a need for analytical labels for service concepts that emphasise marketing or operations consequences of a new design. In this thesis these will be termed service marketing concepts, service operations concepts and integrative service concepts respectively. As with the new service idea, the working definition of each concept is derived by synthesis of the definitions discussed earlier:

*service marketing concept: a description of target consumers and consumer outcomes coupled with a strategic marketing rationale for the new service.*

*service operations concept: a description of the processes and other resources required to support the consumer outcomes of the new service.*

*Integrative service concept: a holistic description of the strategic rationale for the new service, a description of target consumers and consumer outcomes coupled with a description of the processes and other resources required to deliver the consumer outcomes of the new service.*

## **The detailed service design**

After developing concepts for a new service there may be further development of the concept to the stage where the new service can be implemented. However, such

development or detailed design may not always occur before implementation. It is not inconceivable that a service could be subject to detailed design during implementation by service providers. In fact, this is a common experience; many consumers are exposed to trial services for evaluation or market-testing purposes. So the process of detailed design might be formal or implicit, with the outcome of the design process being respectively a design or the service itself.

Discussed in the last section on the service concept were authors who used the phrase service concept to describe a rudimentary marketing concept, with little consideration of operations or resource consequences. When these authors discuss the next stage in the process of design they talk of developing the details of the service process, package, environment and delivery systems. (Scheuing, E. E. and Johnson 1989;Heskett 1990;Bowers 1989;Sasser 1976) Using the working definition of operations and marketing concept discussed earlier this approach can be seen as sequential design of the marketing and operations concepts for the service. In other words, detailed design is process and resource design. Absent is a discussion of any approach analogous to concurrent product/process design reported in the product design and new product development literature. (for example (Clark and Fujimoto 1991;Clark and Wheelwright 1994;Utterback 1996))

Edvardsson and Olsson describe the detailed design of the service as comprising the design of the service system and the service process. The service system being the resources available to realise the service concept, and the service process referring to the “chain or chains of parallel and sequential activities which must function if the



service is to be produced.” (Edvardsson and Olsson 1996) In Edvardsson and Olsson’s language the detailed design communication construct describes process and resources.

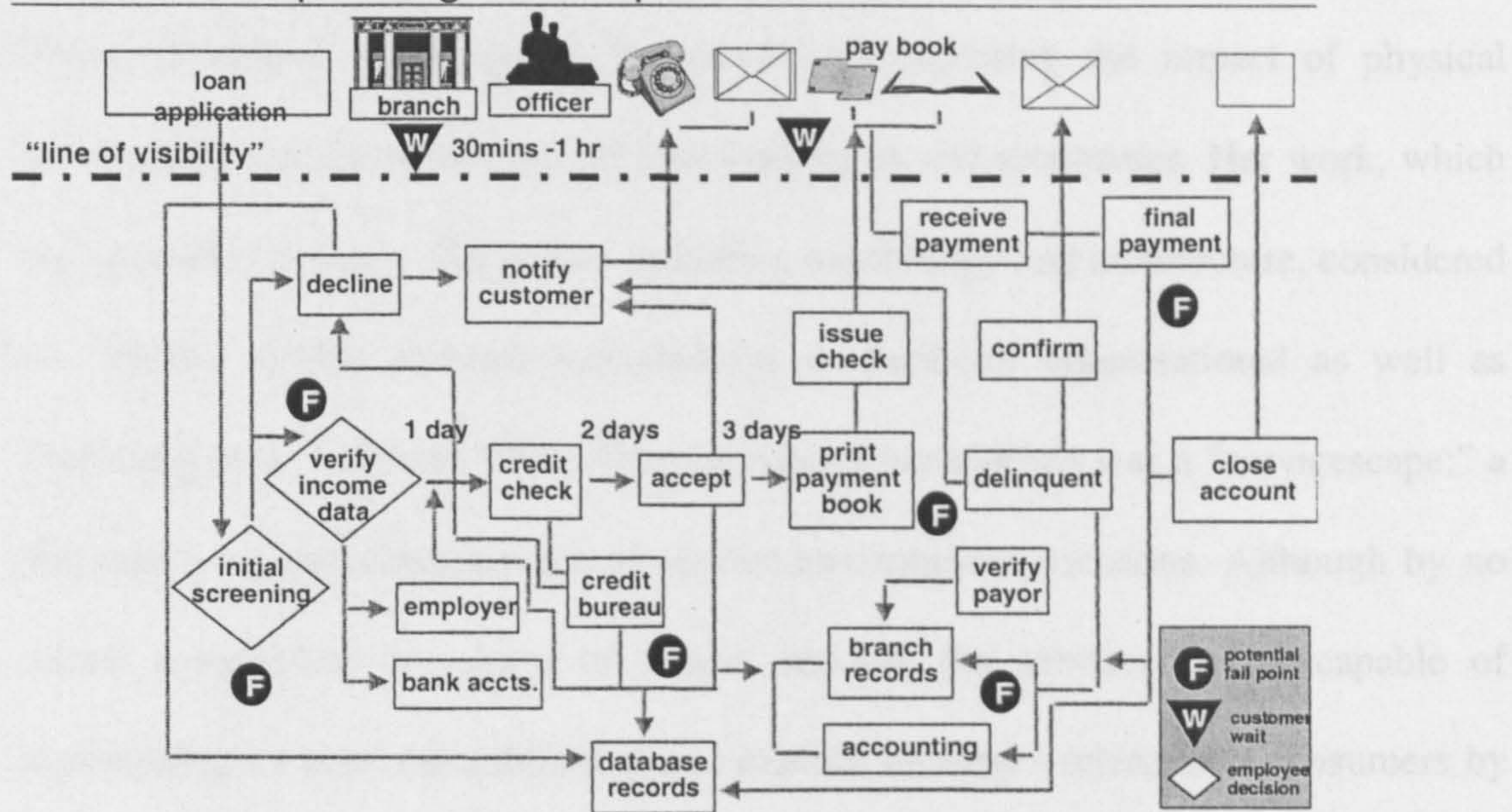
Clark et al suggest that a complete service design should also contain a clear description of the target customers, the service package (the tangibles of the transaction) and the service environment. Also to be included in the design is a strategic rationale and a clear picture of resource consequences for the new service. (Clark and others 2000)

### **Process mapping**

One area that has received considerable attention in academic circles is a particular technique for mapping the detail of aspects of the service design. This is the notion of “process mapping” sometimes referred to as “blueprinting.” (Shostack 1987;Kingman-Brundage 1989) Process mapping can be used as a descriptive tool to highlight potential fail points in services and to suggest areas for improvement. However, the technique can also be used to map operational and marketing aspects, and the fine-detail of a service ex ante. The techniques are an elaboration of flow-charting techniques so that structural and infrastructural elements, as well as “lines of visibility (the boundary between front and back office) are displayed along with core-process flows. The communication construct resulting from a process mapping exercise is a detailed map of the process and structure of the new service. (Shostack 1987;Kingman-Brundage 1989)



## service blueprinting - example



However, adoption of process mapping by service practitioners appears to be very limited. In research across a number of service sectors in the US Martin and Horne found no evidence of the use of blueprinting / process mapping the sequence of activities of the new service. (Martin and Horne 1993) This is possibly a result of the difficulty of using the technique. Although not conceptually difficult, Process mapping – at least the Shostack kind – is extremely time-consuming if carried out properly. Even this search of academic and practitioner literature revealed very few actual service blueprints. Further, most blueprint examples had been produced ex post to describe an existing service.



## **Servicescapes**

Bitner developed a conceptual framework for exploring the impact of physical surroundings on the behaviours of both customers and employees. Her work, which was grounded in many disciplines including psychology and architecture, considered the “ability of the physical surroundings to facilitate organisational as well as marketing goals.” (Bitner 1992) The outcome of her method was a “servicescape;” a description of the consequences of service environment decisions. Although by no means a complete descriptor of a new service, the servicescape is capable of highlighting ex ante, the subliminal and explicit messages released to consumers by service environments.

## **Quality Function Deployment**

Advocates of Quality Function Deployment (QFD) suggest that detailed service design involves consideration of the matrix of relationships between the individual service encounters and the relevant service process elements, followed by consideration of service quality control parameters for these service process elements. (Stuart and Tax 1996b; Ghobadian and Terry 1995) Here the communication construct is more elaborate than in the techniques discussed previously. The outcome of the QFD process being a description of: target outcomes for consumers, process detail, resources requirements, as well as monitoring and control requirements.

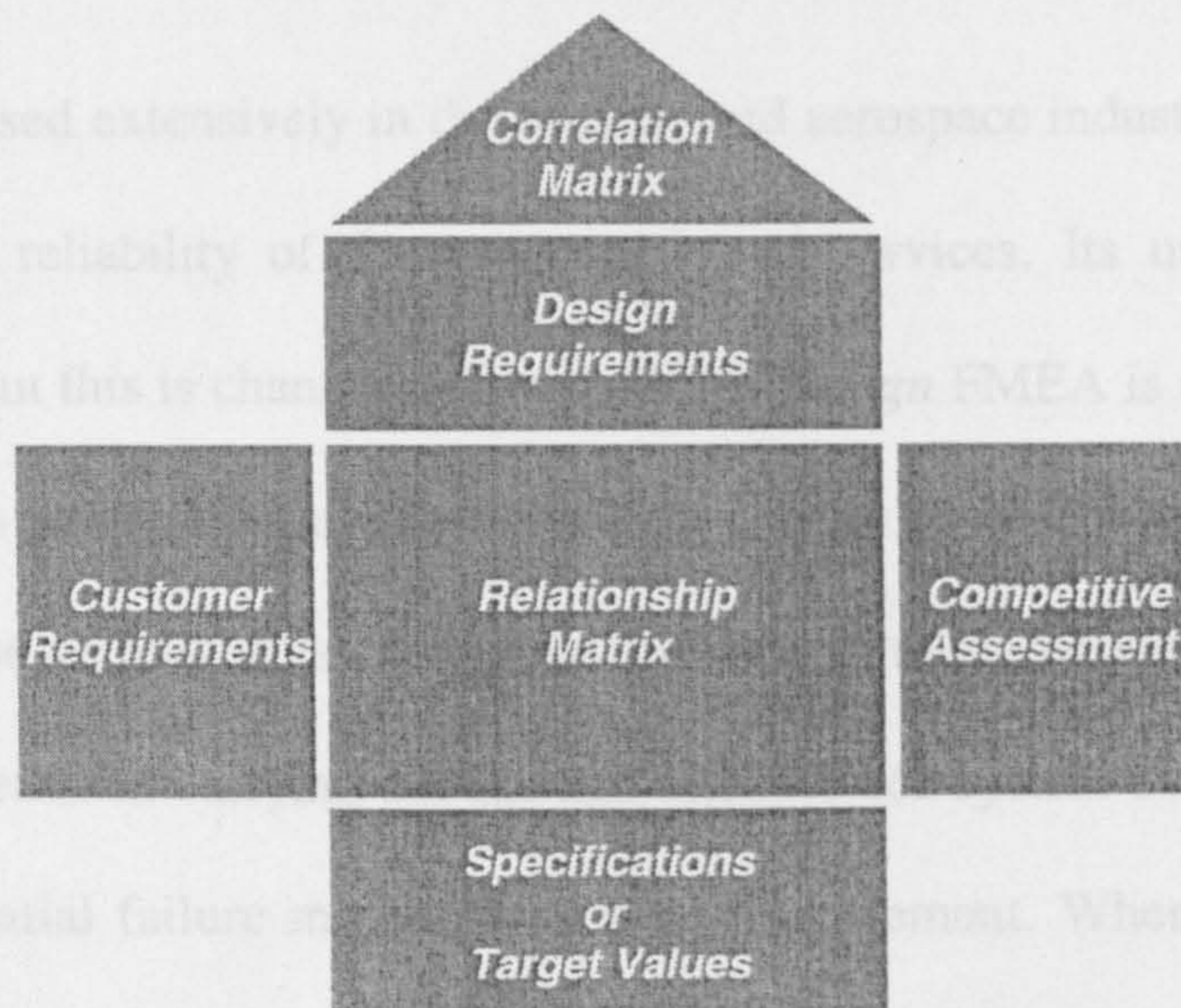
QFD practitioners claim that the technique allows designers to objectively reflect customers' desires and tastes in the final service design. The technique is also highly inclusive; it requires all business functions to contribute to the design process. Further, the technique provides multi-functional groups with a common language to describe new services.

In use QFD is a conceptual framework on which a cross-functional design team can display and organise the evidence it needs to set targets for future service designs. The process begins with team members identifying the service attributes customers want; the team then ranks them in order of importance and measures them against the competition. Next, team members relate customer attributes to the service design – or engineering – tasks involved. Designers specify objective measures for each task and spell out how they influence each other. In this way all team members can appreciate the consequences of any proposed improvement.

Eventually, with all relevant facts in view on the grid, the team makes its choices. The process should have clarified opportunities, stimulated negotiation, and helped set an agenda. The format is flexible. Once design targets have been set, the team can draw up new houses focusing on service package elements, processes and delivery requirements. (Hauser and Clausing 1988)



## Quality function deployment - "House of Quality" matrix



Not only does QFD appear to be inclusive with respect to firm functions, but it is also – to an extent - hierarchically inclusive. That is, the QFD process incorporates design input at environmental, customer and operational levels. However, one problem with QFD is that in use, operational input to design is essentially reactive; the requirement being to assess the operational impact of marketing concepts. There is scope for operations to use the QFD matrix to map “capability envelopes” from which marketing could select marketing concepts, safe in the knowledge that operations understand and can accommodate the impact of these new offerings on the resource-base of the firm. However, there appears to be no evidence of QFD being used in this way.



## Failure Modes and Effects Analysis (FMEA)

FMEA is used extensively in the nuclear and aerospace industries to help assure the safety and reliability of those products and services. Its use in services is less common, but this is changing. (Smith 1993) *Design* FMEA is a technique to find the weaknesses in service designs before the design is realized, either in prototype or service. The technique is an applied form of problem solving, and can be used in many contexts. In carrying out the analysis, service system behavior is evaluated for every potential failure mode of every system element. Where unacceptable failure effects occur, design changes are made to either eliminate the causes of the failures or to mitigate their effects.

FMEA activities are designed to:

- Recognize and evaluate the potential failure of a service or service-process and its effects;
- Identify actions which could eliminate or reduce the chance of the potential failure occurring; and
- Document the process. (Smith 1993)

A Failure Modes, Effects and Criticality Analysis (FMECA), extends the FMEA to include the probability of each item failure mode and prioritize these modes for



corrective action. The criticality assessment is performed by developing a Risk Priority Number (RPN). Most applications of an FMEA are in fact FMECA. The RPN criticality assessment uses linguistic terms to rank the probability of the failure-mode occurrence, the severity of its failure effect, and the probability of the failure being detected on a numeric scale from 1 to 10. These rankings are then multiplied to give the RPN. Failure modes having a high RPN are assumed to be more important and given a higher priority than those having a lower RPN. Even though the approach is "quantitative," the fact that FMECA relies on qualitative assessments, predicted failure rates, generic apportionment, and other factors that are really guesses at the best, makes the technique less precise than it might at first appear to be. Another problem with the techniques use in design is that in the absence of a comprehensive and detailed description or design, it can be extremely difficult to identify failure modes and causes. In this respect it is probably essential that design FMEA is underpinned by a mapping technique such as service Process mapping. In the absence of a blueprint designers would have to resort to a "like" service as a structural model for the new design.

### **Detailed service designs - summary**

Despite their use in the service management literature, limited empirical work (Martin and Horne 1993) has been carried out to investigate the degree to which any service design contributors use constructs discussed above, and also whether there is widespread practitioner agreement over their definition and constitution. Further, there seems to be little agreement amongst academics on what constitutes the

“detailed service design.” The design tools and techniques explored in the last section have several weaknesses and limitations. Each approach, by itself would not seem to provide an adequate description of the new service. However, used in combination, they might provide a complex, but powerful descriptive tool for new service design.

### **Communication constructs – discussion**

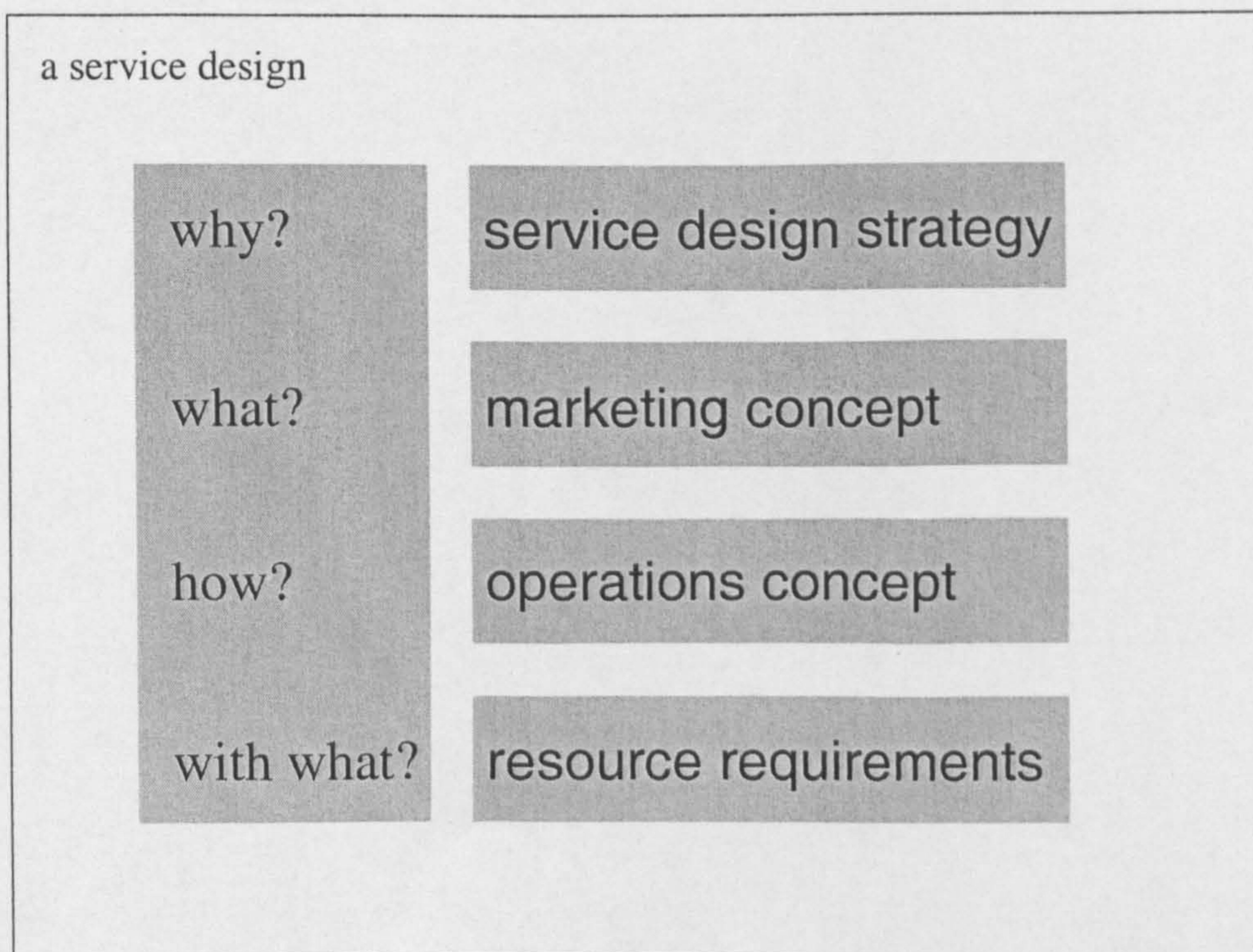
Implicit in the earlier discussion of design processes as well as in this section is the notion that the constitution of a service design is dependent on its position in the design process. Furthermore, two different processes may operate simultaneously on the design. At the same time as a “variation reduction” process reduces the “degrees of freedom” or flexibility inherent in the design, so another process of organic growth takes place in which the design achieves ever-greater levels of complexity. As was suggested in the last section on process, the extent to which either of these processes is dominant in design may be contingent. The contingencies may also be similar, that is, the extent to which the process-subject is an outcome or a set of prerequisites. In turn, this contingency may be dependent on the nature of the original design imperative; the requirement to manage market, or resource risk.

However, the literature revealed no definitive view on what constitutes a final and complete service design. The QFD method seemed to provide the most comprehensive design communication construct. However, even though a strategic rationale for the new service was implicitly “deployed” in the technique, this was



absent from the final design. Also surprising was the omission from QFD of consideration of general resource impact. In other words, the technique answered specific questions on whether a marketing concept could be supported, but did not address the resource development potential of the new service. This last issue may be linked to the first problem area; that is, the lack of a strategic rationale that should explain the resource development potential of the new service.

In the absence of guidance on the constitution of a service design there remains a need for a generic, final service design construct to serve as a framework for investigation. This is illustrated in the figure below. As with the definitions of idea and concept, the final design construct is a synthesis of the ideas discussed earlier in the section.





The first constituent of the idealised service design is a statement of the rationale for the new service, that is, an answer to the question; why develop the new service at all? The answer to this question being an articulation of or statement of the new service strategy. The second item constituting the service design is the service marketing concept. The service marketing concept is that which is referred to by Heskett and Edvardsson as the service concept, that is, a description of target consumers and desired consumer outcomes. So the service marketing concept or outcome-description will describe “what is done” to or for the consumer in the service process. The third element of the ideal service design is the service operations concept. This is a description of the processes necessary to support the service marketing concept, that is, exactly how the service will be delivered. This separation of service marketing and operations concepts develops Lovelock’s ideas on service design communication constructs. (Lovelock 1995) Lovelock does not give an explicit rationale for separating marketing and operations concepts, however there is an implicit rationale in that he begins his 1995 work by emphasising the need for marketing managers to understand operations constraints in service design. Therefore the separation is probably a device to force consideration of operations issues. This is one reason why it is retained here. The other is that in order to describe the reality of service management and the “functional” mentality (Johnston 1994) that so often prevails, there will be a need to reflect the vernacular of real business discourse. Finally, the idealised service design construct will include a description of resource requirements for the new service, as well as a impact on the general resource set of the service firm. Both the resource requirements envelope,



and the service operations concept are “bundled” in Edvardsson’s 1995 work on service design (Edvardsson and others 1995) as the “service prerequisites.”

The generic service design depicted in the previous figure is not meant to be a definitive statement on what should constitute a service design, but is a framework for analysis of empirical data. It may be that some of these elements do not appear at all, similarly some new elements may be emergent. Almost certainly the names of the construct elements will not be the same as those used by practitioners. Correspondence between the theoretical constructs in the last figure and empirical observations will be the subject of interpretation. Similarly, the dominant element of the service design may vary depending on exactly what is being designed and how. Certainly some of the existing literature on service design processes (Scheuing, E. E. and Johnson 1989; Bowers 1989; Terril 1992) seems to largely discuss the development of marketing concepts with minimal emphasis on operations and resource communication constructs. So it may be that research outside the contexts discussed by Scheuing, Bowers and Terril et al may reveal service design communication constructs with different emphasis.

The research discussed in this section leads to another set of question areas, ancillary, and related to those on design processes. These questions are aimed at determining the types of communication construct that service design practitioners actually use. The first of these question areas will attempt to determine the constitution of a service design? The question is a tool for investigating the subject of discussion in the design process in various contexts. Another question will attempt

to learn the reasons for the constitution of the design: what influences the constitution of the communication construct? If the subject of the design process influences process adoption, then there may be intervening variables related to the position in the process at which the “snapshot” of a design is taken. The third research question of this section therefore attempts to unearth these variables: for a given service design, what effect does position in the design process have on the constitution of the design construct?

### **Design communication constructs – summary**

The existing literature on the makeup of service designs was presented and a number of problems with and gaps in this literature were identified. As with the literature on process, most previous research explored the applicability of goods-like models of design communication constructs. The iterative or overlapping nature of service design was recognised by few authors. Several research questions emerged that may remove some uncertainty on the content of a service design. The related research questions may also uncover for practitioners, a checklist of service design content.

In the absence of any definitive view on what should constitute a service design there remains a need to develop a generic service design construct to serve as a framework for investigation.

### **Service design literature review – summary and conclusions**

As this thesis was taking an Operations Management perspective on the subject of service design, this literature review began by providing an overview of operations



management and then setting the parent discipline of service management within this context. It was argued that operations management is moving – and has moved significantly – from a discipline concerned with internal optimisation and focus to a holistic discipline that is, of necessity concerned with *total* utility in management. It was also argued that the importance and rapid development of Service Management exemplified this holistic perspective on the management of creative processes. Another way of conceptualising this paradigm shift was to see service management as a *general* body of management theory that subsumed the *special* theoretical frameworks of traditional operations management.

In a way that is almost the reverse of changes in the operations management literature, the growth of service marketing literature represented a change in perspective from external to internal. However, while the service marketing field had seen the welcome development of a huge body of knowledge on service quality, implicit was an emphasis on *post-hoc* management of quality and satisfaction and an absence of emphasis on how to; articulate and manage service quality *ex-ante*. That is, by design.

Changes in services HRM appear also to concern the question of internal or external focus. HRM as a practice and as a body of knowledge is beginning to look outward, to both customer-defined measures of performance for service personnel, and also in targeting recruitment policy and practice at particular market segments. A design consequence of this change was the need to integrate internal and consumer perspectives on server roles, in order to map task competencies or role definitions.

Another change is the migration towards the extremes of the volume – variety axis. By this it is meant that many services are moving towards extremes of standardisation and automation and others are moving in the opposite direction with consequent need for front-line discretion and empowerment. Management challenges may be in managing these extremes. A design difficulty particular to the empowerment context may be the *ex-ante* determination of degrees of empowerment and requisite competence maps in the absence of models for the new service. In the standardised environment the key design problem may be dealing with a lack of critical design contributions from contact staff.

From the body of the review of the parent discipline, and in particular from the summary above it should be clear then, that service design is both an important but relatively neglected subject. Without repeating the supporting logic of the review, the specific conclusions concerning the importance of service design are as follows:

- There remains a relative neglect in the literature on service design.
- Research attention to the creation of services must be holistic.
- Service quality research rarely considers the management, *ex ante*, of encounter satisfaction and quality, that is, re-design and design.
- The design of dynamic server capabilities may be as, if not more, important than specification of fixed elements such as facilities, process maps and role-scripts.

Also important is specifying the boundary of encounter roles and the training of



servers in micro-design management activity, as is the management and articulation of their creative and evaluative contributions to design.

- Supplier and consumer networks may be important considerations as both inputs to, and the subjects of service design.
- The portability of services, especially across-borders may be critically dependent on codifying service outcomes, processes and resource requirements.

These then, are just some of the many issues that underpin the importance of service design as an area for management research. Further, the above list, though not exhaustive, shows that the gaps in research on service design are not in one particular area, but exist “across the board.” This fact would support research into service design that was general in nature, rather than addressing any specific area. Hence a subject that demands holism has been addressed – almost – holistically in that the remainder of the review – on service design – looked at three basic questions that could be applied to any new field: why, how and what? Structuring the service design review in this way lead to the following conclusions on the state of current research:

### **Why? – design imperatives**

The notion that strategy formulation – and its articulation as new services – should be primarily market-driven was challenged. Newer ideas balance the design imperatives from markets and competitors with a clear imperative to “lever” resources into new market-spaces. New service design may be one of the key

mechanisms for this “levering.” It was also suggested that – at the firm level – the tactical response to change pressure could either be “conscious” or “unconscious,” and that the unconscious reaction of the service resources may be the reason why services seem to “just happen.” Finally, it was argued that a practical method by which innovation and design imperatives could be understood would be to map the firm’s position over time on a map of market and resource risk.

### **How? - design processes**

It was argued that the majority of the literature on service design processes looked at the design of goods-like outcomes. It was further argued that this area of research represented only a small part of a continuum of service design activity. At the other extreme of the continuum would be services that were not goods-like, were not easy to define or specify, that are such that their implementation would have a major impact on the service organisation. This argument was developed into the – hopefully self-evident – idea that the use of design process models is contingent on the nature of the service being designed. The specific contingencies of process adoption were; the goods-like or outcome-like nature of the service as opposed to the prerequisite-like nature of the service being designed, and the initial imperative for creating a new service. It was also argued that the independent variable, “nature,” may have several component variables, and not just the outcome / prerequisite alternative. The dependent variable, “process,” was also likely to have several component variables, for example the descriptors of the process. For example, the



extent to which the process is sequential or iterative, the organisational scope of the process, the number and type of stages, and so on.

### **What? - communication constructs**

The review argued that there was little agreement on what should constitute a service design. Further, it was suggested that the constitution of the design was contingent on the type of design process adopted. A trivial point, but one that had to be explored for completeness was that there may be intervening variables related to the position in the process at which the “snapshot” of a design is taken. Stated simply; designs would obviously change in scope and depth as they moved through the NSD process.

## Research Questions

The major research questions of this thesis thus emerge from the conclusions of the review of service design literature. All have been stated in some form in earlier parts of the review, but they are formally restated now as a way of concluding the review. The major questions were present – albeit in a slightly different form – at the beginning of the review of NSD literature, as they reflected the prior call for basic research in NSD. Refinement and elaboration of these initial questions is derived from the literature of the last three sections of this chapter on NSD imperatives, processes and communication. This refinement and elaboration is presented in the following table as the set of supplementary questions relating to each main question. The table also reveals the derivation of each supplementary question by referring to specific sections of the literature review, specific authors and any explanatory narrative.

<i>Research question 1. What are, and should be the imperatives to develop NSDs?</i>		
Supplementary questions:	page	references / narrative
<i>1a) To what extent are environmental (external) or internal (resource) factors the imperatives for NSD?</i>	79 – 80	Lovelock, 1992c; Grant, 1991; Conner and Prahalad, 1996, Nonaka, 1991; Mills and Lewis, 1997
<i>1b) How should environmental or internal inputs be managed in the NSD process?</i>	76 – 77 81	Hill 2000; Armistead 1990; Armistead and Clark 1994 Kogut and Zander 1992
<i>1c) What are, and should be the nature of tactical responses to NSD imperatives?</i>	82 - 85	Glynn 1996; Rathmell 1974; Kogut and Zander 1992; Senge 1990
<i>Research question 2. What does, and should the NSD process look like in non goods-like service environments?</i>		
Supplementary questions:	page	references / narrative
<i>2a) To what extent are stage-gate models used in NSD?</i>	97 98 - 99	Martin and Horne, 1993; Edvardsson and others 1995



<i>2b) Is the use of stage-gate, and other models of NSD contingent?</i>	91  99	Edvardsson and others 1995; Kingman-Brundage and others 1995; Bowers, 1987 Edvardsson and others 1995
<i>2c) If so, what are the contingencies of adoption?</i>	98 - 101	Edvardsson and others 1995; Bowers, 1987; Bowers, 1989
<i>2d) In particular, is the initial imperative for the NSD activity a factor?</i>	100	narrative of 2 <sup>nd</sup> and last paras.
<i>Research question 3. What is, and should constitute an NSD communication construct?</i>		
<b>Supplementary questions:</b>	<b>page</b>	<b>reference / narrative</b>
<i>3a) What influences the constitution of the communication construct?</i>	125	Lovelock, 1995;
	126	narrative of 2 <sup>nd</sup> para.
	127	narrative of 2 <sup>nd</sup> para
<i>3b) For a given service design, what effect does position in the design process have on the constitution of the design construct?</i>	126	Edvardsson and others 1995; Bowers, 1989
	126	narrative of last para

## Chapter 3 - Research Methodology

### Introduction<sup>1</sup>

The last chapter arrived at several conclusions on the literature pertaining to service design. These conclusions were also expressed as three research questions that guide the development of the research presented here. The start point of the literature review was certain prima face reservations about the literature on service design. The research questions – or more to the point, the argument that lead to them – were justified and expressed with greater precision than these earlier reservations. Thus the “what” and “why” of this research was established. It now remains to establish the mechanism, or methodology of the investigation and this is the primary aim of this chapter.

However, before so doing, the epistemological basis of the research will be established; it being difficult to say anything meaningful about research strategy or design, without first establishing a philosophical perspective. (Gill and Johnson 1991) In discussing the research philosophy, the chapter will also explore particular problems encountered in application of the scientific method to social phenomena. A key outcome of this philosophical discussion is that this thesis will concern itself with the development, as opposed to testing of theory

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<sup>1</sup> Explored throughout the chapter are the limitations of the proposed methodology, so there is no separate section discussing this issue.



The main body of the chapter concerning research methodology begins by exploring possible research strategies and then moves on the detailed design of the research instrument. The selected strategy being a multiple site case study. A critical component of the detailed research design is the method of evidence collection and interpretation. The chapter arrives at the conclusion that evidence collection should be via semi-structured interviews with design managers, as well as searches through live and archival design documentation. Evidence interpretation and analysis will use a combination of “explanation-building” (Yin 1994) and a modification of the “grounded theory” approach. (Easterby-Smith; Thorpe, and Lowe 1991) The chapter will refer to the case-site protocol and the case-site report outline which are included at appendices 3A an 3B respectively.

*In a scruffy hamlet in dark-ages Britain, a crowd of villagers harasses an attractive young woman. The woman; Connie wears a conical, flat-brimmed hat and a false nose.*

Mr. Blint [*village Ne'er-Do-Well*]: We have found a witch. May we burn her?

Crowd: Shouts and cries: burn her, burn her ...

Sir Bedevere [*Lord of the manor*]: How do you know she is a witch?

Mr. Blint: She looks like one.

Crowd: Shouts and cries: yeah, she looks like one, she looks like one, ...

Sir Bedevere: Bring her forward.

Connie: I'm not a witch, I'm not a witch!

Sir Bedevere: But you are dressed as one.

Connie: They dressed me up like this.

Crowd: We didn't, we didn't, no, no ...

Connie: And this isn't my nose it's a false one.

Sir Bedevere: Well?

Mr. Blint: Well we did do the nose.

Sir Bedevere: The nose ...

Mr. Blint: And the hat ... But she is a witch.

Crowd: Yeah, burn her, burn her ...

Sir Bedevere: Did you dress her up like this?

Crowd: No, no, no ... Yes.

Mr. Blint: Yes, yes ... A bit, she has got a wart.

Sir Bedevere: What makes you think she is a witch?



Mr. Newt [*village blacksmith*]: Well, she turned me into a newt.

Sir Bedevere: [*Sceptically*] A newt?

Mr. Newt: I got better.

Crowd: Burn her anyway, burn her, burn her ...

Sir Bedevere: Quiet, quiet, there are ways of telling whether she is a witch.

Crowd: Are there? What are they? Tell us, tell us ...

Sir Bedevere: Tell me, what do you do with witches?

Crowd: Burn them, burn them.

Sir Bedevere: And what do you burn apart from witches?

Mr. Blint: More witches, more witches.

Mr. Duck [*village carpenter*]: Wood.

Sir Bedevere: Good. Why do witches burn?

[*long silence*]

Mr. Newt: B ... B ... cause their, ... made of .. wood?

Sir Bedevere: Good.

Crowd: Oh yeah. Never thought of that. Etc..

Sir Bedevere: So, how do we tell whether she is made of wood?

Mr. Blint: Build a bridge out of her.

Sir Bedevere: Ah, but can you not also build bridges out of stone?

Mr. Blint [*Scratching head*]: Oh yeah, of course.

Sir Bedevere: Does wood sink in water?

Mr. Blint: No, no.

Mr. Duck: It floats.

Mr. Blint: Throw her into the pond.

Crowd: Throw her into the pond, throw her into the pond, ...

Sir Bedevere: What also floats in water?

Mr. Blint: Bread.

Mr. Duck: Apples.

Mr. Newt: Very small rocks.

Mr. Blint: Cider.

Mr. Duck: Gravy.

Mr. Blint: Cherries.

Mr. Blint: Mud.

Mr. Newt: Churches, churches.

Mr. Duck: Lead.

Up rides King Arthur [*he is passing through the hamlet*].

King Arthur: A duck.

Crowd:[*Ooos and ahhs in awe at both the presence of the King and such a dazzling display of Kingly intelligence.*]

Sir Bedevere: Exactly. So, logically ...

Mr. Blint: If she, weighs the same as a duck ... she's made of wood.

And therefore?

Mr. Blint: A witch.

Crowd: A witch, a witch, a witch, ...

[*The crowd hustles away Connie to be weighed, and inevitably, burned*]

(Monty Python and the Holy Grail 1975)

“Give me any fact and I will fit it into my system.”

(Francis Bacon, 1561-1662)



# Philosophical Perspective

## Epistemological systems

Broadly, there are four main epistemological systems:

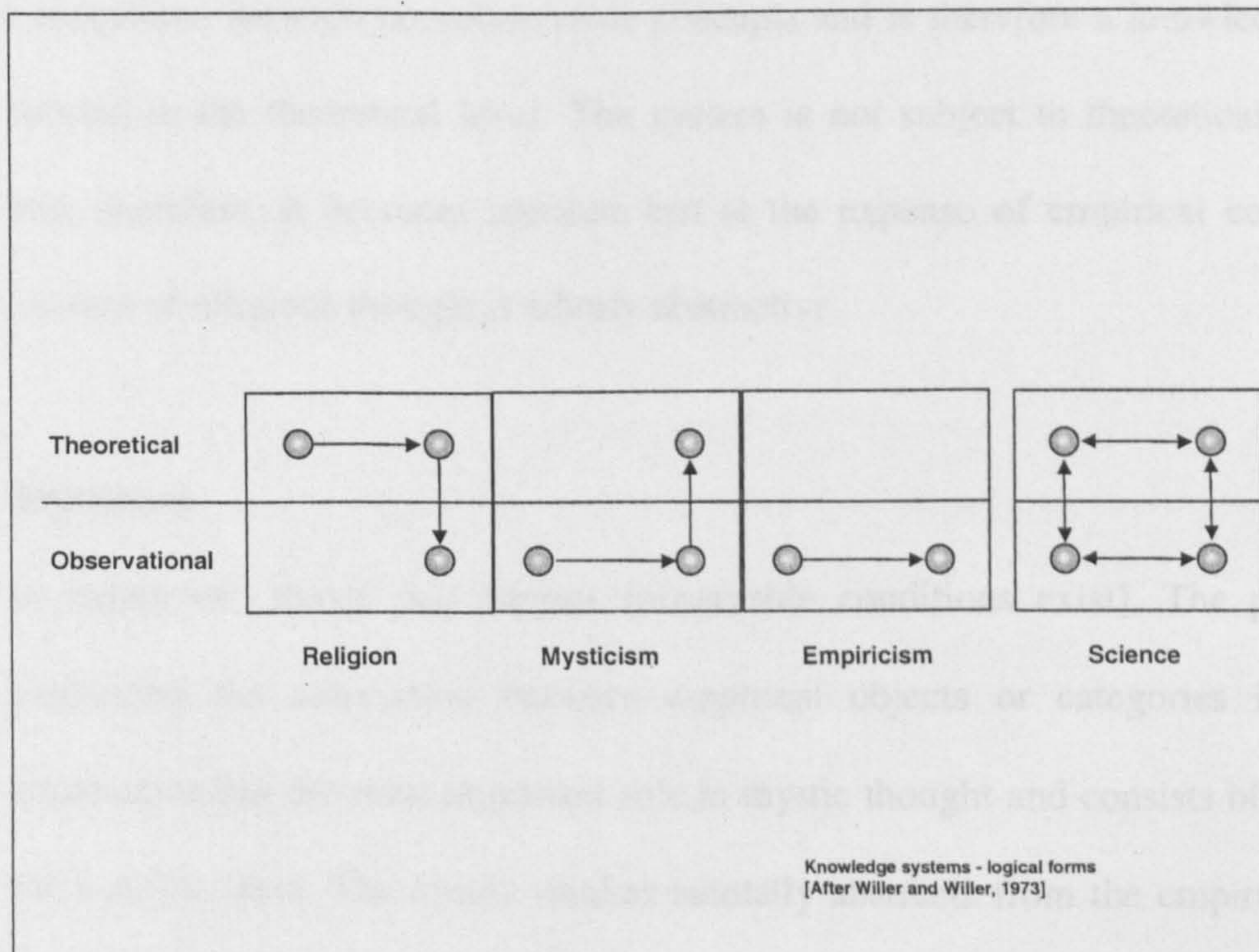
Religion

Mysticism

Empiricism

Science

The logical forms of the four systems can be represented diagrammatically thus:





In the diagram, thought connection is made at two levels, the observational and theoretical. The terms represented by the black dots at the observational level are referred to as observational terms or empirical categories, and the dots at the theoretical level represent ideas or concepts. Thought *connections* made at the observational level are empirical, connections made only at the theoretical level are rational, and connections across the two levels are abstractive. (Willer and Willer 1973)

### **Religion**

In religion, things happen [observable conditions exist] not because of an assumed relation between empirical objects or categories, but because of actions at the theoretical level, i.e. as a result of actions of non-observable conceptual entities such as gods. Theology; the attempt to understand gods - consists of understanding the connections between non-observable concepts and is therefore a knowledge system limited to the theoretical level. The system is not subject to theoretical refutation and, therefore, it becomes absolute but at the expense of empirical content. The *content* of religious thought is wholly abstractive.

### **Mysticism**

In mysticism, things *just happen* [observable conditions exist]. The problem of explaining the association between empirical objects or categories is ignored. Abstraction has the most important role in mystic thought and consists of the search for a single ideal. The mystic thinker mentally abstracts from the empirical, and is therefore largely non-empirical. The *content* of mystic thought that *is* empirical, only



takes place so that such knowledge can be discarded in the search for the ideal mystical state.

## **Empiricism**

Empiricism consists of empirical thought *alone*. In empiricism, things happen [observable conditions exist] because of an assumed relation between empirical objects or categories. Actions at the theoretical level are not considered. The system is not therefore subject to theoretical refutation. The *content* of empiricism is concerned with the connection of categories of observables *only*. Empiricism is the most widely used knowledge system, but used *alone*, is not science. Modern techniques of observation, measurement and manipulation, and in particular the employment of statistical tools can often mean that modern empiricism is very effective. Consider, for example, the development of modern agriculture. Only in the last century or so have scientific techniques been employed to understand the underlying theoretical laws of botany, soil formation, pest reproduction and so on. We might label Sir Bedevere's connections between observable categories as spurious, but they are logically identical to empiricism.

## **Science**

In science, things happen [observable conditions exist] not *only* because of an assumed connection between empirical objects or categories, and not *only* because of connections at the theoretical level. Instead, science makes rational connections that correspond to observational connections. That is, scientific laws are constructed that have, within their relevant scope, a structural similarity to connected observational categories. Therefore the scientific knowledge system works at and between both the

theoretical and empirical levels. The system is subject to both theoretical and empirical refutation. (Richards 1983) The *content* of scientific thought is empirical, theoretical and, most importantly, abstractive. (Magee 1997) (Richards 1983; Willer and Willer 1973)

### **Confusion between science and empiricism**

Science and empiricism may be confused because they both offer explanations of empirical events that use observation in contrast with other types of knowledge systems. Although both science and empiricism are concerned with empirical connection, their similarity ends at that point. The logical form of science is much more complex than empiricism as is illustrated in the figure above. Empiricism transcends particulars by generalisation, science transcends particulars by abstraction. In everyday life, we seldom require the exactitude of scientific explanation; simple causal explanation is usually adequate. Most human beings, not being trained in scientific methods are immersed-in, and perhaps conditioned by the empiricist epistemology. However, in order to build nuclear reactors, predict weather patterns on Mars, or predict the behaviour of an organisation, we need understand the *laws* underlying observational connections. That is, we need to establish predictive theories of sub-atomic physics, atmospheric physics and organisational dynamics. Theory based on abstraction from observables is powerful in such contexts because it is potentially applicable *outside* the context in which the *theory building* observations were made. That is, via abstraction to fundamental *laws* we can move from a neutron scattering and absorption *experiment* to nuclear reactor *engineering*, from meteorology to aereology, from one organisation to another, and so on. In contrast, empiricism can only generalise. Despite widespread use of



generalisations to explain, generalisation has no real explanatory power in *particular* cases. Further, as Sir Bedevere demonstrates, generalisation also involves the unanswerable problem that there are potentially infinite numbers of points of comparison between any two empirical events.

It has been shown that both science and empiricism are useful in managing everyday life. Science is powerful because it *explains* before it manages, it sets up mental constructions in terms we can hopefully understand and apply in *multiple* contexts. Empiricism, however, explains *only if it manages*. (Willer and Willer 1973)

### **The problem with induction**

The previous discussion of epistemological systems referred to “rational connections” among theoretical constructs. So what are rational connections? Inductive reasoning consists of observation then generalisation. An example of inductive reasoning is: “All the ducks I have ever observed fly, therefore all ducks fly.” Induction has intuitive appeal but is flawed. In this case, the generalisation to the potentially infinite population; the category “duck,” is logically flawed. In other words, inductive logic makes invalid predictions about an *infinite* number of possible future situations on the basis of a *finite* number of observation statements.

No rules exist which tell us when we have collected enough observations to justify generalisation. Even statistical significance rules are arbitrary. However, cautious generalisation might be appropriate, we can say “it might be true.” This *weaker inductivist position* (Magee 1980) does have powerful appeal. Humans customarily

think inductively and behave as if induction were a logically valid procedure.  
(Richards 1983)

Induction also suffers from the problem that observation is never unbiased. The brain's *interpretation* of visual stimuli is dependent on context. In, for example social science or genetics, the complex "baggage" of learned theory necessary to investigate may cloud the researcher's objectivity. This is what Gummesson has termed "preunderstanding." (Gummesson 1991) At a more fundamental level, Heisenberg's uncertainty principle states that either the momentum or position of a system can be *independently* determined with absolute precision, but not simultaneously. It is therefore impossible to have a *complete* knowledge of any system. Knowledge of the position and momentum of every element of a social system is a bit more detail than most social scientists require to make meaningful theoretical statements. However the point is raised to remind the reader that *all* knowledge systems that use empirical connection to test theory, rest – ultimately – on shaky ground. In other words, certain rational connections will always be at the theoretical level, we can *never* observe them directly in their entirety, not only because of their complexity and technical difficulty of measurement, but because current – well tested and supported – theory forbids it. Observational *statements* themselves are also context-specific. They usually *relate* to other observational categories, and even if they don't, theories, world-views or paradigms always precede observations. (Gummesson 1991)



Inductive reasoning is the *only* process used for making the “connections” in empiricism. The lack of rigour aside, inductive reasoning is with us to stay, and is embedded in the social scientist’s paradigm. (Swamidass 1991)

## **Deduction**

Deductive logic is concerned with the principles of correct reasoning; with the analysis of arguments and the clarity of their expression. An elementary model for deductive logic is syllogism. Syllogism is usually accredited to Aristotle, and consists of breaking down all arguments into three essential propositions. The first and second propositions being the *premises* which provided the evidence, and the third being the *conclusion* drawn from them. For example:

- All knights are brave.
- Sir Bedevere is a knight.
- Therefore Sir Bedevere is brave.

The concepts of truth and falsity apply only to the *constituents* of an argument, the premise or premises, and the conclusion. The concepts of validity and invalidity apply only to the *relation* between the constituents, the argument or the inference itself. (Richards 1983) Thus a conclusion may be rejected because a premise can be shown to be false, or because the relationship between them is invalid.

Another form of argument used in deductive logic uses more sophisticated terms such as “if” and “then.” This is known as the hypothetical or conditional form. This form of conditional argument, known in logic as “affirming the antecedent,” runs as

follows. When we assert the hypothetical proposition; “if Connie weighs the same as a duck, then she is a witch,” and we also assert the antecedent; “Connie weighs the same as a duck,” we must necessarily infer the truth of its consequent. That is; Connie is a witch.

The importance of this procedure lies in the fact that it allows the assertion of the consequent of a hypothetical proposition *indirectly*, when by direct means we can only assert the truth of the whole proposition *and* of its antecedent. This means that we can make links between logical relationships at different levels of empirical connection, theoretical connection and most importantly *between* empirical and theoretical levels.

If we return to our example, we can assert several theoretical propositions concerning witches:

- Witches exist.
- Witches can fly on brooms.
- Witches turn milk sour.
- Witches weigh the same as ducks.
- The Devil exists.
- Witches communicate with the Devil.

We can also weigh Connie and thereby make an empirical connection between Connie’s weight and a duck’s weight. In doing so we affirm the antecedent of one of our theoretical propositions and show that Connie is a witch. We also make a



connection between empirical and theoretical. It must be stressed that the truth or falsity of the logical argument is not being discussed here. The theoretical propositions listed above may well be false, however, this would not affect the logical *validity* of the argument.

Thus the high-energy physicist therefore can overcome Heisenberg's theoretical prohibition against complete measurement of fundamental entities and events. Theoretical assertions can be linked via logical consequents to that which *is* observable, and so theories can be tested.

### **The science tool kit**

It should now be apparent that we now have almost a complete tool-kit with which we can do science. We can observe and make tentative linkages between observable categories - *weaker induction*. We can then abstract to the theoretical level and hopefully develop an *explanatory* device - deduction. Finally we can link theory with observation via logical consequents. But can we *verify* the theory?

### **Logical Positivism**

The positivists "verifiability" principle claimed that the only meaningful propositions were those either of logic and mathematics [which, if true, were tautologies] or of empirical science. (Richards 1983) The meaning of scientific propositions, could, it was claimed, be *verified* by observation. Unfortunately for the logical positivists, the principle of verifiability proved to be unworkable. It excluded all the general propositions of science which cannot be verified on account of the problem of induction. (Magee 1980) In weighing Connie we *do not* verify the

theoretical proposition that witches weigh the same as ducks. We *support* it if by some other means we can affirm that Connie is a witch, but no number of empirical observations can *verify* the proposition.

So what use is theory if we cannot verify it by observation? Can we affirm our mental models of the universe at all, and if so, how? Verifiable or not, theories and internal models have popular intuitive appeal and guide us in daily life as much as in academic investigation.

### **The hypothetico-deductive method**

The approach in which the collection and analysis of information is *guided* by a – formally recognised – preconceived idea is known as the “method of hypothesis.” (Magee 1997; Richards 1983) The move to the hypothetico-deductive method was started by William Whewell in the nineteenth century. Whewell recognised that collection of data could lead to a sound theory only “by means of a true and appropriate conception,” by which he meant that an hypothesis must be invented at an early stage to account for the observed facts and to guide the researcher. (Richards 1983) “Whewell’s view reflected the Kantian idea that ‘truth’ was not universal, but rather a construct in the mind of the investigator.” (Magee 1997) Whewell’s pragmatic approach, and the extreme rigour of the positivists still however, did not provide an adequate basis for an epistemological system.

In the hypothetico-deductive method a hypothesis is defined as “any statement that is used as a premise, logical implications of which are tested by comparison with the facts ascertained by observation.” (Richards 1983) However, although called



hypothetico-*deductive* the method is in fact *inductive*, i.e. when an hypothesis is tested and accepted [not falsified], the evidence for the acceptance is not deductively conclusive in the way of a [tautologous] mathematical argument, e.g.:

$$(ab + bc)(ab - bc) = a^2b^2 - b^2c^2$$

Rather, we have arrived at more or less strong *inductive* support. However, the status of scientific knowledge is thus lower, in a logical sense, than deductive knowledge.

### **The method of falsification**

Building on Whewell's practical approach, whilst heavily influenced by the logical positivist's rigour, Karl Popper provided the insight that broke the positivist's stasis. Popper's contribution was the method of falsification. His ideas were first published in 1934 but the principle of the method is reflected in the title of his 1963 book: "*Conjectures and Refutations*." (Popper 1972) The essence of the method was that while even scientific hypotheses could never be *verified*, they could nevertheless be shown to be false.

In the method hypotheses are developed and attempts made to *falsify* them through empirical research. If the falsification attempt proves unsuccessful, the hypotheses or theories are *tentatively* accepted. (Magee 1980; Richards 1983) In other words, well-tested theories can at most have a great deal of support; we can never say that a scientific theory is absolutely true.

By deducing consequences from the hypothesis and comparing these with empirical data, the hypothesis may either be falsified or it may receive support. If falsified it must be abandoned, if confirmed it stands to fight another day. (Richards 1983)

So if by some independent means we affirm that Connie is definitely not a witch, and also discover, upon weighing her that she weighs the same as a duck, then we have falsified the hypothesis that witches weigh the same as ducks. The method of falsification thereby allows logically sound and unqualified connection *from* empirical *to* theoretical levels. Having falsified the hypothesis we are forced to develop a new one to account – at the theoretical level – for Connie’s low weight.

Mr. Blint et al. may well try to argue, for example, that some witches are bi-polar, and despite evidence of occasional saintly behaviour they were “half-witches.” Popper warns against such rejection of falsifying evidence by reinterpretation. In order to avoid making nonsense of scientific method Popper appeals to common sense. He argues that a fundamental methodological principle should be that hypotheses are clear and unambiguous. The aim being to *invite* attempts at refutation. (Popper 1972)

The important implication of this methodological proposition is that there must – at least in principle – be a conceivable observation statement that would refute the hypothesis. Statements which cannot be falsified, and which, from this viewpoint have little informative content, would include those mathematical propositions and definitions which are tautologies and pseudoscientific theories like astrology, and National Socialism. (Gummesson 1991)



For the falsificationist a theory qualifies as part of the body of scientific knowledge by being falsifiable but not yet falsified. The more falsifiable the more information content in the theory. For Popper, the act of falsification is the high point of science when the body of knowledge grows and fields advance. Whereas for the inductivist knowledge progresses by the accumulation of more and more observations and by the cautious induction of generalisations from the observations. For the falsificationist all observations are themselves inevitably preceded by theories [they are theory-laden], and progress therefore occurs by making bold speculations which can account for more observations and survive tests that falsified earlier theories.

Falsificationism is not without its problems however. Most scientific hypotheses are themselves reliant on other auxiliary hypotheses. If a prediction of a theory proves false, then we can never be sure whether the theory, or some auxiliary assumption is false. A second problem is that, as discussed earlier, we can never know whether observation statements themselves are reliable. Thus, strictly speaking, falsification is no more certain than verification.

### **Social science**

The previous sections of this chapter established the epistemological position of science and illustrated a method which was also scientific. We must now consider whether this method is applicable to “social science.” In other words, is it possible to tackle social and human phenomena by means of the “scientific method.”

One challenge to the use of scientific method, in particular the method of falsification, is that the sheer complexity of human life dooms to failure any attempt to be genuinely scientific. The interrelatedness of social phenomena makes difficult the establishment of causal sequences, and in the extreme view, every social event is unique. Yet complexity is not uniquely the problem of social science; genetics, psychology, meteorology and animal behaviour all deal with extremely complex phenomena. The usual response to such complexity is to deal with simple phenomena first, and hopefully attack more complex phenomena later. In some sciences such simplification can be achieved via experiment. However, in dealing with humans and social phenomena experimentation is not always possible. Other sciences like geology and evolutionary biology are in a similar position, but this has not prevented the development of extensive bodies of knowledge with well supported theory and laws.

Another challenge might concern generalisation, or the *inductive* component of the scientific method. Social phenomena are significantly influenced by, for example, cultural or historical context. In other words, social phenomena are highly contingent. If the social behaviour subject to investigation is not invariant with respect to context, then observational statements will have limited validity. The counter to this challenge is that limits on validity are commonplace in other sciences. For example, Boyle's Law for a gas;  $\text{Pressure} \times \text{Volume} / \text{Temperature} = \text{constant}$ , is only valid within certain values of the three variables. At extremely high temperatures for instance, the gas will become ionised [a plasma] and its behaviour will diverge from Boyle's Law. The important point is that in physics or social



science, clear statements of the limits of validity, or “boundary conditions” must accompany any reasoning.

A third problem in social sciences is the problem of objectivity. Can the study of social phenomena ever be anywhere near objective? Social science is often *close* to personal matters of daily life, and the closeness can reveal much about the personal values and biases of the investigator.(Gummesson 1991) This is especially true if the researcher’s sense of intuition as a layman, seems to provide a deeper and more direct insight than his formalised methodology. In the nature of social science, it is inevitable that debate and interpretation draws upon general viewpoints and common-sense judgements. This is especially true in operations management: “Operations is important because everyone is an operations manager.” (Slack and others 1998) The trouble is, students and managers believe it, and believe they know all about it!

Occasionally social scientists are recommended to abandon any attempt at value-free analysis, and rather specify their own attitudes as fully and honestly as possible. Evaluation of the relevance of these attitudes and values is then left to others. Unfortunately, there is no way of determining whether such viewpoint statements are complete or accurate. (Richards 1983) One response to this realisation has been the argument that a value-free social science is undesirable; that comment on social phenomena must always be subjective or “value-laden,” because of the nature of purposive human action. According to this view any attempt to exclude subjective interpretation inevitably eliminates every social fact (Easterby-Smith and others 1991), pp 23.

Another problem for social scientists is that knowledge of social phenomena is itself a social variable. What this means is that the subjects of investigation are likely to behave abnormally if they are aware of being observed. This situation is analogous to Heisenberg's uncertainty principle in physics, a corollary of which is that in measuring the position and/or momentum of a system, the observer becomes part of the system.

People's knowledge of social phenomena may affect predictions as well as explanations. For example, in a political election a prediction may influence voting behaviour by encouraging voters to act in accordance with it, or contrary to it. The researcher can allow for these affects only if they are equal. (Yin 1994)

So, can we do social science? The foregoing discussion suggests that application of the scientific method to social phenomena is at best difficult, at worst impossible.

### **A pragmatic view**

In social science we are trying to explain and predict social behaviour. However difficult, these are legitimate objectives. Whatever the epistemology and method used to build it; there is already a substantial body of social science literature which, in general terms, satisfies the criteria of scientific knowledge. (Meredith and others 1989) Some of the social science literature may be masquerading as science. Ambiguity and vagueness of, data, evidence and published literature will always be a problem in social science, but it is the role of the scientist to cut through this fog and



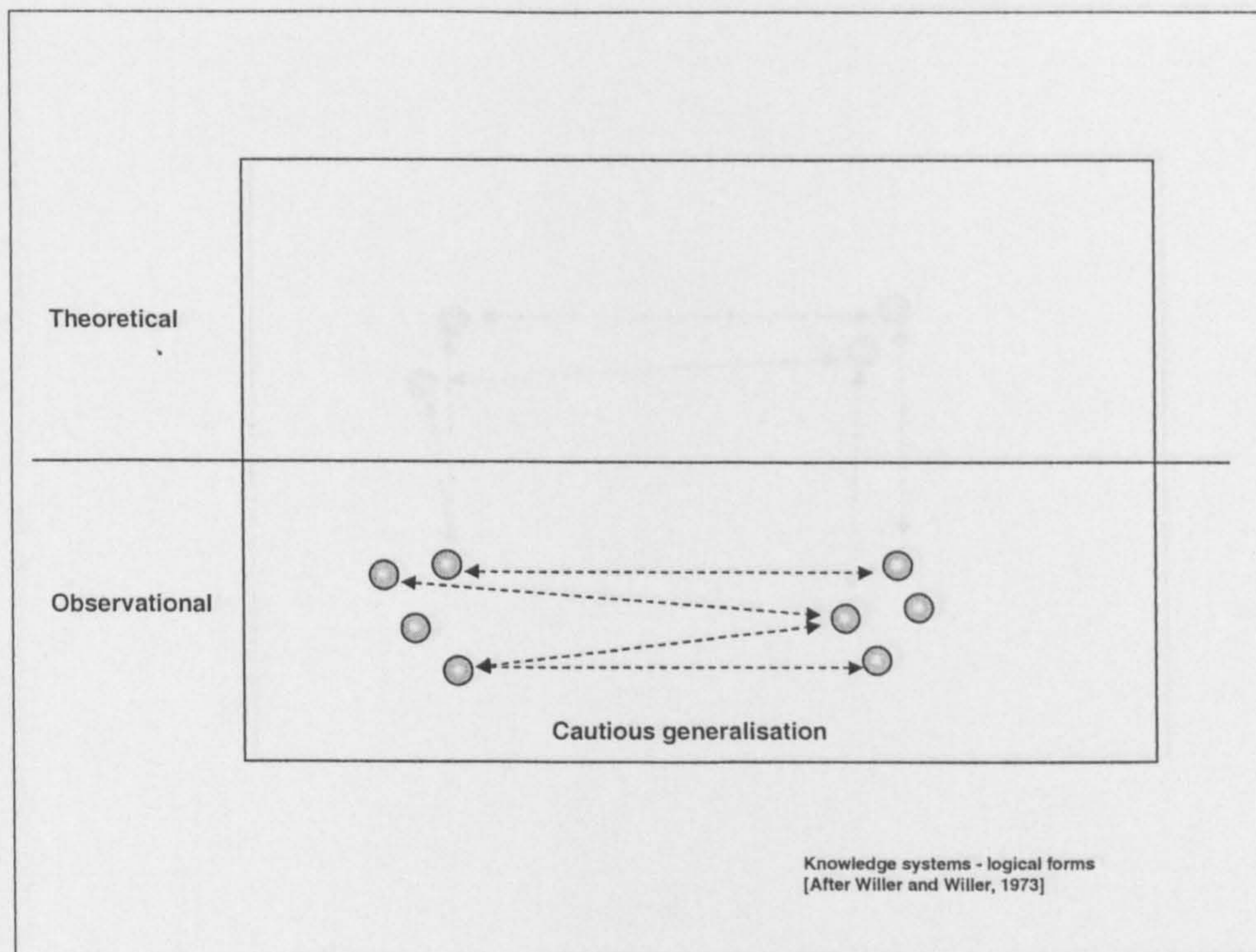
attempt to produce genuine *theory* with explanatory and predictive power. (Volberda 1994)

Willer and Willer state that the generalisation from empirical connection to true rational connection or theory is not possible. (Willer and Willer 1973) They argue that empiricism can only create summaries of relations between observables and that this can never, *however* general the summary be regarded as theory. However, this argument ignores the fact that all humans, even those with scientific training are immersed in and are usually successful at empiricism. Empiricism works for most of us in most cases. It is the most popular and perhaps the most successful epistemological system. This means that in all science and especially social science, investigators' natural tendency is to think empirically first. It is inevitable. Generalisations, even from a single case are a "stepping-off" point from which to generate rational connections; theory. (Swamidass 1991; Sellars 1997)

### **Generation of theory**

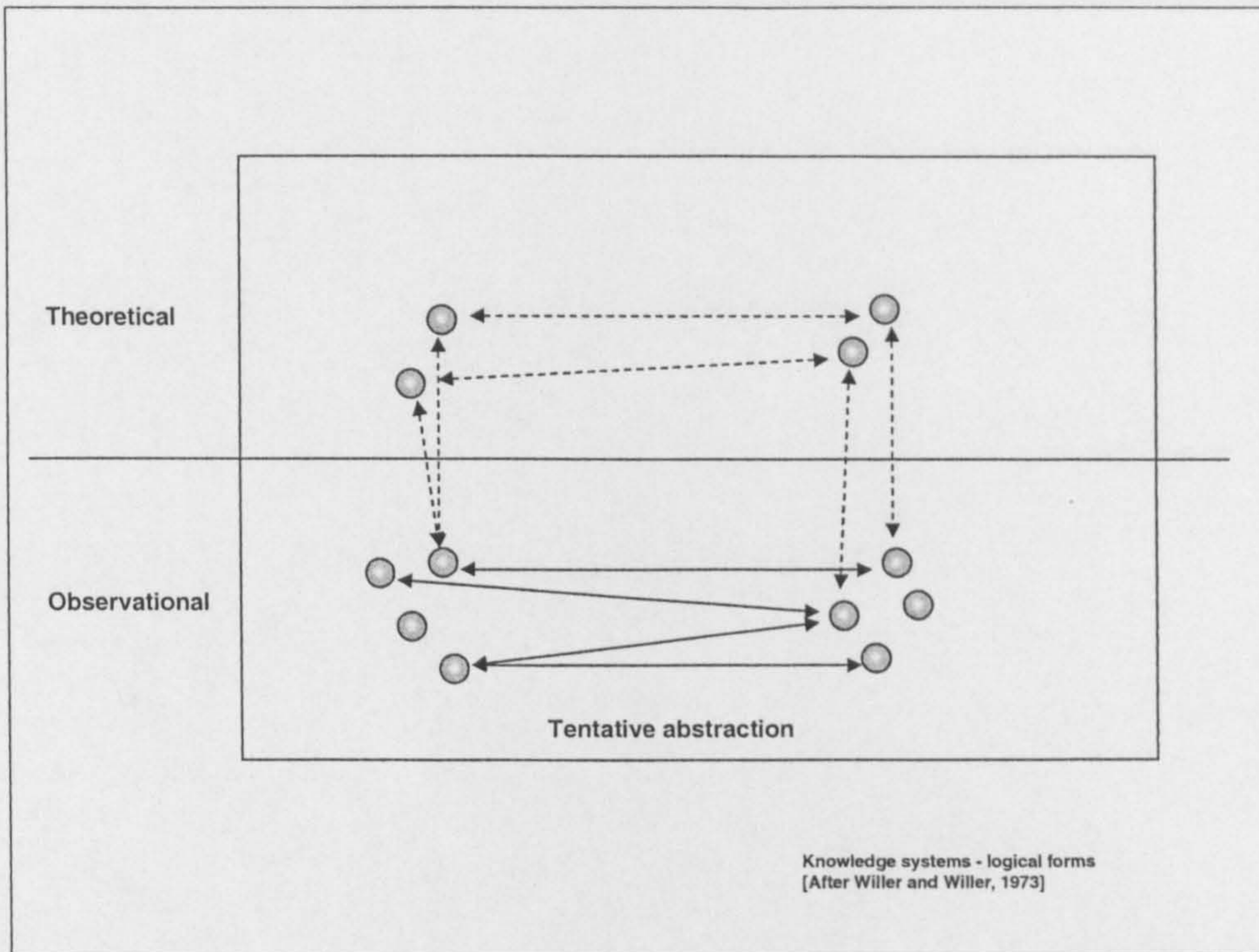
The investigator may aspire to generate theory without any empirical basis, but usually has to start somewhere. (Cox 1997) Determining the important variables in a given social context, and tentatively suggesting possible relationships for future investigation is not "theory building," (Eisenhardt 1989) despite often being labelled as such. However it is a necessary enterprise, without which hypotheses about the relationships between variables can never be made (see figure below).





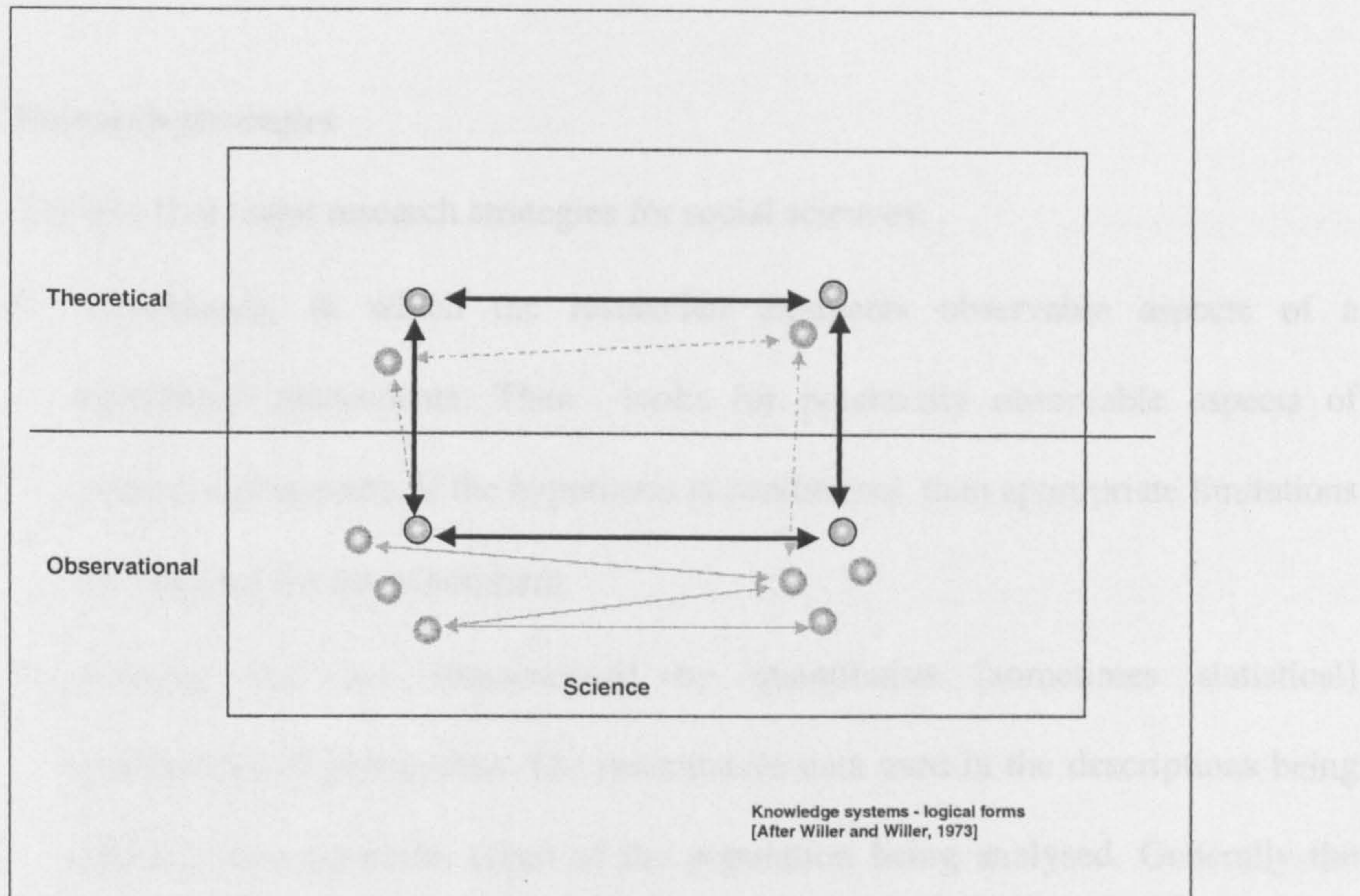
From the last chapter it can be seen that the research questions of this thesis mainly concern the determination of the important variables in service design. This, by itself, is not science, but empiricism. The start-point for research into an uncharted area of social phenomena must always be empiricism, or as Gummesson would put it; research is driven by *preunderstanding*. (Gummesson 1991) The idea of developing a hypothesis about social phenomena based solely on rational connection is naive. Whatever the start-point, determining social variables is a task which requires methodological rigour and creative abstraction (see figure below).





After determining the important variables in service design the author will suggest and test relationships between variables. This also, is empiricism. However, the final stage will be an abstraction to an explanatory model which may *explain* the relationships between variables. This will be an attempt at science (see following figure).





**The general approach**

So, the author’s initial approach to the research problems will be observation of actual events pertaining to service design, as well as observational subjects’ cognition of these events. The long term aim of this being to identify variables and eventually their empirical and theoretical relationships. Thus the author begins with empiricism, but the aspiration to abstract will hopefully avoid what Cox calls “barefoot empiricism.” (Cox 1997)

**Detailed methodology**

Now that the epistemological stance of this thesis has been established, the next section addresses the choice of research strategy. That is, the choice of general approaches to collecting and analysing evidence will be justified.



## Research strategies

Yin lists five major research strategies for social sciences:

- Experiments, in which the researcher engineers observable aspects of a hypothesis' antecedents. Then looks for potentially observable aspects of rational consequents. If the hypothesis is conditional, then appropriate limitations are imposed for the experiment.
- Surveys, that are characterised by quantitative [sometimes statistical] descriptions of phenomena. The quantitative data used in the descriptions being derived from questions asked of the population being analysed. Generally the questions are asked of a sample of the population rather than its totality. (Fowler 1993)
- Archival analysis - in which the investigator examines existing documents, statistical sources and other media for qualitative *and* quantitative data. (Bryman 1989)
- Histories - that are similar to archival analysis but distinguished by the lack of statistical data and instead rely primarily on qualitative data such as narratives. (Yin 1994)
- Case studies - have organisations, events, activities or individuals as the unit of analysis. They are sometimes incorrectly treated synonymously with qualitative research; they can make use quantitative data. In social science the "case" usually refers to a series of events in organisations. (Bryman 1989)

Yin also proposes that the choice of research strategy is determined by the following three factors:

- The form<sup>2</sup> of research questions.
- The extent of control the investigator has over the phenomena under investigation.
- Whether research is focussed on contemporary or historical events. (Yin 1994)

The research questions in the last chapter are of the forms; “what,” “why” and “how.” The intention in this research as stated in the epistemology section is to determine: relevant variables; which variables are related, and finally, to propose theory. Quantitative data will undoubtedly be useful, but collection of such data on the nature and strength of relationships is probably beyond the scope of this research. One reason for this limitation is that as the research is in relatively uncharted areas and is therefore of necessity, broad in scope. The broad-base of the research – to investigate the general nature of service design – has resulted in three main question areas and many subsidiary questions. Designing a survey instrument to get answers to these questions would be a formidable task. However this would be insufficient reason for not choosing a survey strategy. More important is the fact that as service design is an uncharted area, it may be that observable categories not apparent to previous researchers or this researcher are important. As a relatively “dumb” agent, the survey may not unearth such categories. The research will also use data on the behaviour of phenomena over time. For example the changes in the design

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<sup>2</sup> “Form” refers to whether research questions are “who,” “what,” “where,” “why,” “how,” “how many,” or “how much” questions.



communication construct during the design process. It is difficult to see how changes in a potentially complex artefact could be adequately described by a survey instrument. Therefore the survey and archival analysis are excluded as potential research strategies.

Service design is practised by real organisations. It is self-evident that the researcher has no practical ability to engineer service design experiments or impose necessary boundary conditions. The experiment is therefore rejected as a research strategy.

This leaves the history or the case study as possible strategies. The research is a holistic investigation “series of events in organisations,” viz.; managerial processes in the design of services. There is no reason why the research should focus solely on contemporary events. The research questions are, after all, questions which are not answered by *subjects* of investigation, but by the researcher himself. So if the questions can be answered after detective work in historical narratives as well as “live” organisations, then so much the better, as the potential case-base is broadened. The historical case study using secondary data has appeal in as much as it may allow access to some interesting – from the researchers’ personal perspective – and otherwise inaccessible organisations. Therefore an overlapping strategy in which the research questions are applied to both “live” and historical case sites seems appropriate. [From this point onward in the thesis the term “case study” encompasses contemporary and historical case studies.]

## Challenges to the case study strategy

Yin describes a number of challenges to the case study approach. The first is that case studies lack rigour, that there is a potential for the introduction of bias by the researcher. (Yin 1994) However there is potential for bias with any research strategy. Secondly, there may be confusion between teaching and research cases. Teaching cases are often distorted to make a teaching point. This is not allowed in research. The answer here is that researchers interpret data and present evidence openly and with integrity. These aims can be achieved by giving open access to raw data and exposing interpretation criteria. (Flynn and others 1990; McCutcheon and Meredith 1993)

Yin suggests that a third challenge could be: “How can you generalise from a single case?” (Yin 1994) His answer to this challenge is: “How can you generalise from a single experiment?” Yin then goes on to explain that case studies are generalisable to theoretical propositions and not to populations or universes. That the case study or studies do not represent a sample at all but allow the investigator to “expand and generalize theories [analytic generalisation].” Yin’s main point is accepted but his language requires clarification. Generalisations are a summary of connected observables. Theory is proposed that *explains* the connection between observables in *rational* language. Generalisation serves to stimulate – in the mind of the researcher – explanation in the form of proposed connections between *non-observables*. However a generalisation or a summary is not necessary to propose theory. There is no reason why theory cannot be proposed after observing a single pair of connected observables, or even none. The only challenge one could make would be that such a theory did not have much support. When measuring a large number of similar



connected observables as in statistical work, a large number of observations may well lend powerful support to the theory that predicted the connections being measured. However this support for the theory is just that, it is *not* support for the *method* whereby the theory was proposed. Multiple experiments, surveys and multiple cases test theory, but are not a comment on the source of the theory.

Finally, a frequent complaint is that case studies “take too long, and result in massive and unreadable documents.” (Yin 1994;Eisenhardt 1989) All research strategies can take a long time, and the problem of long documents is more a problem of poor writing than of a poor research strategy. (Van Maanen 1989)

### **Case study research strategy – summary and definition**

The preceding sections have by exclusion shown that the case-study strategy, using live or historical data is the most appropriate strategy to address the research questions of the last chapter. The strategy does not conflict with the epistemological position developed earlier. From the epistemological perspective the case study approach is merely a tool for evidence collection and analysis. However, before proceeding with the detail of the research strategy, the case study is now defined.

In this thesis then, a case study is an instrument of enquiry that:

- Investigates complex phenomena within real - as opposed to *tightly* bounded, or experimental - contexts.
- Is guided by extant theory and a research focus.
- Uses multiple data sources.

- In which observational and theoretical categories, and their empirical and rational connections are both hypothesised and emergent. (Eisenhardt 1989; Yin 1994)

## **Instrument design**

The last section justified the research strategy and defined the case study. This section explores the detailed design of the case studies. Yin states that the case study design is the logical sequence that connects the empirical data to a study's initial research *questions* and, ultimately to its conclusions. (Yin 1994) He then suggests that the questions should be converted to a set of propositions that directs attention at something to be examined in the case study. Although Yin's approach partly fits within the scientific method, in that a proposition [hypothesis] is tested in the case study, the *form* of the scientific method is not adhered to. This is because Yin develops propositions or hypotheses merely as guides to evidence collection for the purposes of generalisation or induction. The logical form that would be valid by the standards of scientific method would be to formulate a hypothesis or proposition and then to test this by collecting evidence that supports or challenges the hypothesis. Questions relating to each hypothesis are then developed that guide further evidence collection.

Part of this approach is used in this thesis. The conclusions and research questions developed in the last chapter have the logical form of a set of theoretical propositions. However, by Popperian standards they are of limited utility because of the way in which they are worded. That is, they are not easily falsifiable because they are complex, and subject to multiple interpretation. To make these theoretical



propositions into such easily falsifiable entities would however, entail reducing their informational content via simplification. If this thesis was concerned with the investigation of one, or one aspect of one of the research questions, then the latter approach would be viable. However, this thesis is a broad-scope investigation, with four main research questions. To reduce all these questions to easily testable hypothesis would likely result in about 20 – 25 hypotheses. Again, while possible, this would not be practical in the time this investigator has available. Fortunately, such reductionism is neither necessary nor desirable. As indicated in the last section of this chapter, the philosophical stance of this thesis is one of *theory development* via cautious induction. The *final outcome* will be a set of theoretical propositions that will have received a degree of testing – implicit in the logic of their development – but that if necessary can be tested more thoroughly in later research. Ultimately there exists a choice between; extreme reductionism with the consequent illusion – albeit an appealing one – of scientific rigour, and the descriptive and analytical richness of qualitative research. The latter approach is adopted here.

### **Case study questions**

The questions of the study were partly addressed earlier, in that their *form* assisted in determining the research strategy. The specific research questions that were developed in the last chapter are now presented again. They are also developed later in this chapter into detailed supplementary questions that will guide research at the level of primary data collection.

Research Question 1 – design imperatives

*1. What are, and should be the imperatives to develop NSDs?*

Supplementary questions:

*1a) To what extent are environmental (external) or internal (resource) factors the imperatives for NSD?*

*1b) How should environmental or internal inputs be managed in the NSD process?*

*1c) What are, and should be the nature of tactical responses to NSD imperatives?*

Research Question 2 – design processes

*2. What does, and should the NSD process look like in non goods-like service environments?*

Supplementary questions:

*2a) To what extent are stage-gate models used in NSD?*

*2b) Is the use of stage-gate, and other models of NSD contingent?*

*2c) If so, what are the contingencies of process adoption?*

*2d) In particular, is the initial imperative for the NSD activity a factor?*



## Research Question 3 – NSDs / design communication constructs

### *3. What is, and should constitute an NSD communication construct?*

Supplementary questions:

*3a) What influences the constitution of the communication construct?*

*3b) For a given service design, what effect does position in the design process have on the constitution of the design construct?*

### **Units of analysis**

The questions listed above raise the possibility of analysis at two levels. One would be a specific service design cycle in an organisation; the second would be general service design activity in that organisation. Both may pose difficulties in that it may not be easy to define – either as the subject or outcome – the beginning and end of the case. It should be self evident that this difficulty will be greater for service design *in general*. Therefore the cases will, where possible be design cycles for specific service design projects. In one respect the problem of defining beginning and end points is moot as the researcher has a finite time in which to carry out the investigation. Finally, the word “project” or “design cycle” may at this stage be vague to the reader, however this vagueness is addressed in the section on evidence sources.

### **Analysis**

Interpretations and explanations of data elicited during the research will be used in the attempt to answer each research question. Yin terms this in general terms

“developing a case *description*,” and refers to the specific mode of analysis as “explanation building.” (Yin 1994) Yin defines explanation as the stipulation of a set of causal links concerning a given social phenomenon. However, this activity would not by itself develop theory that would satisfy the criteria established earlier in this chapter. Development of theory will require *abstraction* from the stipulation of casual links between categories of empirical phenomena. In some respects the analytical approach here adopted is similar to the “grounded theory” approach. (Easterby-Smith and others 1991) One difference however, between this analytical approach and that advocated by Easterby-Smith et al is that here there is a recognition of the high degree of *preunderstanding* (Gummesson 1991) represented by both the literature review on service design and resultant research questions. That is, it is recognised that the structuring of questions inevitably leads to a similar structure for answers. So, at the level of the individual case-sites, this analysis will consist of explanation building, and at the level of the overall study – or cross-case analysis – the analysis will resemble the grounded theory approach. In this way the analytical approach has a structure that aids researcher, writer and reader, but also leaves room for the development of emergent hypotheses not immediately related to the four research questions. (Eisenhardt 1989)

### **How many cases?**

The number of case studies used in developing theory does not affect the logical validity of that theory. Increasing the number of cases beyond one can increase the support for a theory and increase the opportunity to falsify it. However we can never say that a hypothesis or theory is *proved*, no matter how much evidence supports it. This statement would also be valid if the number of supporting cases were



statistically significant for the relevant population. Case studies are concerned with developing and testing theory, and the outcomes of such testing are more support for the theory, or falsification, no more, no less. Even the phrase “well-supported” is relative and arbitrary.

The number of cases in a research design is determined more by practicality than by logic. (Gummesson 1991) Less cases can result in richness and detail. More cases can result in case reports that have appeal to a wider audience. Research resources, time in particular, are limited. Research grants are finite and PhD candidates must submit within allotted time-scales. Access is not always easy. Commercial organisations in particular, will not be able to release unlimited management time for interviews, and so on.

The researcher may also encounter the law of diminishing returns, where findings in multiple studies are repetitive and no new phenomena are emergent. True closure – or well-supported theory – may never be achieved, but a cut-off point may be reached where replication of results leads the researcher to “call it a day.” Or as Eisenhardt puts it; “researchers should stop adding cases when theoretical saturation is reached ... the point at which learning is minimal because the researcher is observing phenomena seen before.” (Eisenhardt 1989) True closure may not be desirable. A bold theory with limited support may lead other researchers to attempt repetition, and if the outcome of such repetition was further supported, then reliability would, by definition have increased. Eisenhardt suggests, from experience that, “ ... while there is no ideal number of cases, a number of between 4 and 10 cases usually works well. With fewer than 4 cases, it is often difficult to generate

theory with much complexity, and its empirical grounding is likely to be *unconvincing* ... with more than 10 cases it becomes difficult to cope with the volume and complexity of the data” (Eisenhardt 1989) [Authors emphasis.]

So, logic aside, the minimum number of cases in this study will be chosen so that the work appears to an informed reader, persuasive and convincing. According to Eisenhardt, this minimum is four. The maximum number of cases will be *emergent* in two senses; when the researcher senses that time for the project is running out, and when he senses that he is reaching “theoretical saturation,” hopefully these criteria will coincide. If “ ... between 4 and 10 ... “ is taken literally, then the number of cases will likely be seven.

### **Site selection**

In her 1989 paper Eisenhardt argues that cases may be chosen to fill theoretical categories. (Eisenhardt 1989) Research questions two and three implicitly challenge the applicability of previous comment on service design process and communication construct adoption. Specifically that the previous research, despite purporting to comment on general service design was in fact limited in applicability to new services that were “product-like” and had limited organisational impact. Further, that these services may have been designed to operate within the constraints of the existing delivery system structure and infrastructure. The researcher is therefore lead to chose examples of the opposite polar type. For example; NSD projects that have a relatively large impact on existing operations. Such new services may, in terms of their resource implications be large scale. They may also, in terms of their impact on



existing structure and infrastructure be broad in scope. NSDs may also be broad scope and large scale at the same time.

Another criterion for case selection could be the requirement for the cases to be “representative” of the service sector. In three recent studies of service performance the service sector was divided to several sub-sectors. Coughlan and Harbison split the Irish service sector into; financial services, transportation, hotels and public service organisations because of the importance of these sub-sectors to the Irish Economy. (Coughlan and Harbison 1998-1999) (Coughlan and Harbison 1997) Voss and Johnston proposed a list of UK service sub-sectors in their 1995 review, “Service in Britain.” (Voss and Johnston 1995) These sub-sectors were, professional services, utilities, public services, retail and leisure, finance, industrial services and transport. A related study in the US, “Service Probe” recognised no less than 12 sub-sectors. These included the “Service in Britain” list as well as hotels, media, telecoms, restaurants, healthcare and local government. The validity of the categorisations aside, applying the requirement for representation would imply, for a seven case design that at best two case sites would be in each service sub-sector. However, two cases can hardly be called representative of a sector. The approach may be intuitively *convincing* to some readers, however, if the foregoing argument for seven cases is accepted, there is no logical argument that supports a “representative” choice of case sites.

Eisenhardt and Pettigrew echo these views and also challenge the suggestion that cases should be chosen randomly. “... random selection is neither necessary or even preferable ... given the limited number of cases which can be studied, it makes sense

to choose cases such as extreme situations and polar types in which the process of interest is transparently observable.” (Eisenhardt 1989)

Heeding the discussion of the last three paragraphs, site selection will be guided primarily by the requirement to select cases of non product-like, and broad-scope service design. Otherwise practical considerations such as access, opportunism and the personal interest of the researcher will inform selection.

### **Selected instrument**

In summary then, the selected case design is a multiple case study of around seven service design projects. Data will be interpreted by “explanation building” and this will be followed by theory development based on the “grounded theory” approach.

### **Instrument-assessment**

Yin lists four common tests of the “quality” of social research. These are:

1. “Construct validity: establishing the correct operational measures for the concepts being studied.
2. Internal validity: establishing a causal relationship, whereby certain conditions are shown to lead to other conditions, as distinguished from spurious relationships.
3. External validity: establishing the domain to which a study’s findings can be generalised.
4. Reliability: demonstrating that the operations of a study - such as the data collection procedures can be repeated with the same results.” (Yin 1994)



In fact, the first two tests relate to logical validity and the third is a test of replicability. The third is irrelevant with regard to this research as the test is a product of an inductivists paradigm. This research does not seek to generalise findings, but to answer four research questions concerning bounded phenomena. Therefore an appropriate alternative is not a test, but a statement of boundary conditions for each question area.

### **Construct validity**

The research questions of this research are stated in plain English and the meaning of any ambiguous words or phrases has been explained in notes. It merely remains to ensure that when the questions are linked logically with phenomena that such clarity is sustained. The interpretation and explanation of phenomena will never be completely objective as long as humans do research. The researcher can only strive for objectivity. Argument will be expressed in unambiguous terms so that it can be challenged.

### **Internal validity**

The whole point of posing clear and unambiguous theory to explain causal relationships between observables is that the rational connections of the theory – as well as the predicted consequences – can be tested. Yin suggests that potential difficulties exist in determining, which groups of observations are linked. This is however, inevitable as was discussed in the earlier section on epistemology. The warnings of the last section apply equally here, with the additional warning that the

researcher should at all times look for alternative causative factors. Or at least to admit their possible existence.

### **Boundary conditions**

Implicit in the research questions, in particular questions two and three, is the view that previous generalisations and theory concerning the adopted design process and the service design itself had limited applicability. Specifically, the stage-gate and “funnelling” design processes and constructs were applicable to “product like” services. So questions two and three are intended to both explain this limitation and predict that services which are not “product like” will have different design processes than those that are. Otherwise, no limitations, other than those implicit in the common meaning of the words used in the hypotheses are proposed. However, one of the advantages of the case study approach is that it will allow both emergent hypotheses *and* emergent limitations to both extant and emergent theory.

### **Reliability**

Yin states that the ultimate goal of reliability is to minimise errors and biases in the study. (Yin 1994) Replicability will be achieved if evidence collection procedures are controlled and adequately documented. Such documented procedures are described by the case-site protocol which is presented in the next section.



## **Instrument administration**

### **Case-site protocol development**

The case-site protocol in appendix 1 is largely self explanatory excepting the subject of “levels of questions.” Yin distinguishes the questions of the inquiry as a whole, from the questions asked of individual case studies:

Level 1: Questions asked of specific interviewees.

Level 2: Questions directed at the individual case (these are the questions in the case-site protocol).

Level 3: Questions asked of the findings across multiple cases.

Level 4: Questions asked of the entire study - for example, calling on information beyond the multiple cases and including other literature that may have been reviewed.

Level 5: Questions about prescriptions and conclusions. Possibly going beyond the scope of the study. (Yin 1994) [modified]

All the questions in this research are directed at both the entire study and the previous research summarised in the literature review. The data collection takes place at the level of the individual, the cases and across all cases. For example, question 1 can be asked directly of managers *and* of summary data from all managers interviewed. However, although question 2 could be asked of managers, such an approach may not be practical or desirable. The question is predicated on the implicit hypothesis in question 2; that the NSD process is, and should be contingent on whether the process is used in a goods, or non goods-like environment. Managers

may not accept this hypothesis, or have any idea that their organisation functions in the manner suggested. Accordingly, management cognition of the subjects in questions 2a, 2b and 2c is elicited by questioning, and empirical categories are created. Question 2 is then answered by inferring linkages between these categories for all cases in the study *and* using other data sources. This difference between levels of questions and lowest levels of data collection is summarised in the table below.

Question level	Question No.	Question	Data Sources	Lowest data collection level
4	1	What are, and should be the imperatives to develop NSDs?	Design managers or project managers. Design contributors. Mission statements, charters or constitutions. Strategy documents. Literature review.	1 1 2 2 4
4	1a	To what extent are environmental (external) or internal (resource) factors the imperatives for NSD?	Design managers or project managers. Design contributors. Mission statements, charters or constitutions. Strategy documents. The study. Literature review.	1 1 2 2 4 4
4	1b	How should environmental or internal inputs be managed in the NSD process?	Design managers or project managers. Design contributors. Design policy statements. The study. Literature review.	1 1 2 4 4
4	1c	What are, and should be the nature of tactical responses to NSD imperatives?	Design managers or project managers. Design contributors. The study. Literature review.	1 1 4 4
4	2	What does, and should the NSD process look like in non goods-like service environments?	Design managers. Design contributors. Project diaries. Internal procedural guidelines. General standards [e.g.	1 1 2 2 4



			ISO, BS]	
			The study.	4
			Literature review.	4
4	2a	To what extent are stage-gate models used in NSD?	The study	4
			Literature review.	4
4	2b	Are the use of stage-gate, and other models of NSD contingent?	The study.	4
			Literature review.	4
4	2c	If so, what are the contingencies of adoption?	All cases in study.	3
			Literature review.	4
4	2d	In particular, is the initial imperative for the NSD activity a factor?	All cases in study.	3
			Literature review.	4
4	3	What is, and should constitute an NSD communication construct?	Design managers.	1
			Design contributors.	1
			Project diaries.	2
			Internal procedural guidelines.	2
			General standards [e.g. ISO, BS]	4
			The study.	4
			Literature review.	4
4	3	What influences the constitution of the communication construct?	Design managers.	1
			Design contributors.	1
			Project diaries.	2
			Internal procedural guidelines.	2
			General standards [e.g. ISO, BS]	4
			The study.	4
			Literature review.	4
4	3a	For a given service design, what effect does position in the design process have on the constitution of the design construct?	Design managers.	1
			Design contributors.	1
			Project diaries.	2
			Internal procedural guidelines.	2
			General standards [e.g. ISO, BS]	4
			The study.	4
			Literature review.	4

Data for many of the questions listed above may come from individuals, however it should be noted that the exact wording of the questions may not be used in interviews. Certain questions may have to be worded in several different ways. This may be necessary both to enable and check understanding of the question by interviewees (Yin 1994; Easterby-Smith and others 1991) pp 72. Accordingly several alternative wordings are supplied in the case-site protocol.

### **Pilot case study**

The investigator was able to negotiate ongoing access to several organisations. This meant that if there was any changes to both the substantive issues under investigation, and methodological factors, then the investigator could easily revisit the subject organisations to collect different data. Thus three “pilot” case sites have been chosen, but data collection in each case site will be concurrent with that at other sites. The cases will be pilots in name only unless significant changes to the research questions or methodological approach are required.<sup>3</sup>

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<sup>3</sup> The cases chosen as pilot studies were a loyalty card redesign at a hotel group and two new gallery designs at a museum. At each site the question sets remained stable and no changes to the methodological approach were required. There were several emergent issues, but the inherent flexibility of the research instrument was able to accommodate these. Emergent issues are discussed in chapter 5. The opportunity to research the hotel case occurred when a part-time MBA student heard about this research and offered to provide access. The researcher read about the gallery redesign in a Sunday newspaper. After a telephone call to the museum director access was secured for the research.



## **Instrument administration - evidence collection**

### **Evidence sources**

As a single researcher investigating cases that have typical minimum duration measured in months, participant-observation, and direct observation are obviously impractical approaches. However, most other sources of evidence are available, though not all at once. These sources and the potential problems associated with each are discussed below. Also discussed are several remedies for the problems.

### **Documentation and archival records**

A selection bias is almost inevitable when building case evidence from secondary data. For example, consider a case-site report using public-domain material on NSD at Walt Disney World. The researcher could select a sanitised or authorised narrative of the Disney Park's development, a "hatchet job," and something in-between. In this way bias is countered to a degree by triangulation (Eisenhardt 1989); sources can be chosen which themselves took different methodological – or other – perspectives on the subject.

Another problem is that documents and archives can be difficult to obtain, they may not be filed properly, or they may be located at different sites. Access may also be deliberately blocked for political reasons, or may be blocked for reasons of personal privacy. Internal assistance can help in this area; the support of administrative personnel can be invaluable in hunting for obscure information.

When the documents or archives are found they should be regarded as suspect as any other source of data. (Yin 1994) It should be assumed that a reporting bias existed in the production of the information. Political or other imperatives can often mean that the actual events are rarely reported accurately. For example, most committee minutes are edited by a meeting “chair” before publication. Inferences from documentation must be treated carefully as documents are written for many reasons, and not usually for case studies.

### **Interviews**

An obvious danger in interviews is in leading the interviewee. (Gummesson 1991) Interviewees may not wish to appear naive about a management issue. If a question is asked about an issue, and they don't understand the issue or the question, they may answer with “woolly” affirmative. Such bias may be countered by asking differently worded versions of the same question during interviews, or by getting corroboration, by interviewing those with differing views.

It should be remembered that an interview never exposes facts, merely the interviewees cognition of the facts. Worse still, opinion is more likely than fact. (Gill and Johnson 1991) Reflexivity, when the interviewee tells the investigator what they want to hear, is also a problem. Not revealing the detail of the research questions and keeping interviews short can help here.

The investigator should not rely on mental recall. Good, structured notes are the minimum requirement, and a tape-recorded back-up is highly desirable. This research will make use of focused semi-structured interviews following the prompts



in the case-site protocol. Interviews will be recorded where permitted by the subjects.

### **Selected sources**

One of the guiding principles of data collection is the use of multiple sources of evidence, accordingly the approach will be to use as many of the above three approaches as possible. All sources, including the investigators eyes and ears must ultimately be treated as biased and inaccurate.

### **Evidence analysis**

#### **Modes of analysis – explanation building and theory-building**

As indicated earlier, at the level of the individual case-sites, this analysis will consist of explanation building, and at the level of the overall study – or cross-case analysis – the analysis will resemble the grounded theory approach. In this respect the analytic strategy closely resembles that advocated by Eisenhardt in her 1989 paper. (Eisenhardt 1989) Eisenhardt's approach is not without its critics (Gibb Dyer and Wilkins 1991), but these writers seem to have misunderstood Eisenhardt's primary aims of generating genuine – by the standards developed at the beginning of this chapter – theoretical statements that are either context-invariant or are clearly bounded. Gibb Dyer and Wilkins critique of Eisenhardt appears to be the product of a sociologist's paradigm. Whilst by its own standards this critique is valid, implicit in it, is the authors failure to understand the imperatives that lead Eisenhardt to write her 1989 paper. This is that the Operations Management field was not receptive context for the case study approach. Operations Management academics, especially

those in the United States, are still immersed in – often an illusion of – a positivist paradigm. One way to address this resistance to the case study was to introduce the rigour of the scientific method. Hence the analytic strategy advocated by Eisenhardt is a compromise that loses a little in the way of contextual richness at the level of case studies, but that generates genuine testable theoretical constructs. Better still, at the level of individual case sites there is no loss of the richness and detail of the “traditional” case study approach.

It should be noted that in Eisenhardt’s approach – and that used in this thesis – the cycle of the scientific method is incomplete, in that no formal testing – perhaps via a survey – of emergent hypotheses is carried out. However, such testing is obviously a logical follow on from theory development. Such “triangulation” is strongly advocated by Jick as a method of overcoming the weaknesses of the qualitative case study. (Jick 1979) However, the scope of this thesis extends only to the development, and the limited testing of theory. Extensive testing is for later work.

### **Case-site analysis - summary**

The primary mode of analysis at the level of each case-site then will be the use of explanation-building. (Yin 1994) In essence the description and case-site analysis will be merged; a “story” of each NSD project will be told using the concepts and conceptual frameworks developed in the literature review. The case-site description therefore goes beyond reportage, and becomes a preliminary analysis. To paraphrase Eisenhardt: “ ... the overall idea is to become intimately familiar with each case[-site] as a stand-alone entity. This process allows the unique patterns of each case[-site] to emerge before investigators push to [develop] patterns across [sites]. In



addition, it gives investigators a rich familiarity with each [site] which, in turn, accelerates cross-case comparison.” (Eisenhardt 1989)

### **Case-study analysis - summary**

At the level of the whole study – or cross-case analysis – the primary mode of analysis will be grounded theory approach. That is, using the empirical categories suggested by the literature review – and expressed in the research questions – the researcher will look for similarities and differences amongst case-sites. The intent is that similarities or contrasts will support or challenge the extant theory on NSD, and in so doing, answer the research questions. After completing the cross-case analysis, the status of existing and emergent empirical categories will hopefully allow the development of testable hypotheses on NSD.

## **Report design**

### **Case-site report – format**

There will be a report covering each site of this study. Analysis of the cases will be limited to interpretation and explanation of the site data. That is, data will be presented as evidence. The main analysis will be presented separately in chapter 4.

### **Case-site report – structure**

The research questions will be the structural basis for the individual narratives. Each site narrative will address the three research questions, and then a section will cover emergent issues. This question and answer type format and structure will ensure consistency across cases and aid cross-case analysis. In essence, each case narrative

will interpret and organise collected data according to the three thematic areas described by the hypotheses.

### **Chapter 3 - summary**

The first major theme developed in this chapter concerned the philosophy of social science and this thesis in particular. The chapter reflected the author's concerns about the logical form and epistemological basis of current research in the social sciences. These concerns were addressed in a methodological approach that is a rapprochement between the "hard science," or Popperian perspective on scientific method, and the more interpretative approaches adopted in the social science and humanities fields. The chapter showed one way in which these two perspectives do not necessarily conflict, and can be merged.

The main theme of the chapter concerned the development of a research strategy and methodology. The selected strategy being a multiple site case study using qualitative data.

The final theme of the chapter was about the interpretation and analysis of this data. The selected analytic strategies being appropriate to the evidence types: at the level of each case-site; the interpretative approach labelled by Yin as "explanation-building" (Yin 1994) will be used. The essence of this approach being the development of a narrative that both describes and explains the case-site data, and critically, does so using the concepts, frameworks and empirical categories emergent from the literature review. So the case-site report is not merely a description of the



NSD project, but a preparatory analysis. The next phase of analysis, the “cross-case” or case-study analysis will test theoretical concepts discussed in the literature review, and, will allow the emergence of and new empirical categories. These latter can in turn can be used in conjunction with the former to develop new theoretical categories, and hence new hypotheses linking these categories.

## Chapter 4 – Case Site Analysis and Description

This chapter describes the results of applying the methods described in chapter 3 and the conceptual frameworks developed in chapter 2.

### Analysis of data

Data presented in this chapter becomes a categorisation of data collected during interviews and archival research in the form of words, with information about each research question collected together with some preliminary reflection about the information. In other words this chapter presents a *preliminary* analysis of the data. The case study analyses will be presented on a ‘case-site by case-site’ basis, with each case-site section being subdivided into the three question areas of this thesis.



## All Bar One

*“All Bar One is ... a very female friendly bar. It’s the first one where big breweries have said, ‘look, the world is changing, men aren’t drinking pints of wallop anymore, engineering has gone down the tube, we’re in the service economy, lots of the new jobs are for ladies. Ladies are playing a greater role in society. They can choose when they have babies now. They’re not at home with the chip pan. A lot of them have got very high power jobs. They want equal footing. So instead of building these dirty brown pubs with smoky atmospheres and male domains we have to build bars that ladies will go into.’” – Tony Hughes, Operations Director, Bass Restaurant Group*

## Introduction

### Background

This case report concerns the design of a new bar for the Bass Taverns group; “All Bar One.” The bar was designed to appeal to a young, white-collar clientele and was to be female friendly. For example a bar-top some 10cm lower than average prevented men of average height from leaning on the bar, thus removing an barrier intimidating to women. Fresh bowls of white lilies replaced beer pumps because the

latter were thought to be phallic, masculine symbols. Large windows also allow customers to easily see in and out:

*“All Bar One is about being visible, understanding what is going on inside, it's about not having any mystery and therefore being seen as being safe and easily accessible to people and being inside ... there are no nooks and crannies, there are no hideaways.” – Jeremy Spencer, Director and General Manager, All Bar One*

The physical design is minimalist; light, white and bright with rectangular, plain wooden tables and not a scrap of red flock in sight.

A weekend “door policy” purposely keeps occupancy well below legal maxima. Less crowding encourages women to stay longer and socialise. The large tables cannot be reserved and this too is an intentional design decision to encourage impromptu attendance by large groups.

All Bar One’s product line is relatively simple; the bar stocks wine and beer but no products like “alchopops.” As a result the bar becomes in some areas less fashionable, but perhaps more stable with the potential for greater longevity.

## **Ownership**

Bass PLC has four subsidiary groups. Bass Hotels & Resorts, owns manages or franchises hotels in 90 countries and employs 19,000 people. Bass Leisure Retail



owns and manages 3,000 managed pubs, restaurants and leisure venues employing some 54,000 staff. Bass Brewers owns and manages a portfolio of branded alcoholic drinks and Britvic Soft Drinks produces branded soft drinks. All Bar One is a chain of pubs in the Bass Leisure Retail<sup>1</sup> group. Bass Leisure Retail's businesses fall in to one of two categories: the restaurant group, and "bars and venues."

### **Location**

All Bar Ones are located in high-rent metropolitan areas. The author visited All Bar One's at: Angel (Islington) and Canary Warf in London, Newhall Street and Brindley Place in Birmingham, and Sutton in Surrey.

### **History**

The first All Bar One opened in Sutton in 1994, and by the summer of 1997, 30 pubs were established in the cities of Britain. Another 30 All bar Ones were due to open between 1997 and 2000.

### **Activities**

All Bar One is a pub-restaurant. Drinks served are middle-market wines, and up-market beers. Food is formulaic but well presented and wholesome.

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<sup>1</sup> At the time of interviewing the Bass Leisure Retail group was called the Bass Restaurant Group. The name changed about two weeks after the final interview.

## **Customers**

Target customers are young professionals. The bar is not specifically targeted at women but aims to be “female friendly.”

## **Mission**

“All Bar One aims to provide stylish, cosmopolitan bars serving good food and drink in lively, spacious surroundings.” (Bass PLC, 1997)

## **The specific NSD project**

This report will explore the events that led to the creation of the All Bar One chain.

## **Administrative information**

### **Data sources**

Interviews were carried out in the late summer of 1997 with Tony Hughes and Martin Dugmore at Bass Restaurant Group HQ and with Jeremy Spencer at All Bar One's in Angel, Sutton and Brindley Place. Also used was bar design documentation, pre-design market research reports and public domain information on the chain. The researcher also talked to bar managers throughout the chain.

In certain question areas there was inconsistency in the responses from respondents based at the restaurant group HQ and those “in the field,” that is, Jeremy Spencer and the bar managers. Specifically the former described an “official” Bass Tavern's NSD process that differed significantly from that described by the All Bar One



managers and staff. For example, the former described a process heavily dependent on “brand mapping” (described later in this section) and the latter’s process owed little to brand mapping at all. Identification of the “real” process was aided by archival research. The researcher asked for and was granted access to the documentation produced during the brand mapping. The earliest documentation in all files researched was dated 26<sup>th</sup> September 1995, and was a record of a rough-cut brand mapping carried out by a marketing consultancy; “The Brand Positioning Company.” This work in turn referred to research carried out during the summer of 1995. The majority of the brand mapping reports were produced in November and December of that year. Thus the bulk of brand mapping carried out by the Restaurant Group HQ took place when five bars were already trading and must be seen as an attempt at post-hoc rationalisation rather than a constituent of the NSD process. Thus by triangulation between interview work and archival investigation official and real NSD processes were revealed.

### Contact information

Tony Hughes, Operations Director, Bass Restaurant Group, Bass Taverns Limited, Cape Hill, PO Box 27 BIRMINGHAM B16 0PQ	Martin Dugmore, Marketing Manager – Customer Services, Bass Restaurant Group, Bass Taverns Limited, Cape Hill, PO Box 27 BIRMINGHAM B16 0PQ	Jeremy Spencer, Director and General Manager, All Bar One, Liverpool Road, Islington, LONDON, N1 0RP
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## **Research issue 1 – NSD imperatives**

In early 90s Bass Taverns' stock of pubs was suffering from years of product – beer – focus to the neglect of service. The company had few marketing or service management skills and there was a growing realisation that they were falling behind the competition.

The Group's city-centre capacity was vastly under utilised; many owned-sites were either vacant or unprofitable. These sites occupied high-rent positions and so represented a significant opportunity cost. At that time the only concept available to exploit such properties was a traditional pub; carpeted floors, nooks and crannies, closed to outside view, lots of curtains and soft furnishings. The traditional pub had evolved to suit a market that had declined; the working class male. However, this pub concept did not serve the newer urban client. Potential customers for city centre hospitality were now more likely to be from middle class professional groups, and as likely to be female as male.

Thus was born the marketing concept for All Bar One; a modification of the traditional pub concept to address more affluent professionals of both sexes. One major change was that All Bar One would focus more on food. Until the 1990s managers and workers in Bass Taverns knew little about selling food. Bar managers thought food a distraction that would dilute profitability, and so it became a secondary element of the service package. Customers wanted to buy food at pubs,

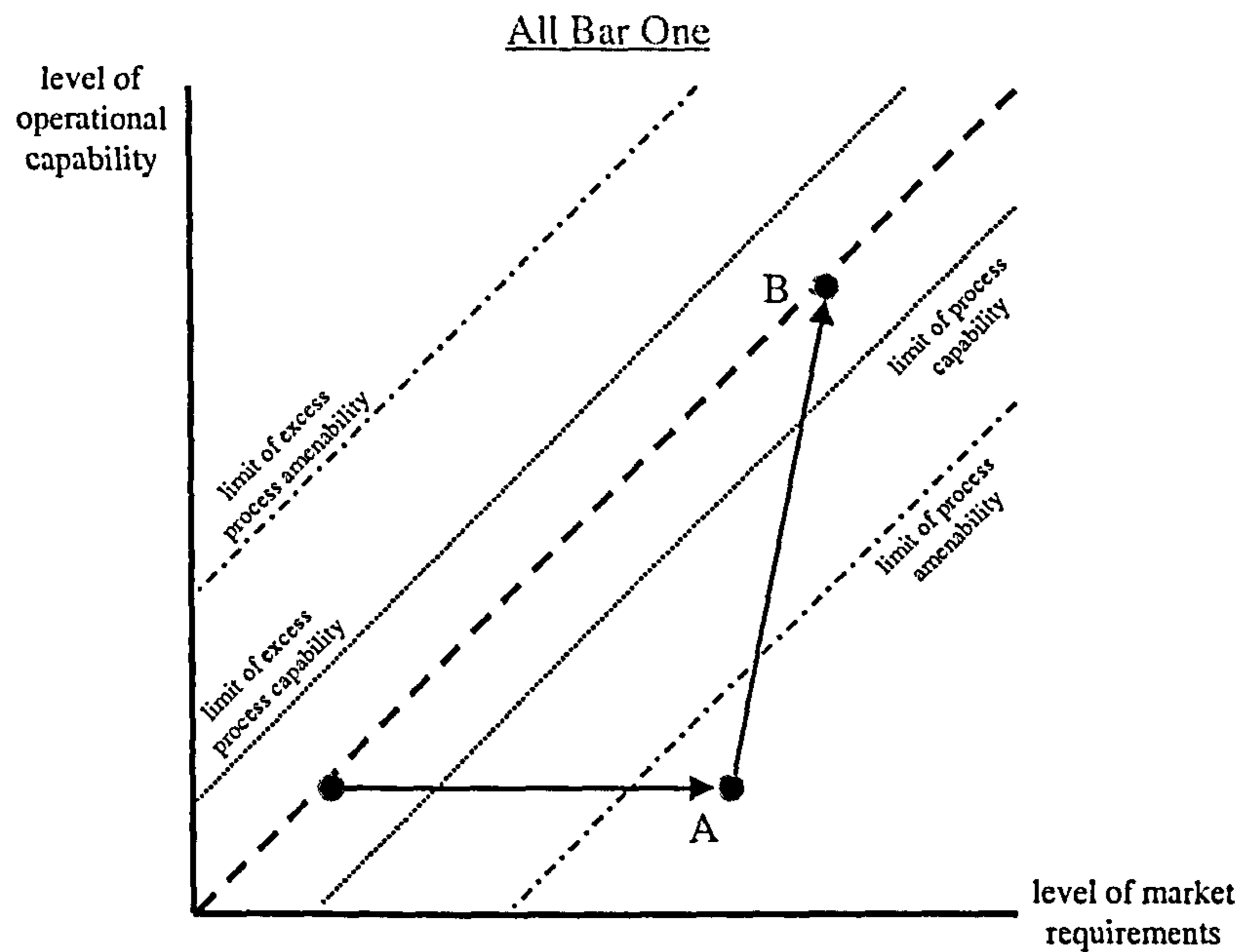


but not the kind on offer. The new target market would need to be attracted away from lunchtime venues such as restaurants and bistros, and therefore the specification, in particular the presentation of meals would have to be at least as good as in these outlets. As All Bar One was to be “food led,” by itself this change would expose Bass Taverns to a degree of speculative market risk.

The group also lacked expertise in the preparation of high specification meals. In aiming to offer such service without recruiting or training catering expertise, All Bar One would be exposed to a high degree of operational risk. Managing this risk by hiring highly qualified chefs would incur unacceptable increases in operating costs. Instead All Bar One would take the McDonalds approach; a limited range of meals would be offered, and these would be formulaic. Detailed specifications for preparation, and in particular presentation of the meals would be developed so that relatively unskilled staff could make them.

In this way a change to the marketing concept for “the pub” that would have stressed the resource base of Bass Taverns, and prevented the new concept from working, was accommodated by modifications to core processes. In the longer term, change to the overarching service strategy of Bass Taverns was an inevitable consequence of this and similar market offerings. That is, over time the strategy of Bass Taverns group has shifted in emphasis; from provision of outlets for drinks sales, to more general hospitality services. So too developed the resource-base of the firm in that the level of expertise in food-led hospitality was increased. The figure below

illustrates these shifts in the balance of operational capability and market requirements.



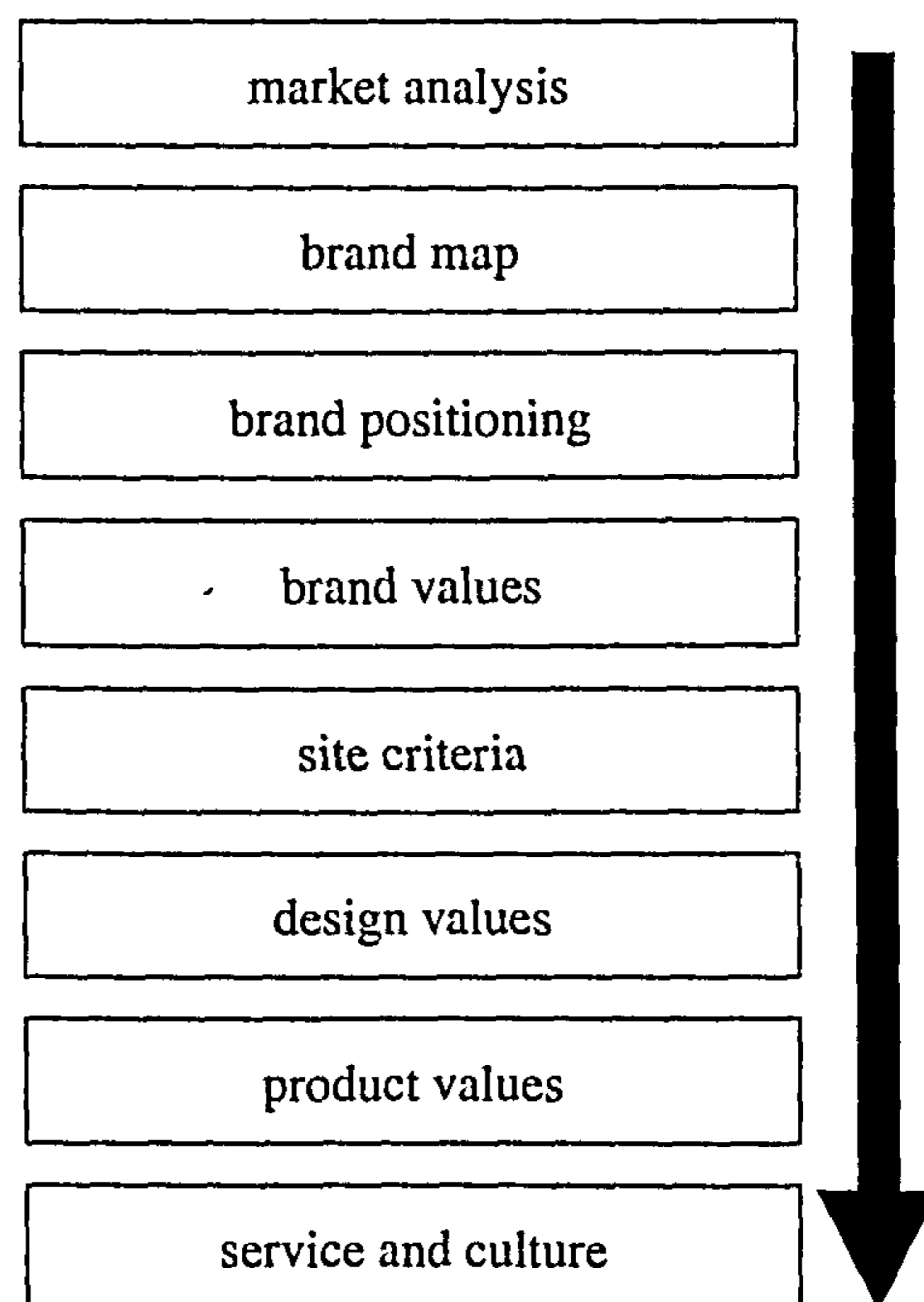
In summary, whilst the capability of Bass Tavern’s pub processes had remained largely unchanged, the requirements of city-centre markets had evolved considerably. Existing pub processes were now unable to exploit Bass’s asset base (A). In other words the requirements of the new pub market had exceeded the limits of current process capability. The stimulus for designing All Bar One was therefore a real exposure to a high degree of resource-risk. The organisational response was to re-design elements of the asset-base, but particularly processes in order to re-align capability and market requirements. The decision to target the “young professionals” segment is in effect an additional change in market requirements and is so



represented in the figure. The desired and actual end-state of the NSD process, as will be shown in the next section, is alignment (B).

## Research issue 2 - NSD Processes

The NSD process at Bass Taverns was partially documented. Senior managers presented stage-gate models for NSD, but it was apparent that the models did not document important elements of the process. The figure below shows Bass Tavern's official NSD process model.



*(Bass Taverns, 1997)*

The following paragraphs describe these process stages as well as the observed process stages.

## **Market analysis**

The market analysis phase was in practice more of an information gathering process. Little real analysis was carried out apart from a categorisation of data on customers, competitors, the hospitality industry in general and regulation or legislation that might affect Bass Tavern's brands.

## **Brand mapping and brand positioning**

The brand-mapping work was carried out by consultants and started by looking at the needs and motivations addressed by drinking and dining out. The analytical framework was loosely based on Maslow's work on human needs (Maslow 1973). Existing Bass bars as well as the competition was plotted within the "needs map" and managers could then consider the needs that the bars aimed to satisfy. It was then easy to see how its own Harvester brand could be modified so that it did not compete directly against the market leader; Beefeater. In this way brand mapping was used to show where adjustments to competitive criteria could be made that would move a brand to appeal to a poorly addressed segment:

Sometimes there were complete gaps in the brand maps, and completely new pub concepts, like "Its a Scream;" a student bar, and All Bar One were the result.

Managers – and consultants – misunderstanding of Maslow's work led to erroneous conclusions from the mapping work. Maslow was primarily concerned with individual needs, and his concepts could only be applied to groups if they were homogeneous with respect to needs and satisfiers. Bass and the consultants



aggregated the needs of both sexes when for many aspects of the service each group's needs are different. For example, despite seeming to appeal primarily to "lifestyle" needs, All Bar One does so mainly for its male clientele. By contrast, for its female customers the bar appeals to more basic needs such as security.

### **Brand values**

Bass Taverns therefore analyse the current and desired future position of their brands. Then, according to Group NSD guidelines the consequences of re-positioning were articulated in operational language to; site criteria, facilities design values, product values and service and culture values. For each of these value-sets the company claimed to carry out an analysis of the brand's function; *how* it addressed specific customer needs to which it was meant to appeal. Early in this analysis the overall brand values were distilled into a two or three word "bridge statement" meant to convey the essence of the brand. Designers were meant to be guided by the bridge statement. For example:

*Harvester Restaurants (mid market family-friendly steakhouses) ...*

*"wholesome enjoyment"*

*All Bar One ... "civilised community"*

(Bass Tavern's, 1997)

In practice this stage was only used in post-hoc rationalisation of real NSD activity and its outcomes<sup>2</sup>.

### **The design team**

In mid-1993 the board of the Restaurant Group agreed to proceed with the All Bar One project. The director responsible for new concept development was Jeremy Spencer. Jeremy, now in the role of design manager began the next phase of the All Bar One design by mobilising expertise. In late 1993 and early 1994 he recruited entrepreneurs with experience of designing and running bar-restaurants. The designers were outsiders and didn't have a view of operations coloured by company policy and procedures.

Jeremy and his design team began to brainstorm the principles underpinning the All Bar One concept. The outcome was the prototype All Bar One. In the initial brainstorming the design team did not create separate concepts but nurtured a single concept:

*“ ...from scratch the people I was working with were very, very clear in their mind what they were going to create ... we knew what we were*

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<sup>2</sup> Although this case report is largely limited to the design of All Bar One, the author was also able to observe design processes for other Bass Tavern's pubs and pub-restaurants. The dichotomy between formal and actual NSD processes was observed across the whole restaurant group.



*going to get. – Jeremy Spencer, Director and General Manager, All*

*Bar One*

Bass-Tavern's market research and brand-mapping results were used little during the initial brainstorming exercise. However, the design team did test the concept "on the street" outside potential locations.

About six weeks after the prototype opened in Sutton the design team solicited customer feedback. Customers were about 90% satisfied with the bar. Accordingly, the "reference" All Bar One differs little from the Sutton prototype. The second prototype opened in Islington about six months after Sutton. By the end of 1995 Bass Tavern's had opened All Bar Ones in Wimbledon, Richmond and Leeds and in 1996 opened a further four bars in Leicester Square, Birmingham, Sheffield and St. John's Wood.

Since the initial design work, managers carried out focus group exercises on a yearly basis with both customers and non-customers. The work confirmed management opinion on the bar design. Accordingly re-design was limited. The All Bar One logo and signing scheme was refined. The menu also changed in order to support internal operations efficiency and response times increased as a result. Tills are now on the front rather than the rear counter allowing staff to face customers.

During the initial concept development operational constraints – with the exception of basic costs and economics – were considered in only a limited and implicit way.

This was intentional; the design manager thought that operations input at the start of the design process would limit creative freedom:

*“ ... we ran things the way people thought they should be run rather than the way people would identify as a better way of doing it. In hindsight ... we could have done a lot of that [internal efficiency] work at the beginning. I think the reality is that it would be very unlikely that you would have had the creative spark and that kind of operational thing working [at the same time]. You just couldn't do that. People are not that structured.” – Jeremy Spencer, Director and General Manager, All Bar One*

As the roll-out of the concept proceeded, operational efficiency consultants provided ongoing support in refining the cost and efficiency performance of the kitchen and bar operations.

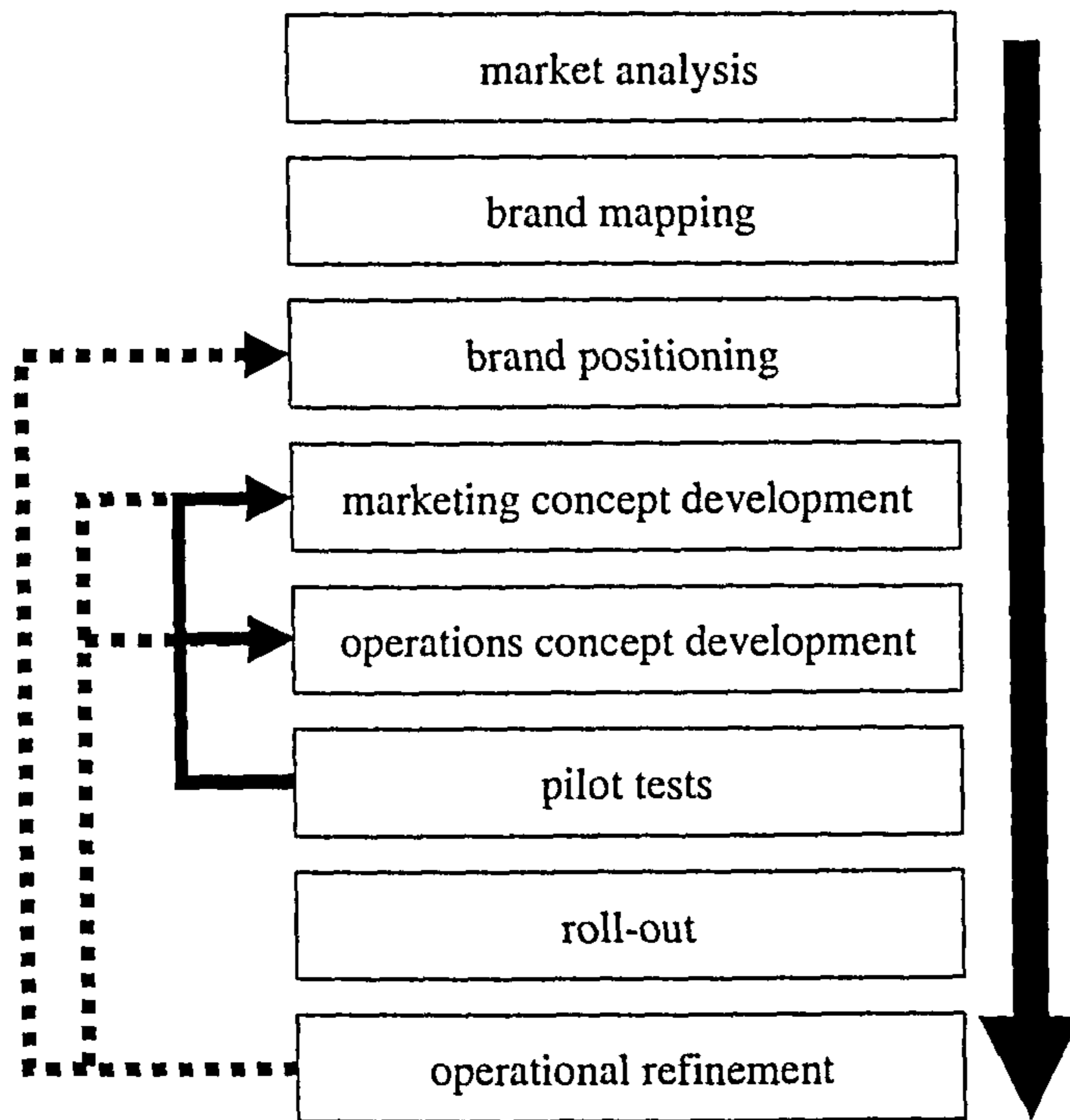
Training requirements for staff were not detailed in the early stages of All Bar One's development. However, after a process of implicit design in this area the result is an extensive training programme for staff.

### **The real process**

The following figure shows the actual NSD process observed at Bass Taverns in the design of All Bar One. This process differs from the formal process in that there was



no extension of the brand mapping and development method carried out at the Restaurant Group HQ.



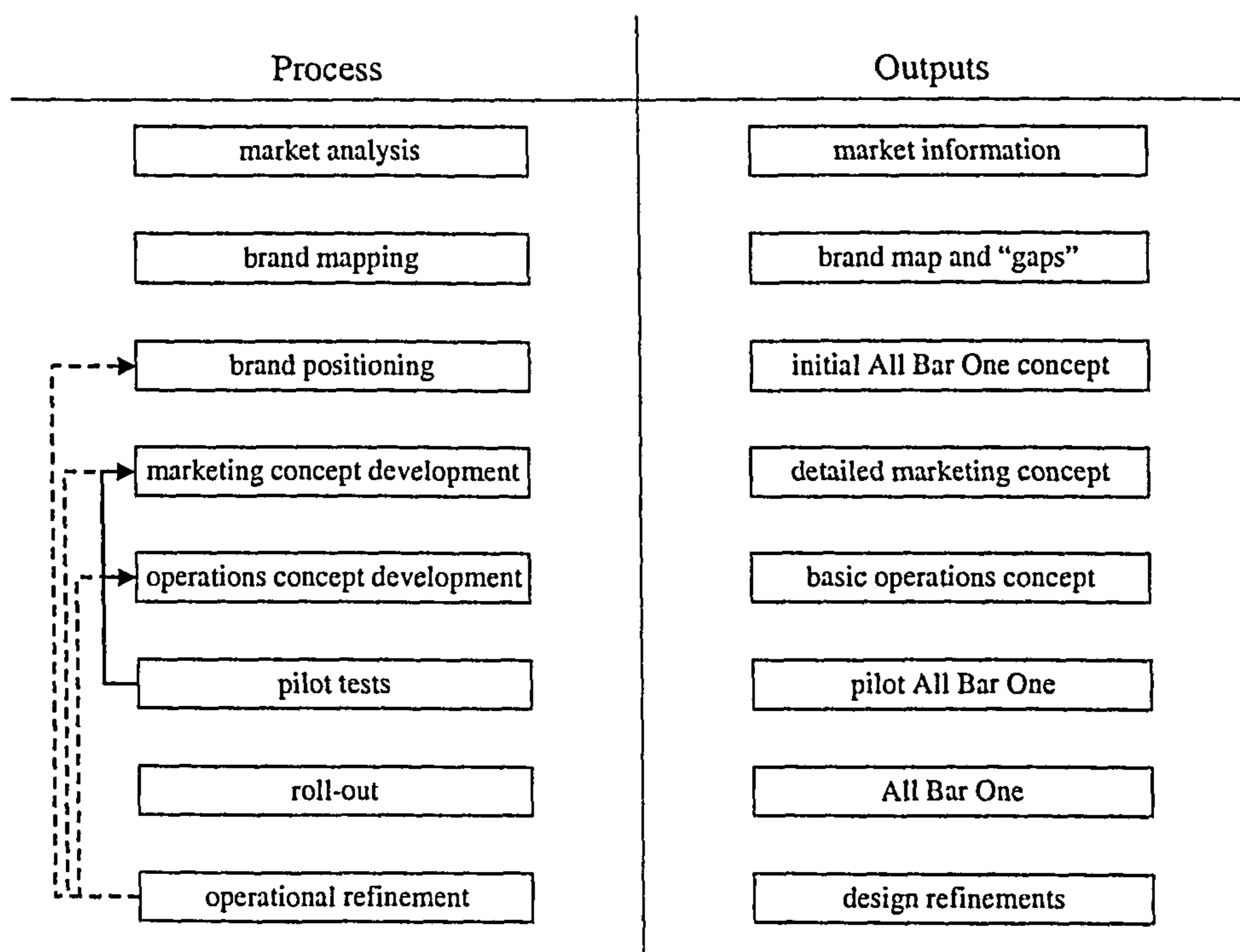
The design team began work using their intuition and experience in what was a chaotic and unstructured brainstorming process. The outcome was a marketing concept and rudimentary operations concept for All Bar One.

The operations concept was then developed to the point where it could support the marketing concept in a pilot implementation. Learning from the two pilot bars then informed minor re-design of both marketing and operations concepts. Full scale rollout followed.

A process of operational refinement continues today, and this informs, and is informed by a return to the brand mapping activity that began the NSD process. This being largely used to manage the integrity of the All Bar One marketing concept.

### Research issue 3 – NSD communication

Most communication constructs used in the design of All Bar One were discussed implicitly in the last section. This section briefly lists and describes these explicitly. The following figure shows each design communication construct as an output of the corresponding design process stage.





## **Brand map and brand “gaps”**

A description of the brand-gap becomes the first construct in the NSD process; a preliminary service concept for a new pub. The brand map was a region of two dimensional space defined by two axes. One described the need to be satisfied by the new pub. The second axis described the way in which that need was to be satisfied, for example.

## **Initial marketing concept**

The output of the brand positioning exercise was a tighter definition of the brand-gap along with a short bridge statement capturing the essence of the NSD. Also included on the map were names and descriptions of competitor offerings.

## **Detailed marketing concept**

The All Bar One design team took the “brand gap” and responded with a detailed marketing concept. The marketing concept was communicated in terms of the look and feel of the bar, as well as a “service standard.” The latter a statement of outcome minima for service delivery. Detail of delivery processes was absent. Cost and profit estimations for the new bar were also included

## **Basic operations concept**

Elements of an operations concept were developed after the marketing concept was stable. These were the “brand delivery manuals.” Where possible, process detail was described in the delivery manuals. When an aspect of service delivery was difficult

to articulate, for example an intangible such as “attitude” or “ambience,” the manuals encouraged staff to act in the spirit of the bridge statement.

### **Final design**

No document existed entitled “final design – All Bar One.” However, many separate documents amounted to the same thing. These were the:

- facilities design
- type and colour palettes
- signage guidelines
- fittings and furniture specifications
- dress guidelines
- drinks list
- menu
- service delivery manuals
- training manuals
- admission guidelines

With the exception of delivery and training manuals, most of these elements were in place before the two pilots were built. The pilot All Bar One’s were gradually modified to look like the “state of the art” All Bar One’s.



## **New lending centres – Retail Banking Services – NatWest UK**

*“We’ve gone about this in a stepping-stone approach.” – Rob Pike,  
Senior Executive, Retail Credit Strategy and Implementation, Retail  
Banking Services, NatWest UK*

### **Introduction**

#### **Background information**

This case report was developed during research for an executive education programme run jointly by NatWest Bank UK and Warwick Business School.

#### **Ownership and finance**

NatWest Retail Banking Services delivers a range of financial services to individuals and small business customers in the UK through around 1,750 branches, as well as by telephone and a network of ATMs. Retail Banking Services is a part of NatWest UK, which also provides corporate banking, card services, mortgage operations, life and investment services and general insurance. NatWest UK has approximately 7.5 million personal and business customers and is owned by the NatWest Group.

#### **Geographical spread**

NatWest Group is an international portfolio of financial services, but operates mainly in the UK and Ireland.

## Administrative information

### Data sources

This case report was not developed solely from the results of interviews and research into archival information. The report began life as a short – two page – teaching case study designed to encourage debate and discussion on NatWest’s NSD processes. The teaching case was commissioned by the bank as part of its executive education programme on Operations Management delivered jointly by Warwick and London Business Schools. The first groups of managers on the programme were trawled from senior ranks in the bank and included nearly all the managers involved in both the Advances Delivery Programme and the Retail Transformation Programme. As the case study developed it was exposed to these managers for their critical appraisal. In this way, and also by recording managers’ classroom contributions much richness and detail was added to the case report. Even with four formal and tens of “tacit” contributions the case report remained stable, with consistency amongst contributors.

### Contact information and acknowledgements

Rob Pike	Lesley Bruce	Nigel Phipps	Nigel Wood
Senior Executive	Centre Manager	Operations Manger	Sanctioning Manager
Retail Credit Strategy and Implementation, Retail Banking Services, NatWest UK		West Midlands and Wales Lending Centre NatWest UK	

The researcher is indebted to all interviewees for their time and insight.



## Research issue 1 – NSD imperatives

### New competition

The mid 1970s saw NatWest firmly established on British High Streets. Approximately 3,000 branches served personal and small business accounts. Customers requiring a loan had few options but the banks, and credit decisions resided with the branch manager.

In the late seventies however, the bank's business was under attack. Niche players joined the lending market and attacked elements of NatWest's and other bank's business. American financial institutions, credit card firms and point of sale finance companies attacked specific lending markets. They enjoyed some success; their relative focus allowed reduced costs and greater efficiency, while the banks struggled trying to be "all things to all men." The newer lending organisations also made the entry to borrowing less intimidating than the banks.

Because branch managers made lending decisions the traditional branch system was also plagued by relative slowness and inconsistency. The industry responded with systemisation via credit scoring. High St banks therefore created an advantage – over newer lenders – in that they were able to supplement credit-scoring information with an account history.

The new competition also offered multiple entry-routes into lending services. Customers could buy credit at the point of sale, could establish a line of credit in advance [the credit card] or could make a phone call. NatWest would therefore need to support such multiple entry routes to their own lending services.

Historically, NatWest was reactive to customer's borrowing requirements. One reason for this was the administrative burden of processing a loan application. Branch staff and managers could spend as much as 80% of their time processing applications leaving minimal time for interacting with the borrower. NatWest were trying to reverse this position; with staff focused on encouraging and managing an easy journey through the application process.

In the early 1990s NatWest responded to the environmental changes by embarking on a partial centralisation of decision-making. "Delivery Strategy" [DS] was the first phase of centralisation and resulted in 85 lending centres of various sizes. For the most part, NatWest allowed the structure and design of these centres to be determined locally. The result was 85 centres doing the same job in 85 different ways.

By 1995 the limited centralisation had delivered cost benefits, but had compromised consistency and quality. Partial measures of quality performance were: quality of



service, quality and volume of sales, quality of the lending book<sup>3</sup>, and productivity. Inconsistencies amongst the existing lending centres could be expressed as differences in these partial measures of performance. Often a lending centre would excel on any one measure, whilst failing on the others. DS was also reaching closure as a learning mechanism; it had affected about 50% of the network when it became obvious that the bank could do better.

A study carried out by the Boston Consulting Group [BCG] recommended further standardisation and centralisation to around 10 centres. Each lending centre would be doing the same job, so, allowing for limited variation to accommodate local environmental peculiarities, there would be little reason for divergence from an archetype. The major outcome from the BCG study was the Retail Transformation Programme [RTP] of which the lending centre transformation was significant part.

Alongside the centralisation was the decision to reduce the number of retail outlets from 3,000 to 1,750. Anything that didn't have to be done at the retail outlets would be centralised. The other major element in the RTP was the plan to automate as many decisions as possible, with only "exceptions"<sup>4</sup> remaining for human intervention.

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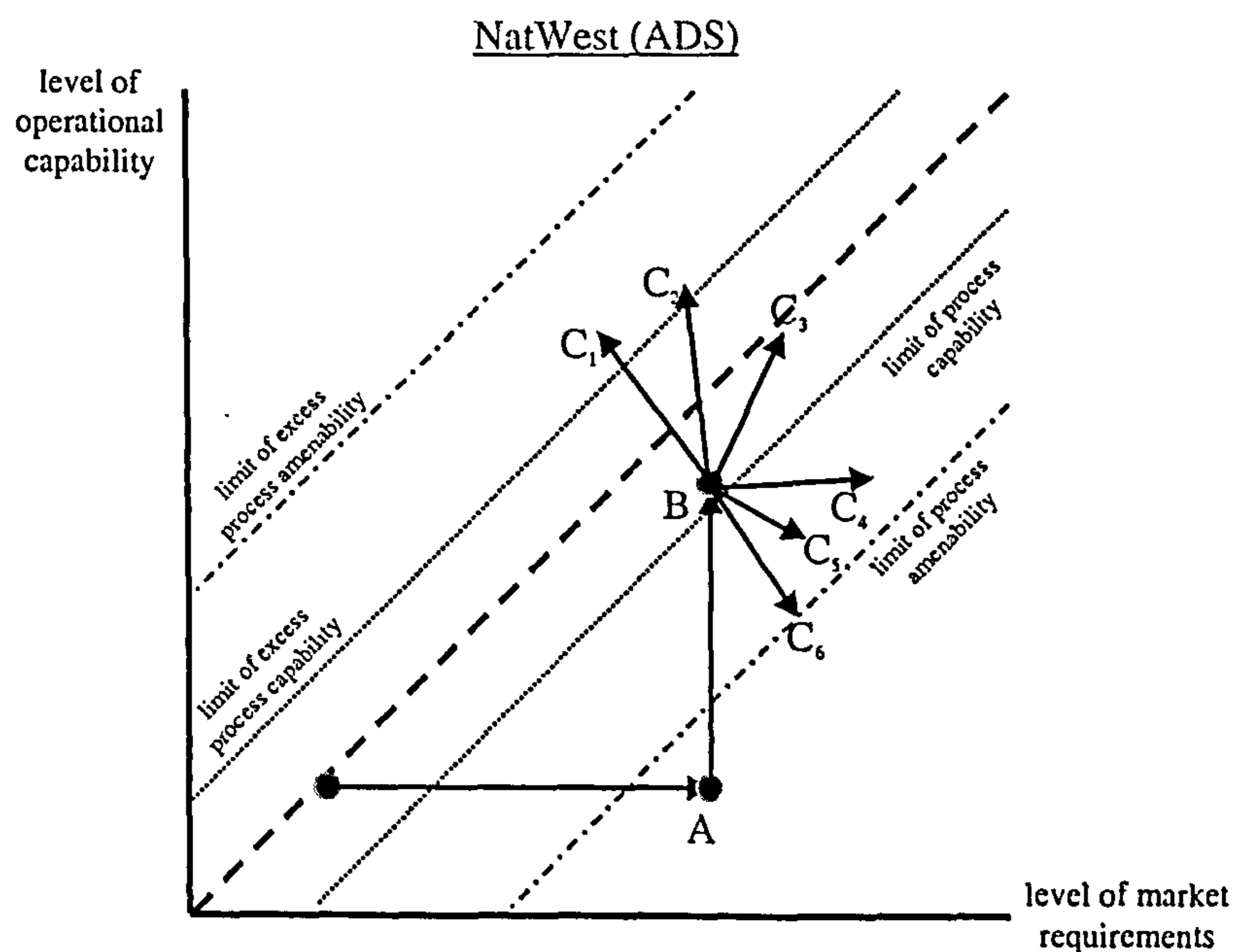
<sup>3</sup> Quality of the lending book – a measure of the effectiveness of risk management, that is, what percentage of the lending book is likely to go bad

<sup>4</sup> Exceptions – any circumstance not covered by the centres' automated decision algorithms.

The mix of traditional branches and DS environments made existing operations somewhat cumbersome, and provided an urgent imperative to for change. NatWest had the option of finishing DS, then moving on to the RTP afterwards. However, the limited potential for new learning, coupled with delivery problems lead to suspension of DS.

### Design imperatives – observations

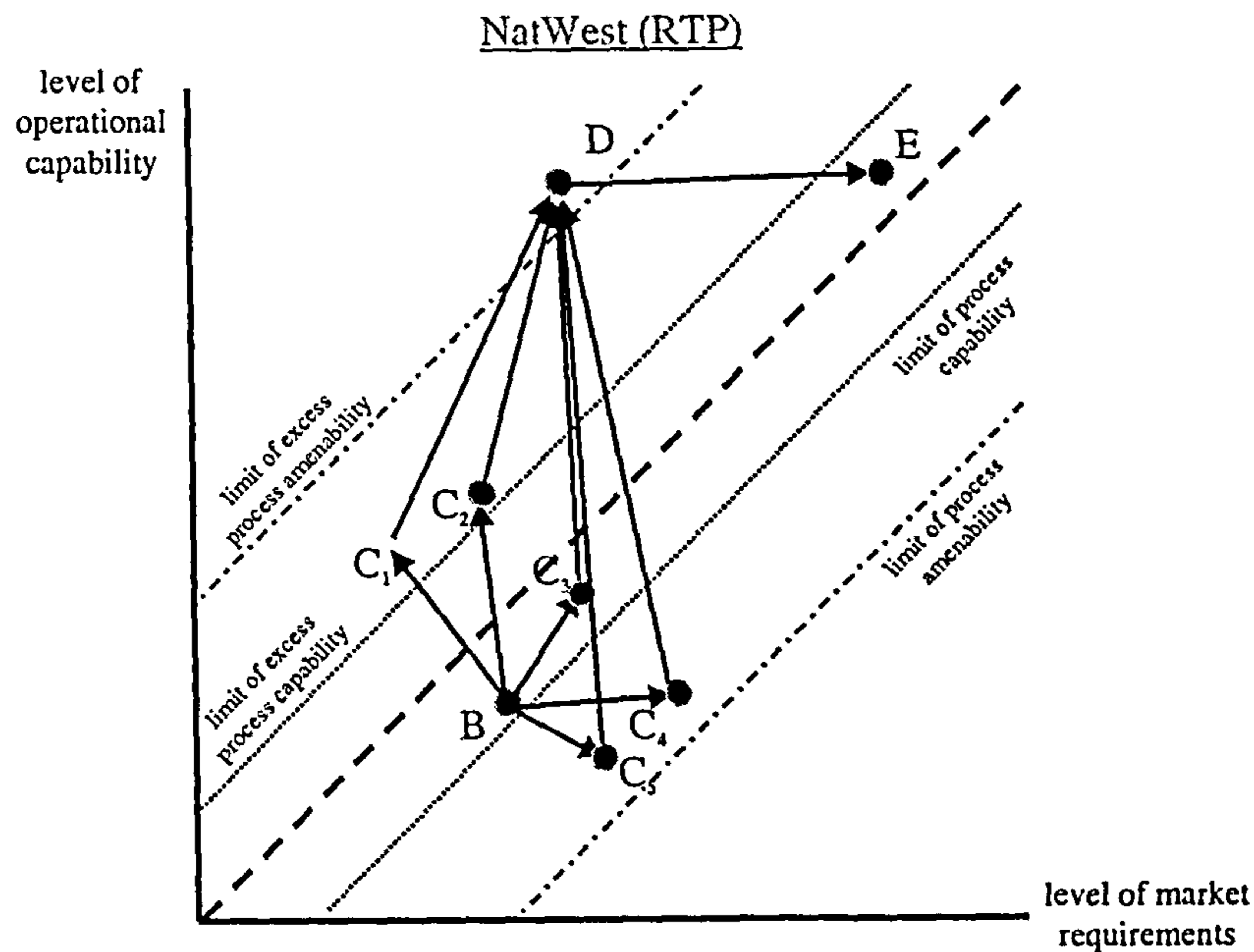
The key stimulus for re-designing the lending centres was changes in the competitive environment. Focussed competitors were developing niche markets that threatened to fragment markets previously dominated by the retail banks. The competitors were often cheaper, and with a presence at the point of sale, more approachable and accessible. Thus the bank was exposed to a high degree of speculative resource risk and this was the main imperative for the first phase of NSD. This initial stimulus for NSD is represented on the figure below as “A.”





NatWest achieved some cost benefits of focus by standardisation, centralisation and automation. Further, the costs of change could be absorbed over other bank services. In centralising and automating, the bank could also lever a distinctive resource that would give it a competitive advantage over the niche players. This was the account history resource, which, if made accessible via technology, could improve the reliability, speed and accessibility of the lending process. Thus the initial phase of NSD under the DS programme reduced the majority of resource risk exposure (B). However, the new enabling technologies available under DS allowed an almost endless variety of lending centre designs to evolve. Some of these worked, others did not and so exposed the bank to varying degrees of both market (C<sub>1</sub> C<sub>2</sub> C<sub>3</sub>) and resource risk (C<sub>4</sub> C<sub>5</sub> C<sub>6</sub>).

However, the creation of 85 different lending centres under DS was, with hindsight a golden opportunity. In the following figure these are marked (C<sub>1</sub> C<sub>2</sub> C<sub>3</sub> ....).



The bank created an internally competitive environment that forced the evolution of successful centre designs (and managers). However, the disadvantage was inevitable evolutionary “dead-ends,” with consequent inconsistencies in service delivery. Such failures were sometimes greater than those under the branch system. Inevitably, service quality was reduced. Had DS been articulated within NatWest from a design perspective, that is, as an *intention* to force the evolution of an ideal lending centre it is unlikely that it would have been sanctioned. As it was DS provided fertile soup from which grew the future of lending management. In this way, DS and its problems not only acted as a strategic imperative for re-design, but also shaped the detail of the design. The RTP programme thus rationalised the lending centre design and dealt with many inconsistencies resulting from DS. However, technological infrastructure development required for the *large scale* roll-out of process improvements made during the ADS programme would not be available for many



months, and in some cases years after the rollout of the new lending centre design. Further, even when the infrastructure and technology was available, it was at least another year before the bank's marketing function "woke up" to this new resource potential. Thus a failure of both internal service delivery and internal and external marketing resulted the market risk exposure being compounded (D). These problems were – albeit slowly – addressed by the technology "drops"<sup>5</sup> and other operational refinements of the RTP as well as improved marketing of this new potential to achieve near alignment between operational and market risk (E).

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<sup>5</sup> Not all automation was available when the first centre opened; it was added piecemeal as the technology comes available.

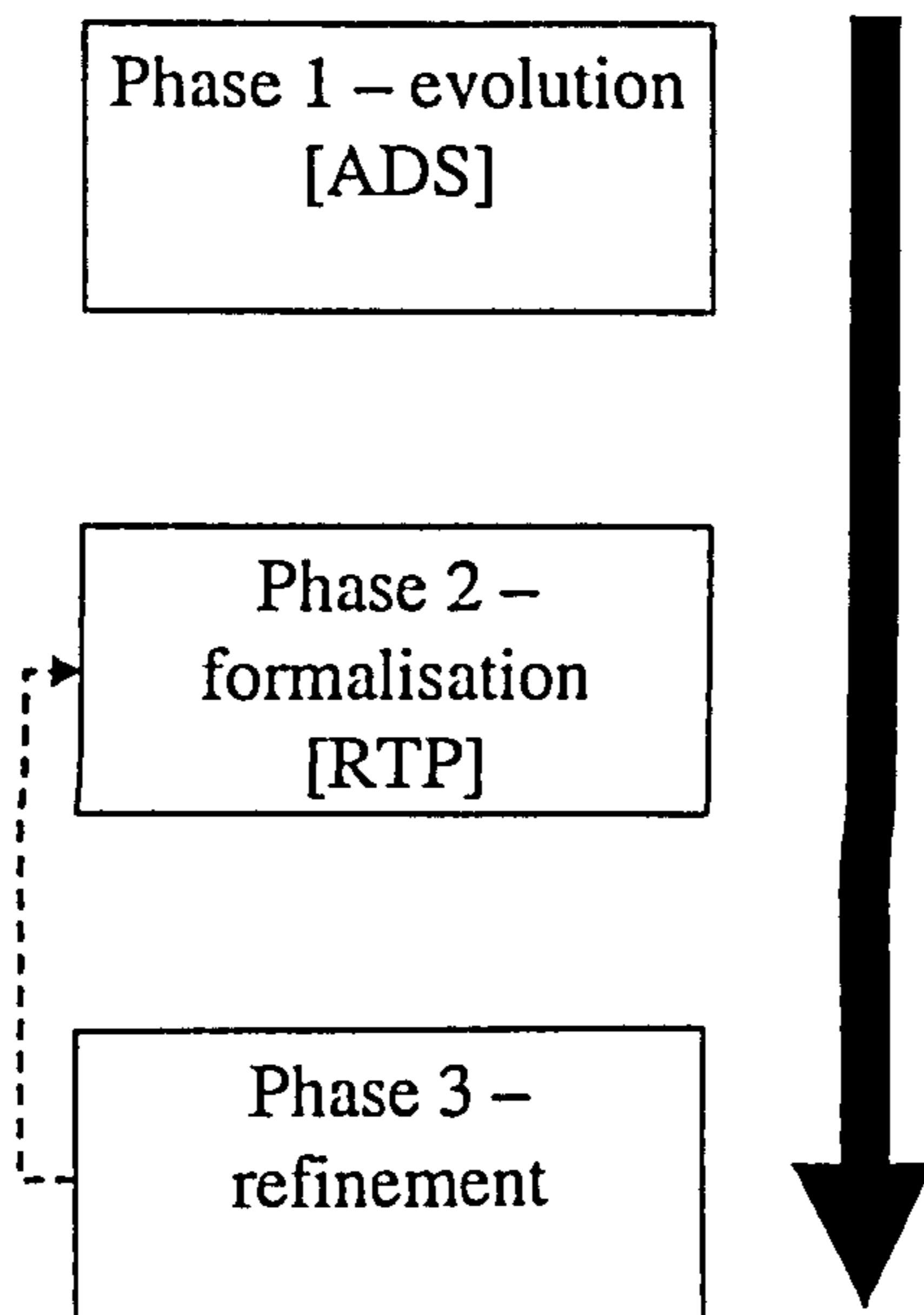
## Research issue 2 – NSD processes

### Pre-design

Before Rob Pike arrived as senior executive, a small team consisting of BCG consultants and NatWest managers carried out the initial research on Retail Credit Strategy. This work was part of a larger study that resulted in the decision to implement the RTP per se, and a key element of the transformation programme was the lending centres.

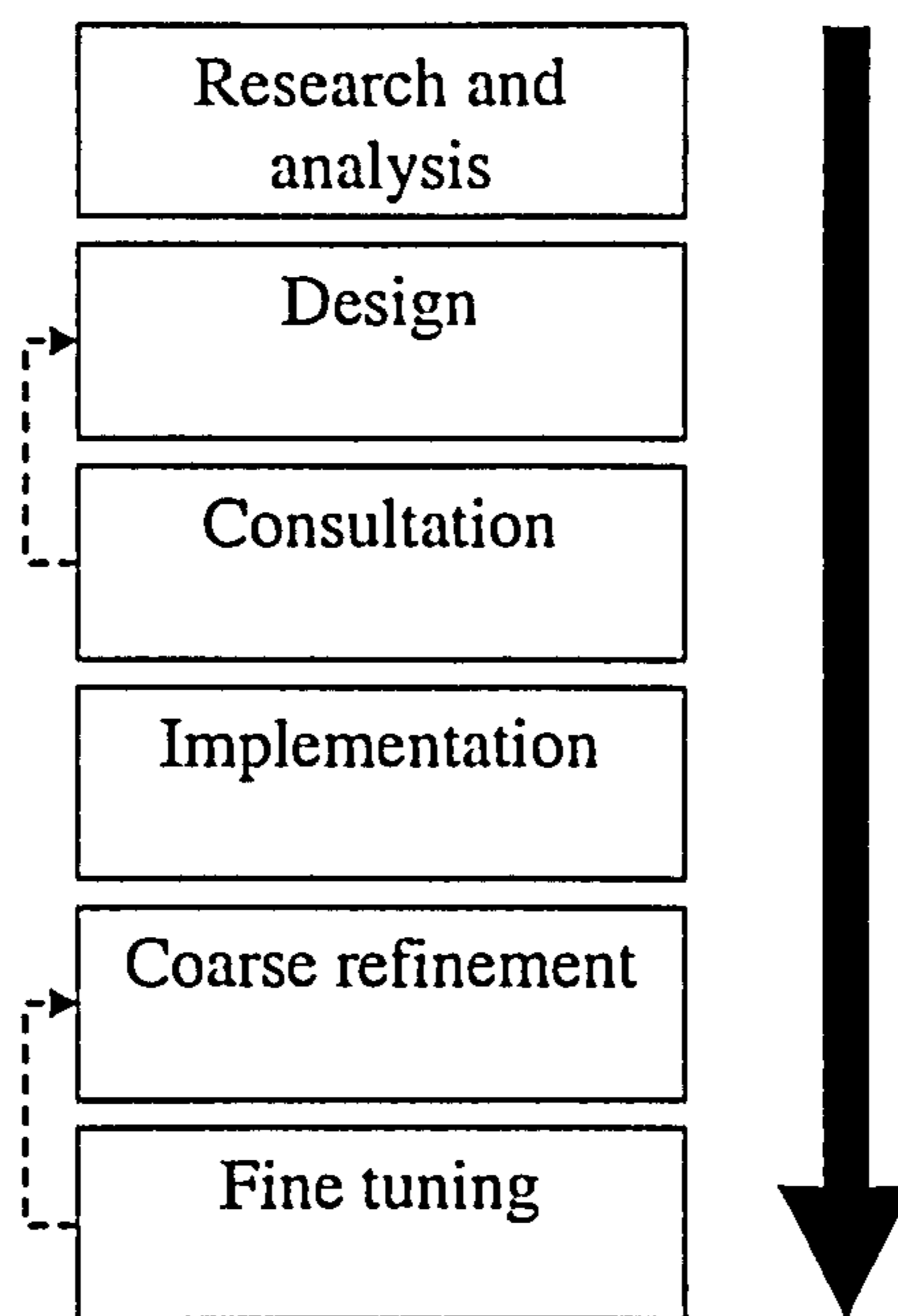
In this section process analysis focuses primarily on work carried out under the RTP programme. However, as indicated in the last section the RTP NSD activity is better understood if it is placed in the context of broader changes under the bank's DS programme. The detail of the DS programme was not researched, and it is only discussed here in broad terms. The following figure shows the main *phases* of NSD at NatWest.





NatWest Regional Lending Centres

The RTP design process is shown in more detail in the following figure.



## NatWest Regional Lending Centres

Each element of the RTP NSD process is explored in depth in the following paragraphs.

### **Pre-design research**

A small research team was assembled to carry out pre-design analysis work in the summer of 1996. The team had considerable performance data on existing lending centres and core processes were well understood. The only major decisions taken at this time was the number [nine] and location of the new centres; these decisions being outcomes of the BCG RTP research.

### **Concurrent design**

Because of current delivery problems centres would need to be built quickly. A design challenge was therefore the standardisation, simplification and centralising of



existing processes and the *parallel* development of automation. Designers decided that risk associated with concurrent change was outweighed by the commercial risk of delaying implementation by as much as five years.

## **Design**

### **The centre managers**

Early in 1997 the first three centre managers joined the design team, contributing to, and challenging the detailed design of the centres. The revised lending centre archetype was then documented and exposed to the lending centre community for comment.

### **Consultation**

With input from the lending centre community the archetype was gradually modified and improved. As part of the consultation process the team visited 22 old-style lending centres. Centre staff were encouraged explain how would they design the centre of the future and what they wanted from technology. Response to the visits was good, with much consistency between the views of centre teams and the prototype developed by Rob Pike's team.

## Implementation

After the centre design was established, the first centre went on-line in September 1997 in Manchester. Shortly afterwards, the second opened in North London, and the third in Brighton, six weeks after the opening of the Manchester centre.

## Coarse refinement

After implementation, there were significant changes to the centre design, mainly concerning telephony capability. Customers entered the lending centre service through a general call-centre<sup>6</sup> and complex lending queries would be transferred to the lending centre. The volume of such queries meant that the lending centre telephone team functioned like a mini call centre. It was apparent that these telephone teams urgently required the data that call-centre technology could provide.

Other changes between the first three centres and the fourth were changes to team structures and numbers. The design team made assumptions about the ratio of staff new to NatWest to existing staff based on a recruiting model provided by the bank's HR department. The model failed to incorporate considerable changes in the UK employment climate and one effect was to make the surplus of existing NatWest personnel lower than expected. NatWest also failed to sell internally the concept of working in the new centres.

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<sup>6</sup> One major aspect of the RTP was a series of general telephony centres. Initially, such centres were deemed to provide *all* call-centre capability.



## **Fine-tuning the design**

### **Systemised operational improvement**

Whilst lending centre design was standardised, each centre team worked with the operational improvement team to refine processes. The interaction between the lending centre and the operational improvement team was itself highly systemised. Small teams of process consultants visited lending centres, talking to staff to see what kind of ideas they had, and whether these could be incorporated in the generic design. If a centre wanted to try a new way of operating or test a new process, the operational improvement team was consulted, and they and the lending centre agreed a pilot period. If the lending centre's idea was effective, and, if it was not a "fix" that would be superseded by a technology "drop," then it was incorporated into the generic design.

### **Design processes – observations**

DS was an opportunity for extended – if tacit – design research, and was, though not intended as such, a first phase of the RTP lending centre design process. In the second design phase the selection, documentation and coarse refinement of the lending centre archetype took place. The final phase is the ongoing operational refinement and improvement, managed by both the operational improvement, and lending centre teams.

The subject of this case study is phases 2 and 3; the design project in which the ideal RTP lending centre was created and documented. Phases 2 and 3 consisted of several elements. The first of these was a pre-design data-gathering and research stage. Next came an analysis of the design data by the design team. This analysis stage being enhanced by immersion in the practices at existing [DS] lending centres. After which the elements of the archetypal lending centre were selected and documented. This stage, perhaps being the core stage in which most design choices were made. Then, before implementation came a consultation period in which the design constituency was canvassed for its views on the centre archetype. The consultation stage was also a device for gaining organisational support for the archetype, and to an extent, for the philosophy underpinning the RTP itself. After implementation, next came a stage in which several coarse design refinements were made. Finally, the current position is one in which a series of technology drops and an ongoing fine-tuning of the design, is gradually perfecting the centre archetype.

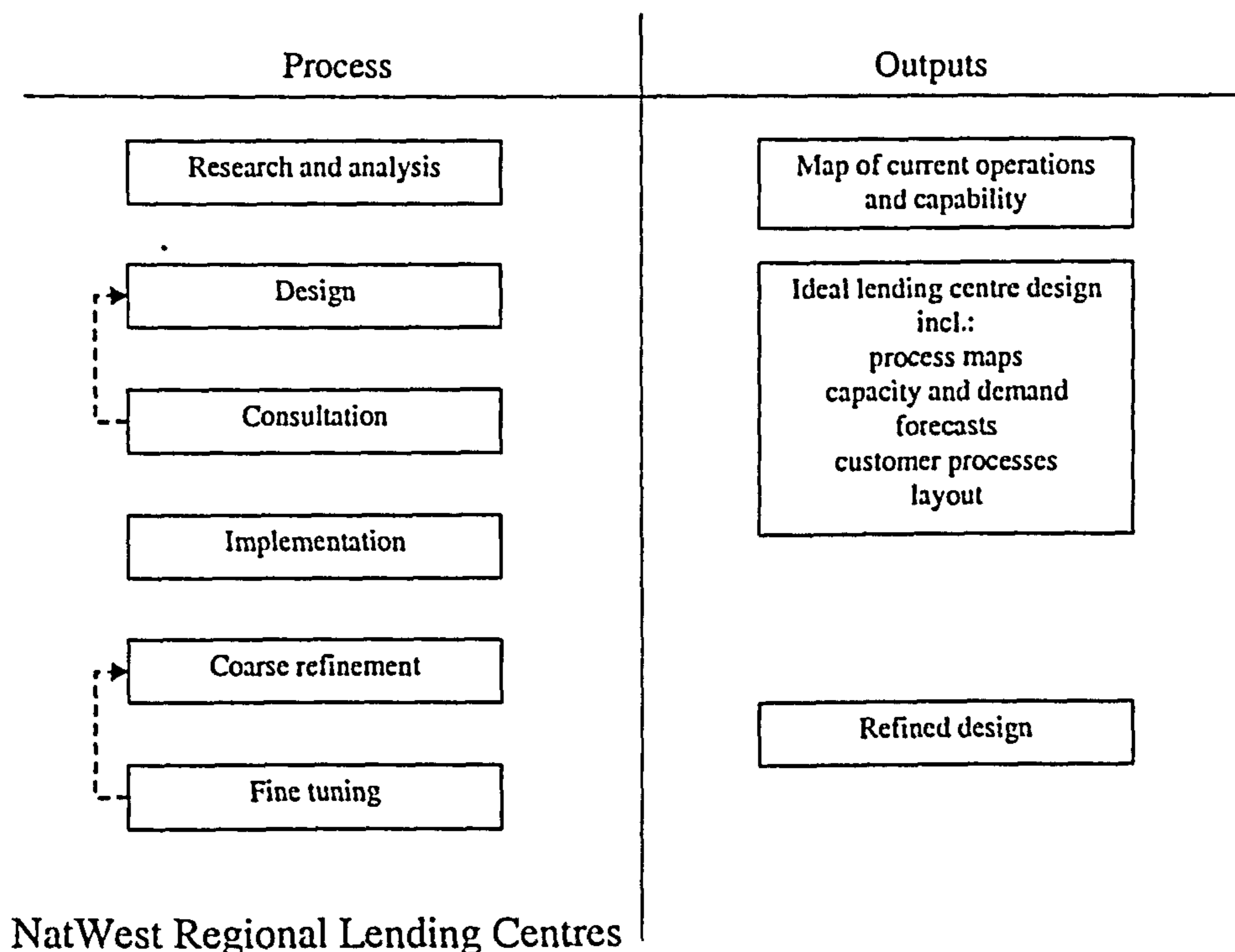


## Research issue 3 – NSD communication

### Design elements

The following figure shows design elements as outputs from the NSD process stages.

These elements are discussed in detail in the following section.



The generic design of a lending centre consists of the following elements:

1. The physical design of the centre. This element includes gross facilities, layout and structural elements.
2. The configuration state. This element largely maps the current state of automation in the centre.

3. Key process maps. These include narrative flow chart descriptions of the main lending decision-making sequences.
4. Team structures.
5. Grade structures.
6. The staffing model. This is derived from local volumes and reasonable expectancies [REs] for each process.
7. Customer processes

### **The configuration plan – a dynamic design**

The generic configuration plan for a lending centre was a capability map that specified the timing of automation drops, or “distributed releases” for each new automated process. Other changes charted on the individual centre’s configuration plans were representations of relevant environmental changes such as work migrating from branches or other centres<sup>7</sup>. The configuration also listed NatWest policy changes that might affect an individual centre.

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<sup>7</sup> One event that could have a major impact on an individual lending centre would be the opening of a “sister” centre in the same catchment area. For example, when the Southampton telephony centre opened, one of the new technologies “dropped in” was Automatic Voice Recognition [AVR]. This technology would change the nature and frequency of calls to the Brighton lending centre.



## **Process maps**

Details of each process within the centre were also documented in process instructions. These were flow charts with accompanying explanatory notes. The process maps were currently in paper format but due “on-screen” in future.

## **Customer processes**

Customer processes and outcomes were mapped to a degree, and service level agreements had corresponding target times. However qualitative measures of customer satisfaction were absent from process specifications.

## **Flexible buildings**

An important aspect of the lending centre facilities design was the in-built flexibility of the buildings. One major outcome of the RTP was that automation would result in the ongoing modification of team structures and tasks. For example, a lending centre might have 40-50 people working on “account out of order” printouts. Automation would reduce this number, but there might be a corresponding increase in staffing requirements for other tasks, e.g. sales. So lending centre buildings are open plan; there are no dedicated workstations, all are standard and flexible.

## **Design communication – observations**

### **The service strategy**

The “why” of the lending *centre* approach was not as clearly articulated as it might have been. There was evidence at the West Midlands and Wales Lending Centre that

their CSBs had not yet bought-in to the RTP strategy, and its articulation in the form of the centre itself. The end customer appeared to accept the “visible” elements of the service strategy. However, this may have been merely a positive reaction to increased speed and enhanced entry routes.

### **The marketing concept**

The advent of centralisation inevitably affected the lending-services marketing-concept. Though most changes in the service were to back-office processes, the “front end” benefited from increased process speeds, and to a lesser extent, consistency. Whether this change is perceived by the customer as a changed service is questionable. However, the customer will almost certainly perceive the new entry-routes to the credit application as a new offering. Though not cost-neutral, the additional costs of the telephone “one-stop-shop” would be absorbed in part, by other internal services sharing the same resources. In this respect technology has been used to allow the bank to lever aspects of its existing resource base [customer information and the lending process] into new market spaces. It is not merely a change of marketing channel, but allows the bank to target new markets; individuals who previously might not have used lending services.

### **The operations concept**

The “how” of the lending centres was partly defined in the bank’s process instructions, and the “how well” was spelled out at many levels by the balanced business scorecard objectives. Though many aspects of the centre’s work was systemised, the conduct of the sanctioning, and monitoring and control sections



appeared to be reliant, to a large extent, on the tacit knowledge and experience of section managers and team leaders. In particular, the management “interventions” in the monitoring and control section seemed to be very much a human activity.

### **Resource requirements**

As a communication construct the lending centre design was remarkable in its explicit consideration and description of required and actual resource. The balance of process resources was clearly articulated in the configuration plan. Human skill sets were also set-out in the team and grade structures, and the staffing model.

## **Earth Galleries – Natural History Museum**

*“...the Natural History Museum are one of the few professional organisations in this country that are employing designers ... the brief is very clear and you know that they know what they are doing. We get so many clients that give us a verbal brief, or one on the back of a cigarette packet and you know they have not thought it through. Neal Potter, Neal Potter Design*

### **Introduction**

#### **Background**

This case study is about the design and development of several galleries within the new Earth Galleries of the UK Natural History Museum (NHM).

#### **Ownership**

Since 1963 the NHM has been an independent trust. Previous to this time it was part of the British Museum. A Board of Trustees responsible to Parliament governs the Museum. The museum is funded from: central government, the National Lottery and sponsorship.



## Location

The NHM is in Cromwell Road, London.

## History

The Geological Museum was originally an offshoot of the British Geological Survey. In 1851 the collections were housed in a Geological Survey building near Piccadilly, and opened as The Museum of Practical Geology. The collection remained in Piccadilly until 1935, when it moved to South Kensington; the Geological Museum. In 1985 the Geological Museum merged with the NHM.

## Activities

The work of the museum involves managing, displaying and explaining hundreds of thousands of specimens from all over, and beyond, the world. The museum library maintains approximately 300,000 volumes and some 20,000 periodicals. These are used by visitors and the 300 research staff of the museum. The museum also runs and franchises retail outlets. Educational resources such as courses and course study materials are also provided for schools. Certain galleries can be hired for social and business entertaining.

## Customers

Visitors are the general public and their approximate age profile is shown below:

Age range	8-16	17-25	26-40	41-45	56-70
%	15	20	30	20	15

The proportion of male to female visitors is approximately equal. (Susie Fisher Group 1989)

### **Mission**

The Museum's mission is to; "... maintain and develop its collections and use them to promote the discovery, understanding, responsible use and enjoyment of the natural world." Museum Charter, NHM

### **Overview of the specific NSD project**

This case addresses the complete re-design of a museum of geology. The work began in 1995 and was ongoing at the time of writing. The first phase opened to the public in July 1996 and included:

- The "Visions of Earth" entrance atrium.
- The "Power Within" exhibition – about volcanoes and earthquakes.
- The "Restless Surface" exhibition – about the changing surface of the planet.

The case comments on the design of these galleries and associated facilities as well as designs that, at the time of writing were "on the drawing board," in particular:

- The "From the Beginning" exhibition – about geological time.
- "The Earth's Treasure" exhibition – about gems and minerals.

## **Administrative information**

### **Data sources**

Interviews were carried out between 1996 and 1999 with Dr. Giles Clarke and Mr. Malcolm McBratney at the Museum, and gallery designer Neal Potter. Also used was gallery design documentation, pre-design market research and public-domain information on the museum.

Except for two specific areas there was almost complete consistency amongst the data sources. The exceptions were mainly in an area of design roles and in the extent to which the designer selection process involved “free pitching.” Although not a subject addressed directly in this thesis, it was inevitable that the roles of designers and design managers would arise in discussion of design process and content. Perhaps because of the great success of the Earth Galleries re-design, several senior managers at the museum were keen to be portrayed as being instrumental in the success of the project(s). However, perusal of project files, and cross checking with design contributors both within and outside the museum indicated that the chief designer and “pivotal figure” in the project was Mr. Malcolm McBratney. This conclusion ran counter to the formal position of the museum.

“Free pitching” describes the process whereby design houses submit, at risk, their ideas for a gallery design. The investment of time and effort involved in developing a proposal could be significant. Further, free pitching usually involves minimal dialogue between client and designer. The NHM’s formal position on free pitching



was that it was to be avoided; the museum preferring to identify suitable designers and then work with them to develop gallery designs. However, designers indicated that free pitching sometimes took place, and several project files appeared to confirm this. For example, the first entries in the “From the Beginning” files were a series of proposals from designers, all with covering letters requesting meetings to discuss the proposals with the museum. The tone and content of these letters did not suggest that they were the outcome of any prior discussion, but were in fact, free pitches.

**Contact information:**

Dr. Giles Clarke Head of Department of Exhibitions and Education Natural History Museum Cromwell Road London SW7 5BD	Mr Malcolm McBratney Senior Operations Manager Exhibitions and Education Development Natural History Museum Cromwell Road London SW7 5BD	Neal Potter (Designer) Neal Potter Design Ltd. Unit 10 Ullswater Business Park Coulsden Surrey CR5 2XX
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## **Research issue 1 – NSD imperatives**

### **New mission, new consumers**

When the NHM inherited the geological museum in the mid-1980s they found a museum that suited geologists carrying out field research, but one that did not address the needs of the lay public. The NHM acquired several galleries with good exhibits, but many that were very old-fashioned, designed for a non-existent target audience, and failed when tested against the museum's mission. In the re-named "Earth Galleries," this was interpreted as; "communicating the issues of the day in geology."

### **Consumers**

The museum understood the changing nature of the museum's audience, but they recognised a need for a detailed study of their actual and potential audience. In 1989 the museum commissioned research on the museum's market. The objectives of the study were to:

- identify current and potential visitor perceptions and levels of knowledge of minerals and gemstones;
- explore the most attractive and engaging aspects of the subject for the positioning and marketing of a new Minerals & Gemstones exhibition;

- define a structure for presenting the subject which allows the visitor a natural, stimulating and easy way in;
- identify the routes from the visitor's concrete experience through to presenting the abstract concepts.(Susie Fisher Group 1989)

This list reveals much about strategic design intent. The first two objectives concern determination of the current position of consumers (potential and actual) with respect to the subject. Critically, the objectives are not concerned with what consumers want. What consumers will get is already determined by the museum's mission statement; they will be educated about geology using the collection. Having decided this, the museum is more concerned with the consumer as a raw material in the service process; they want to know where they are starting from in terms of educating the consumer and engaging their attention. The second two objectives concern taking the consumer from this start point into the service process: The third objective looks at ways of engaging the consumer in the museum's narrative, that is, it identifies "narrative-hooks"<sup>8</sup>. The final objective concerns staging the narrative so that abstract ideas are presented in such a way that they are always embedded in what the visitor already knows.

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<sup>8</sup> "Narrative-hook" is a term borrowed from the world of fiction writing. Writers of novels and screenplays often use plot devices that force readers and cinema audiences into early engagement with a story.



The outcome of the study was that the existing knowledge base of consumers is minimal and they were not enthusiastic about geology as a subject. Existing displays in the museum were perceived by both museum staff and the public to be very much static; consisting predominantly of taxonomic displays, or “rocks in boxes.” New exhibits would also have to accommodate the fact that today’s visitors would already have exposure to the specimens in more dynamic contexts such as television programmes on volcanoes.

Understanding this public perception gave the NHM some ideas on how to change it. The core material in any exhibit; the specimens, would not change, but the new design would have to provide service *entry-routes* that would engage, excite and explain.

### **The visit – a social experience**

The visitors perspective – as opposed to the curatorial perspective – and the way in which visitors interacted socially were now considered to be important factors in gallery design. Contemporary social groups were unlikely to follow the long narratives of traditional museums.

## **The collection**

The museum was guided in re-designing its services by its mission statement. The mission statement has evolved over the years, but has since 1989 been stable as:

*“... to maintain and develop its collections and use them to promote the discovery, understanding, responsible use and enjoyment of the natural world.”*

Central to this mission is the use of the existing collections.

### **Design imperatives – summary**

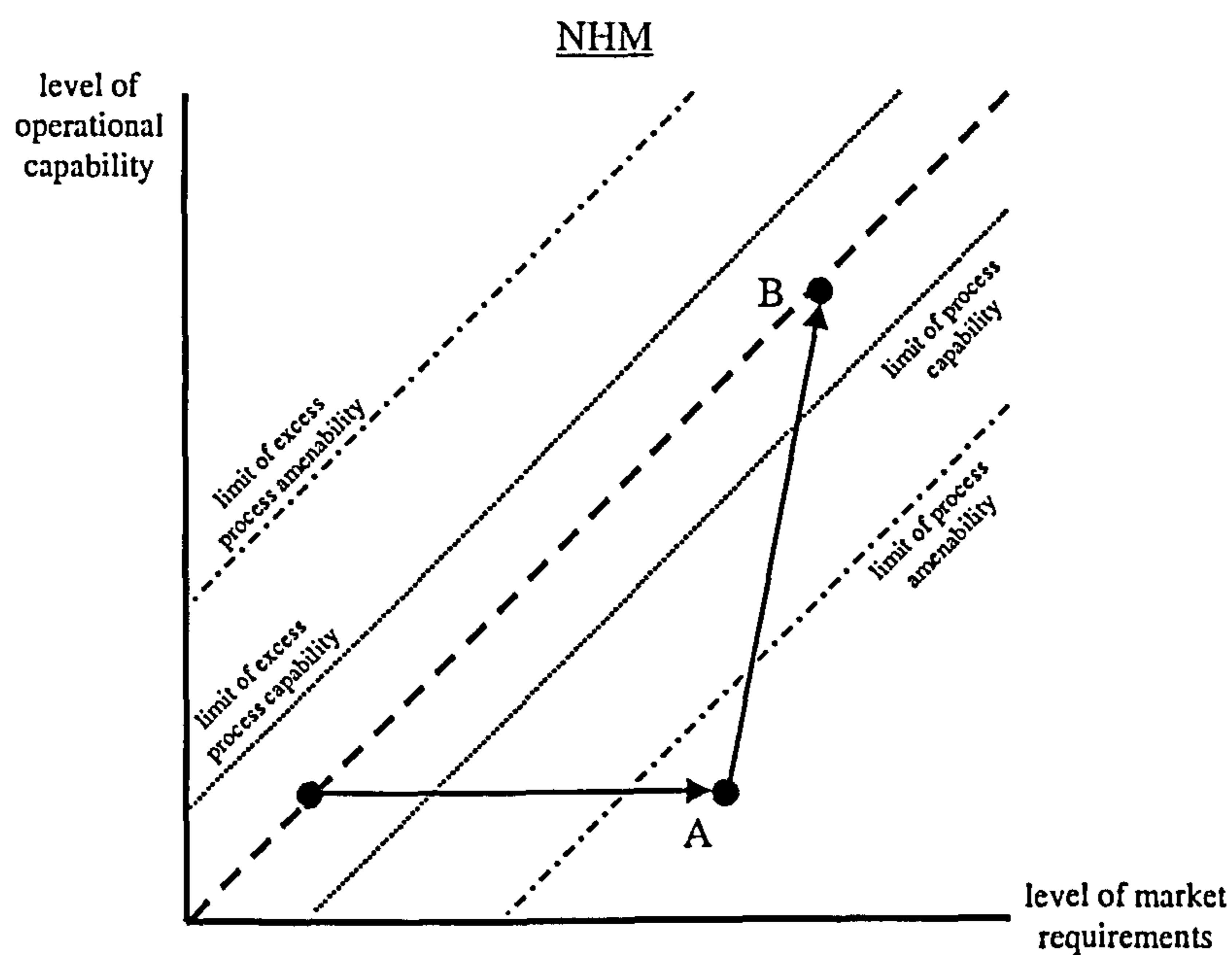
If the NHM was to fulfil its mission, then, as it had done in the life galleries it had to address the changing perspective of its target consumers. The collection would have to be supported by a narrative and staging devices that would inspire engagement with the subject matter.

The detail of the offering and how it was to be delivered was also defined by the current understanding and experience of the market, and more importantly, what devices would help bridge the gap from their experience to the intended end-state for the visitor.

The Cromwell Road building influenced how the service would be designed and delivered in that it provided many physical and other constraints on the design of the museum as a whole.

The existing customer processes in the museum were of limited influence on the design of the new ones. They were deemed, in the 90s, to be failing and would largely be abandoned.

Thus the first major risk exposure in the development of the Earth Galleries resulted from the strategic decision to focus on the new target market. This was speculative risk in that the true potential of this market could not be known with certainty. This risk exposure is illustrated in the following figure (A).



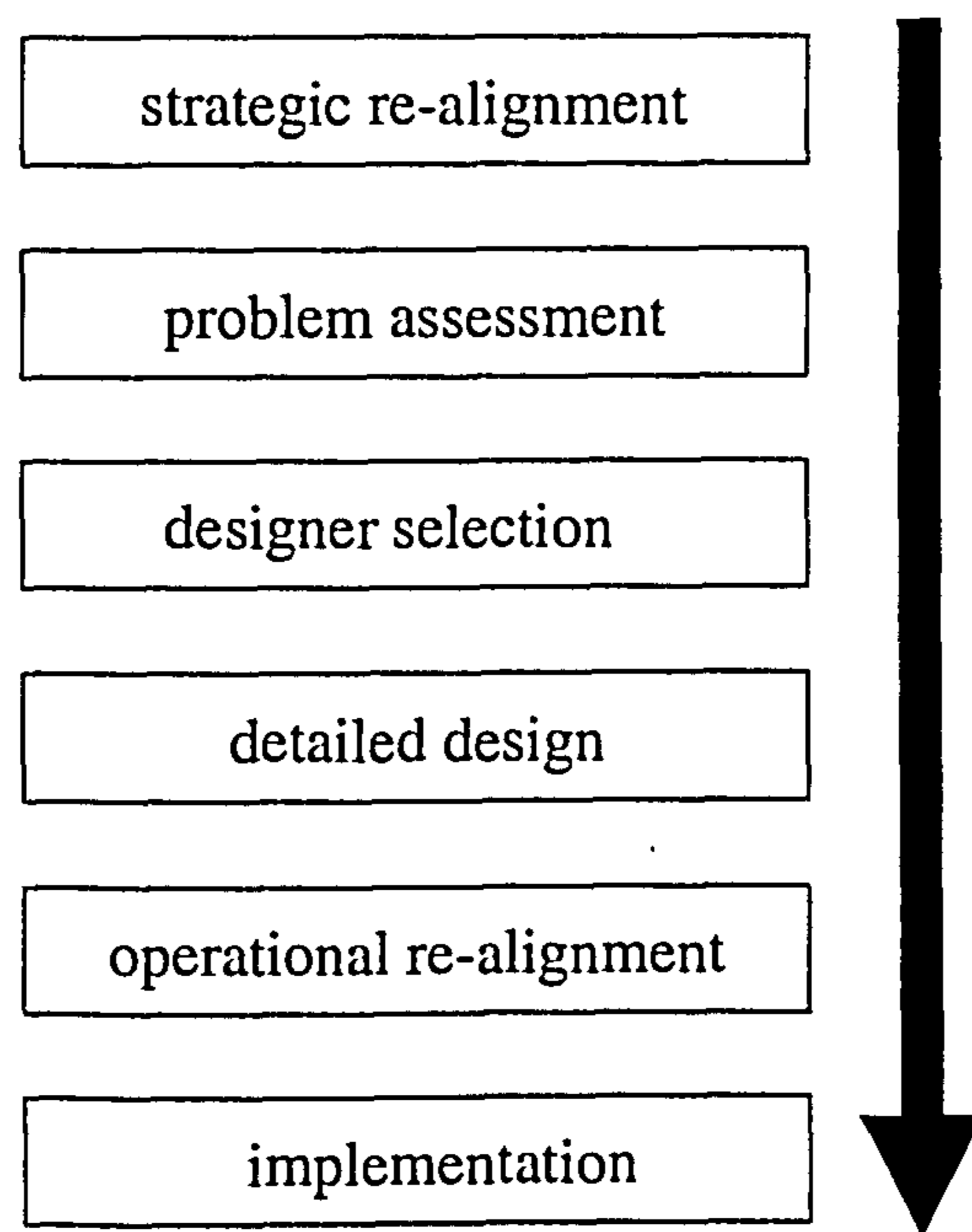
The risk of exposing the – now – misaligned process and resources was managed by the fact that most process design at the galleries was almost completely *ex ante* and explicit, and the strategic re-positioning was broadcast only to a small group.



However, one could argue that as the galleries were tackled two at a time, there existed the opportunity for dissonance as customers were able to move between the galleries designed for them, and those designed for the old target audience. The NSD achieved near perfect alignment of customer requirements and operational capability (B).

## Research issue 2 – NSD processes

The following section describes the process of service design that has developed in the NHM over the last forty years. Little is written in the form of process guidelines, but management and staff continuity has resulted in an established process for managing design. The following figure shows a summary of the process stages discussed in detail in the next section.



The Earth Galleries – Natural History Museum

### Design stages

Overlaying the main project stages were the design stages for the exhibition spaces. Design occurred at two levels, the overall Earth Galleries design project and the design processes for the six individual gallery areas.

## **Story logic**

A key ingredient in creating the design for the new Earth Galleries was in developing an integrative and interpretative idea for the Atrium and Galleries, that is, a theme or overarching narrative that would tie everything together and guide the master plan for the exhibition space. This story logic would be written within the museum and would be circulated for comment and approval. The development of the gallery design and content briefs from the story logic was very much an iterative process as the documents grew with contributions from museum personnel, partners in the scientific community, industrial geologists and the museum's trustees.

## **Content brief**

The content brief explained the story content or *what* would be learned, the intellectual content or *level* of learning and the rationale for the gallery. The budget for each gallery was set at the content brief stage; this was largely historical budgeting factored by the intensity of activity in the display area.

## **Museum design brief**

The second stage in the design of the Earth Galleries concerned the creation of the design brief for the whole museum. The design brief clearly stated the objectives of the re-design, constraints on the process and the scope of work. It was largely concerned with the re-design of gross spatial features and supporting services. The list of objectives in the design brief articulate in detail the mission and objectives of the museum, and certain elements of the story-logic in as much as they apply to the



design of spatial features and supporting services. The first of these objectives was linked directly with the identified requirement to excite and engage potential consumers about geology. Hence the objective of providing an attractive and dramatic entrance to the exhibition areas [the “Visions of Earth” atrium] that was also welcoming and provided easy access. Thus the museum designed gross features after establishing the story; the building fits the story and not vice-versa.

### **Designer selection**

After creating the design briefs, the museum recruited appropriate teams to work up the initial briefing ideas into a gallery design. The exercise is one in which the broad thematic devices intended for each gallery are matched with the designer’s skills. The museum invites design companies in to talk about their track record, their initial response to the brief and their feelings about the way the design should develop.

*“I do not wish design companies to work up a gallery design to try and sell it to us. The design of a gallery must be the result of a clear understanding, and a good deal of work, between us and whoever takes on the job ... so anybody who’s sitting there outside and feels that they need to come in and “pitch” for the job with a design ... so they open a book and say; “this is what your gallery will look like.” ... I don’t want any of that ... I want to work with them.” – Giles Clarke*

## **Working with designers – concept development**

Next the museum begins to work with the selected designers. They talk through in detail the areas of science they want to cover and then explore how the gallery will communicate these ideas. Dialogue continues until the team has an overall concept for the gallery.

## **Detailing and construction**

After concept development, the team moves on to “detailing and construction;” this involves turning the concept into blueprints for construction of gallery elements. The end of this stage usually being a decision to proceed with gallery construction.

## **Implementation and refinement**

Finally the team has to build the gallery, and at this stage there is invariably a return to consideration of budgets. The requirement to retain at least a degree of cost control is of course another reason why the museum works with designers rather than allowing “free pitching.”

## **Customer contributions**

Museum managers were constantly overseeing the gallery design as it grew, but the public was used less frequently to evaluate the design. A problem with using the public was usually their lack of vision. For example, the museum thought that few people could visualise and assess the impact of a 15m rotating globe with an escalator going through the middle of it. Furthermore, in designing the gallery, one of the important influences is the degree of *misconception* about geology possessed

by the public. To ask an audience, that may have little understanding of what they are seeing, to make a judgement on future proposals was therefore thought to be illogical.

### **Design processes – summary**

Top-level design was carried out by the in-house design team and detailed design was done by the subcontracted gallery designers. Concept screening took place both as an internal process of gallery designers and as an explicit part of the designer selection stage. Overall, the design processes at the Earth Galleries were broadly integrative, that is there was concurrent development of marketing and operations concepts both in the top-level design process and the individual gallery design processes.

### **Research issue 3 – NSD communication**

Most of the design communication constructs used at the Earth Galleries were, of necessity explored in some detail in the last section, however, they are discussed explicitly in this section. The following figure presents these constructs as outputs from each stage in the NSD process.



Process	Outputs
strategic re-alignment	new service strategy
problem assessment	narrative structure for galleries content and building briefs development budgets
designer selection	outline gallery solutions
detailed design	detailed design incl.: detailed floor plans for exhibition space blueprints for specific communicative devices
operational re-alignment	
implementation	

The Earth Galleries – Natural History Museum

### Story logic and gallery content brief

Narrative, and the management of narrative were important guides in the design of the new Earth Galleries. The “story logic” and its associated content brief were the most important articulations of this narrative. These two constructs emerge early-on in the design process and both are descriptions of what will happen in the galleries and how. Largely as a result of the work of Roger Miles (Miles 1988) there is today a preoccupation with how visitors move through and interact with exhibitions and exhibition space (McManus 1994).

### Museum design brief

The design brief lists; the objectives of the museum’s constituents, the constraints on the design, special access requirements, retail franchise allocations and requirements, cloakroom requirements, admissions procedures, visitor information requirements,

catering and toilets requirements. The document will also discuss any modification or refurbishment to the fabric of the building.

### **Visuals and Models**

As soon as the gallery designers become involved in tendering for the gallery contracts the communication constructs take on extra dimensions. Drawings, models, computer displays, slide shows, customer flow diagrams and floor plans are produced to enhance the narrative descriptions in the design brief. Crude models made out of cardboard or paper were preferred over computer models and the like. Cruder models were found to be more accessible to a broad constituency of design contributors. Such open access to concept mock-ups was required to test, for example, the maintainability of a gallery concept. For different reasons, the gallery designers supported this view. The level of detail in a gallery concept design being constrained by the limited funds available.

### **Target intellect**

One of the main communication constructs was the standard profile of the museum visitor, which is a fifteen year old intellect. A theoretical visitor must be defined in order to achieve consistency of language throughout the museum / gallery.

### **The building brief**

An offshoot from the museum design brief is the master plan for the use of the exhibition space; the building brief. The building brief concerned gross issues, such as big features, rough outlines for the use of space, facilities, ventilation, etc.. Along

side this work a quantity surveyor would be employed to derive cost information. Besides the galleries and other spaces with informational content the building brief addressed supporting facilities such as toilets and their projected reliability, the balance of male and female toilets, baby changing facilities, rest and consolidation areas and cloakrooms. The building brief also covered access control and capacity management.

### **Design communication – summary**

At the top-level, design communication constructs consisted of the clear and explicit description of the service strategy and the way in which the resource base would be utilised in designing new services. A partial picture of the marketing concept was developed however. This consisted of a sophisticated description of the consumers both as a group and as a target individual, but customer outcomes were only defined in terms of learning and experience objectives. The operations concept was also part-complete. It consisted of structural and infrastructural constraints on the consumer process, but little detail of the process itself.

At the level of the individual gallery designs, the situation was reversed. These were highly sophisticated descriptions of customer outcomes using the market information developed by the museum, and of how these were to be delivered.



## **Learning Disabilities Services**

### **- Wolverhampton Health Care NHS Trust**

#### **Introduction**

#### **Background information**

The Wolverhampton Health Care NHS Trust was approached early in 1997. Contact was made initially via the Executive Director of Nursing Services. The Chief Executive offered research access to four services undergoing re-design. The service discussed in this report is the new learning disabilities service

#### **Ownership and finance**

When the Trust was formed it borrowed funds from the UK Treasury to acquire its assets. The Trust receives no grants from central government. All income is earned from service contracts agreed with health care purchasers. At the time of interviewing, annual income was just over £30m.

## **Geographical spread**

The Trust is surrounded by other primary care trusts. The largest two are in the Birmingham metropolitan area to the Southeast, and in Staffordshire to the North. However, activity boundaries are vague; trusts often compete for contracts outside their geographical areas.

## **Activities**

The Trust was formed on 1st April 1995 and provides primary care to the community of Wolverhampton and its environs.

## **Customers**

Customer groups are Health Authorities, General Practitioner (GP) fund-holders, other NHS trusts and educational establishments. The first three of these groups purchase health services on behalf of the end consumer.

## **Strategy**

The Trust recognised that it had been failing to deliver appropriate standards of service. The 1996 Annual report said; '... despite the best efforts and commitment of the Trusts staff certain services were badly organised, badly managed and under-resourced, in particular Wolverhampton's Mental Health Services were openly criticised by many local agencies and by other national and regional experts.' In response the Trust Executives focussed on five improvement aims:

1. to ensure services were lead by consumer needs

2. to ensure effective integration with other agencies
3. to ensure effective resource utilisation, in particular, to increase the proportion of expenditure spent on direct patient care
4. to promote good health
5. to ensure equal opportunities for staff and consumers

Items 3 to 5 are obvious and expected. Trust Executives and managers thought items 1 and 2 were key strategic drivers of change in the Trust. That is, changes would represent a move away from internally focussed objectives to a balance of internal, *and* customer / end-consumer objectives. Secondly, changes would reflect the need to both rationalise provision amongst the trust and other agencies, and, ensure inter agency co-operation.

### **The specific service design project**

This case report focuses largely on the re-design of learning disabilities (LD) services.



## Administrative information

The case report was developed after interviewing:

Michael Pyrah	Chief Executive
Jan Harry	Executive Director, Nursing & Director, Primary Care
Jeffrey Silk	Director of Operations
Andrew Moody	Learning Disabilities Services Manager

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Wolverhampton Health Care NHS Trust

Clevelands / Leasows

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WOLVERHAMPTON

WV1 4SA

The researcher was also able to access project files pertaining to the re-design of LD services and foot-care services. The files contained much documentation that at first sight appeared contradictory (especially the descriptions of projected service outcomes) however, this contradiction is explained when one understands that a great deal of NSD documentation in the NHS is itself designed to support a lobbying process. This political element is discussed further in the last section of the case report. All interviewees were in agreement on NSD imperatives, process and content. However, there was a slight difference in respondents perception of environmental

change versus operational failure as a change imperative (see section 1 of the case report). The Operations Director and LD Services Manager, perhaps not surprisingly considered the major imperatives for re-design as being current operational failure, whereas both the Chief Executive and the Director of Primary Care emphasise longer term strategic imperatives such as changing LD care philosophy and the changing nature of NHS purchasing policy.

The researcher is indebted to all interviewees for giving their time and insight.

## Research issue 1 – NSD imperatives

### Design flaws

There was a growing awareness by the new senior management team, that existing LD provision was poor. Furthermore, this poor performance had little to do with the competence, performance or attitude of individual service providers but was a result of fundamental flaws in the *design* of current services.

LD services were a small, but politically sensitive group of services within the Trust. Dramatic news media coverage of incidents associated with the Community Care Act reflect this sensitivity. Changing such services can therefore involve a high degree of risk, but doing nothing could also be risky. The LD service was amongst several seen by the Trust as failing *dangerously* in terms of both safety and public relations.

### Competition

Although the health care market was managed, alternative providers could be invited by purchasers to deliver any service. Despite a general perception that primary care Trusts should provide LD services, from the Local Health Authority Perspective, there was nothing sacrosanct about this. Whatever the source of competition, its perceived existence was a stimulus for innovation and change both at a strategic level; in terms of the necessity to focus, and at the operational level, in terms of the need to re-design and improve service delivery.



## **Clinicians**

In translating the change imperatives into design choices, the Trust works with Social Services, and latterly, customers, consumers and carers to determine their expectations. However clinicians' view of service development remains dominant.

## **Consumer pressure**

Patients with LD are disenfranchised; almost totally reliant on advocacy to advance their views. Advocates are usually parents who speak on behalf of their *own* children and not for the whole client group. Interpreting this design input can be difficult. At the level of policy the Trust's response to was to have NSD strategy driven by the aggregate needs, or needs envelope of the target consumers, and individual needs addressed by individual care plans.

## **Social Services**

Historically, working relations between Wolverhampton Social Services and the Health Care Trust were not good. Both groups were required by statute to deliver an integrated LD service, but in reality they worked independently. Where the two organisations interacted, it was often to argue the placement of individual cases. As a result of this conflict the Trust and Social Services had never formally considered the design of the service. Unplanned evolution lead to two service providers having no clear picture of their client-mix, and therefore an incomplete marketing concept. Patients with LD, and their carers, therefore suffered from a service without focus. The services could perhaps have survived their problems were it not for the implementation of the Community Care Act in 1993 and the closure of the major

institution for LD patients in Walsall; St. Margaret's Hospital. Both changes resulted in many new clients being re-settled in Wolverhampton. Besides the over-capacity situation in which the Trust and Social Services found themselves, because of their reactive approach, both organisations ended up with a *broad-scope* contract for service delivery for a learning disability service that was specified by the purchasers. Purchasers – in the absence of decision from the Trust or Social Services – designed the service marketing concept without regard to supplier capability.

### **Changing philosophies**

The 1993 Community-Care Act was a key statutory framework for the re-design of the Trust's LD services. The Act is underpinned by the philosophy of 'social role valorisation.'<sup>9</sup> One implication of this philosophy is that care of people with LD would move away from a base in large institutions, to community / managed-home care.

### **Building focussed planning**

Service-design in the health sector had historically emphasised utilisation of fixed assets, rather than delivery of the core-service. Buildings in particular, were often a focus for new service development. Buildings were almost a free-good in the NHS until 1992/93 when capital charges were introduced; a six per cent building rate.

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<sup>9</sup> *Valorisation – to increase a measure [for example price, quality] by artificial means. In the context of this case study, valorisation refers to the engineering of a social role for people with learning disabilities.*

Inevitably, trust executives wanted to dis-invest themselves of buildings in order to invest more in patient care. However, at the operational level, the attachment to buildings remains a major influence on service design. LD services development in particular was bedevilled by assumptions that services must continue in residential facilities. The Trust housed long-stay clients in a mini-hospital at Pond Lane in Wolverhampton. Keeping all but the most challenging patients there ran counter to the philosophy of social-role valorisation.

### **External frameworks**

An external framework for new service development was the annual, 'Planning and Priorities Guidance' document published by the Department of Health. The content of 'Planning and Priorities Guidance' in turn influenced the Health Authority's purchasing intentions. Healthcare Trust's therefore have a planning cycle of a year for NSDs that may take five years to implement. Hence there is inevitably a loose fit between actual service designs and customer and consumer requirements as articulated by the Planning and Priorities Guidance.

### **Design imperatives – summary**

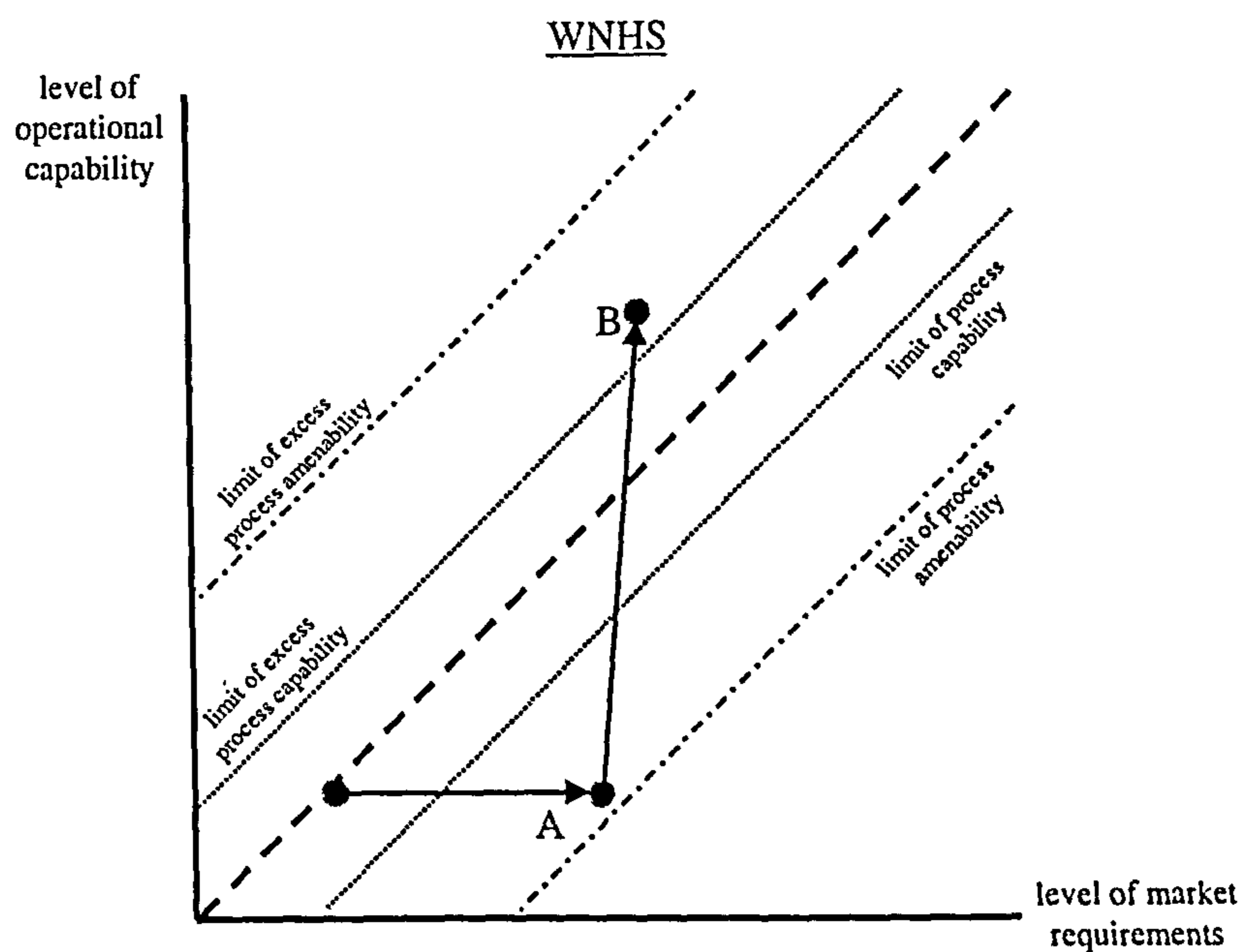
The imperatives for re-designing LD services can be split into two groups; urgent and long term. The urgent imperatives were:

- The perception of service delivery failures by Trust executives, and, to a lesser extent, by external constituencies.



- The combined impact, in terms of increased loading, of the Community Care Act and the Closure of the existing residential facility.
- The unacceptably high costs of meeting a broad range of consumer needs.

Together these imperatives constitute a high degree of both pure and speculative resource risk where existing processes could not exploit the potential of the Trust's assets. This is depicted as point (A) in the following figure.



Longer term imperatives that guided the re-design were:

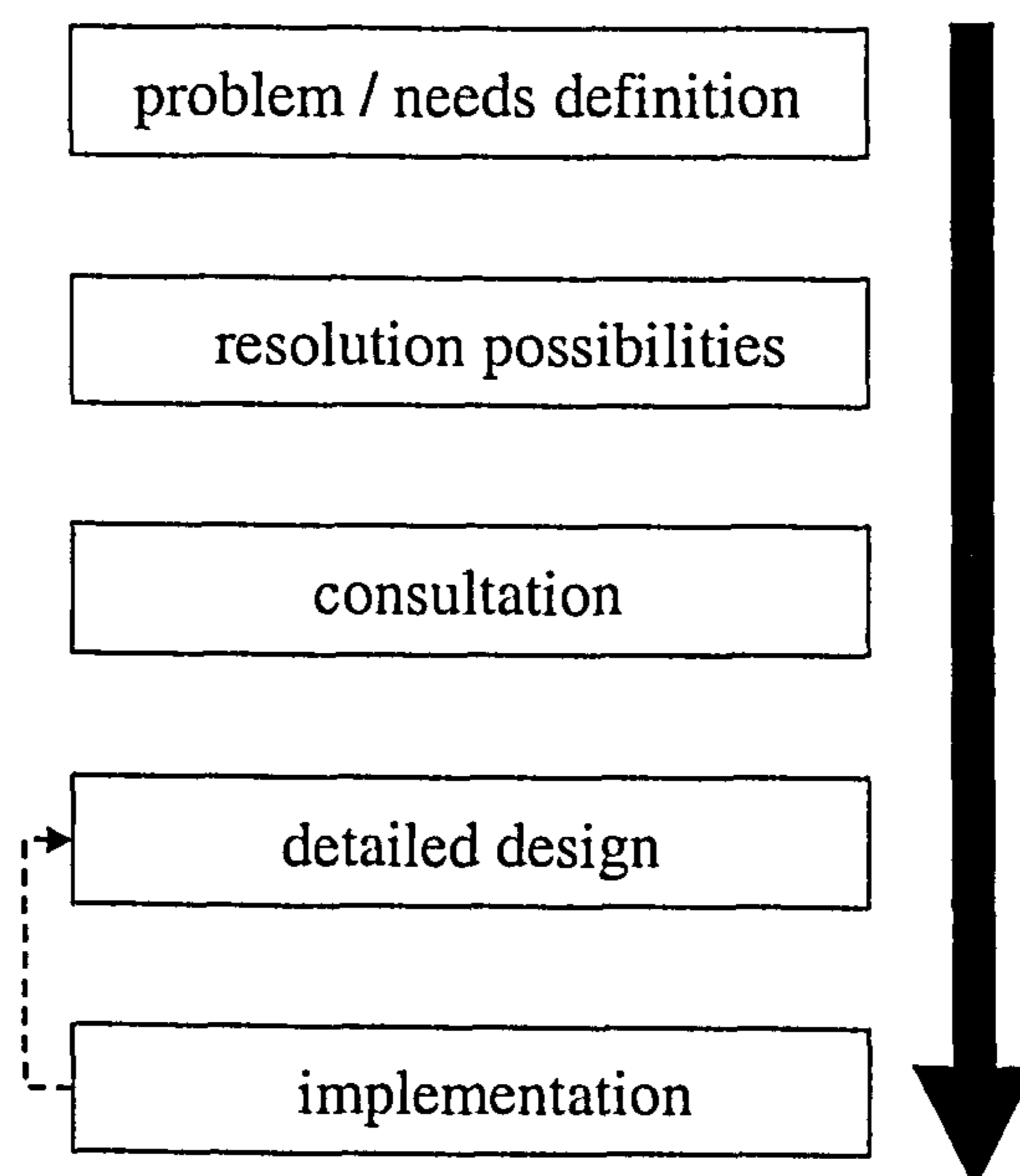
- Perceived competition from the private sector and other Trusts.
- Government emphasis in service design from being clinician-lead to needs lead.
- The ongoing commitment of the Trust to optimise services for client groups as opposed to satisfying individual agendas.
- The ongoing impact of the Community Care Act and the clinical approach of social role valorisation.

The operational response to this multiple risk exposure was a major rationalisation of the service portfolio as well as major re-design and improvement of the core LD service (B).

## Research issue 2 – NSD processes

### General service design processes

NSD in the Trust did not happen in well-defined stages but there was a general agreement amongst those interviewed that four key phases were present. These are depicted in the following figure and are then explained.



Wolverhampton NHS Healthcare Trust

#### 1st Phase – *problem or needs definition*

Usually an articulation of consumer and customer needs, dissatisfaction, or perceived internal difficulty in delivering the service to required standards.

#### 2nd Phase – *resolution possibilities*



Design contributors brainstorm solutions. They try to determine what a better service looks like.

### 3rd Phase – *consultation*

The Trust goes through a lobbying process because it cannot make unilateral decisions about service design. Design constituents are lobbied for their support for the Trust's preferred approach. Little detail is covered in this phase; the design communication device being more of a 'strategic vision' than a design. The first group to be addressed is purchasers. The Trust has to convince the purchasers that a need exists and that its priority requires action in the form of new or re-designed services. If support is forthcoming, the Trust then develops the details of consumer outcomes and delivery possibilities, and consultation moves on to other groups such as Trust staff, Trade Unions, Community Health Councils and GPs.

### 4th Phase – *implementation and detailed design*

Once broad approval is obtained implementation begins. Pilot roll-outs are rare, the Trust usually opting to change micro operations piecemeal.

The four phases above may suggest a sequential design process, however, this was only partially the case. The first two phases were iterative and there are signs that the design could be modified to a degree during the consultation process. Consultation certainly overlapped into the 'implementation and detailed design' phase, however this concerned operational detail rather than the 'strategic vision.'

## **Inclusive design and ‘buy-in’**

Obvious reasons for the inclusive design approach were increased ‘buy-in’ to new ideas and political approval for new service concepts. A less obvious factor was the potential to modify perceptions and expectations; to educate and, in some respects, manipulate the Trust’s constituents by increasing their understanding of resource constraints and priorities.

## **LD services – resolution possibilities**

In the development of new LD services, after identifying problems with the service, the Trust moved on to concept generation and development. A representative group of service providers was canvassed on the ideal LD service. The group produced a design without operational detail, instead they concentrated on what a consumer should expect from the service; a marketing concept. Users and carers were not involved at this stage. The exclusive nature of this phase was necessary to both avoid the influence of *individual* consumer agendas.

## **Consultation**

Because of the potential for political resistance to change raised in the last section, consultation was a carefully managed phase of new service strategy development. The new service *strategy* for LD services was disseminated to a broad constituency for consultation. Not only was broad constituency ‘buy-in’ achieved via this inclusive strategic development process, but strategic implementation difficulties were also highlighted.

## Detailed design

Detailed design of service processes and systems was carried out in the implementation programme. In the re-design of LD services the approach used was to *re-mould* existing services in accordance with the new service strategy. Assessment of *individual* client needs was carried out after re-assessing the client-mix with social services. Thus was created a profile of a *range* of client needs that the new service would have to meet; a *needs-envelope*. Then the range of micro-services required to meet these individual needs would be described, with the nature and level of provision of each micro-service being dictated by the service strategy, and by practical [usually financial] constraints. Finally, the design 'template' thus created would be compared with the existing service with a view to modifying the latter over time.

## Prototypes and pilots<sup>10</sup>

Design *implementation* at the Trust was piecemeal and akin to piloting in that an aim was to learn about and improve the *implementation* process within a particular context. There were several reasons for this approach that highlighted difficulties with prototyping in general:

Modifying a service for the *stated* purposes of prototyping a new idea would diminish the chances of success, in that the new idea would not be taken seriously by staff, and;

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<sup>10</sup> Interviewees used the terms *pilot* and *prototype* interchangeably.



that prototypes were a great opportunity for those with a vested interest in opposing change.

Further, services were usually re-designed with considerable broad-constituency approval. To abandon a prototype that had failed would imply the rejection of this mandate.

Because of the small size of the Trust's services pilots would inevitably affect large proportions of existing service delivery systems, hence creating inconsistencies.

### **Design processes – summary**

A distinguishing characteristic of the Trust's top-level design process was the consultation phase. This phase allowed Trust executives and managers to persuade and educate selected constituents of the necessity for re-design. With sufficient political support Trust managers could force change past countervailing forces such as clinical professionals.

A second key process characteristic was the detailed design and implementation phase. Service managers interpreted the outcome of the consultation process in terms of partial measures of operational performance that in combination defined the ideal service. The real service would, over time be adjusted to match this ideal.

### Research issue 3 – NSD communication

#### Many designs

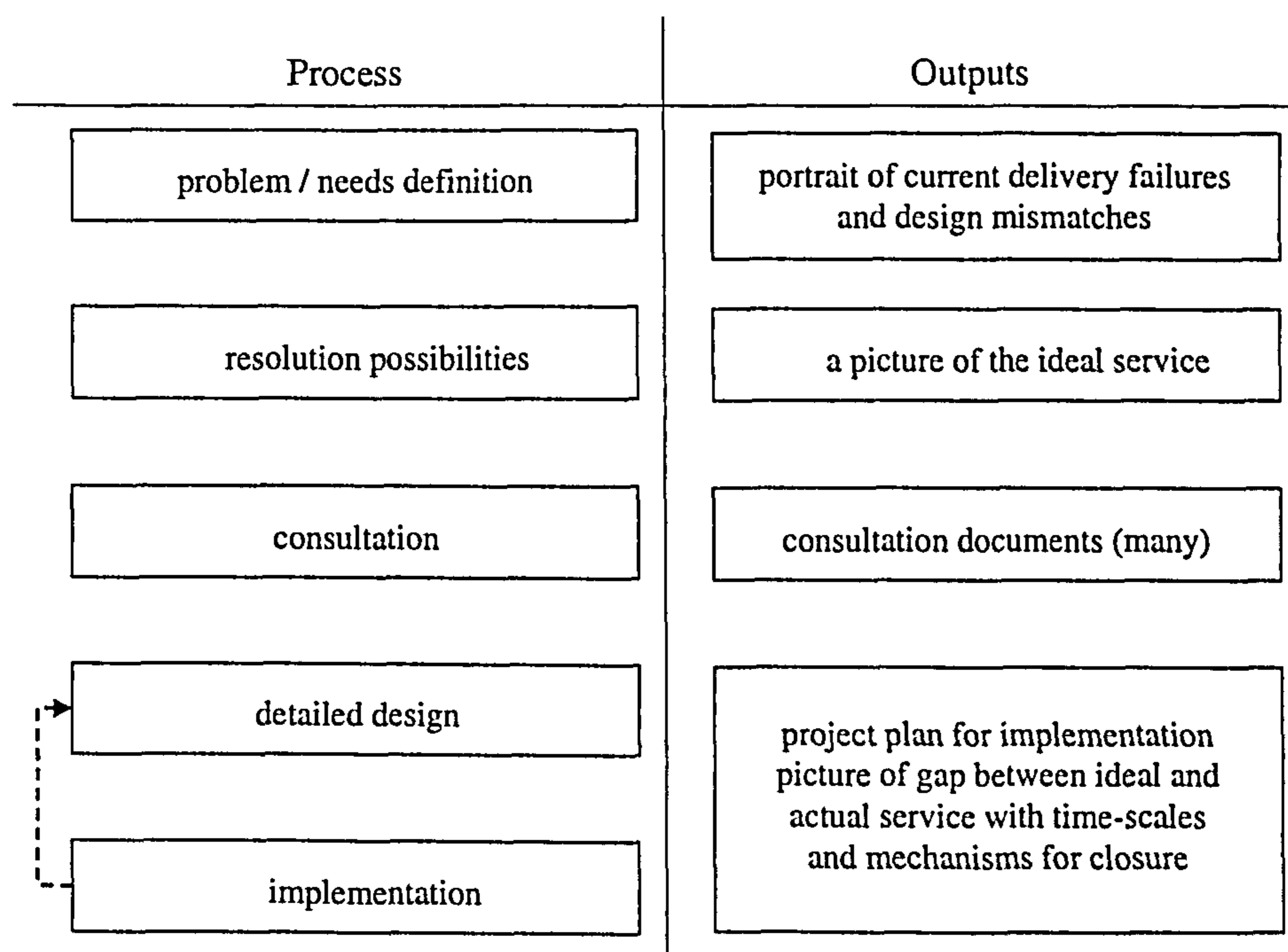
A difficulty with the UK public health sector is that historically it has not focused on consumer-outcomes. Providers, purchasers and consumers cannot easily articulate what the *total* outcome of a service should be. For example, many consumers are able to describe desirable supporting elements of service designs, but are largely ignorant of core health service possibilities, or current reality, except *in extremis*. By contrast clinical professionals can, and do define general standards for core service outcomes and processes, but often know little about [or care little about] supporting services. Purchasers, especially GP-fund-holders are somewhere in the middle.

Design communication constructs vary in detail. Both healthcare providers and purchasers place a heavy emphasis on quantitative measures of input and output. Health authority service specifications are largely quantitative measures of output performance which in turn derive from similar simplistic government performance requirements. Providers respond in kind.

Local Health Authorities sometimes specify aspects of customer and consumer outcomes, for example, standards of care and delivery via some partial measure of performance. However the knowledge [about clinical performance] in health sits

very much with the specialist providers and not the purchasers.<sup>11</sup> An inevitable consequence of the broadening of performance measurement and service specifications is a difference of opinion on what constitutes a good outcome between professionals and the recipients of the service.

An overview of design communication constructs used at the trust is shown in the following figure. Each element of the design is explained in the following paragraphs.



Wolverhampton NHS Healthcare Trust

<sup>11</sup> *The role of the providers has not changed apart from how they manage resources, but the role of the purchasers has changed significantly from an organisation which managed service as a tier of management, to that of a separate and partially independent purchaser.*



## Early constructs – a picture of the ideal service

The first construct was a view of what an ideal LD service should look like; what a consumer should expect from the service; a marketing concept.

## Consultation documents

The 'consultation document' varied in content according to perspective:

*“The consultation documents are about getting approval, and therefore the documents are very different depending on who they are geared for. For example a consultation document might be written to try and get a particular type of training supported. Some of them are written as business cases to try and get money. Others are written to get the public on board.” Chief Executive, Wolverhampton Health Care NHS Trust*

Not so much a design, but more a new service strategy document, the consultation document would be a description of the new service in terms of target customers, consumers and outputs with *rough* time scales for implementation. Customer processes were included, but internal operations processes were largely absent. Contingent on the audience, different aspects of the consultation document were emphasised or attenuated.

## **Detailed designs**

The detailed design was produced concurrently with the implementation plan and its form was akin to a project plan with detailed rollout time scales fitting into the strategic time scales of the consultation document.

## **Individual need maps**

The needs of *individual* LD clients were the core construct used in detailed service design. An individual prioritised needs assessment, expressed in terms of engagement, facilities, equipment and personnel development, became the armature for the design of the service that would meet these needs.

## **Training requirements**

Personnel training requirements would be identified early on in the design process, as required knowledge and skill bases take considerable time to develop.

## **Design constitution – summary**

In the top-level design process, that which the Trust presents to its constituents varies according to the audience. These consultation documents may contain textual descriptions of outcomes and processes, quantification of input and output measures, costing, skill requirements, training plans and rationales, either singly or in combination.

That which constituents perceive, in particular customers and consumers, depends on their understanding of the service elements.

At the level of detailed design in LD, the Trust was – at least internally – moving away from measures of service performance determined by government, to more meaningful measures. The detailed design was a specification of minimum performance levels on several dimensions.



# **Big Pit**

## **Introduction**

### **Background information**

Big Pit is a former National Coal Board [NCB] coal-mine, that is now used to tell the story of coal-mining in South Wales. The researcher made contact with Big Pit's management early in 1996 and research access is ongoing.

### **Ownership**

Big Pit is owned and managed by the Big Pit [Blaenafon] Trust Ltd.. The Trust also has a wholly owned subsidiary trading company [encompassing a gift shop, tea shop and cafeteria]. The company donates profits to the Trust under deed of covenant.

### **Location**

Big Pit is located on a hill top overlooking the town of Blaenafon in Gwent. There is good access to the mine from all directions, except on a few days in mid-winter.

### **Activities**

The Trust's activities include the mine tours, surface exhibits, a retail shop and a cafeteria.

## Customers

30% of Big Pit's visitors come from overseas. The main markets [apart from England] are France, Italy and Spain for school groups and USA/Canada, Holland, Germany, Ireland and Australia for independent tourists. Unfortunately the museum is less appealing to local people:

*“ ...Welsh people think they know about coal mining just because it has always been on their doorstep and so a visit to a local mine holds no attraction for them ... coal is also a dirty word to some people in Wales ... mining has horribly scarred the countryside. There is also a great deal of pain amongst those who gave their entire lives to coal mining and now have nothing to show for it.” - Managing Director, Big Pit*

## Mission

The Trust's business objective is:

*“To advance the education of the public in the history of coal mining by the provision of a museum both underground and on the surface of the Big Pit [Blaenafon] colliery for the demonstration of past and contemporary mining methods and the exhibition of machinery and other items connected with mining and industrial archaeology.”*

## **The specific NSD project**

This report discusses the design and re-design of exhibits and visitor processes at Big Pit.

## **Administrative information**

### **Data sources**

Data was collected in interviews with the Managing Director and the Mine Manager. A mine tour was also videotaped and this and other mine tours allowed informal discussions with tour guides. Also available were the design files prepared as part of a bid to the National Lottery Heritage Fund. MBA project research carried out by Ms. Linda Yarr, was a very useful source of insight, photographs and numerical information.

Analysis of all Big Pit data revealed good consistency amongst sources. Where the researcher revealed problems or omissions in design documentation the interviewees agreed with the analysis.



## Contact information

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The researcher is deeply indebted to the time and insight given by Gareth Gregory, Peter Walker and the staff of Big Pit.

### Research issue 1 - NSD imperatives

In the early 1970s, following the success of the underground tours of slate quarries in Gwynedd, the Welsh Tourist Board sought to develop a similar service based on coal. An approach was made to the NCB to request further development of its existing open days into a full-time tourist service.

In 1978 the Blaenafon pit was closing, and offered an opportunity of conversion to a working exhibit to provide permanent capacity for 'working' mine visits. It was assumed that it would be a tourist attraction, self financing, and would in due course be able to generate funds for its own development.

Thus the original decision to create Big Pit was the result of a serendipitous opportunity to convert one form of capacity [coal extraction] to another [educational], at a time when there was an increasing demand for the latter.

### **Survival**

Once Big Pit was established, it became apparent that the income from visitors would be insufficient to cover revenue costs, let alone development. Sources of both capital funding and revenue support would be essential for continued survival. In 1995 a source of funding for capital projects appeared; the UK National Lottery. The National Lottery Heritage Fund was to become a key influence on NSD strategy at Big Pit:

*“In the real world you can have brilliant ideas for service delivery which will never be funded, and so you modify those in a way that gets more of a chance of them getting funded. ... The lottery fund is the major source of funding at the moment, but of course they are there to fund heritage, not innovative exhibitivie techniques. And so this consideration guides the main thrust of any development here. If it is funded by the heritage lottery fund, development would be to protect and restore existing historic buildings on the site. It does not bring in extra revenue funding through the door. It does not significantly affect visitor experience. ... So we then have to try and graft on to it, a package that aids interpretation of the heritage in a vivid way. That*

*sets the overall pattern for service development. ...” - Managing  
Director, Big Pit*

Thus emerged not only a possible source of capital funding, but an NSD strategy. Furthermore, in developing and managing heritage, Big Pit would move closer to becoming a registered museum with the problems of revenue deficits resolved by direct government support.

An alternative NSD strategy that could tap different sources of funding and generate increased revenue was the “industrial theme park.” Big Pit could add, for example, steam-power displays to the site. However, one consequence of this strategy would be the risk of alienating existing – heritage and education – markets. Another problem with this approach was that new attractions had a “shelf life,” and typically reached peak crowd-pulling potential after about three years, declining over a similar period. So a requirement for competitive “leap-frogging,” and hence *ongoing* capital funding was inevitable.

The alternate strategies for Big Pit would therefore necessitate different design strategies. Going the ‘theme park’ route would mean greater creative freedom in designing the Big Pit service but with direct, exposure to a fickle tourist market. Becoming a museum would mean that site development would be severely constrained by the requirement to preserve heritage. However, another factor appeared to ‘overarch’ all this strategic decision-making. Both Big Pit’s management and staff were personally motivated to tell and maintain the story of South Wales



coal mining, and to do so by preserving the authenticity of the site. Thus strategic choice was tilted in favour of the museum route. The result was the goal of becoming the “National Museum of Coal Mining in Wales.”

## **Narrative**

Big Pit’s detailed design choices were heavily influenced by narrative:

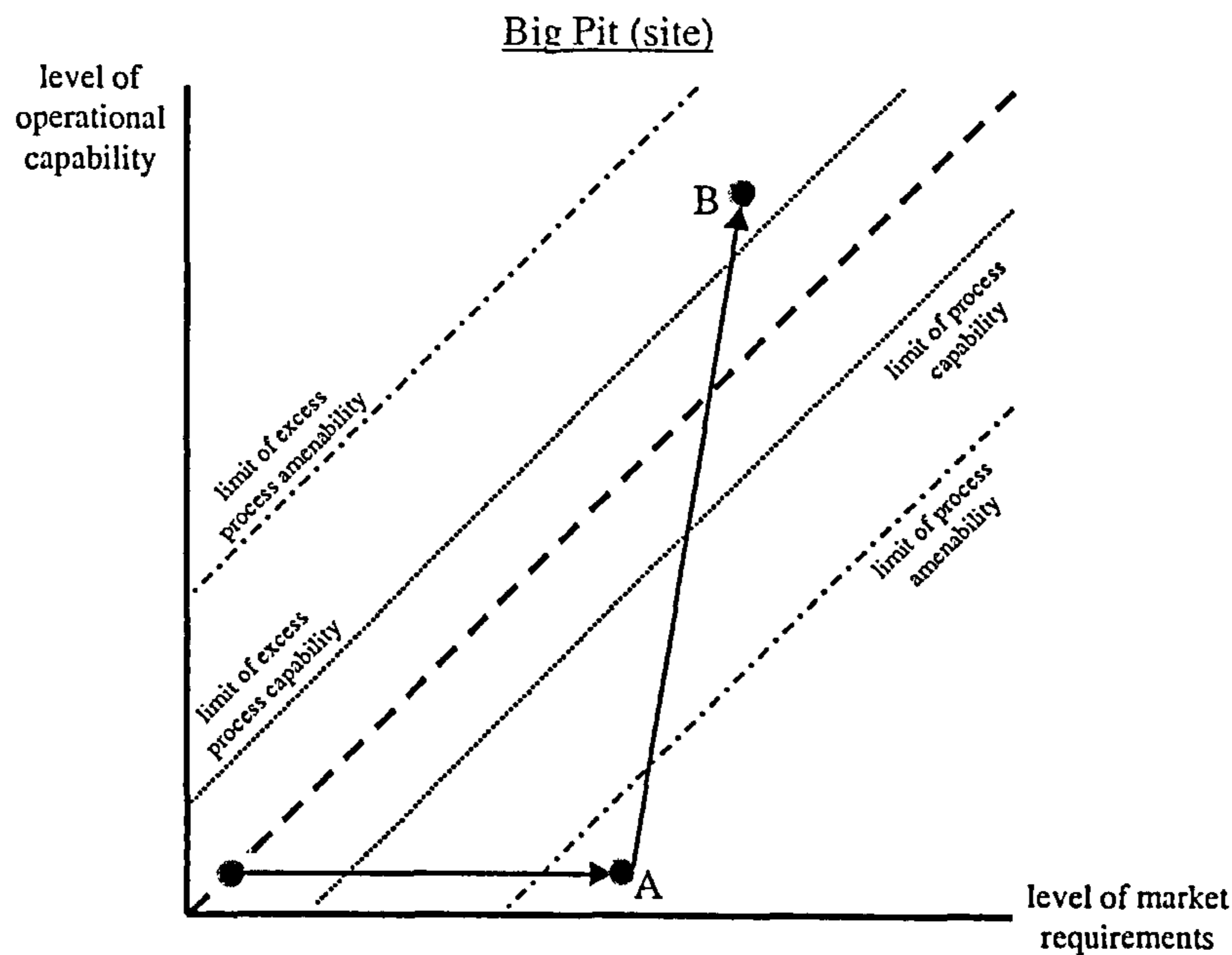
*“We’ve got all these resources, and we need to tell the story of mining, we need to tell the technical story,... and the human story, the social story.” - Mine Manager, Big Pit*

The main attraction of Big Pit is the idea of going down into a real mine, and being shown around by a real miner. However, after the underground tour, as the mine manager put it, the visitor comes “up to earth with a bang.” The expectations generated by the ‘star attraction’ underground are not realised by the lacklustre surface exhibits. So in designing new surface attractions Big Pit needed to include capacity balancing devices and ways of continuing the narrative begun underground. Ideally, more ex-miner guides would be available to talk about the exhibits and to answer general questions but this would increase variable costs. The NSD had therefore to consider alternative ways of providing support such as information about mining machinery, as well as interactive models [for example, of water circulation around a mine].

## **Design imperatives - observations**

Big Pit's service strategy and consumer offering were not aligned with the service processes or the configuration of the operation's resources. The strategy and the marketing concept for Big Pit was that of a tourist attraction, however the service processes were educational tours, and the fixed elements of the resource base were the listed buildings and industrial machinery. Accordingly, the re-design of Big Pit began with a strategic re-alignment. Big Pit would be a heritage and educational site, and the market offering and service processes would be adjusted to suit. There would also be some development of the fixed assets of the site; some building would have to take place to accommodate supporting services and surface exhibits. The key element of risk exposure occurred when Big Pit formalised the decision to become a pure heritage site rather than a tourist attraction. The new strategy would impose rigid constraints on the development of new operations assets and processes.

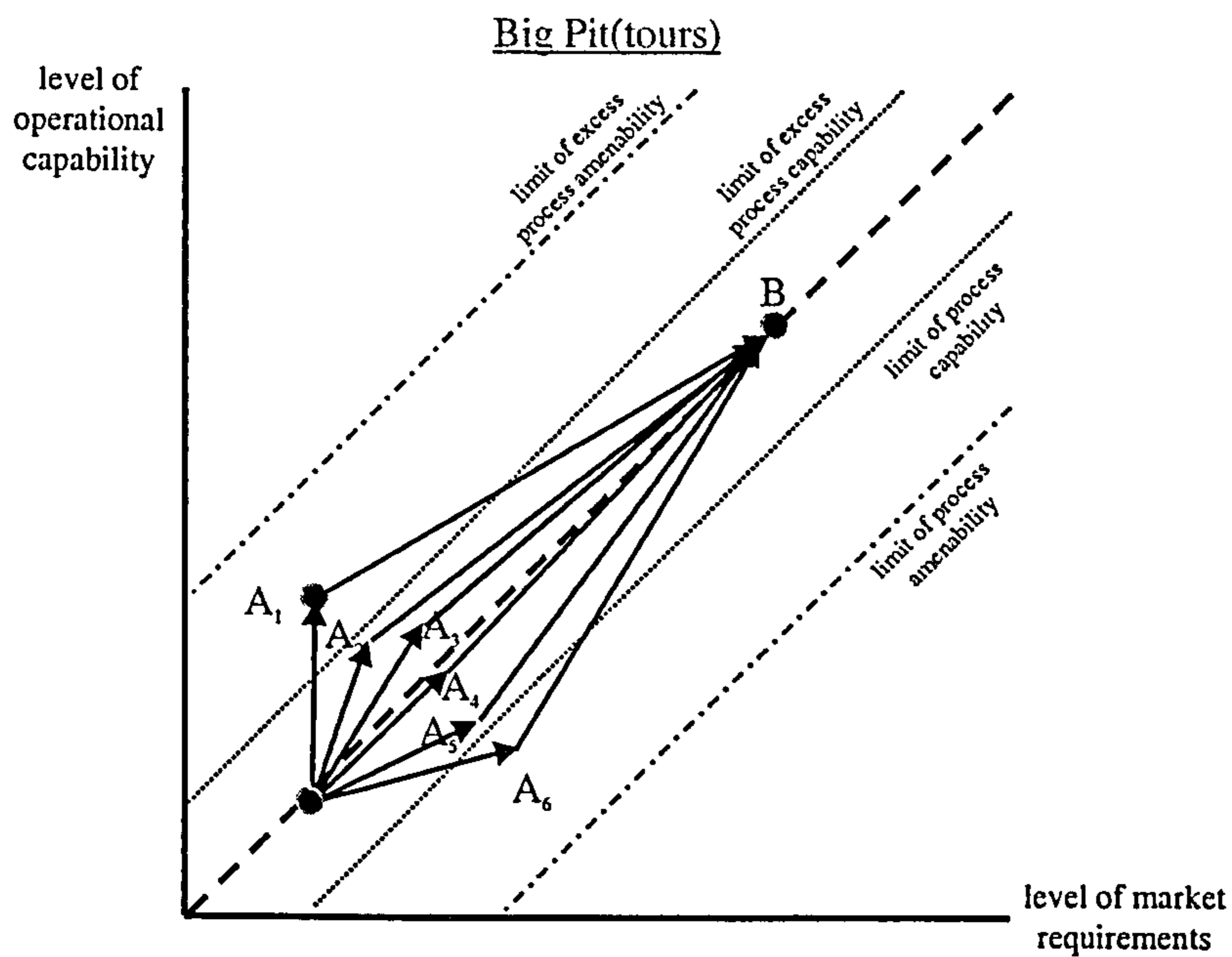
The imperative to re-design the site therefore came from the fact that Big Pit were already exposed to a great deal of pure resource risk (see the following figure).



That is, current processes and infrastructure were only partially capable of exploiting the fixed assets of the site (A). New processes and infrastructure would need to be designed to build a bridge between the site assets and the visiting public. Capital for the development of new assets and the refurbishment of existing assets were not immediately available. Further, the expectations of visitors were now being raised – Big Pit was to receive lottery funds for heritage development and there was an expectation that the results of using this funding would be highly visible. This was not the case however; most expenditure on heritage maintenance would be to the fabric of the site itself. Accordingly major changes to Big Pit’s marketing concept would be required in order to re-focus visitors expectations on the new service. At the time of writing these elements of the NSD process had begun but were only partially complete (B).



The mine tours service was subject to a different kind of risk exposure (see the following figure).

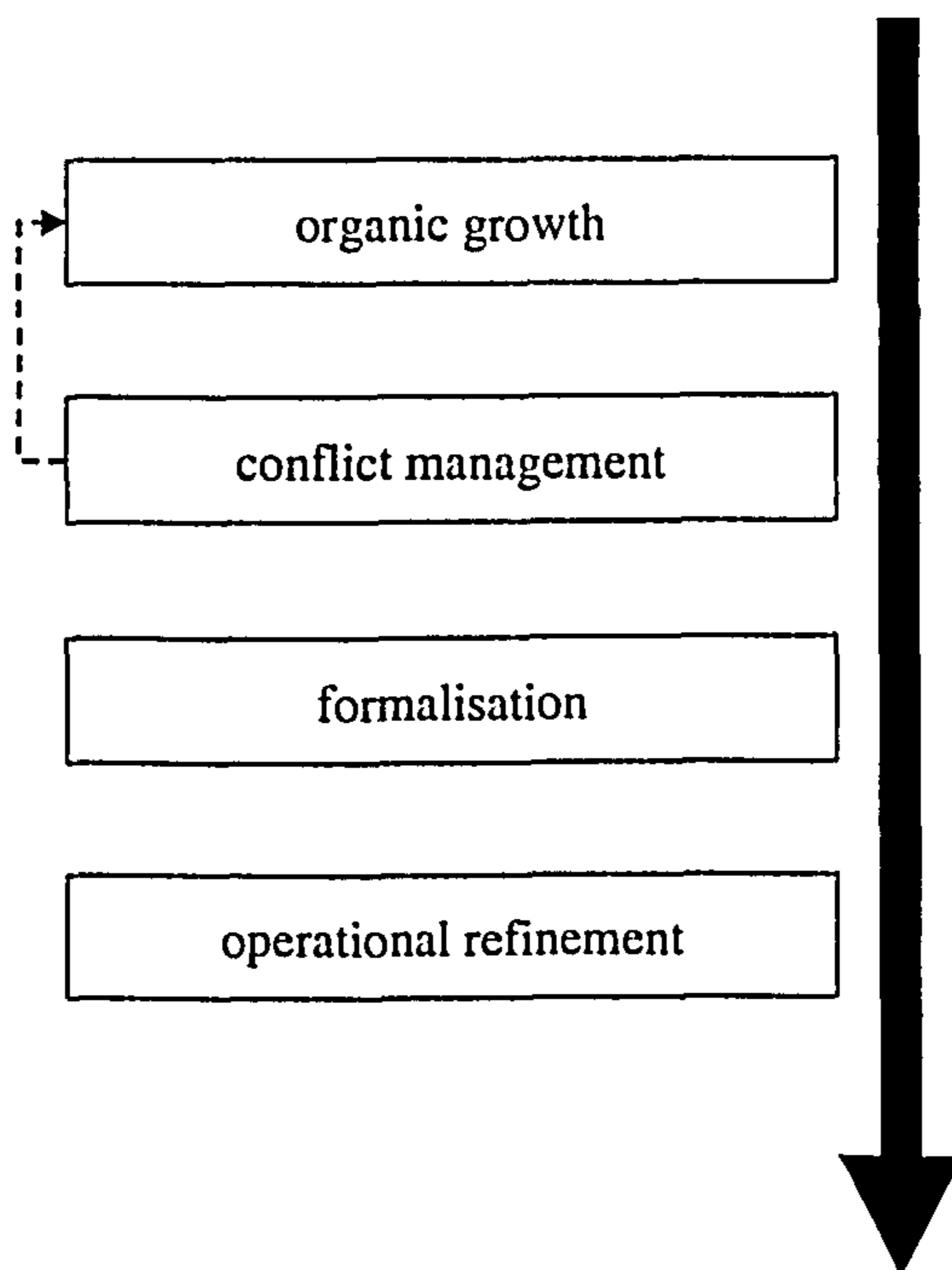


The fact that each guide had been allowed to develop their own approach to running tours meant that there was a wide variety of mine tours. Some of these were so good that when complete the visitor was left with a sense of loss because of the sharp contrast with other site services. Others simply did not deliver the required standard of education and entertainment required to engage the visitor. Accordingly the mine tours exposed Big Pit to varying degrees of pure market ( $A_1$   $A_2$   $A_3$ ) and resource risk ( $A_3$   $A_4$   $A_5$ ). The response to this imperative was to achieve alignment by choosing the best elements of each mine tour and combining it in an idealised tour. By and large this element of NSD at Big Pit was complete and alignment was the result (B).

## Research issue 2 - NSD processes

### Formalising evolution

The underground tour initially evolved, and was then subject to explicit development and refinement. In the two years prior to interviewing, the mine manager had analysed the tours in order to describe a 'good' tour. So the re-design of the core process began by formalising guides' tacit knowledge of 'good tours' after managing any conflicts amongst different approaches. This process is shown in the following figure.

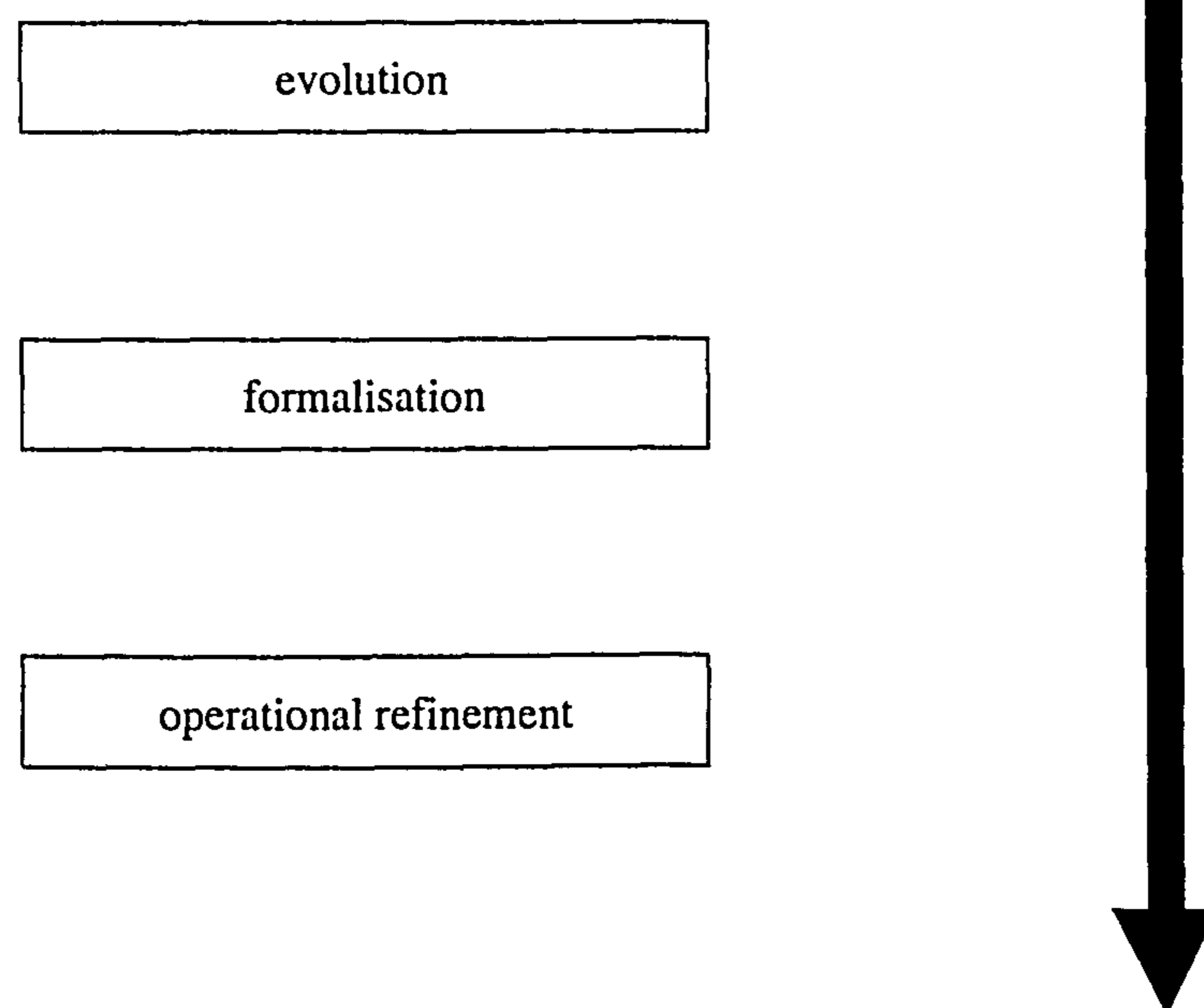


Big Pit - site assets

### Organic growth

There was no formal process for re-designing Big Pit's service apart from the National Lottery Heritage Fund's framework for grant aid. The process was staged in

that successively more detailed plans were required for the lottery bid. In this respect the design for the new service was refined and grew over the years. Moreover, this design was initially *several* ideas for the new service, that turned into more detailed concepts, that in turn grew more and more detailed. Elements of the design were subject to review and screening, however the basic concept for the new service remained stable and intact throughout the design process. The following figure depicts the process for the re-design of the Big Pit site.



Big Pit - mine tours

Screening, was a process of *managing conflicts* amongst the components of the service design and of imposing practical constraints [availability of funds, site physical limitations and capacity balancing] to ideas. Finally, the design process had to satisfy curatorial and academic requirements of the heritage-fund bid. If successful, later design of the detail of the service would shift emphasis to the visitor [entertainment] experience.



## **Design processes - observations**

The core service process at Big Pit was a 'service shop', designed implicitly by service providers, and refined explicitly by service managers, with managed contributions from service providers. Other services on the site were mass services, re-designed explicitly. The process was one of nurturing several micro-service concepts and managing conflicts amongst these.

The various service resources at Big Pit were applied to a market space in order to tell a story. The commitment to tell a story can be seen as a vague marketing concept in that Big Pit have made limited decisions regarding, customer groups and target intellects, and what will happen to them in the service process. However, the design process is largely one of matching resource envelopes and micro-operations concepts with each other, and *then* with marketing concepts.

## **Research issue 3 – NSD communication**

### **Visitor profile**

The Big Pit visitor profile was a key component of the NSD and breaks down to half of visitors coming in educational groups, with the remainder casual visitors. Reflecting the majority visitor profile Big Pit's target is a 10-11 year old intellect; accordingly 'on the wall' exhibitions were very simple. Textual material in particular would be brief and easy to read.

### **Design brief**

The planning method for specific innovations – and the future of the mine generally – is governed by the requirement to produce a client-brief for a heritage lottery fund project. Designs in the brief were largely textual descriptions of ideas, architectural drawings, as well as a few drawings of exhibition technology.

### **Accommodation brief**

The accommodation brief to the architects and exhibition designers was important because accommodation was the first item for which Big Pit was likely to get money – to restore buildings and to build new exhibition space. Once that was done, to some extent the service would be designed to fit the assets:

*“We don't know enough of the story ourselves, so that historical research on mining is part of the overall design process. The stories*

*we unearth will fit into what we have got of the physical fabric.” -*

*Managing Director, Big Pit*

### **Museum registration requirements**

Big Pit identified most areas of work needed to achieve the objective of full registration as a museum. For example, collection management policies and detailed conservation and documentation display policies that meet national standards.

### **Process design - underground**

The core design communication construct at Big Pit was the service process design for the underground tour. In 1996 the mine manager began to formally describe the mine tour service process. An obvious tour success factor was the guides; so process documentation would reveal what was good about the best guides and vice versa. This understanding would be used to improve existing tours, and speed the training of new staff. So was developed a book that described all elements of a tour.

The mine manager had long recognised the need to stress to visitors that the guides were real miners, and not actors. Therefore the guide handbook also stressed the importance of linking the content of the tour to the guides' own experience.

School children would usually come armed with a series of questions to be answered during their visit. The need for consistency in the guides' answers to these questions is obvious and the handbook therefore provided the minimum factual content of a tour.



The mine manger was also attempting to sensitise guides to the different needs of tour-group members. His book covered issues like ensuring eye contact with visitors, appropriate 'levels' of questioning and 'balancing' of discussion; in general men wanted to know about technical issues, women visitors want to discuss social and domestic issues.

### **Process design - surface**

Service processes and quality were also addressed in the new design for the surface exhibits, in particular, layout and flow issues. In order to communicate process flows the mine manager resorted to relatively simple paper representations; groups of people represented by blocks of paper, pasted onto floor plans.

### **Maintaining the integrity of heritage**

If Big Pit was to be an authentic representation of a working deep mine, then a sophisticated description of the 'look and feel' of the site was required. Despite regular maintenance of the fabric of buildings and equipment, Big Pit currently presents a slightly 'tatty' mien that greatly supports its authenticity and integrity. However, Big Pit's managers recognised that over time there was the possibility of a 'loss of resolution' of the original image unless this tattiness was described with fidelity. In response a key component of the NSD is a detailed picture, not just of the colours and shapes on the site, but of the extent to which they are worn!

## Managing authenticity

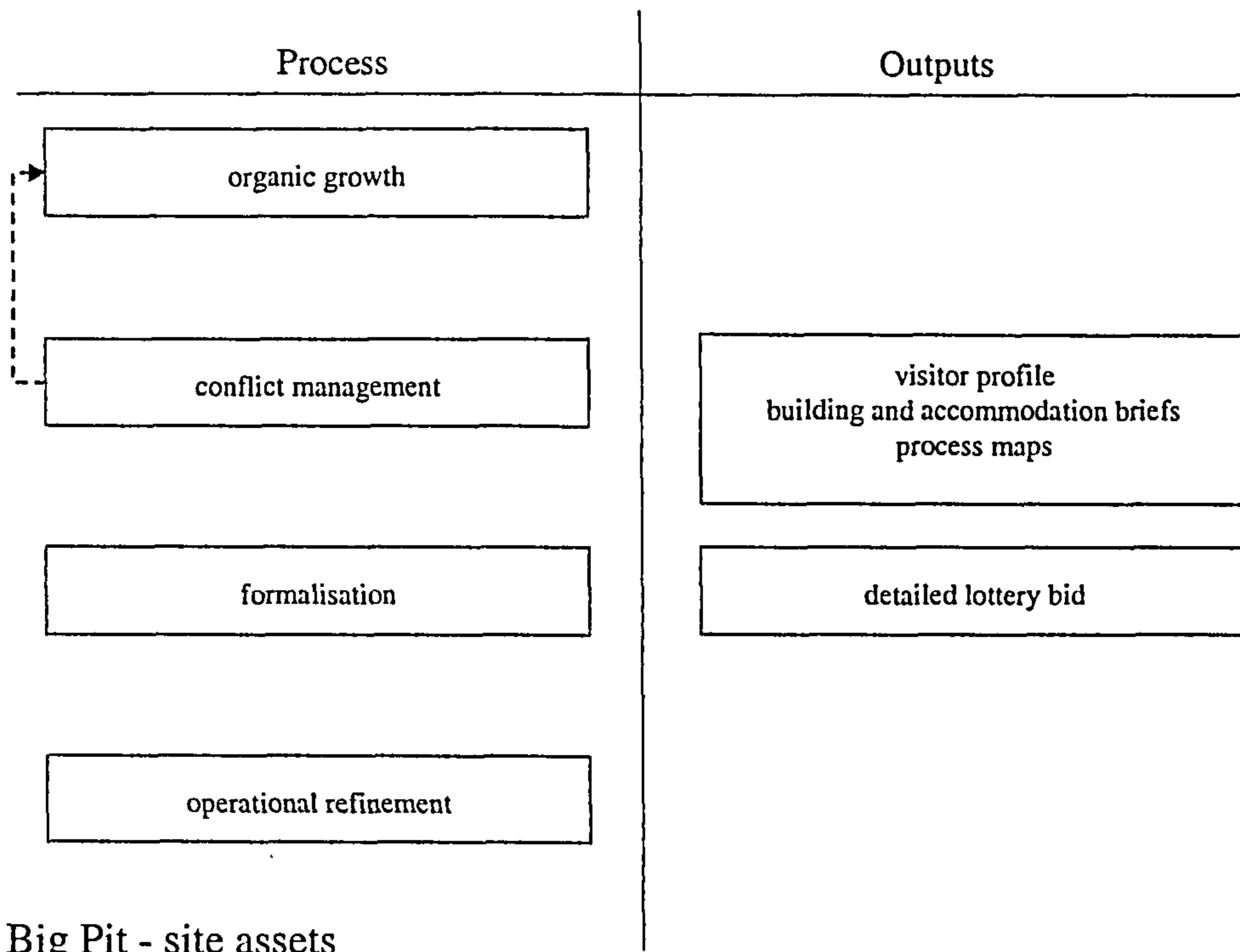
Props will be used to create the impression of activity underground such as toolboxes, seats, personal effects such as thermos flasks and sandwich boxes. Equipment must look like it was last used a few days ago. This involves cleaning, rust removal, oiling and so on. So a picture of what the mine should look like in order to create the impression of a work having recently stopped, becomes a design communication construct.

## Design communication - observations

The design communication constructs at Big Pit were relatively comprehensive and are summarised in the two figures below.

Process	Outputs
evolution	devolved tacit knowledge of mine tours
formalisation	ideal tour manual
operational refinement	

Big Pit - mine tours



Strategic considerations were explicit while not being exactly a service strategy. Big Pit had a mission to tell the story of mining using the Blaenafon pit's assets.

The service-marketing concept was incomplete; while Big Pit's managers had a comprehensive picture of current customer groups, the understanding of current customer outcomes was less clear. Future [or preferred] customer groups and intended outcomes were not articulated in detail. Operations concepts for the underground tours were very elaborate but were limited to capacity management issues for the remaining areas of the service. Customer processes in the projected surface exhibition space were to be consequent to the facilities design rather than the core of it. The most comprehensive innovation descriptors at Big Pit were of service resources.



# **Sofitel Exclusive Card**

## **Introduction**

This case study reports on the design of “Exclusive Card,” a loyalty card service within Sofitel; an international hotel network based primarily in mainland Europe. The case is set in 1996 and early 1997.

## **History**

Sofitel began in 1964 when it opened two hotels in Cherbourg and Strasbourg. After ten years of growth it opened its first US Hotel in Minneapolis in 1974. In 1980 it combined with Novotel and in 1983 was integrated into “Groupe Accor.” In 1991 Pullman Wagonlits International was merged with the group.

## **Ownership**

The majority (64%) of the Sofitel network is composed of hotels under management contract and owned / rental property. The remainders are subsidiaries and franchises.

## **Geographical spread**

In 1997 Sofitel was present in more than 40 destinations with a total of 102 hotels and just over 19,000 rooms. The European hotels in the network number 55, in the Asia-Pacific region there are 12, 10 are in the US, 9 are on several island destinations and in Africa, and there are 18 hotels in the Middle East.

## **Groupe Accor and Sofitel - Activities**

Today Groupe Accor spans all hotel categories from budget to luxury. The group's other activities encompass service vouchers (luncheon vouchers), institutional catering, business travel agency services, public catering, rail restaurant services and car rental. Sofitel occupies the luxury end of the Accor Group's range of brands. Nearly all the 104 Sofitels are located in high rent locations in the world's major cities.

### **Customers**

Exclusive Card customers are typically male aged from 45 – 55 and tend to be “cadre de direction” or executive managers. About 30% of cardholders are French, and the remainder are mainly from the rest of Northern Europe. A room night cost about 1400 Francs in 1997.

### **The specific service design project**

This case study looks at the development of one Sofitel service offering, Exclusive Card. Exclusive Card is ‘loyalty card’, that allows customers to earn points that can be redeemed for weekends and price reductions. The card also gives holders priority treatment as well as access to special offers.

### **Exclusive Card - history**

Since the 1980's most hotel chains were offering some sort of free card that would reward frequent service purchasers. The Sofitel response was to offer “Sofitel Privilege Card” in the late 1980s. Customers would register stays by getting stickers

for a paper card at the end of each stay. One point was earned per stay irrespective of the length of the stay. The customer would then send the sticker-card off to Sofitel HQ and would be granted a free weekend as well the "Privilege Card." The Privilege Card was used for little other than generating loyalty and maximising capacity utilisation. Pullman hotels developed a similar card, however customers paid for the Pullman card and so access to additional services was immediate. Both cards were a "me too;" neither card was the outcome of a deliberative strategy but was a reaction to competitive pressure.

### **Exclusive Card development**

The Exclusive Card was launched after the merger in April 1992. The new card drew on elements of both the Pullman and Sofitel loyalty cards. Administrative support for the new joint-card was located in Sofitel head office at Sofitel Paris Porte de Sèvres.

### **Administrative information**

Data for this case study came from interviews with Sofitel managers and staff, Sofitel documentation and public-domain information on the Accor Group. The case-report was developed after a series of interviews at Sofitel Paris Porte de Sèvres during 1996 and early 1997. The key contacts were:

Nicole Speed - Exclusive Card Manager

Stéphane Bensimon - Sales Administration Director - France

Sofitel International S.A., B.P. 530, 75725 Paris CEDEX 15, France



For the most part the analysis of data from all sources revealed consistency over design imperatives, processes and communication. The exception concerned the specific imperatives for the re-design on Exclusive card. The Sales Administration Director's perspective ran counter to the views of his managers and staff (see section 1 of the case report) and the overwhelming evidence in project documentation. Therefore via a degree of "triangulation" the researcher arrived at a final view as presented in this case report.

The author is indebted to all interviewees for their time and insight.

### **Research issue 1 – NSD imperatives**

Problems with capacity utilisation in a hotel catering to senior managers and business travellers occur usually at the weekends. When "the company" is not paying even affluent travellers may not choose to pay five-star rates. Furthermore the business traveller may want a break from what may they perceive as just another part of the work environment. Sofitel encourage selected customers to stay at weekends by offering what appears to be free, or cut-price rooms or room packages. Obviously the weekend rooms are paid for by an element of the business rate for the room. In most cases the guest's company pays this. The guest merely pays for the card. Besides increasing weekend occupancy, this practice also has the effect of increasing secondary spend at weekends.

So hotels like Sofitel can use loyalty cards to fill the "shoulders" of demand. However there is an added benefit of increased weekday business. This is not quite

“loyalty,” but works to the same effect. When a client has a choice of hotels, he/she picks one that will give points leading to a reward. Further, the card is sold to individuals, and not corporate clients. This way Sofitel can target the highest revenue clients with offers that in turn encourages increased business use.

### **New service marketing concepts**

Strategic decision-making with respect to new services, Exclusive Card in particular was largely reactive. The key inputs in new service strategy formulation were an understanding of customer needs and trends, competitor behaviour and the ongoing assessment of fit with the overall Sofitel brand position. This is not to say that Sofitel were not deliberative strategists, but that the proactive element in strategic decision-making was mainly concerned with the overall Sofitel brand positioning:

*“The competition is absolutely very helpful. We have a look at the competition and all the new innovations created by our competition. We also visit the competition, meeting the people who are organising the competition and analyse the different products that they launch. The result is benchmarking. So it is a traditional way of marketing - to see the demand and potential demand, add to this our strategy and what is the competitions’ positioning and what is the deviation.”* Sales Administration Director, Sofitel

Not unexpectedly, managers thought that there were few true innovations at Sofitel and in the hotel industry overall; that most new services were developments of

existing offerings. Exclusive Card was definitely a development and not a “blue sky” innovation:

*“[The] service industry is not like this. I had my card [at Pullman Wagonlits]. I was concerned to create a new card - that is the reason why I call that the Exclusive Card. So I took the essence of the card. It is easy for me to talk about that now but at the time it was not easy. I took the key point of the [two existing] cards. I made a survey on that and I saw that there was a good aspect for each of them, each of the two cards, and I did the marketing survey and the competition survey also, and I see where we can position our card in the market and for the kind of customer we want to have. So it is not a new product it is just a compilation of different aspects of existing products and the only new thing is to look at the card the new name; Exclusive.” Sales Administration Director, Sofitel*

### **Other resources’ influence**

The Sales Administration Director saw information systems support as instrumental, but not a direct stimulus for NSD:

*“IT was a ‘conclusion;’ we considered it as a tool. The customer told us it would be a good idea to register this [additional information], and to also register that [additional information], and for us to have*



*an idea of what they are and who they are. So I tried to find the best tool to register this stuff and in the same way to have a data-base in each hotel. We did not have a global computerised system in all the hotels, so the only way is to create our own data base system. First of all I tried to see that what is the computerised system of each hotel, and I tried to [integrate] them, but it was impossible so I create my own system. When I say it is a conclusion, it is a tool for reacting to the demand.” Sales Administration Director, Sofitel*

However, the Sales Administration Director was only concerned with limited aspects of the service design at this stage. The design was mainly a marketing concept and operations issues received limited consideration. However, the contribution of information technology consultants was evident. They were advising on the feasibility of creating a resource that would support the Exclusive Card marketing concept. The new Card marketing concept was reliant on the potential to enhance the processing and storage capacity of systems to manage guest information. MINITEL had developed such an advanced system for British Airways to manage reservations. Therefore an enhanced resource potential was created that released constraints on several card performance criteria.

### **Other influences**

Focus group techniques were also used with the existing and potential customer base to develop marketing communications aspects of the card. The ‘look and feel’ of the

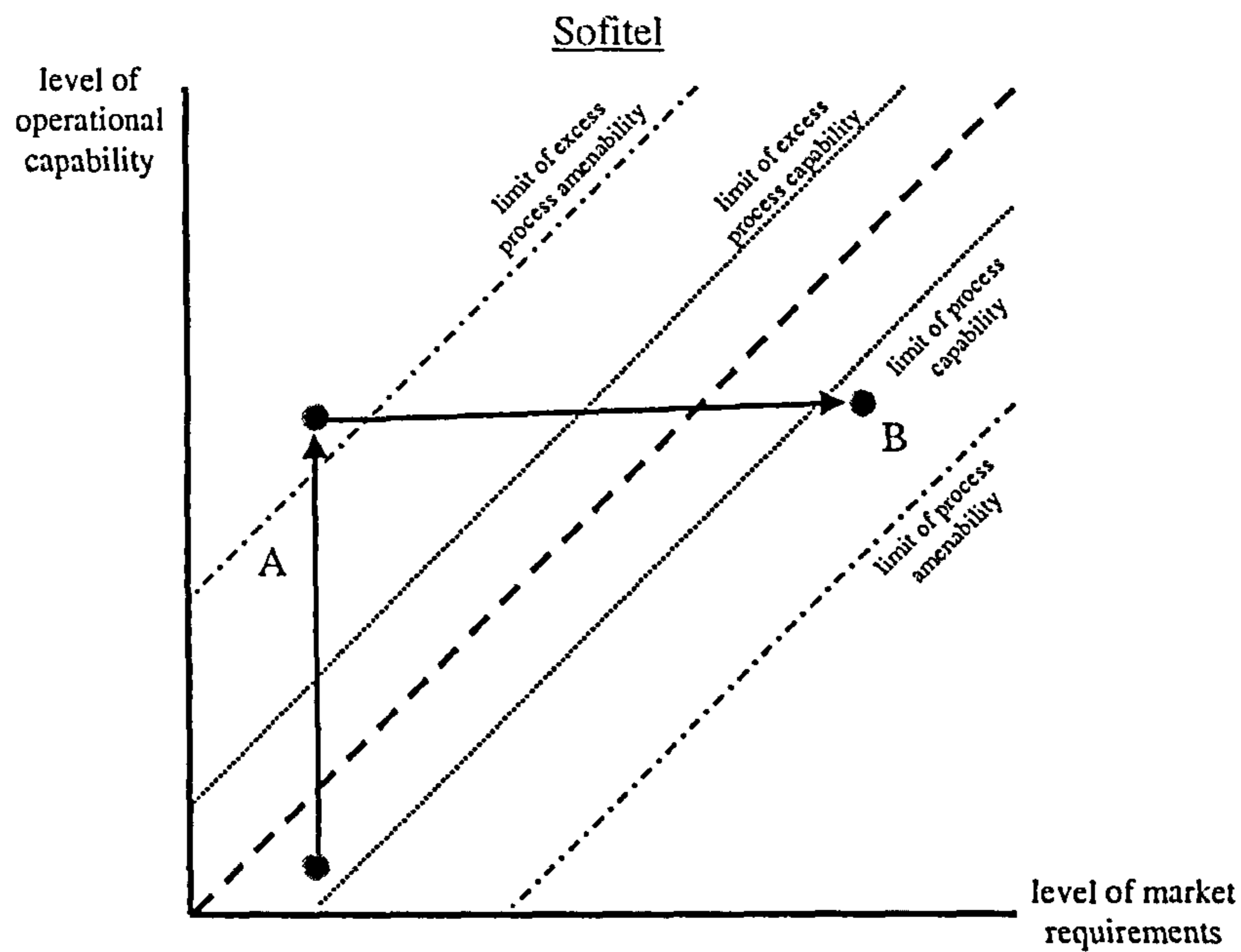
card service was obviously required to mesh with the existing Sofitel corporate identity.

### **NSD imperatives - summary**

The influence of resources in innovation choice was apparent at two levels. Path dependence<sup>12</sup> was in evidence at the level of general innovation; that is, the obvious decision to find new uses [leisure] for existing resources [the business hotels]. The other resource influence was on the design of the operations concept at the level of the card itself. Without the improved processing and storage potential of the MINITEL system, several design choices could not have been made. These choices concerned the amount and type of information stored on Exclusive Card holders, and the dependency of card operation on high levels of card access in hotels. So the enhanced capability of an infrastructural resource was an initial imperative for NSD in that the unsold capability exposed Sofitel to a degree of speculative market risk. This is depicted by point (A) in the following figure.

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<sup>12</sup> Path dependence - the propensity of an organisation to do "more of the same" rather than develop new products and services.



The organisational response to this risk was a new service that fully utilised the new database capability, but exceeded the boundaries of many other dimensions of capability (B) and delivery failures were the result.

## Research issue 2 – NSD processes

There were no design-process guidelines at Sofitel, however there was a general awareness that new services, depending on their network impact, would be designed using different processes.

The processes differed in:



- the stage in the process at which authority to implement was given
- the amount and process-span of design iteration / feedback
- the process stage at which the operations concept was first considered

### **Process initiation**

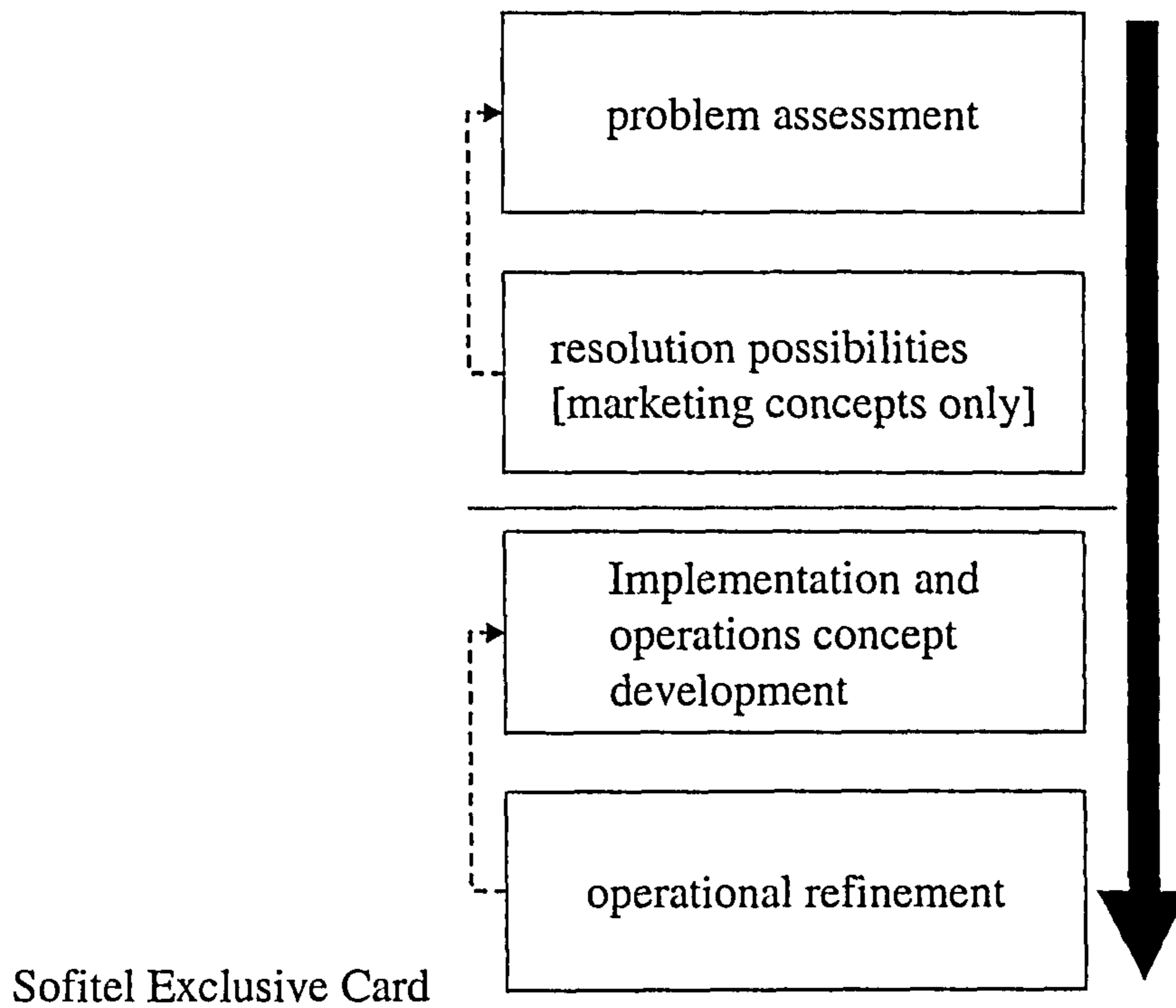
There were at least three design processes in evidence at Sofitel<sup>13</sup>. The executive committee, individual committee members or the functional managers initiated the majority of design projects. The NSD imperative was usually presented as a problem to be solved. Less frequently, individual hotels, groups of hotels, or functional specialists would independently address and sometimes solve a problem by initiating the development of a new service.

### **Low-impact new services**

Certain NSDs were perceived *ex ante* to have limited impact on network operations, or the daily work of support functions. Exclusive Card development [wrongly] fell into this category of design process. It was assumed that the new marketing concept for the card would have limited operational impact, whereas in practice the opposite was the case. The Exclusive Card design process is depicted in the following figure. The remainder of this section explores the process elements in more detail.

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<sup>13</sup> Data on all design processes was collected but because of space constraints only that pertaining to Exclusive Card is presented.



The personnel who recognised the problem with the existing Pullman and Sofitel cards were the marketing and Sales Administration Directors. With some assistance from the direct-marketing team, but largely working alone, the Sales Administration Director developed the marketing concept for the card.

Operational implementation of the marketing concept was largely the work of service staff. In 1992 these were the three card-centre staff at Sofitel headquarters. This work consisted of developing structural and infrastructural elements necessary to support the new card. However, this process sounds grander than the reality, as [in 1992] few additional resources were available to support the new marketing concept. Problems were anticipated [and later realised] with respect to staffing levels and skills, and also information technology [specifically the provision of sufficient

computing capacity<sup>14</sup>]. So the new service was introduced to market with a stable and comprehensive marketing concept, but incomplete and inadequate operations support.

The centralised design process used to develop Exclusive Card, resulted in predictable problems. The main problem was inconsistency in delivery of card services at hotels in the network. Hotels were not able to buy-in to, and contribute to the design of the card. Ongoing design changes were also managed from head office only. The card designers informed the hotels “along the way,” that the card would be changing.

A more inclusive design process may not have elicited more resources, but potential resource requirements and problems would have been highlighted earlier. The card did not fail, but back-office staff were required to work long hours with limited resources, hence service quality suffered as a result<sup>15</sup>.

Other characteristics of the design process described above were the process-position in which executive authority for change was given, and the non-sequential nature of the process. Due to the close working relationship between the direct marketing team

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<sup>14</sup> As new customer information was collected, this was sent to head office and every two weeks the data was sent to the supplier where it was input to the card database. A read-only file was then returned to the card management centre. Although the database software was enhanced Sofitel did not purchase upgraded hardware. So at a time when the enhanced card was bringing in new business and hence more customer data, the processing speed of the hardware / software combination was reduced.

<sup>15</sup> One reason for not being inclusive in developing new services is that the early visibility of resource constraints - especially where their resolution requires financial investment - is an ideal opportunity for political opponents to resist the new service.



and the Sales Administration Director, authority to go ahead with the card marketing concept was given fairly early on in the design process. The assumed low-impact of the new card was also a factor in allowing such a high degree of discretion in both developing the marketing concept, and operationalising the card.

### **Inclusive design**

Sofitel's management realised the importance of the need to be inclusive in service design however, in the case of Exclusive Card this inclusive design applied only to the operations rather than the marketing concept. The input of service staff only served to develop the operations concept long after the marketing concept was refined. When asked if there were any formal guidelines about service design or innovation generally, the Sales Administration Director replied:

*A key point for us is to let the people who are in contact with the customer, decide how they define the innovation. We can create in our [head-]office a new service idea, but then to refine the service or evaluate the different services we [delegate to the] staff, the people who are in contact with the customer. So that is a rule in Sofitel, to let the people who are in contact with the customer, validate the process.*

*Sales Administration Director, Sofitel*

However, service staff occupied evaluative roles rather than creative or developmental ones. Creative contributions derived more from individual managers and groups of senior managers:

*Naturally there is planning of what kind of innovation we need. But we have a kind of innovation process in Sofitel; we are creating a sort of innovation workshop. These are the general managers workshops, they are working, for example, on what we need in the rooms in the 21st century ... - Sales Administration Director, Sofitel*

### **Design processes – summary**

Design processes had evolved to a high degree of sophistication, even though these processes were not formalised in any process handbook or guide. There was evidence of use of iterative approaches. Design processes were inclusive with respect to operations concept development, but in some processes marketing concepts were developed in isolation from operations or other functions. Newer approaches to design showed a tendency to focus solely on customer processes.

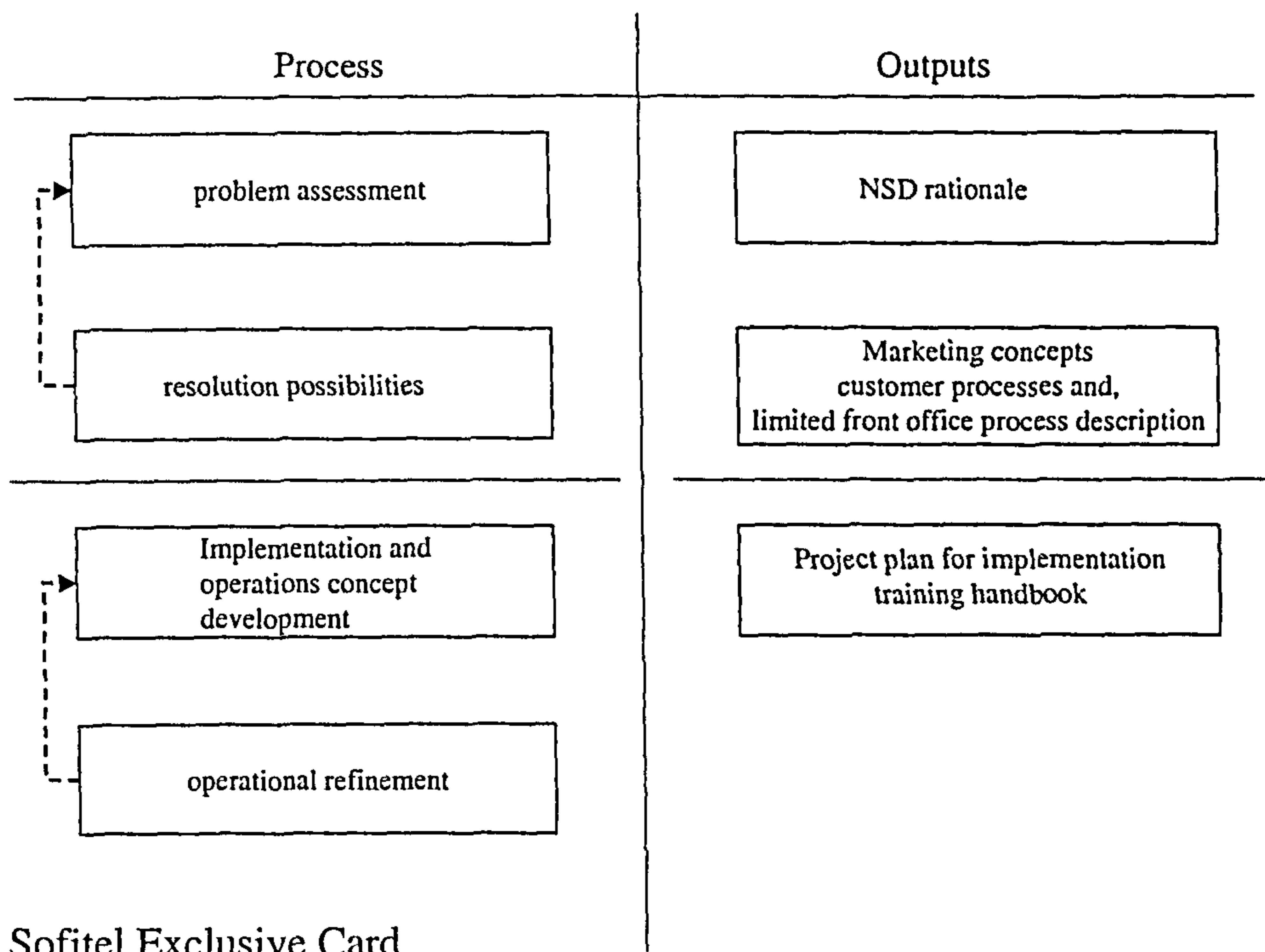
### **Research issue 3 – design communication**

At board-level the most common format of an NSD consisted of a project outline, a description of the implementation steps, and a discussion of projected business results. The project outline would contain mainly marketing information and the impact of the new service on human resources. Similarly the implementation steps would discuss roll-out to the market, but with limited information on operational issues.

By the time a new service idea reached the “general managers meetings” a description of processes would be included. This would be largely a description of customer process with limited information on front-office processes. Back-office processes were absent from the process description, though the role of certain members of the general managers’ groups was to give an idea of the impact of new services on their respective functions.

Exclusive card was designed using an NSD process that was itself relatively exclusive, and one that began with consideration of marketing issues only. This and the other outputs from the NSD process elements are summarised in the following figure and are described below.





While historically Sofitel's internal communication of NSDs was mainly about marketing concepts and business outcomes, ironically, an increased customer focus has resulted in newer NSDs being communicated almost exclusively from the customer viewpoint. In addition to narrative descriptions of new services, NSDs were sometimes presented as role-plays. That is, the team developing the new service would role-play the customer process for management and other staff.

Descriptions of back-office processes were occasionally produced. These were typically in the form of a training manual, as was the case with Exclusive Card and other trans-network innovations. The 1993 edition of the Exclusive Card training manual was the nearest thing to a 'model' or 'blueprint' for the new service.

## **Design communication - observations**

New services were usually communicated to the staff that developed the operations concept by describing the customer process. Staff were instructed to configure the front and back-office processes to fit this customer process. Then process were tested – if possible – and modified accordingly.

With communication upwards and sideways the way of presenting new service ideas was to present the problem that the new service is meant to address. For example, simply allowing managers and executives to listen to some test calls showed the general managers of the hotels the reason for re-designing the reservation system. Immediately the managers present signed-up to a new service that would improve on the obvious deficiencies of the old. Though the Sales Administration Director admits that he had to exaggerate some problems to gain political “go ahead.”

## **Renaissance Solutions Inc.**

*“ ‘he said ... well, I’m not sure I ought to do this ...you know ... talk about new service design.’ and I said, ‘why?’ He said, ‘well, it doesn’t work does it?’” – conversation overheard in a corridor between two managing consultant’s, Renaissance*

### **Introduction**

#### **Background**

This case study is about the design and development of new Balanced Scorecard services within the service portfolio of Renaissance Solutions Inc.; a management consultancy.

#### **Ownership**

Renaissance was listed on the NASDAQ National Market.

#### **Location**

The company’s head office was in Lincoln, Massachusetts. Other offices were in New York, Chicago and London.



## History

Renaissance Solutions was founded by Robert Kaplan and David Norton. Kaplan and Norton were famous for their series of papers on "The Balanced Scorecard." (Kaplan 1994;Kaplan and Norton 1992;Kaplan and Norton 1996b). Kaplan was a professor of accounting at Harvard Business School and Norton an independent consultant. While Norton carried out the consultancy, Kaplan wrote the journal articles that were to become the company's intellectual capital. Their ideas received much exposure in learned journals and in the executive and MBA programmes run at Harvard. The executive programmes were useful in providing leads for consultancy work, and such was the volume of leads that in March 1992 Kaplan and Norton set up the company. Renaissance grew steadily and in April 1995 floated on the NASDAQ exchange.

After floatation the company set up a joint marketing agreement with Gemini consulting and in the following years this collaboration extended to operational issues. Following the success of the Balanced Scorecard concept several companies had developed software that would support the reporting and management control aims of the concept. In 1996 and 1997 Renaissance acquired two such firms and offered "Scorecard Systems" as part of their service portfolio. Late in 1997 the company acquired COBA consulting; a company specialising in knowledge management systems. Though COBA had developed from a company specialising in knowledge management software applications, by the time of the merger their service portfolio included several strategic management offerings. Compared to Renaissance COBA was a much smaller operation, however, COBA were based only

in London, and were of a size – in terms of numbers of consulting staff and work volumes – similar to the London office of Renaissance. Thus from the perspective of staff at Renaissance London, it often seemed that COBA had acquired Renaissance, and not the other way around. By the time the case interviews were carried out the company employed about 1000 people in the US and Northern Europe.

### **Activities**

Renaissance provided management consultancy services, primarily in the design and implementation of strategic control systems, specifically the Balanced Scorecard. Their portfolio also included strategy development, knowledge-based process management (within the strategy group at Coba), and a series of IT related services.

### **Customers**

Customers were large private and public sector organisations world-wide.

### **Mission**

*“Renaissance Solutions, Inc. develops technology-based business solutions designed to enable its clients to improve the management of their strategic objectives, to implement high-performance work processes, and to ensure continuous growth of their skills and knowledge.” – company report*

### **The specific NSD project**

If Kaplan and Norton's original Scorecard design process could be called: Scorecard Mark I, then the NSD that is the subject of this case study is Scorecard Mark IV.

### **Administrative information**

#### **Data sources**

Interviews were carried out 1997 and 1998. Two interviewees wished to remain anonymous. The other interviewee from the Scorecard group was Mr. Gavin Lawrie; a managing consultant. Mr. Bob House was a managing consultant in the "Coba half" of Renaissance London and at the time of interviewing was the Managing Director of Coba-Renaissance UK.

The Coba half of Coba-Renaissance had a very different view of NSD processes from that of the Balanced Scorecard consultants in Grafton Street (see section 2 of the case report). The process presented as "real" in this report is that derived mainly from conversations with Renaissance consultants and analysis of Renaissance Scorecard project documentation. The reason for rejecting the Coba view was simply that they were relatively recent arrivals in the Scorecard field; and it was evident that most of the development work on the current Scorecard offering had taken place before the merger of the two companies. Coba presented as fact what was in reality a statement of intent – to formalise and harmonise the different NSD process processes in the group.



## Contact information

Mr. Gavin Lawrie Principal Consultant Renaissance Solutions Inc. 22 Grafton Street London W1X 3LD	Mr. Bob House Managing Director Coba-Renaissance 40 Holborn Viaduct London EC1N 2PB
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The researcher is indebted to all interviewees for their time and insight.

### Research issue 1 – Design imperatives

Environmental scanning and the response in the form of NSD took place at the level of the individual consultant rather than at the level of the firm. At the level of the firm NSD was largely about repeating NSDs developed by others. In other words enabling the firm to compete in more market-spaces rather than finding new spaces to compete in. So at an organisational level there was an imperative to copy either internal innovations or some other firm's techniques.

A professional service environment implies a high degree of discretion at the point of delivery, so in effect, individual consultants develop new offerings constantly. If a consultant developed a new processes and it worked in the market segment in which it was developed, it might be more generally applicable and the consultant had the option of repeating the service elsewhere. They invariably did so because they

wanted to be utilised and wanted variety in their work. At Renaissance this “trading up” from one consulting activity to the next was ongoing.

Another source of innovation and NSD was the failure of certain consultants to understand the Scorecard process. Consultants who were rejected from Scorecard consulting naturally wanted keep their jobs, and so they set up projects in other areas that at the level of branding were linked to the Balanced Scorecard. The organisational response was then very positive, as the rejected consultants were being charged out on work that was set up without support. So there was pressure to grow the new business area at both an organisational and individual level.

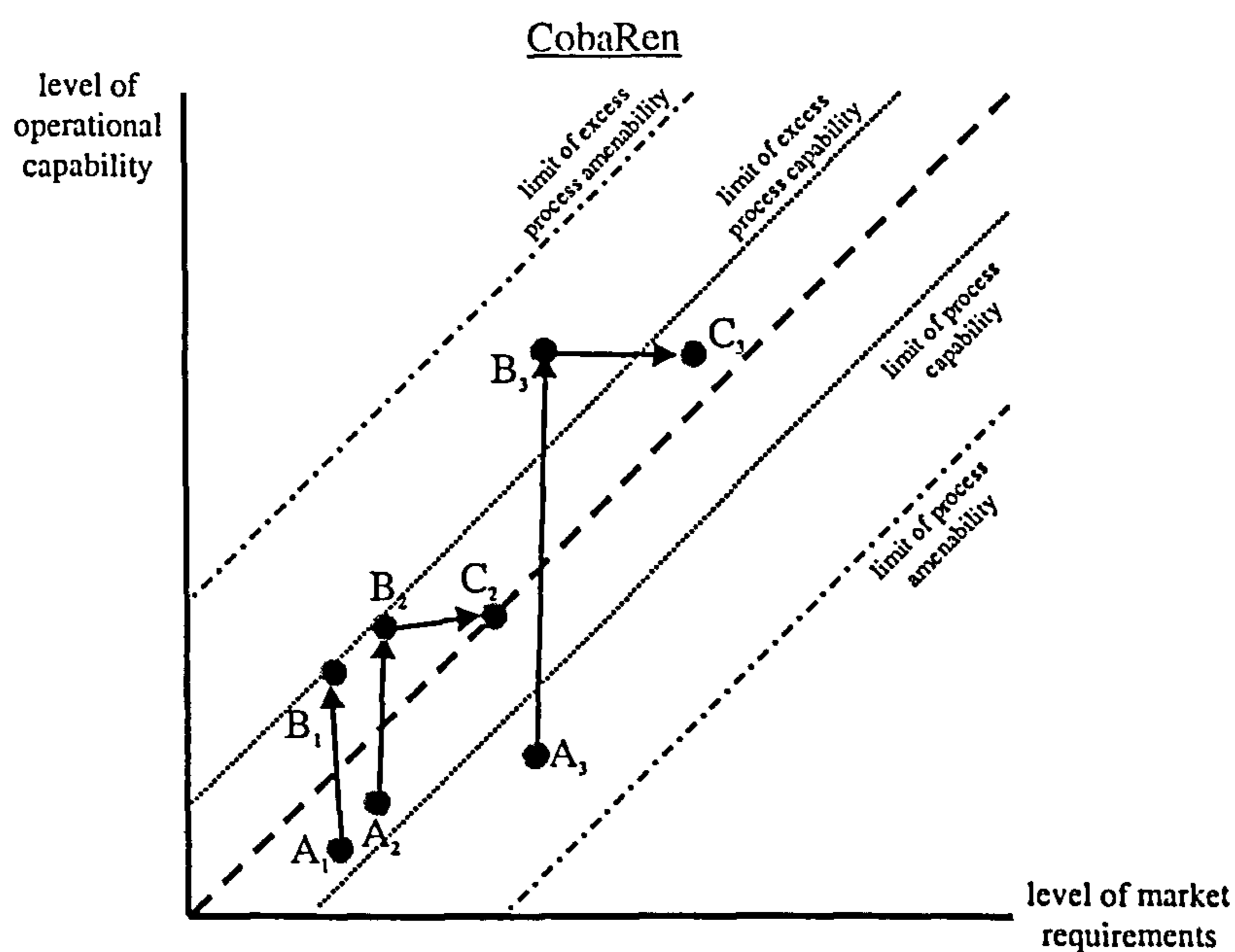
Both types of NSD lead to “creep” in the Renaissance service portfolio, as well as dilution of the Balanced Scorecard brand.

At Renaissance, as is probably the case elsewhere, it was useful for marketing purposes to offer to clients a range of services that did not yet exist, but that were perceived to be within the scope of current process capability. If there were demand for such services a new approach would be developed, and, if proven rolled out as a generic service offer.

The latest design of the balanced Scorecard service resulted from a combination of imperatives. Consultants delivering the service realised that there was scope to improve on the original Balanced Scorecard design process. It was also becoming increasingly difficult to sell Scorecard – in its current state – to intelligent clients;

increasingly they were challenging the utility of a set of measures developed by outsiders. Consultants were also bored with simply “cooking up” measures for clients, and so wanted to create an offering with greater intrinsic interest.

Common to all observed examples of NSD at Renaissance was the individual imperative to maximise demand – in the firm’s internal market – for an individual consultant’s services. A second common imperative was an individual desire to achieve maximum job satisfaction and interest (A<sub>1</sub> and A<sub>2</sub> in the following figure).



In the case of Scorecard, an additional imperative was that the offering was not delivering the level or range of benefits that were expected by clients. In fact it could not do so as the market requirements for Scorecard projects had exceeded the bounds of current process capability (A<sub>3</sub>). The response in all cases was NSD. Some NSDs



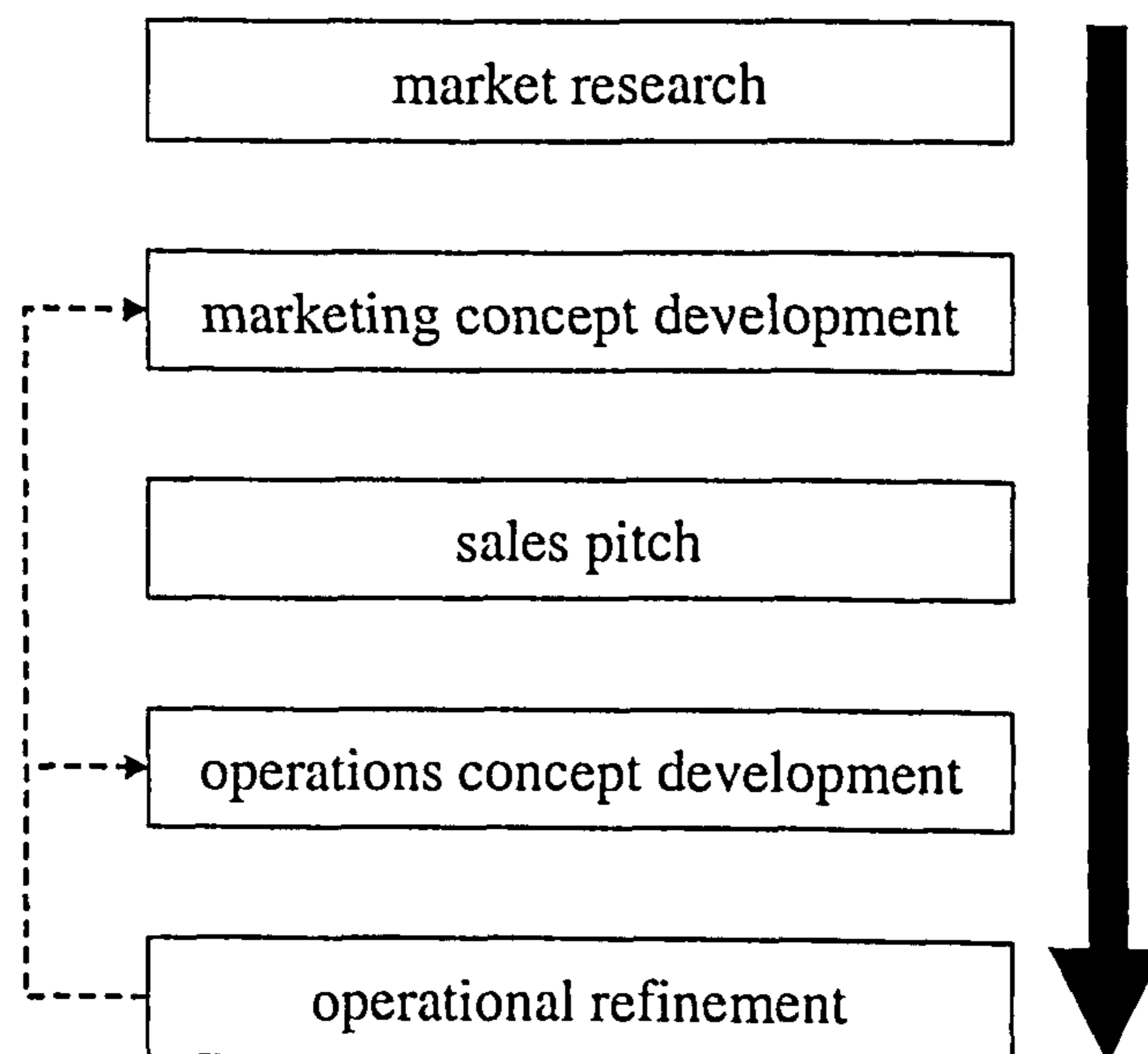
were rejected outright by the firm, either formally, because they were seen to have a poor fit with the firm's overall portfolio of services, and sometimes implicitly, when an NSD would receive political support from practice leaders, but died for lack of enthusiasm and acceptance (B<sub>1</sub>). If successful, appropriate marketing concepts were developed to support the new operational capability and the NSD moved closer towards alignment (C<sub>2</sub>). The design response in the case of the scorecard service was such that new process had been developed that were difficult to market – because few people understood them – and were not immediately applicable to other marketing concepts. Hence scorecard development had exposed Renaissance to a high degree of speculative and actual or “pure” market risk (B<sub>3</sub>). Finally marketing concept development brought the NSD back into a degree of alignment (C<sub>3</sub>), but complete alignment was difficult because of the tacit nature of the Scorecard operations concept – it is impossible to market effectively that which one does not understand.

## **Research issue 2 – NSD processes**

### **The official process**

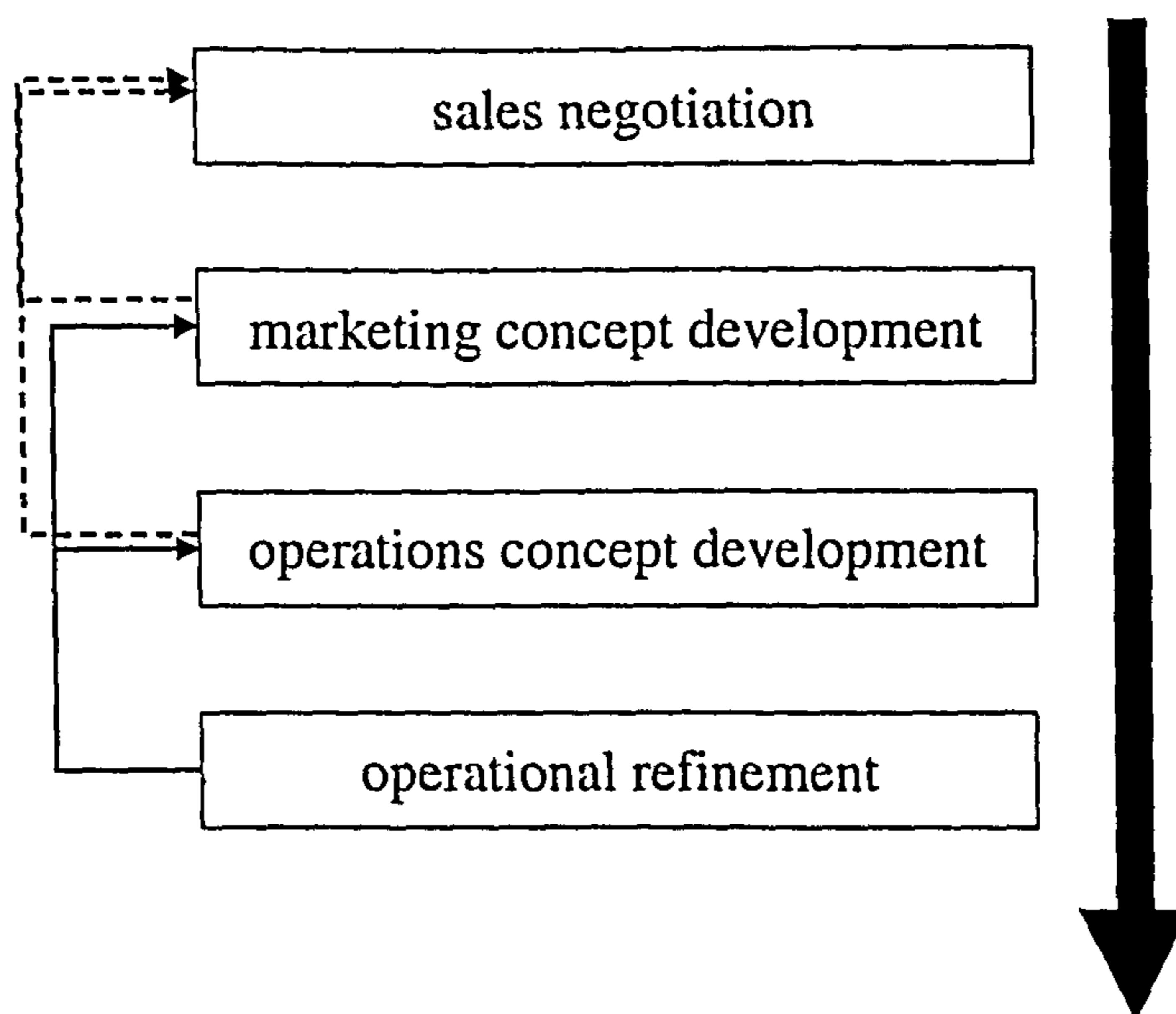
As was observed at many other sites in this study, at Renaissance the actual NSD processes differed from the organisation's formal process guidelines. The first formal NSD process was for the proactive development of new services that would affect many aspects of existing service provision. The second was – usually smaller scope – NSD in response to a specific customer request or need. The two formal approaches to NSD were as follows:

The first step in the proactive NSD process was to undertake market research, usually in the form of interviews with senior executives. The aim being to understand their perception of issues / problems that Renaissance's competence could address. This research informed the structure and rationale for the resultant NSD. In this way the research results become a part of the selling message behind the new service offer. Such messages being broadcast at conferences and client meetings. If any sales pitches were successful the NSD was turned into a new offering. Generally speaking the NSDs were more evolutionary than revolutionary. They would be an enhancement of existing balanced Scorecard concepts or of the knowledge management frameworks. This first of the formal approaches to NSD is depicted in the following figure.



Renaissance - formal process (proactive SD)

The other approach is where Renaissance would develop an offer to meet particular client's needs. The account director responsible would define initial needs and these would be fed into the "practice development group;" a loose association of senior consultants. The group would pull together combinations of skills within the company and try to match these with the client's needs. Then a proposition would be formulated and presented to the client. After discussion with the client the NSD might undergo further adjustment and would then be developed and processed in that client's situation until proven. Once proven the NSD would be turned into a generic offer by removing any elements of the NSD specific to the initial client. Finally the NSD would be communicated internally and any necessary training courses would be developed to support its roll-out. The following figure summarises this second formal approach to NSD.

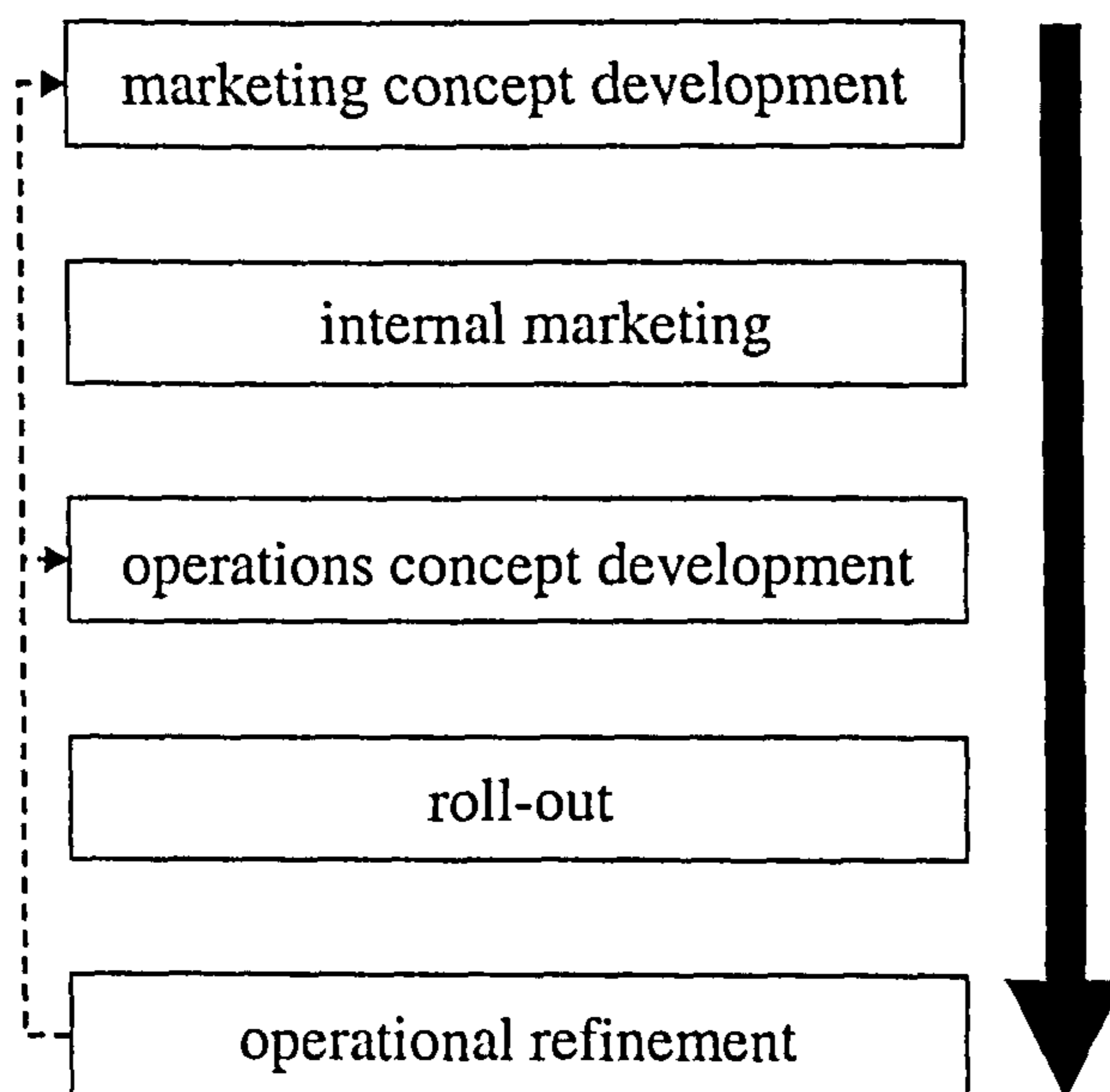


Renaissance - formal process (reactive SD)



## Real NSD

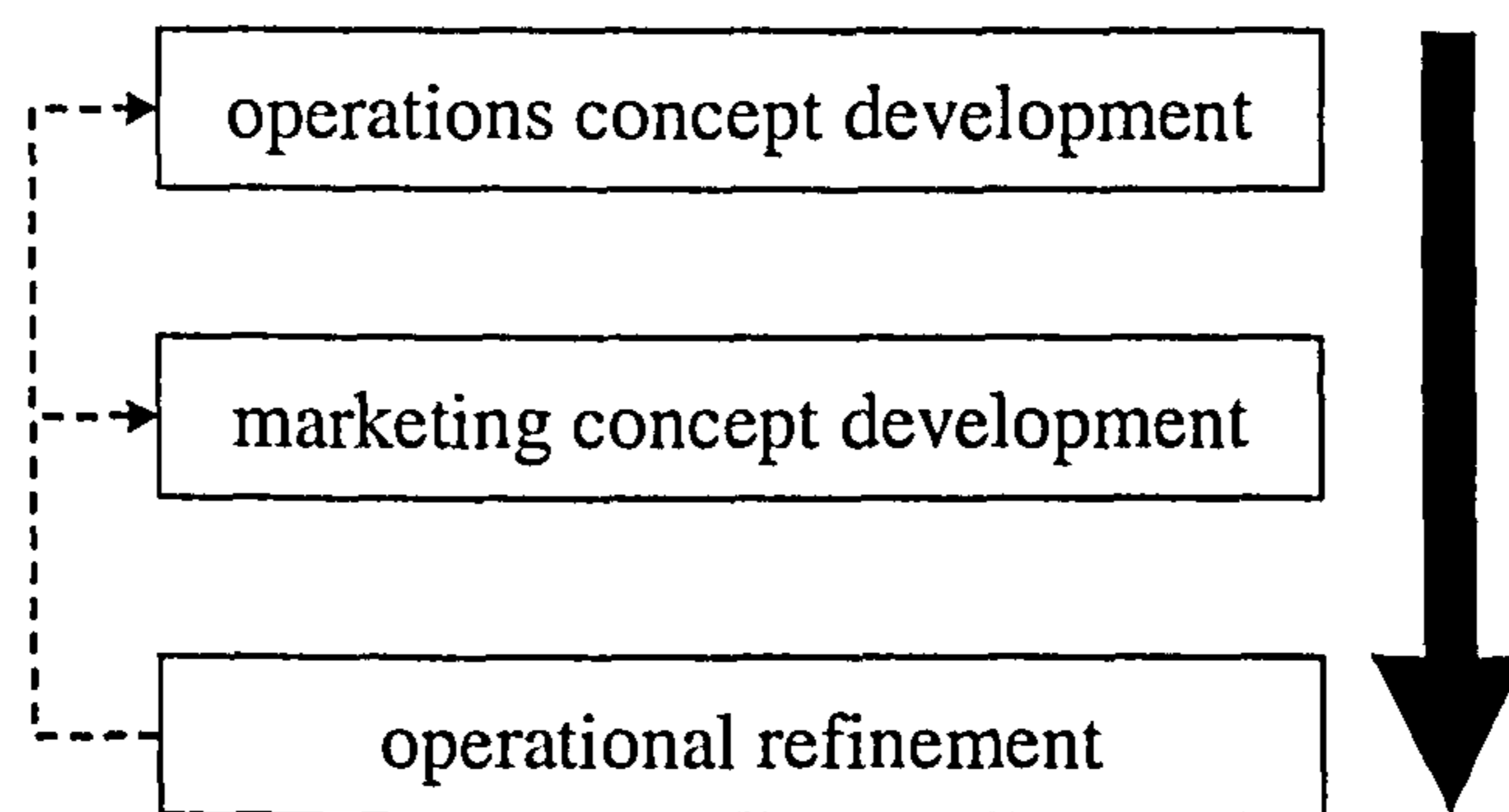
In practice the NSD processes were far more informal and driven by individual consultants. Without regard to the source of the NSD – assuming that designers lacked political influence themselves – sponsorship by a senior consultant was essential. Once sponsorship was gained the NSD had to be proven, proceduralised, and written up in a training manual within 6 months. Further the designer would have to train a critical mass of consultants on the new technique for it to be self-sustaining. If a sufficient number of consultants had learned or copied a particular tool or technique there appeared to be a transition to a state where the tool and its application became standard behaviour and the organisation communicated this as such. In other words the tool or technique had become proceduralised. The following figure shows this the most common of the actual NSD processes at Renaissance.



Renaissance - real process (general)

As indicated earlier however, Renaissance was not quite in this extreme position with respect to all NSD. The control mechanisms that filtered NSD ideas from consultants were getting stronger, but were relatively weak when compared with larger consultancies.

The actual process for the re-design of the balanced Scorecard service was even more different from the formal Renaissance NSD process. The following figure summarises the Scorecard NSD process.



Renaissance - real process (scorecard)

Consultants at Renaissance initially ran Scorecard design projects in line with the Kaplan and Norton text on Scorecard (Kaplan and Norton 1996a). However many difficulties with the Kaplan and Norton approach had surfaced during successive applications. Renaissance consultants who had inherited Kaplan and Norton's

“Scorecard Mark 1” technique realised that there was scope to improve on the design process. This would better accommodate the requirement for accurate articulation of strategy while still satisfying the primary requirement to develop appropriate and strategically relevant measures.

Therefore because of difficulties in application and in sales attempts, and also in trying to maintain interest for consulting staff, (the design process for Scorecard mark 1 was boring), The Scorecard service was re-designed. Now, instead of telling businesses what measures to use, Scorecard consultants developed the ability and confidence in people who were using Scorecard to develop their own frameworks and measures. In some respects this new approach was driven by customers who needed persuasion that selected measures were good ones. Instead of persuading it was easier to train management groups to do it themselves.

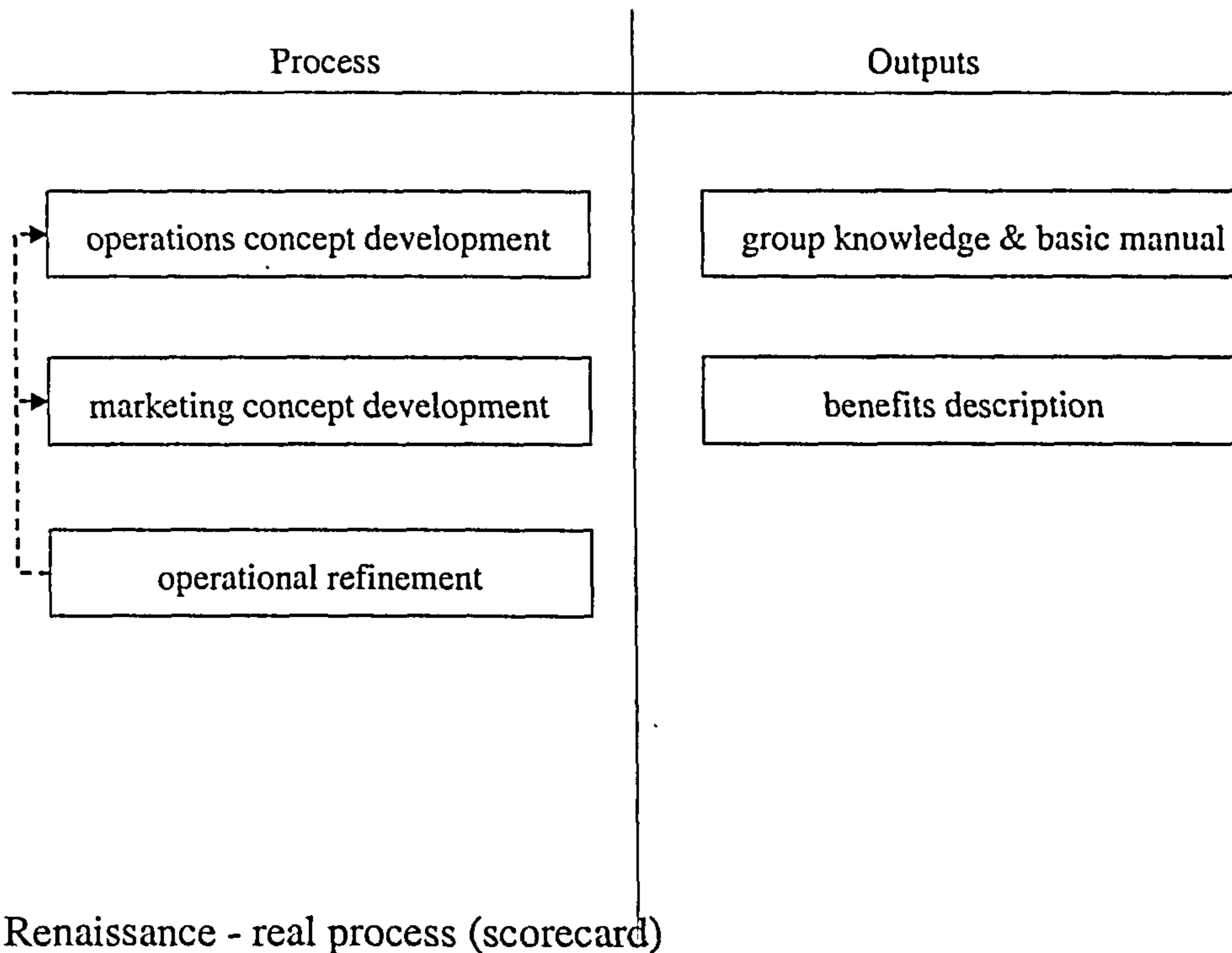
### **Design processes - summary**

So over time Renaissance’s Scorecard practice was re-designed in the hands of a very few consultants and became a very effective strategy articulation and strategic alignment tool. The service had come a long way from the days when projects were about consultants “cooking up” measures to populate the four-box framework. At the time of interviewing, Scorecard consulting at Renaissance had become more about helping managers choose measures and helping firms to articulate a strategy in the first place. The consulting task being more about group facilitation rather than providing advice.



### Research issues 3 – NSD communication

Design communication constructs were explored briefly in the last section. This section discusses design communication in more depth. The following figure shows the three main design elements as outputs of the corresponding process stages.



#### Expected benefits

The part of Scorecard that is “sold” is a set of expected benefits and a process. The very nature of the process suggests that clients cannot know completely what these benefits are until they participate fully in the process.

## **Tacit group knowledge**

Scorecard at the highest level, was something of a black art. As indicated earlier, Renaissance had not proceduralised Scorecard consulting; there were no manuals on the technique merely process schedules. Scorecard consulting was also hard to teach, and because of the sensitive nature of executive board facilitation, experienced consultants are often unwilling to expose clients to anyone but highly competent and experienced colleagues. So opportunities for on-the-job learning were small. Another consequence of this was that there were many inconsistencies – not necessarily negative ones – in delivery. In other words there was no “one,” service design.

Another reason for the lack of documentation was that there was very little in high-level Scorecard consulting that was repeatable. The service delivery process was about building – in senior management teams – a conceptual understanding of what the organisation was trying to do. Consultants supplied mechanical skills and group facilitation that moved the management team to the level of competence where they could do Scorecard design and maintenance by themselves. Though core process skills were universal and could probably be documented, the process itself could take an infinite variety of routes to completion.

## **Delivery manuals**

Manuals for the Scorecard process were available but these were nowhere near a complete service design. A generic “project timeline” was documented, as was a rough content guide (in the form of PowerPoint slides) for each stage in the process. This manual also contained guidelines on the stationery, devices, etc. were used in a

typical workshop session. However, these manuals alone were not sufficient to train consultants. Books of semi-generic workshop slides existed at Renaissance, though finding them in the organisation was difficult if you were not part of the core Scorecard group. Even if a consultant got hold of a slide pack, learning from previous Scorecard projects could not be applied mechanistically, for example in like industries, simply because the highly context dependent nature of the work. When Renaissance merged with Cobra they were required to use a “client recording system” that would hopefully allow the dissemination of learning. However, without the essential understanding of context this was unlikely to be of much use.

Renaissance did not even have a service design or specification for communicating the essence of the Scorecard concept internally. The result was that few staff outside the scorecard group knew what the group did. This fact contributed to the increasing marginalisation of the scorecard group. This said there was pressure from the Cobra half of the company to codify this knowledge, and Cobra managers were convinced that the Scorecard service could be packaged. Cobra had established one of its own knowledge management systems within the company. In essence this system was a database into which things like workshop slides could be placed by categories such as industry, client size, scope .. and so on. However, the scorecard group was reluctant to use this database because project approaches were context dependent at the level of the individual firm, and rarely was there significant commonality within industries.



Coba however were convinced that a multileveled pack could be developed that included the detailed design on the service. One level would be designed for communicating and selling the service, another level would be an operations and delivery manual and the final element would be a training pack. The operations manual would describe the sorts of issues that the service offer was designed to deal with. It would set out a work plan; a project methodology, descriptions with illustrations and examples of each project stage as well as typical time frames for the project. Essentially the pack would explain both conceptually the nature of the service offer and practically what steps needed to be taken to deliver it. The pack would be stand alone only in the sense that it could provide cursory familiarisation with the service offer. It would not be a document that Renaissance could give to a consultant and they could then go and deliver that offer.

## Chapter 5 – Case study analysis

### Introduction

In the last chapter analysis was carried out at the level of each case-site on the three main question areas. In this chapter the level of analysis shifts to the overall case study. For the sake of clarity the chapter will initially present the analysis under each research question area separately. However, there is, as was pointed out in Chapter 2, an inevitable overlap amongst these questions. In particular the first section on NSD imperatives strays into discussion of organisational responses, but at the level of general response patterns rather than the detail of the NSD process.

After presenting this cross-case inquiry the chapter will then present theoretical propositions derived from the analysis. These will be in the form of a suggested typology of general modes of service innovation and NSD, along with contingencies and appropriate processes for each mode.

Finally the chapter will offer some NSD process and NSD communication prescriptions for practitioners as well as suggesting areas for future research.

## **NSD imperatives**

This section compares innovation stimuli and in general terms, the mode of organisational response across the whole study. Chapter 2 concluded that the traditional view wherein organisations' NSD strategy was primarily market-driven was being challenged. It was argued that the potential of the organisations resource base's for long term development and application did – and should – act as a “balancing ingredient” in NSD strategy formulation. In other words design imperatives from markets and competitors are – and should be – balanced against the imperative to “lever” resources into new market-spaces. Further, that NSD was one of the key mechanisms for this “levering.” Another question raised in the literature review concerned the extent to which firms “consciously” engage in NSD to develop resources that can exploit future market potential. That is, to what extent are firms reactive or proactive with respect to resource development and application; engaging in NSD that was explicitly designed to stretch the capability of the resource set. A related area raised in the literature review concerned the extent to which firms understood formally their limits of process capability or process amenability and whether they engaged formally or implicitly in NSD that was inspired by this potential for effective “bundling” of service resources. The initial analysis of the last chapter suggested that some of the theoretical issues raised above were present as real issues at each case-site.

### **The influence of the resource base**

At all case sites there was evidence that the resource base of the organisation played an important role in the development of new services. The study suggests that there



are two ways in which resources exert their influence on NSD. In the first situation, the service organisation finds that its market environments have changed so that: operations and processes are not capable of delivering the marketing concept, or; processes cannot exploit resource potential. In the second situation, processes and resources have developed with no, or insufficient attention to appropriate marketing concepts. In other words capability cannot be marketed or sold. In both situations, the service organisation is exposed to degrees of either market or resource risk, and this *initial* risk exposure becomes a stimulus for change in the form of NSD. In the following table, this categorisation of the *initial* risk exposure is applied to the case sites:

initial NSD stimulus		
purely market risk exposure	simultaneous market and resource risk exposure	purely resource risk exposure
NatWest – RTP Sofitel Coba-Renaissance	Big Pit – mine tours	ABO NatWest – ADS NHM WNHS Big Pit – facilities

The table is derived from the risk exposure maps of the last chapter. The derivation is relatively straightforward excepting the cases of Coba-Renaissance, and the NatWest RTP programme. At first sight the risk trade-off map in the Coba-Renaissance case report appears to show resource risk exposure as the primary stimulus for change. However, this initial risk exposure is at the level of the individual consultant rather than the firm as a whole. The many consultants' different responses to individual risk exposure results in new service processes that are not properly understood by the firm overall, and in particular its marketing department. Thus at the level of Coba-Renaissance *the firm*, the important initial

stimulus for NSD is resource risk exposure. Similarly, at the end of the NatWest ADS programme the bank was exposed to a mix of resource and market risk. However during the earliest days of the RTP and especially as best practice began to be rolled out, process capability exceeded marketing's ability to sell such capability both internally and externally. Thus the dominant risk exposure was that of failure to exploit the market potential of new processes. (Appendix 2 contains more discussion on this categorisation process.)

This categorisation of the case-site analysis could be extended by introducing consideration of the general nature of the *source* of misalignment between market offerings and resource capability. In other words, asking of the study; was the shift into a position of strategic misalignment emergent or deliberate? In this study, applying this distinction separates only Sofitel from the remainder of the case-sites<sup>1</sup>. At Sofitel this stimulus for change was itself the result of a deliberate change to another offering elsewhere in the hotel network. At all other sites the misalignment was emergent, and arose as a result of "service drift." That is, marketing or operations concepts had evolved over time so that they were no longer aligned respectively with processes / resources or marketing concepts.

Understanding innovation stimuli is obviously only half the story. Another important consideration concerns the nature of organisational responses to these stimuli. Of particular concern is the mode<sup>2</sup> of NSD activity used to address misalignment, and

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<sup>1</sup> This distinction may prove informative in a larger study or in quantitative studies of NSD.

<sup>2</sup> Mode – the general approach to NSD as opposed to the detail of the NSD process.



the resultant end-state; successful alignment, or otherwise. The organisational response to innovation stimuli in all cases was not surprisingly NSD that addressed deficiencies that led to the risk exposure. However, beneath this simplistic view lies detail that reveals a less straight forward picture.

In order to present this detail in a form that assists cross case analysis, these issues, discussed in detail in the last chapter, are summarised as a categorisation of the data in the following tables:

Resource risk exposure				
case-site	environmental change / internal change	risk exposure	organisational response	end state
ABO	declining market for traditional pub	under utilisation of capacity – process / resource risk	minor change to marketing concept and major process re-design, core resources unchanged	alignment and successful service
NHM	new mission and declining market for existing resources	under utilisation of collection – process / resource risk	major change to core processes, core resources unchanged	alignment and successful service
NW – ADS	declining market for existing lending services	under utilisation of lending resource – process / resource risk	major changes to core processes, core resources unchanged	many operations concepts failing to deliver marketing concepts – market risk
WNHS	marketing concept had “drifted” so that the service specification was too broad and resources were incapable of delivering	lack of focus resulted mis-utilisation of resource base and delivery failures – resource risk	strategic decision to rationalise / focus on narrow range of services	process change lead public acceptance – hence market risk
Big Pit – facilities	no processes available to link core resources with visitors	processes cannot exploit core resources – resource risk	decision to become a museum and design processes to provide resource access to visitors	better exploitation of resources – but not ideal – still a degree of resource risk

Resource and market risk exposure				
Big Pit – mine tours	many processes had evolved – no standardisation – hence inconsistency of service delivery	a mix of market risk – over performance – resulting from uncontrolled process evolution and operational failure resulting from failure to disseminate best practice	decision to formalise and standardise – to create the ideal mine tour	alignment and successful service



Market risk exposure				
case-site	environmental change / internal change	risk exposure	organisational response	end state
NW - RTP	many new and effective processes not exploited	no new marketing concepts to sell enhanced capability - market-risk	rationalisation of processes and internal and external marketing of changes	focussed operations almost aligned with marketing concepts – near alignment
Sofitel	new customer relations database had excess capacity that was not exploited by existing loyalty cards	an expensive resource was not fully exploited – market-risk	new marketing concept designed to exploit new resources,	new card marketing concept exploited new database but over-stretched all other processes – resultant lack of alignment and resource risk
Renaissance	personal agendas of consulting staff lead to evolution of many new services – not all were aligned with Renaissance strategy	Primarily market risk – many new services were such that existing marketing function could not “sell”	ongoing review of newly developed internal offerings	unstable equilibrium between market and resource risk.

### Organisational responses to NSD stimuli

As can be seen from the first two tables, at all sites where the organisation was exposed to resource risk the NSD response included predominantly process design. At some sites this response included the rationalisation of either a portfolio of services (Wolverhampton NHS Healthcare Trust) or of an inconsistent set of micro-services (NatWest ADS and Big Pit mine tours). In other words, the organisation’s operations function “played catch-up.”

Where perceived market risk was the stimulus for NSD, the organisational response was similar. Process rationalisation took place before development of new marketing concepts at NatWest (RTP), Big Pit (mine tours) and Renaissance. Only at Sofitel was NSD constrained to development of one new marketing concept.

The prevalence of service rationalisation and focus as part of the NSD processes in this study may be a consequence of case-site choice. Chapter three used Eisenhardt’s argument that case-sites could be chosen to be exemplars of “polar types”

(Eisenhardt 1989). The literature review concluded that the extant NSD process literature was based mainly on research into “product like” services; those at the “mass-service” (Fitzgerald; Johnston; Brignall; Silvestro, and Voss 1991) end of the service typology. This research focuses on the opposite end of the service typology; “professional services” and “service shops.” These services are characterised as having medium to high levels of customisation, being adaptable, people-based, having heterogeneity of tasks (Fitzgerald and others 1991), all of which will lead, implicitly if not formally to a high degree of variety in NSDs within the same organisation. It would therefore not be surprising to find rationalisation and focus, or “variation reduction” (McLaughlin 1996) for the sake of standardisation and control, being an important part of the NSD process.

### **Risk exposure levels**

As predicted in Chapter 2 another factor that appeared to influence the mode of NSD was the degree or level of risk exposure experienced as an NSD stimulus. With one exception, at all sites where the subject organisation was exposed to resource risk the initial stimulus for NSD took the organisation beyond the boundary of process amenability. Hence in each of these sites the NSD response was primarily to develop new processes. By contrast at Wolverhampton NHS Healthcare Trust service delivery failures were largely the result of over-stretch; of over-promising on the range of services to be offered. There was little wrong with processes per se. The NSD response was therefore simplification, rationalisation and improvement of the portfolio rather than the development of new processes.



Where the subjects were exposed to market risk, at two of the sites risk exposure fell beyond the boundary of excess process amenability. This was at NatWest when during the early days of the RTP programme it was apparent that customers could not fully understand and use the new and better entry routes to the lending service. As a consequence brand new marketing concepts for lending services were developed. At Sofitel the new customer information processing capability was something that had never before existed in the hotel group and no existing marketing concepts were able to exploit this facility. At the other two sites in this group NSD consisted mainly of developing modifications to existing marketing concepts and systems that would sell the improved capability.

### **Responses to resource risk exposure – end states**

As the previous two tables show, in reacting to resource risk exposure, the final extent of process and marketing concept design varied. At Wolverhampton NHS Healthcare Trust and NatWest (ADS) NSD was predominantly re-design of service processes. At NatWest (ADS) there was implicit change to the marketing concepts for lending services that underwent back-office re-design, but this change lagged behind the many, and inconsistent changes to operations. As a result the first phase of NSD (under ADS) resulted in exposure to market risk rather than the intended alignment. At Wolverhampton NHS Healthcare Trust process rationalisation and re-design was so radical that it outpaced market education and hence acceptance, thus merely changing the nature of risk rather than removing it. At Big Pit (site) the changes to supporting processes were not of an extent sufficient to result in alignment, and a degree of market risk remained. Only at All Bar One and the



Natural History Museum was the organisational response correctly balanced (in terms of the mix of marketing and operations concept development) and of the appropriate amount to result in an end-state where market and resource risk were minimised. In other words the end-state of the NSD process was “on the diagonal.”

For those firms reacting to exposure to market risk none had – at the time of interviewing – reached alignment of marketing concept and processes. At Sofitel the development of the new card marketing concept lead the development of back-office support to a significant degree. Lack of alignment and delivery failures was the result. At NatWest (RTP), Renaissance and Big Pit (mine tours) after process rationalisation the outcome was similar, but for different reasons. The RTP programme at NatWest resulted in belated development of new marketing concepts for lending services, however, the process development that lead to misalignment in the first place was incomplete, and so process change was ongoing. At Renaissance marketing concept development for an accepted new technique was never – and probably never would be – complete because of the dynamic nature of the delivery process. At Big Pit (mine tours) alignment had not yet been achieved, however this was likely in the medium term (less than two years) as both marketing and operations concepts for mine tours were being constantly refined at minimum cost.

It would be tempting to say that there was asymmetry in the mode of organisational response to market and operational risk exposure. After exposure to operations or resource risk the organisational response seemed to be focused on process development, whereas after market risk exposure organisations do not, as might be

expected, focus on marketing concept development, but a mix of the latter and process development. However, this assertion could only be made after viewing a large and statistically significant population; something that these seven case studies are not. Still, at risk of reinforcing a stereotype, this pattern suggests a propensity of operations to react to marketing problems in NSD but not vice versa.

### **Design imperatives – summary and conclusions**

In all sites except Coba-Renaissance, the initial stimulus for innovation was a reaction to an internal problem or external threat. In general such threats were in the form of exposure to varying degrees of operational or market risk. At Coba-Renaissance the proactive efforts of consulting staff were the initial stimulus for change. In some respects this change can be seen as the creation of an internal 'imbalance' between resource capability and market needs. In this light, Coba-Renaissance is not so different from the other cases in terms of innovation stimuli. Across the study, the exogenous stimuli variables; the threats and problems were many and varied. However, at the level of the 'next cause;' the intervening variable, there does seem to be a degree of commonality between case sites. At all sites the initial change stimulus highlighted a misalignment of the separate elements of the service, and service design activity appeared to be an 'adjustment and alignment' activity, wherein these service elements were brought back into alignment.

In other words, internal and external perturbations could either be ignored or force the firm to adjust elements of its service. That is, evolutionary or deliberative modifications to one or more service elements; service strategies, market offerings,



operations or structural and infrastructural resources would create organisational tensions. These tensions would sometimes be allowed to remain, and in some cases would damage the service organisation. However, more usually they acted as a stimulus for deliberative or evolutionary re-design of the corresponding service elements. In this way a problem or failure of some sort acts as a positive influence on the overall development of the service organisation. This last point may be highly significant for service organisations and operations management as an academic field. As was argued in chapter 2, the majority of operations management writing still focuses on the internal optimisation of processes, and hence the removal of opportunity for failure. Similarly the service management literature, especially that originating from service marketing academics, has, in the context of NSD, an implicit, and sometimes explicit bent towards the optimisation, and hence removal of uncertainty in the NSD process. So it may be that these “sensible” exhortations to optimise, remove opportunity for failure and to minimise uncertainty are in fact hindering the potential of service organisations to develop both NSDs and the competencies that will ensure long term success.

So this stimuli and response behaviour may be conceptualised as one in which the service firm is forever seeking, consciously or unconsciously, equilibrium, between dynamic external environments and its resource base. Service design is the arena for releasing the tension created by dis-equilibrium between external constituencies and internal resources. This risk perspective is further developed in the next section analysing the process of service design. The risk exposure path will be sketched for



each case site in order to determine both basic process modes as well as the detail of design processes.

## **NSD processes**

This section analyses the detail of NSD processes across the study. Chapter 2 identified several problems with the extant NSD literature. The chapter raised specific concerns about limits of applicability of several normative prescriptions on NSD process and also about questionable generalisation from specific empirical observations.

Chapter 2 also raised concerns about the sequential nature of most normative NSD process models. The first being that implicit in the normative sequence was the idea that an assessment of market potential should precede consideration of operations capability in NSD. This is essentially a Porterian / Levittian view of NSD strategy formulation and implementation (Porter 1980; Levitt 1960). However, the Resource-Based view argues that an assessment of resource potential can and should come before market analysis (Grant 1991). The following section not surprisingly suggests that both approaches are present in real NSD. The second concern with the sequential nature of the normative NSD models is that the prescribed sequences do not sit comfortably with the often chaotic, unstructured and human process that is real / observed NSD.

## **Resource mapping**

At most sites in the study an early stage in the NSD process was an assessment of current capability and how it could be applied to the proposed new service. This “resource mapping” stage was sometimes explicit – as at NatWest, Wolverhampton NHS Healthcare Trust and Big Bit – and sometimes an implicit component of other early process stages as was the case at all other sites with the exception of Renaissance. At Renaissance resource mapping, if it was carried out at all was a process stage internal to the mind of the individual consultant developing the NSD. Further the resource mapping concerned either the individual consultant or his/her small group of like-minded consultants.

## **Process formality**

One thing that all sites had in common was that NSD processes were informal. Nowhere were there written-down process guidelines or models for NSD, at least, none that were actually used. Knowledge on how to proceed with NSD was tacit. It was only by observing actual processes and by interviewing design managers that process models could be developed for each site.

## **Iteration**

A process characteristic that further differentiated two already identified sub-groups of the study was the observed degree of process iteration. At those sites where NSD was stimulated by market risk exposure there was a greater degree of iteration than at sites where innovation was stimulated by resource risk. This is perhaps not surprising, as marketing concepts, being less complex than operations concepts, are

perhaps easier to modify. Perhaps also there was a perception that at these four sites (NatWest RTP, Big Pit mine tours, Sofitel and Renaissance), that the marketing aspects of the NSD *could* be modified without consideration of operational consequences. Certainly this was the case at Sofitel and during the NatWest RTP programme; delivery problems were the result. At Big Pit and Renaissance possible problematic consequences were buffered by the inherent flexibility of operations at these sites. Further, where perceived resource risk exposure drove NSD activity, definition of the scope and extent of NSD activity was relatively straightforward. That is, it was comparatively easy to understand and specify the support requirements for delivery of a new marketing concept whereas the opposite; understanding and exploiting the potential of a new operations concept was much more difficult.

### **Problem assessment**

Common to all sites was a process stage that included an assessment of the problem. This is not surprising as at all sites in the study the stimulus for NSD was a perception of risk of one sort or another, usually because of current delivery failures.

### **Political support**

Apparently important, though not common to all sites was a process stage wherein design managers lobbied for internal – and sometimes external – political support for NSD. At Sofitel, WNHS and the NHM this lobbying occurred early-on in the design process, and at Renaissance lobbying took place when a prototype consulting offering had been developed. At NatWest, design managers stated explicitly that the



absence of an internal lobbying and marketing process led to implementation difficulties. At WNHS managers thought that the lobbying stage was the most important stage in NSD. Design managers, familiar with the difficulties inherent in gaining support for healthcare changes had developed their lobbying process to a fine art.

### **Operational refinement**

At all sites was observed a late stage of operational refinement of the NSD. Sometimes this fine-tuning was applied to prototypes as at ABO, but more often to the newly designed – but one and only – service as was the case at Renaissance, NatWest, WNHS, Sofitel and the NHM. At WNHS it must be said that it was difficult to separate design refinement from the ongoing customisation of the service to meet individual client needs.

The presence of an operational refinement stage in the design process is hardly surprising given the relative complexity of all sites observed in this study. It should also be noted that, with the exception of All Bar One, this stage was not directly comparable with the “prototyping” or “pilot” stages discussed in chapter 2. Rather, the operational refinement stage concerned modifications to the “steady state” service.

### **A thousand flowers**

At two sites in the study something akin to, but not exactly like “concept screening” occurred. At NatWest and Big Pit (MT) design managers selected the best aspects of

many potential operations concepts for a new service. However, they admitted that this situation arose by accident and not by choice. At Big Pit (MT) unplanned evolution led to a multiplicity of mine tour possibilities, in the same way, at NatWest under the ADS programme many different types of lending centre were allowed to develop. In both cases, design managers turned a problem – of resultant service delivery inconsistency – into an opportunity to choose the best from a “thousand flowers.”

Both organisations would ideally have avoided these situations. However, this issue returns us to a lesson from the last section on NSD stimuli; that failure, of one sort or another, may be an inevitable and necessary component of much NSD. In other words, that the “stretch” of marketing, process or other resource capability that itself creates market or operational problems is in fact a way for organisations to temporarily stray outside their “comfort zone” and so develop new capability. In a way analogous to the way individuals learn, organisations thus learn by overcoming problems or failures of one sort or another.

### **Conflict management**

Where design managers were managing the design or re-design of a portfolio of services, an activity observed was that of conflict management. That is, design managers would have to ensure that changes to one micro-service did not have adverse effects on another. At WNHS conflict management concerned managing budgetary trade-offs within a limited cash pool. At Sofitel and NatWest conflict management was more about managing marketing and operational clashes amongst

new services in their respective portfolios. Finally, at Renaissance managers early on considered the potential for strategic dissonance between proposed new services and the existing service portfolio. That is, managers tried to assess whether a new service was likely to modify the service portfolio in a way that would conflict with strategic intent.

### **Processes and NSD stimuli**

It was shown in the last section that at the level of NSD mode, there was a degree of symmetry between NSD stimuli and the organisational response. As the NSD process is merely the detailed expression of the NSD mode, it should be self evident that NSD process adoption will in turn be contingent on initial innovation stimuli.

### **Design of outcomes or pre-requisites**

One critique raised in Chapter 2 was that the goods-based models of NSD so prevalent in the NSD literature made no provision for variety at the point of delivery. That is, goods-based design processes were concerned with the design of stable artefacts, whereas service – dependent on interaction – varies in proportion to the number of provider/consumer interactions. The organisations observed in this case study recognised (though often implicitly) this problem and their NSD processes reflected this understanding. Only at one of the sites studied did NSD focus on outcomes and this was at Wolverhampton NHS Healthcare Trust. Even at the Trust, while much NSD discussion pertained to outcome standardisation, this was usually concerned with ensuring that the NSD delivered the outcome minima required by statute. In order to do so, the Trust recognised that they would still have to reflect –



in the final NSD – the individual needs of clients and carers. At all other sites NSD processes were about developing what Edvardsson has called the pre-requisites of service (Edvardsson and Olsson 1996) (Edvardsson and others 2000). This characteristic of the type of case-site chosen for this study was predicted in Chapter 2.

### **Stage-gate NSD models**

Chapter 2 also predicted that the orderly and sequential nature of goods models of design would be unable to accommodate the broad-scope NSD characteristic for which the case sites were chosen (Edvardsson and others 1995; Kingman-Brundage and others 1995). At none of the sites were stage-gate NSD models in use. At two sites – Renaissance and All Bar One – the organisations did possess such models, but the NSD process in use was quite different. This by itself is not sufficient to support the prediction stated above. Stronger evidence however, comes directly from the interviewees. Most, unprompted stated that the stage-gate models of NSD did not mirror the unstructured, and broad-scope nature of group and individual thought on NSD. They also said that the imagined new service was too big, too diffuse and tacit to be manipulated in a rigid process model. It was suggested in Chapter 2 that NSD implies designing, to varying degrees, a new organisation, and this was reflected in the comments of interviewees who said that as a result most NSD and innovation would not fit into formal structures. Only at Sofitel was the subject of NSD considered to be limited to the design of a small-scope marketing concept, and even here this was eventually perceived to be a mistake.

### **Important process activities**

After expressing reservations about the importance of formal NSD processes, the literature review raised the issue of whether there were any essential elements in the content of NSD activity. Martin and Horne, and Storey and Easingwood argue that an assessment of strategic fit is one of the most important elements – in that it was closely associated with NSD success levels – in any NSD process. That is, NSD processes must include an assessment of “fit” of new services with the existing service strategy and resource capability of the service organisation (Martin and Horne 1995; Story and Easingwood 1993). This activity was much in evidence at all sights in this study – albeit “bundled” with other activities – excepting two. At Renaissance the lack of any – explicit or implicit – NSD strategy ultimately led – in the long term – to the destruction of the organisation. At NatWest a rationale for the NSDs did exist, but this was not properly communicated to customers or to those responsible for service delivery. The new lending centre concept suffered as a consequence, but within six months of roll-out of the NSD this lack was remedied and the situation recovered.

### **The popularity of stage-gate models**

Problems with the stage-gate models of NSD identified both in the service management literature and in this thesis have not discouraged academics and consultants from promoting their use. The models regularly appear in current literature, and are offered as government advice on the design of new products and

services. In the UK the latter is a comprehensive set of DTI<sup>3</sup> process guidelines in the form of a stage-gate model. This ubiquity of stage-gate models in the face of many questions about their relevance and utility is perhaps partially explained by looking at the way in which researchers interpret social phenomena. Researchers, when trying to make sense of the chaos that is real NSD tend to summarise, to use diagrams, to draw boxes, and link these with arrows that – perhaps – initially were meant only to suggest causality, but were ultimately taken over-literally by both the authors and readers. It is perhaps therefore not surprising that stage gate models are so commonplace in the literature on NSD; these models are what social researchers are used to talking about. Their ubiquity may reveal more about the nature of research into social phenomena than they do about the phenomena themselves. This is not to say that the study of such models is not worthwhile. Already an implicit conclusion of this thesis is that there are limits to the contextual applicability of stage-gate models of NSD. Finding where these limits lie is self-evidently an important issue.

### **Limits of applicability and contingencies**

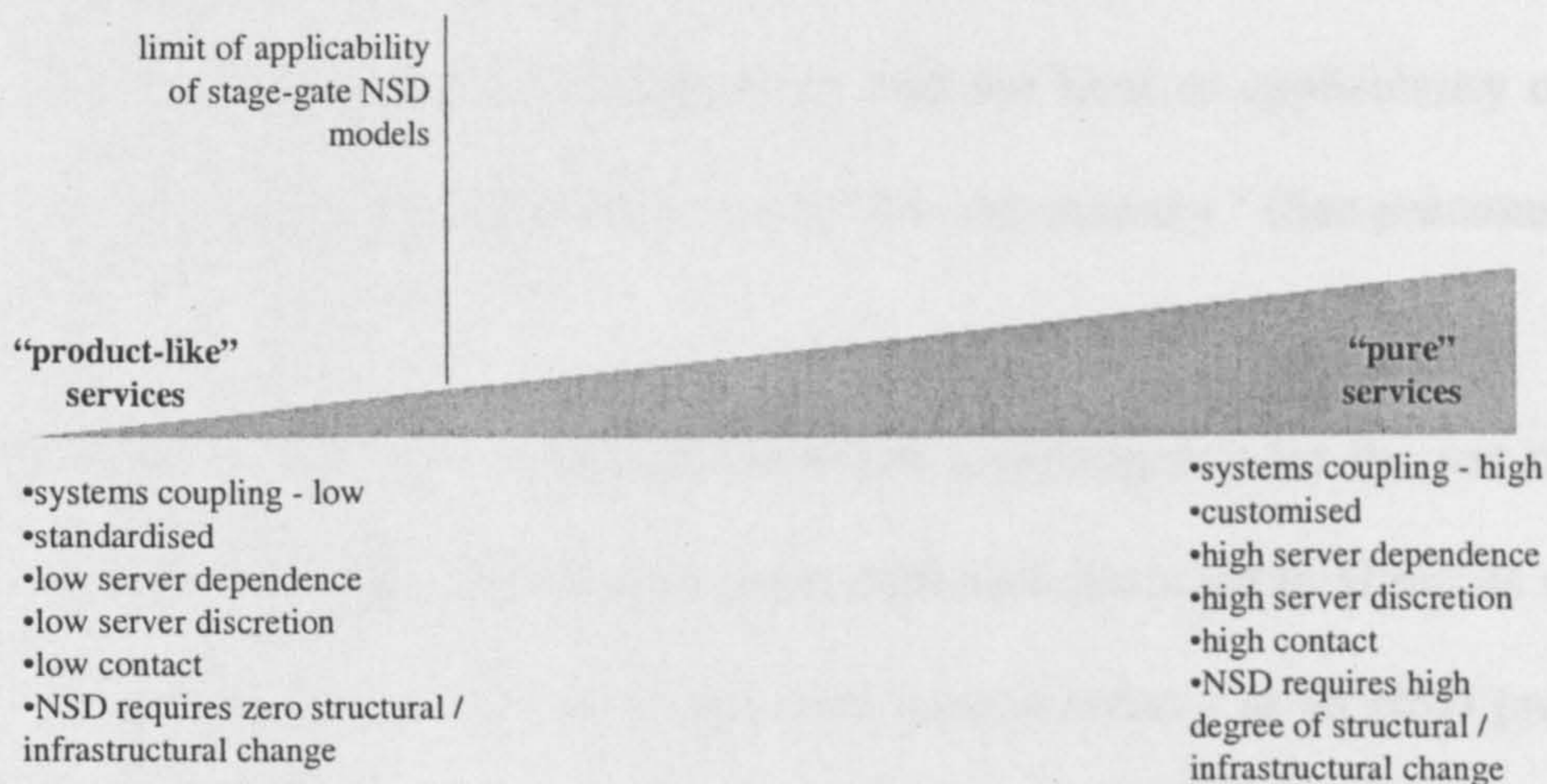
Earlier research discussed in Chapter 2 looked at services that could be characterised as very “product-like.” That is, the NSDs described services that were almost “stand alone” (limited coupling (Perrow 1999) with a service delivery system) and standardised, with little dependence on server discretion during delivery. However the NSDs at all sites in this study were further towards the “pure service” end of the

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<sup>3</sup> Department of Trade and Industry



spectrum, and all with the exception of the Earth Galleries, would require high degrees of server input to and discretion on delivery. As indicated in Chapter 2 then, a descriptive axis on which the case sites could be located is one that includes high and low contact and server discretion. The limited use of NSD stage-gate models at the sites in this study suggests that the limit of applicability of the NSD stage-gate models may be somewhere towards the “low contact” end of the spectrum. This limit is illustrated in the following figure.



Chapter 2 also concluded that another characteristic of NSDs researched in the literature on stage-gate NSD models was that they were designed, for the most part to function within the constraints of existing service structure and infrastructure. At



several case sites of this study – all except Renaissance and Sofitel<sup>4</sup> – NSD necessitated change beyond such boundaries. In other words, the new services discussed in the literature review were such that their delivery required little change to existing service organisation and resources. By contrast the NSDs explored in this research required high degrees of organisational, structural and infrastructural change. That is they were not limited to re-design of the service outcome, but also concerned front and back-office re-design, skills changes, work practices, equipment and facilities re-design and so on. This observation suggests another axis that may help define the limit of applicability of stage-gate NSD models; one on which the NSD has an increasing dependency on the development of new resources, structures and infrastructures. Once again, the case-sites of this study would cluster towards the “high dependency end of the spectrum, and the limit of applicability of stage-gate models is probably somewhere towards “low dependency.” (See previous figure.)

Although the last two paragraphs establish a contingency for the use of stage-gate models of NSD, this contingency lacks sufficient precision to allow its use either as an analytical tool or – except in the most general sense – as an NSD process-choice guide for practitioners. Yet a general statement concerning boundary conditions for the stage-gate models is perhaps all that can be hoped for. Indeed, one of the central messages of chapter 2 is that rigid process prescriptions along the lines of normative

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<sup>4</sup> At Renaissance and Sofitel NSD did result in change to service resources, structures, and infrastructure, though such change was over longer time-scales and outside the explicitly defined scope of the NSD activity.

models are best avoided given the complexity and high context-dependency of most NSD.

### **NSD processes – summary and conclusions**

The case study paints a picture of NSD processes that is nearly always at odds with the literature on the subject. In the mind of the researcher, there was a prior expectation that some organisations would not conform to ideas in the normative NSD literature. It was interesting therefore to find that the case organisations hardly adhered at all to established prescription on NSD. Further an expected consequence of case site choice was that in the organisational contexts observed in the study there would be many practical difficulties in using, for example, the stage-gate models of NSD. This expectation was also confirmed. In order to avoid repeating earlier conclusions only an outline explanation for these observations is repeated here.

The almost complete absence of any process formality was unsurprising to the researcher, but again, was in contrast to the NSD literature. An explanation for this observation could be that given by many interviewees at the case-sites; that NSD was a complex human process not easily compressed into the “boxes” of a rigid process. However, this explanation is somewhat “woolly;” and perhaps there is more than one explanation. NSD generally, and certainly the type observed at the case sites was invariably a major project involving many parts and functions of the service organisation. As such it would seem appropriate, given the choice, to use the flexibility of the project management approach rather than any rigid process or product oriented approach. Perhaps a more convincing reason however is that the



devices used to describe the NSD – discussed in detail in the next section – are in their totality, extremely large, even at the earliest stages of the process. Managing the development of such a construct is, using an analogy from the manufacturing literature more appropriately carried out using the informational equivalent of a “fixed position layout.”

Some authors suggested an important element of an NSD process should be an assessment of strategic fit of the new service. In the study, such activity was observed, but was often implicit and “bundled” with the resource mapping activity observed at all sites. This is perhaps not surprising, as the questions that the organisation needs to ask are similar:

- Strategic fit assessment - Do we want to do this? What resources do we need to do this? Will resource development for this NSD provide long term advantage. How does this NSD support or conflict with our existing service portfolio?
- Resource mapping - Can we do this? What resources do we possess? How can we apply our resources profitably?

One area where the case observations agreed with the literature was in the high degree of iteration observed at all stages of the real NSD processes. However, once again this was informal, and usually applied to elements of, rather than the whole NSD. When, at the case sites this phase of NSD was observed towards the end of the NSD project it was described as “operational refinement.” High degrees of iteration

are not surprising. Again the complexity of NSDs is probably the main reason for this. “Right first time” whilst a noble aspiration in NSD is in practice difficult to achieve because of the high degree of definitional effort required to describe the prospective service.

Several NSD process characteristics were emergent in the study, namely the role of failure, politics and conflict management amongst different NSD elements. Failure was never explicitly part of the NSD process, but was an important contributor to NSD at NatWest, Wolverhampton NHS Healthcare Trust, Big Pit and Renaissance. Politics and the assessment of political “fit” was an activity observed at all sites though was only recognised formally at Wolverhampton NHS Healthcare Trust. It could be argued that assessing the strategic fit of an NSD should include a political assessment, however, the literature that stressed the importance of a strategic fit assessment (Martin and Horne 1993) did not explicitly deal with internal or external politics. With hindsight this is a surprising omission. Also surprising with hindsight was the absence of any discussion of conflict management. For any service organisation with a portfolio of services such activity would seem essential.

Overall then, the study revealed some agreement with, but mostly exposed flaws in the NSD process literature. Such flaws, it could be argued, are merely a consequence of case site choice. However, this argument itself supports the converse view that the bulk of the NSD process literature discussed in chapter 2 has far less than the general applicability claimed by its authors. Some comment on these limitations was offered,

but these were not in the form of precise contingencies, lest this work also fall into the trap of being over prescriptive in an area of research that resists it.

## **NSD communication**

This section analyses and draws general conclusions about the type of design communication constructs used across the case study. The final section of chapter 2 explored the literature on the constitution of service designs at various stages in their evolution during the NSD process. This section is divided into three parts that mirror the overall structure of chapter 2's section on design constructs; dealing in turn with: early constructs, interim constructs and final designs.

### **Early design descriptors**

At the Natural History Museum and at Big Pit "ideas" were constrained to "solutions" to specific design or engineering problems in design. Use of new ideas in the sense of an embryonic idea of what the "whole" service would be like were not observed. Even at the beginning of the re-design of the Earth galleries and Big Pit the "picture" of the future galleries was already very complex – in fact a fairly detailed picture of what the new service would be like from a customer perspective; the emphasis being on description of customer processes. Similarly at Renaissance Solutions, anything that could remotely be called a new service idea was almost always a concept internal to the minds of an individual or small group of consultants. Aspects of the NSD idea might be codified but usually this was an outline of the prior offering that served as the foundation for the new one.



In the case of Bass Tavern's their general NSD process did, in its initial stages make use of rudimentary new service ideas – the “gaps” in the brand maps. However, these were not used for screening purposes. Also, they represented only partial descriptions of the proposed new service. In this case they clearly represented market opportunity in terms of a set of needs that were not currently addressed. In many respects the situation was similar at Wolverhampton NHS Healthcare Trust. Here the initial NSD communication constructs were also partial descriptions of new services, but this time expressed in terms of quantitative measures of output - annual numbers of patients receiving a particular service or portfolio of services. Input measures, process quality measures etc. were absent from these initial NSD ideas. The initial descriptions of each new service were not so much screened, as used to express and manage conflicting consumer demands on limited resource. Separately, consumers – via focus group exercises – were asked to provide a simple description of an ideal service, however, this was not used as a design input until relatively late in the process.

### **Early design descriptors – conclusions**

So the notion that crude and simple ideas can be useful in the early phases of the design of services is unsound. For all services in this study, we see that even at the earliest stages of the design process the internal (mental) and communicated constructs that described the service were complex and subtle. It seems obvious that the use / manipulation of a “new service idea” concept as favoured by service marketing writers must be limited to partial descriptions of a new service. For

example, marketing could develop a series of alternate solutions to a specific marketing challenge, and these could be assessed or screened from a marketing perspective. However, if comprehensive / multifunctional screening of NSD ideas is required then these ideas must be “fleshed out” to include, for example, operational or financial consequences. In so doing designers – by definition – create a communication construct more akin to a service concept than a simple idea. Thus is defined – broadly – a limit of applicability of the idea of screening of NSD ideas. That is, the approach most usefully applies to the selection of function-specific solutions to single-issue NSD challenges. These conclusions support the emergent, but central argument of this thesis; that NSD is far less about free choice of direction for service organisations, and far more – as was discussed in the last section on NSD processes – about the intelligent application of existing resources. In thinking about NSD managers rarely ask “what do we want to do” but “what can we do?” Another emergent issue is the idea NSDs can never be described simplistically from one perspective, and that to attempt to do so in the NSD process is potentially dangerous.

### **Interim design descriptors - service concepts**

Moving beyond the simple description of an NSD this chapter now looks at more elaborate descriptions of NSD; what service marketing academics usually term the service concept or service marketing concept. The following table summarises the extent to which any organisations studied, used service concepts as defined in chapter 2.

case-site	service operations concept	integrative service concept	service marketing concept
Renaissance			P
Sofitel			C
Natural History Museum		P	
All Bar One		C	
Nightingale NHS Healthcare Trust	P		P
Big Pit		P	
NatWest		P	

C - complete

P - partial

At Renaissance the most commonly communicated design construct was a partial service marketing concept. Partial in the sense that very rarely was there a strategic rationale for the NSD; their development being driven by the career-development needs of individual consulting staff rather than that of Renaissance overall. Service operations concepts were sometimes available in the form of manuals and workshop PowerPoint slides however these invariably described a recent project that resembled – structurally – the NSD.

At Sofitel the service marketing concept was complete but with the greater emphasis being on the “why;” the rationale for the NSD. In fact staff, when unsure of the detail of delivery were explicitly advised to use their own discretion as long as what they did was in harmony with the NSD strategy.



The service concept in use at the Natural History Museum, although not complete, was perhaps the most comprehensive that was observed in the study. The NSD concept for the Earth Galleries lacked certain details of customer outcomes and processes but was otherwise an excellent aid in providing all design constituents with an accessible and easily understandable picture of the NSD.

Nightingale NHS Healthcare Trust developed a service concept for LD services that included both marketing and operations issues. However, by the standards set in chapter 2 these were incomplete, and importantly, appeared at different stages in the NSD process rather than as an integrative service concept. Specifically, the Trust developed a marketing concept that emphasised the strategic rationale, but largely ignored the customer perspective on service outcomes.

An integrative, if incomplete service concept was developed to describe Big Pit redesign. The “holes” in the service concept were in the areas of consumer outcomes, specifically the learning objectives for the exhibitions. These were articulated in general terms only and at the time of interviewing there was no intention of writing detailed learning objectives for each exhibit. There were also some gaps in the process descriptions for surface exhibits.

The service concept used during the design of the NatWest lending centres was integrative in the sense that it was developed as a description – if flawed – of both processes and customer outcomes. An NSD strategy was developed however this was poorly communicated. There were many holes in the process descriptions

though it was intended that these would be gradually filled after implementation. The marketing concept was flawed in that it contained many incorrect assumptions about consumer reactions to the NSD.

Bass Tavern's service concept for All Bar One was developed such that marketing issues were addressed long before delivery processes received any attention. However, as both issues, as well as the NSD strategy were covered before the design team moved on to detailed design, the service concept is classified as integrative. It should be noted that the NSD strategy was not explicit, but was an implicit component of the brand-map.

#### **Interim design descriptors - conclusions**

At the case sites where "integrative" service concepts were developed and used in the NSD process it seemed that both the NSD processes and outcomes were largely successful in achieving their objectives. Perhaps more to the point, at the sites where this was not the case (Sofitel, Renaissance and the WNHS Trust) there were problems with both the design process and the final result. However, for reasons discussed at length earlier, but primarily because of the difficulty of isolating exogenous influences on success levels these comments must be treated with caution.

The idea that a holistic service concept should underpin success is perhaps an intuitively obvious and relatively trivial conclusion. Less obvious however, is the fact that at all sites where holistic service concepts were developed and deployed,

never was an “integrative” design mode adopted. Stated more simply, organisations with the better design processes recognised the need for holistic NSD communication irrespective of the mode or “path” of NSD. Just because a design process is either marketing or operations “dominant” it does not mean that the secondary elements of the design can be ignored completely. This finding echoes that of Clark et al (Clark and others 2000) who stress the utility of the service concept in NSD cross-functional communication and the follow-on impact on “smoother new service introduction.”

### **Final design**

The final design is, by definition, the construct that appears at the end of the design process, but before any NSD implementation takes place. Sometimes it is not so easy to draw a distinction between late design stages and implementation. However for the purposes of this thesis the “line is drawn” at that stage where the NSD moves from being a rational construct to one where the construction of physical facilities, and / or actual service delivery takes place.

Not surprisingly, across case-sites there was little commonality of language in describing the final NSDs and the constituents of NSDs. However, it was possible to label these using general categories of NSD constituents developed in chapter 2. The following table shows how all case-sites compare when the NSD constituents are categorised.



Note. The absence of “a tick” only means that a particular element of the NSD was not well-developed, or that it was implicit, not that it was absent. For example, at the natural history museum it would be wrong to say that customer outcomes were not considered at all, but they were partial, and only concerned that which the visitor was supposed to have learned during a tour of the galleries.

case site	NSD strategy	marketing concept			operations concept					resourcing
		customers	outcomes	customer process	back-office process	facilities	constraints	capacity	staffing	
NHM	✓	✓		✓	✓	✓	✓	✓		
ABO	✓	✓		✓	✓	✓	✓	✓		
NatWest			✓		✓	✓		✓	✓	✓
Big Pit		✓		✓		✓	✓	✓		✓
WNHS	✓	✓	✓	✓				✓	✓	✓
Sofitel	✓			✓					✓	
Renaissance			✓	✓	✓				✓	

This next section analyses the final designs observed in the study by first organising their components according to the categories in the following table. The categorisation is derived from Hayes and Wheelright’s “Strategy Decision Categories” (Hayes and Wheelwright 1984) pp 30 – 33.



Final design - strengths and weakness				
case-site	NSD strategy	Marketing	Resources	
			Structural	Infrastructural
Renaissance	<b>tacit individual agendas</b>	description of expected benefits only no tgt. consumers / mkts	assumed (correctly) that structural resource requirements could be met by generic resources	skill sets, delivery manuals, project histories, tacit knowledge
Sofitel	description of strategic rationale; "the why?" in training manuals	generic (cadre de direction)	<b>assumed generic resources would suffice - not so</b>	project plan for implementation rough description of customers and front-office processes HR implications training manuals (sometimes)
Natural History Museum	new & explicit mission statement & strategy	customer profile - strong on customer input requirements but little on specific outcomes	design brief - visuals, CAD, VR (but usually the emphasis was on simple, accessible models) building brief	customer process (story logic), continuity maps, back and front-office process descriptions
All Bar One	implicit in brand maps and bridge statements	brand maps bridge statements	visuals, facilities plans, branding, type & colour palettes, signage, fixtures and fittings guidelines, capacity plans	service standards (outcome minima) for delivery processes, cost & profit estimations, drinks & food guidelines, recruiting criteria, dress guides "intangibles" guidelines - post hoc
Nightingale NHS Healthcare Trust	"why?" - gov. policy - local interpretation communicated as statement of probs. in consultation docs..	quantitative output measures only - nothing that could be linked with customers individual needs	mainly capacity constraints & potential - legacy-site considerations - much that was politically v. sensitive - so v. little could be written down as a statement of intent	quantitative measures of output practitioner knowledge & skills - core service staff roles, trg. requirements weak on process description
Big Pit	simple - "we want to be a museum"	good understanding of desired consumers but little on desired outcomes for said consumers	design brief - mainly covered architectural issues - accommodation brief (looked at housing for exhibits) nothing on maintenance of site's historical integrity	process instructions for underground tour - guide's handbook little about process on surface however, except capacity plans
NatWest	NSD strategy was produced but was not communicated to customers (or many employees)	customer processes and outcomes not adequately mapped - no measures of consumer satisfaction	v. good - detailed descriptions of all "hard" assets	team & grade structures, configuration state of automation, some process maps, staffing model, customer processes, but still reliant on tacit knowledge especially for exceptions

On viewing this table one observation that can be made is that where weaknesses existed in the design (in terms of comprehensiveness) these were – not surprisingly – exactly the areas that caused problems when the NSDs were implemented. Where these design omissions were pronounced – effectively an absence of design in the specified area – that is, at Sofitel and Renaissance in the areas of structural resource specification and a service strategy respectively – service failure was the result<sup>5</sup>. At

<sup>5</sup> The Sofitel failures are documented in Chapter 4. The ultimate break-up of Renaissance Solutions did not occur until well after the time of the case interviews. However, it was clear by about the middle of 1999 that the lack of an NSD strategy resulted in an organisation with an over-varied and over-large service portfolio and that lacked any particular area of strength. Ultimately, Renaissance became an umbrella organisation under which individual consultants could sell and develop their services independently of each other.



three other sites in the study, weaknesses in the final design were observed that were less pronounced but broader in scope. At Nightingale NHS Healthcare Trust and Big Pit the final designs had robust and well-communicated strategic rationales but the descriptions of operational consequences of these strategies in the form of the “marketing” and “resource” components of the final design were partial. That is the design components described limited, specific aspects of the marketing concept, and structural and infrastructural resources. This lack of holism in specification of NSD components led to several small-scale failures in both market understanding and service delivery.

By contrast the final designs at both the Earth Galleries and All Bar One were extremely comprehensive, the former only lacking detail on desired consumer outcomes, and the latter relying to a degree on post hoc specification of some delivery standards. However, the final NSDs in both cases were sufficiently robust that very few changes were necessary post implementation.

### **Final design - conclusions**

These observations therefore suggest that omissions in the NSD will almost guarantee failure of the corresponding element of the service once delivery begins. “Almost,” because of the not-uncommon circumstance in which design components accidentally evolve into appropriate configurations. Finally, an observation that is included for the sake of completeness is that weaknesses in the final design corresponded precisely with weak areas in the service concept. Thus emphasising the importance of a holistic service concept not just in providing a design



communication aid in the interim phases of NSD, but also as a “template” for the final design.

### **NSD communication - conclusions**

As was the case with NSD mode and process choice, in the absence of any management decision, the initial stimulus for NSD activity plays a large role in determining the degree to which various design components are developed. At All Bar One and the Natural History Museum even though NSD was stimulated by exposure to process / resource risk, the NSD communication constructs were nonetheless holistic because both organisations were mature in terms of their familiarity with the business of formal NSD. At all other sites NSD communication constructs were developed in a far more reactive – almost unconscious – manner and reflected the nature of the dominant design activity, itself a reaction to the initial risk exposure. This is not to say that NSD communication constructs remained static in terms of their marketing or operations emphasis, but that at the case sites where NSD was less successful their emphasis remained unchanged as they evolved in the NSD sequence. The exceptions once again were the Natural History Museum and All Bar One. Occasionally at these sites NSD components were observed – at any one time – as having been developed to slightly different extents. However, such disequilibrium was always quickly corrected.

## Case study analysis – general conclusions

The last three sections analysed case data across all sites. General conclusions emerged that are summarised below as a list of key points. These conclusions are presented in summary form at this point in the chapter rather than at the end because they critically underpin the next section of the chapter, which is developmental in nature.

### NSD imperatives

- The imperative for NSD was a reaction to an internal problem or external threat, usually exposure to varying degrees of operational or market risk.
- The threat often created implicit change that itself created internal ‘imbalance’ between resource capability and market needs.
- NSD was an ‘adjustment and alignment’ activity, wherein these imbalances were addressed.
- Problems or failures were thus – in the long term – positive influences on the overall development of the service organisation. This is highly significant for service organisations and operations management generally as the majority of operations management thought / writing focuses on the internal optimisation of processes, and hence the removal of opportunity for failure / learning.



## Processes

The case study clearly shows that the extant literature on NSD is limited in applicability. The organisations in the study did not adhere to established prescription on NSD, nor could they. The stage-gate models of NSD discussed in chapter 2 are summarised in a generic model in the following figure. The figure also shows how processes at the case sites diverged from this general model.

	All Bar One	NatWest	Natural History Museum	Wolverhampton NHS Healthcare Trust	Big Pit	Sofitel	Renaissance
NSD strategy development	○	○	●	●	●	○	○
idea generation	○	○	○	○	○	○	○
idea screening	○	○	○	○	○	○	○
concept development	○	○	○	○	○	○	○
concept screening (incl. business analysis)	○	○	○	●	○	●	○
authorisation	●	●	●	●	○	●	○
detailed design	●	●	●	●	●	○	○
marketing program design and testing	○	○	○	○	○	○	○
personnel training	●	●	○	●	○	○	○
testing / pilot run	●	●	○	○	○	○	○
full-scale launch	●	●	●	○	○	○	○
post-launch review	●	●	●	○	○	○	○

formal stage ●  
 implicit activity ○  
 not present ○

- In the organisational contexts of the study there were many practical difficulties in using the normative stage-gate models of NSD.
- The absence of process formality was a marked contrast to the NSD literature.



- NSD of the kind observed in the study was invariably a major project involving many functions of the service organisation. Further the devices used to describe the NSD were very complex. The notion of screening NSDs by all functions, even in the earlier phases of the design process was impractical.
- Where case sites did fit with the literature was in the high degree of iteration amongst process stages, implicit or otherwise. Further, this applied to elements of, rather than the whole NSD.
- NSD process characteristics emergent in the study were:
  - the role of failure;
  - politics, and;
  - the necessity for various forms of conflict management amongst different NSD elements, and different NSDs.

### **NSD communication**

- Omissions in the NSD will almost guarantee failure of the corresponding element of the service once delivery begins.
- The constitution of the NSD reflects the nature of the initial risk exposure.

## A design mode typology

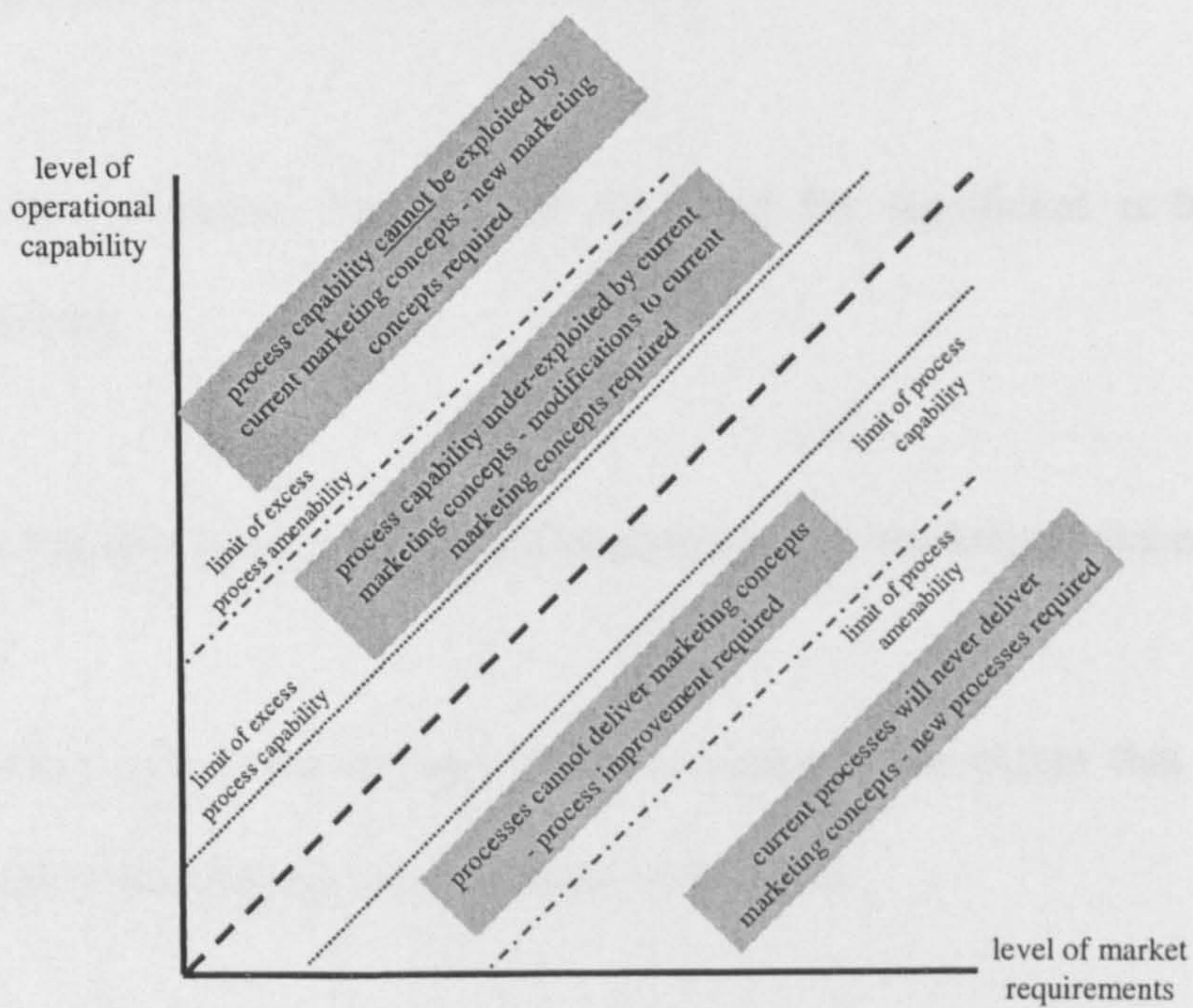
In the last three sections it was shown how internal and external perturbations in the factors affecting risk exposure could either be ignored or force the firm to make evolutionary or deliberative modifications to one or more service elements; service strategies, market offerings, operations or structural and infrastructural resources. Thus, in essence the NSD process was begun as an attempt to achieve re-alignment of strategy, service concept and resources. The NSD response being generally a major project involving many parts and functions of the service organisation. As such the flexibility of, for example, the project management approach was shown to be more appropriate to NSD than the “traditional” stage-gate model. This section draws on these and other ideas and observations from the last three sections on NSD imperatives, organisational responses, design processes and design constitution to develop theory concerning NSD modes and appropriate processes. It must be stressed that this section is developmental in nature. That is, it represents the tentative abstraction referred to in chapter 3 and will be used to support more assured theory development in the next chapter.

As may be apparent from the earlier sections, the risk trade-off maps used in this and the last chapter have potential as a basis for a typology of service design modes. If service design modes are categorised on the basis of the type and extent of risk exposure we can perhaps impose structure on what may appear to be an infinite variety of responses, viz., innovation modes and processes. This is the approach adopted here. In the diagrams of the following section the creation of a new service



or the re-design of an existing service is represented by 'A' and 'B,' and the arrow represents the risk exposure path. A segment of the arrow is dashed. This dashed portion represents the initial or "exploratory" phase of service design. That is, the phase of experimentation in terms of new marketing concepts, processes, new resource development or strategic change. It should be obvious from the case descriptions, but it is perhaps worth emphasising that part or all of the design process could be deliberative or implicit.

On inspecting the generic risk trade-off map in the figure below, it should be apparent how the capability and process amenability limits offer a basis for a NSD mode typology.





The map allows the possibility of seven broad types of service design / re-design modes. Service organisations can either:

1. Develop new marketing concepts within the constraints of existing processes.
2. Develop new marketing concepts that necessitate a degree of process change.
3. Develop marketing concepts that require significant changes to, or development of new processes and other resources.
4. Adopt the minimum risk path to the new service. That is, they can develop service and service process concurrently.
5. Improve processes but without the need for significant re-branding or re-marketing.
6. Develop new processes that will necessitate new marketing concepts.
7. Develop both processes and other resources to the extent that new marketing concepts *and* strategic re-evaluation is required.

It is accepted that the long-term innovation path could involve a combination of these archetypal modes, indeed, the maps from the real cases show this to be sometimes the case. Further, though at this stage no more than a qualitative

description of what constitutes resource or market risk is considered, it may be that further research may allow quantification of risk. Among other things, such quantification may allow meaningful inter-firm comparisons.

The fifth innovation mode in the above list is relatively trivial, as even in the worst performing service organisations, small scale process change will be continuous. However, it is mentioned for the sake of completeness.

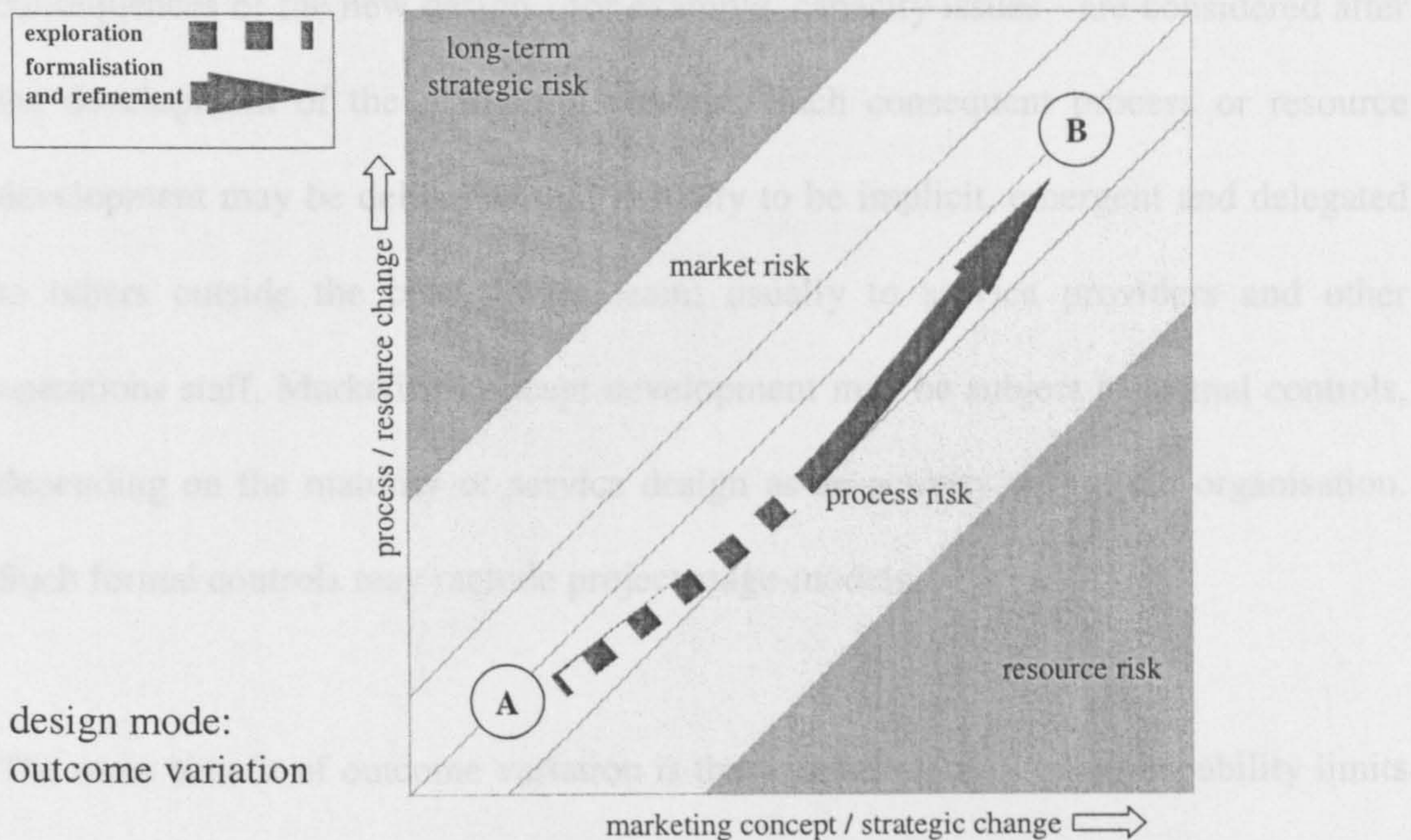
All except the fifth innovation mode are now described in the following sections. The types are expressed as archetypal service design modes.

### **Outcome-driven archetypes**

#### **Outcome variation**

Process and resource capability and are either fixed or otherwise removed from the scope of design activity and design consists of independently varying partial measures of service outcome specification within a fixed capability envelope. The following diagram shows this archetype.





The performance envelope for a given service design is adjusted to meet the needs of the target consumer group. Precise intentions with respect to target consumers and consumer outcomes are formulated and articulated by a central design team, usually marketing. The dominant influence on design intent being the demands of the target market. Provided the resource and process capability envelopes are sufficiently large, within the resource and process capability boundaries, design latitude and therefore outcome-diversity is potentially infinite. We then have the situation that Hart would call 'process amenability;' when technical and organisational enablers allow the tailoring of services to directly respond to consumer needs (Hart, 1995).

#### Outcome extension

Design communication constructs can be relatively simple, and therefore designers can easily generate many designs. Thus, many ideas, and marketing concepts can be successively filtered or screened in the design process. Any process or resource



consequences of the new design - for example, capacity issues - are considered after the development of the marketing concept. Such consequent process or resource development may be deliberate, but is likely to be implicit, emergent and delegated to others outside the core design team; usually to service providers and other operations staff. Marketing concept development may be subject to formal controls, depending on the maturity of service design as an activity within the organisation. Such formal controls may include project stage-models.

The main benefit of outcome variation is that marketing, within the capability limits set by operations, can enjoy very high degrees of creative freedom. It is essential however, that operations managers define the capability envelope. Further, occasional operations oversight may be required to assess capacity issues relating to the proposed service design.

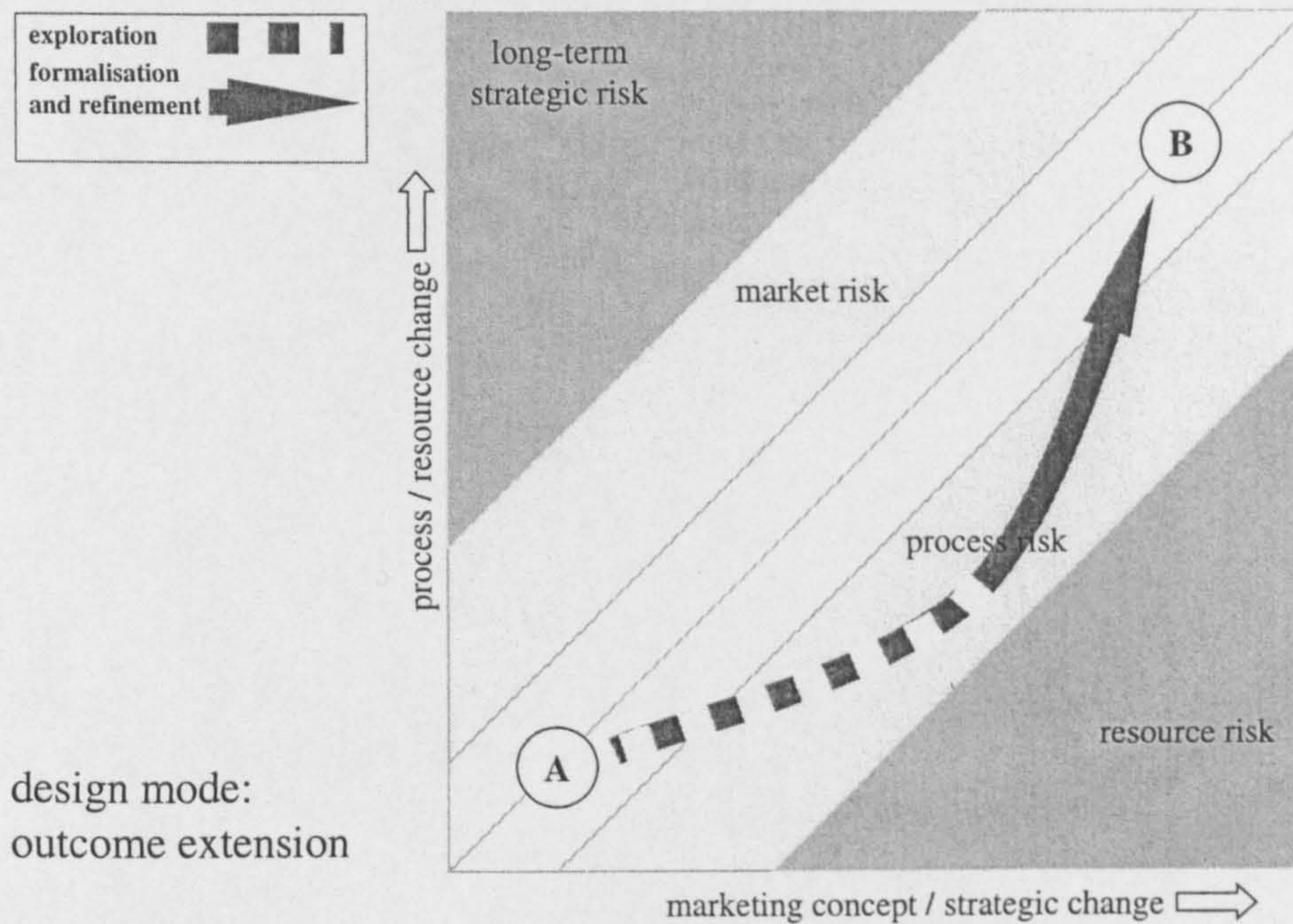
Much of the service design literature from the service marketing field is, where empirically supported based in this kind of design activity. For example Scheuing and Johnson's, and Bowers work in financial services (Bowers, 1989; Scheuing and Johnson, 1989).

### **Outcome extension**

Process modification is required for outcome variations that exceed the boundaries of the process capability envelope. Like outcome variation, the target market space



and its perceived potential for exploitation drive this design approach. The following figure depicts this NSD mode.



Early cross-functional assessment of design intent is essential. Otherwise consequent requirement for modification will be at best post hoc and at worst implicit and emergent. In this respect, outcome extension is a potentially dangerous approach as process capability modifications may not be possible, or may conflict with existing service outcome support. At early stages of the design process, process designers must contribute in evaluative and advisory roles.

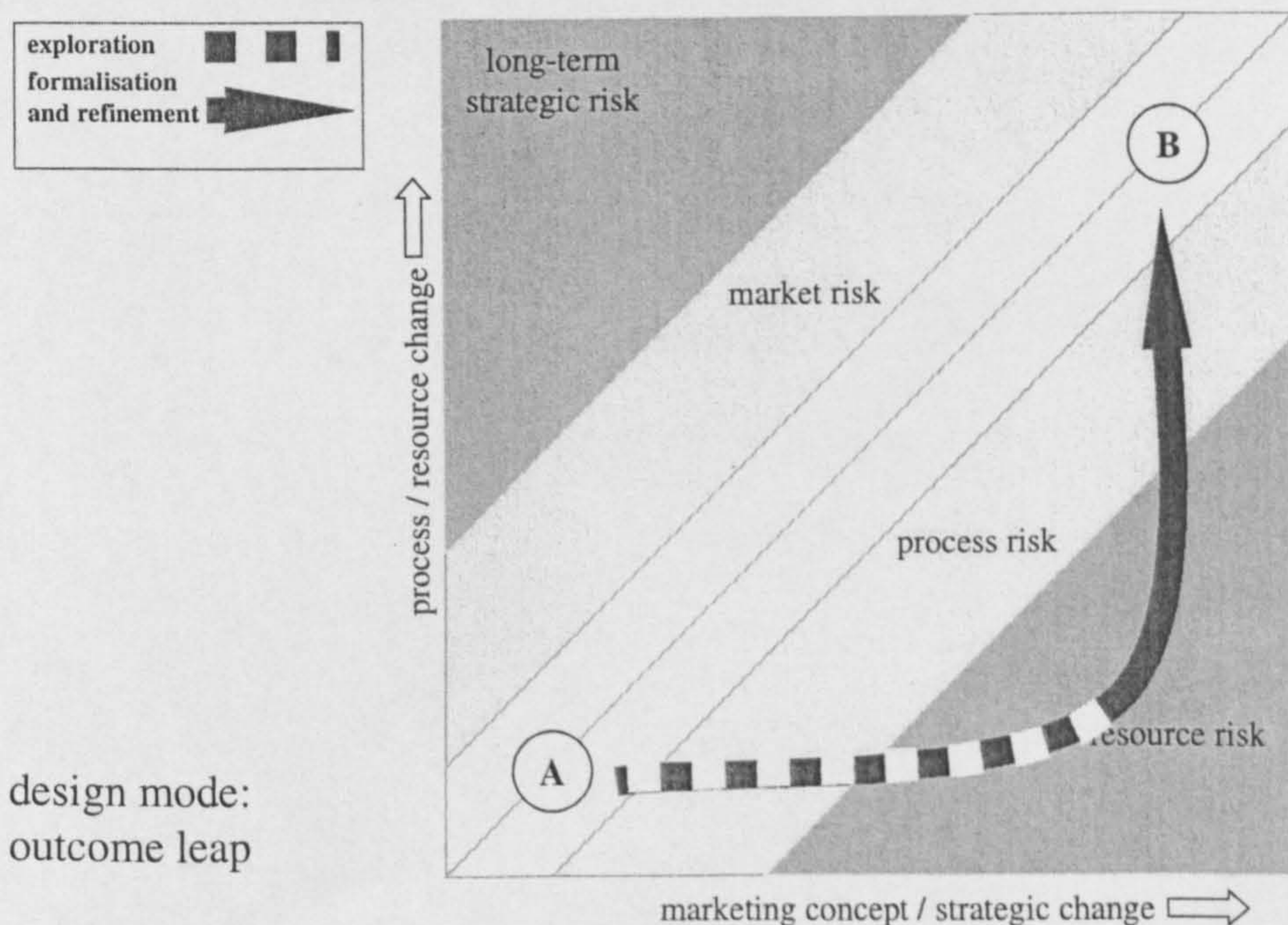
This is not an argument for concurrency, as the Health-Care Trust example shows, the sequential design of outcome and process may be a necessity. However, with evaluatory input from operations, unworkable marketing concepts may be partly modified in the light of process impact. Screening of marketing ideas and concepts



may occur, but process design is likely to consist of modification or adaptation of existing processes. With process design stages de-coupled from marketing concept design, there may be separate design authority for each stage. Marketing concept design will be centralised, however evaluative and advisory contributions to process design will come from a broader constituency.

### Outcome leap

Projected new service outcomes not only leap beyond the limits of the firm's process capability, but also require modification or development of other resources, such as machinery, infrastructure, IT, skill sets and so on. As with outcome variation and outcome extension, the target market space and its perceived potential for exploitation drive this design approach. In particular, the *long term* potential of new markets or projected changes to extant markets, that is, broader strategic and environmental issues, drive design. The archetype is shown in the following figure.





Early cross-functional assessment of design intent is once again very important. Consequent modifications to the resource base can require significant capital investment, and expert appraisal of any outcomes is essential. New skill sets can have particularly long development lead times, in some sectors it can take years to import or develop the required expertise.

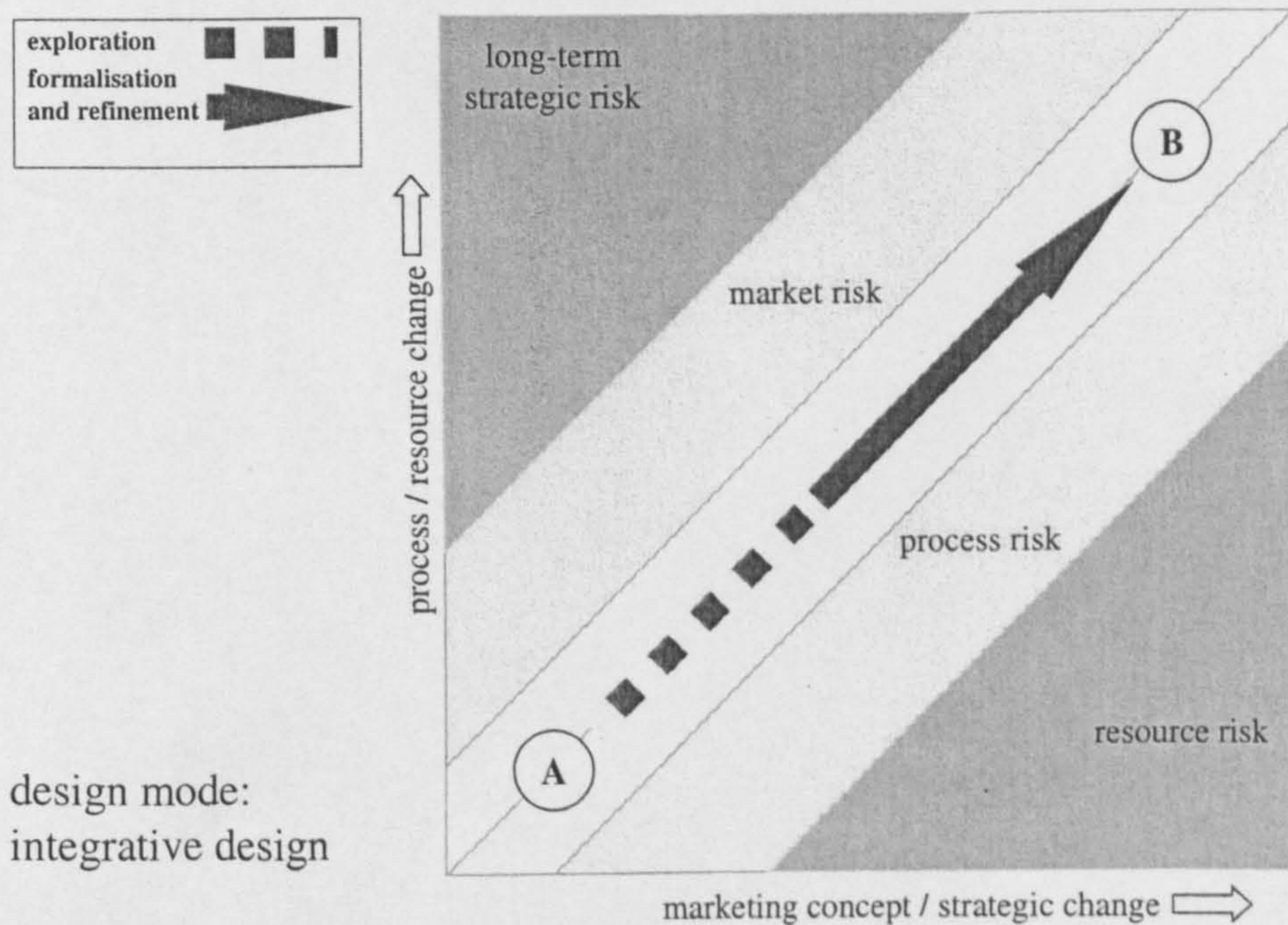
Assessment criteria for projected outcomes should not be limited to resource capability requirements. Outcome leaps are major changes of strategic direction, and so a key area of assessment is the appropriateness of the new area activity, and the extent to which it 'fits' with the new service strategy.

Outcome leaping is high risk, but also has the potential to maximise the opportunity for organisational learning. In some respects senior management is setting major resource development challenges. The risk management challenge is then the accurate assessment of the long-term applicability of the projected resource sets. Will supporting the new strategic vision give the firm distinctive competencies, or lead the firm down evolutionary dead ends? Such risk assessment and management goes beyond the remit of functional managers. The decision to adopt the outcome-leaping archetype should be the decision of executive boards.



## Integrative design

For certain service innovations the concurrent development of marketing concepts, processes and acquisition or modification of resources is inevitable and recognised. This situation occurs when the marketing concept for the new service not only breaks the boundaries of the existing process capability envelope, but also requires development of *new* partial measures of process performance. The new service simply cannot be defined in terms of the existing process capability measures and new capability must be developed. Such capability enhancement will inevitably affect the resource base of the firm. The obvious resources affected will be skill and knowledge sets, but other assets such as buildings, equipment and new supplier relationships may also require development or change. Integrative design remains a market-driven approach, design intent being the creation of capability to pursue market opportunity. The archetype is depicted in the following figure.





However, without explicit and conscious assessment of 'fit' with a service strategy, there is, as with outcome leaping, the obvious danger that opportunistic satisfaction of consumer needs and wants will lead the service firm down 'evolutionary dead ends.' As Lovelock warns; short to medium term profitability may result, but at the expense of developing skills or technology which predicates long term probability (Lovelock, 1994). This warning can be heeded if the service *has* a service strategy, moreover, one that is itself developed to realise the goals of internal as well as external constituencies.

*Initial* marketing ideas and concepts may be subject to a screening and evaluation process based solely on marketing criteria. However, the selected concept must quickly be linked with operations concepts and a resource requirements description. Initially, design intent - the marketing concept - may exist as the personal, unarticulated vision of a single designer. However, it must quickly become a collective vision of a multi-functional design team early in the design process. In this respect the prior warnings about cross-functional assessment of design intent must be repeated. The total service design, that is, the description of marketing, operations and resources required for the new service is a complex construct. Development of *several* of such constructs for filtering / screening purposes is, whilst not impossible, usually difficult for most organisations. The design process is therefore likely to involve the nurturing of this embryonic service concept. That is, the construct becomes more detailed over time, and screening is applied to elements of the total construct, if at all. The design scope is expanded - in relation to outcome variation and outcome extension - in that more elements of the existing organisation may be



subject to re-design. However, design latitude is more limited because of the unwieldy nature of the design communication construct. Furthermore, designers will inevitably encounter process and resource inertia. As the service design affects more of the service organisation than in outcome variation and outcome extension, design authority is likely to span more, perhaps all of, the process. At the same time, the broad scope of integrative design will necessitate an inclusive approach to design. This may mean inclusive in the sense of the multi-functional approach to design rather than multi-hierarchy approach. As with the design approaches discussed earlier, design controls will be in place, however, the extent to which these are formal will depend on the maturity of design as an *activity*, and on the extent to which consecutive designs and design processes are structurally similar.

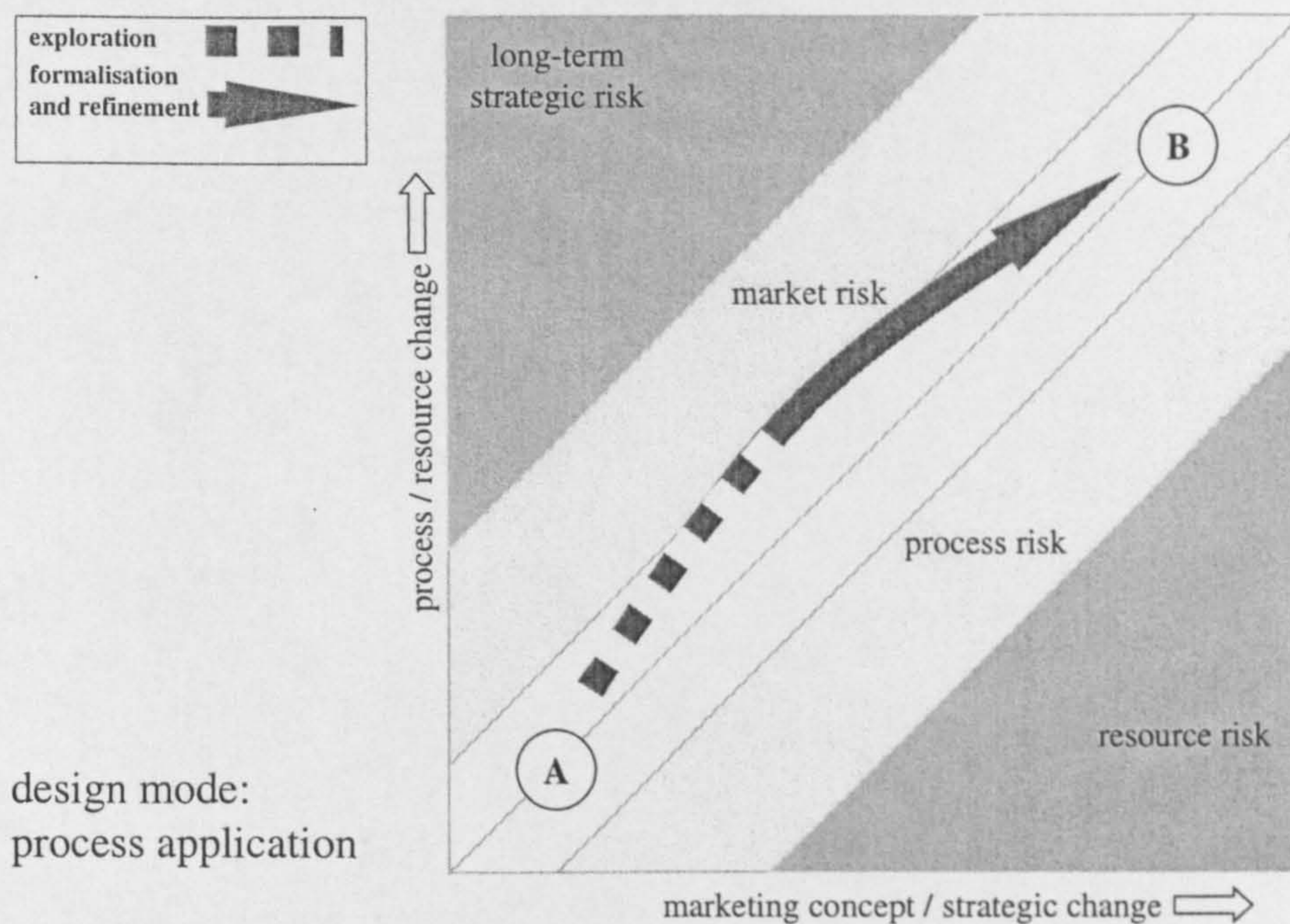
### **Process-driven design**

#### **Process application**

In process application, the firm's design activity is both driven and constrained by the differential advantage of distinctive processes. Innovation centres on matching existing process capability to market spaces. The key design skills are the firm's combinative capabilities with respect to process-resource sets, and its market-matching capability. New process-capability may be developed, or imported, but this activity occurs before matching with extant marketing concepts. Process combination and development may be centrally controlled by operations managers, but may also be an implicit or unconscious process where precise design intent is



rarely formulated and articulated and designs are formalised post hoc. Outcome development is also likely to be at best post hoc, and at worst emergent. The archetype is shown in the following figure.



Whilst not a market-lead approach, process application does reflect commercial reality. It is not easy for service firms to increase the basic-plan disparity in their portfolio of services, as this leads to reducing economies of scale and lack of focus. The best they can do is to increase process diversity and aggressively apply these processes to markets. Creative roles are firmly occupied by operations staff, but marketing must be encouraged to occupy evaluatory roles early on in the design process. In this way marketing are not reduced to simply selling new services, but can anticipate the natural selection of the marketplace, and help avoid wasted design effort.



Process application is, by its nature, an inclusive approach to service design; all operations managers and staff, and most other functions, will contribute to process development. The challenge for marketing will be the development of sufficient process understanding to allow early anticipation of market reaction. Process mapping techniques, such as service blueprinting (Shostack, 1984) may be useful in making new and existing processes transparent. Similarly, Quality Function Deployment may assist operations staff in assessing the market viability of new process applications.

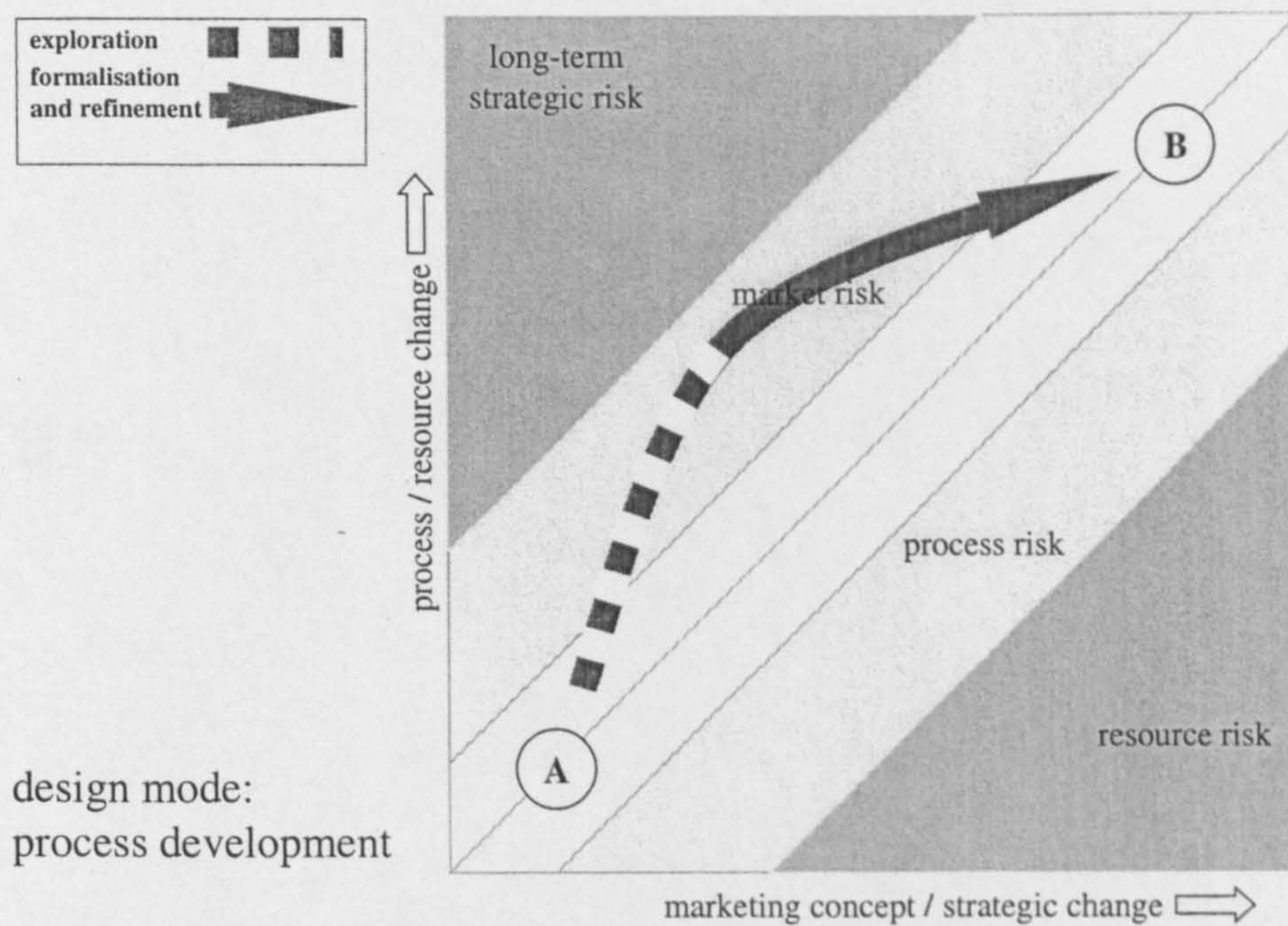
A key organisational determinant of innovation capability will be management and staff slack-capacity. Alternatively, if time out for development activity is not possible, 'practice development' posts can be established.

As with integrative design, the design communication construct is complex, and is very likely implicit. New designs will therefore not be subject to screening for the same reasons as given earlier. The process is more one of nurturing, combining, and importing process capability. Because of the organisation-wide impact of design or re-design, design authority process span is very high, often complete. Senior management sign-off of new designs occurs immediately prior to implementation, or after prototyping. However, controls may not be formal and staged as design activity in many respects is an ongoing process of improvement and development of existing processes.



## Process development

Service managers want to improve process performance and capability to better deliver and support existing offerings. This may mean small scale process improvement or radical re-design of both processes and resources. The dominant influence on such design activity is requirement to improve process efficiency and reduce costs. Design is focussed on process development, but resource change is often a consequence. Precise design intent is often formulated and articulated centrally by operations managers but outcome change can be emergent. In fact, outcome changes are almost an inevitable consequence of process and resource development. This archetype is depicted in the following figure.



There may be a requirement to change job descriptions and server roles, and this can mean that an inclusive approach to design management will encounter resistance from non-design-team managers and staff. In some instances service staff could



'design themselves out of a job.' However, there is the potential for 'buy in' and support for the re-design, provided all contributors can come to agreement on the new design. Even though design *intent* is to leave existing service outcomes unmodified, it may be wise to include marketing staff in evaluatory roles. They may be able to anticipate emergent outcome changes, or changes in consumer perception of the total service.

Design communication constructs are complex and large, design communication often being predicated on tacit understanding of the existing service by design contributors. Application of screening to several designs is therefore inappropriate, and the design process becomes one of nurturing this complex construct from one form to another. This can be achieved by first mapping the existing process in terms of partial measures of operations performance, then comparing this map with one for the new design. A schedule for closing the gaps can then be developed that acknowledges resource and time constraints. Staffing and staff skills in particular can take a long time to develop.

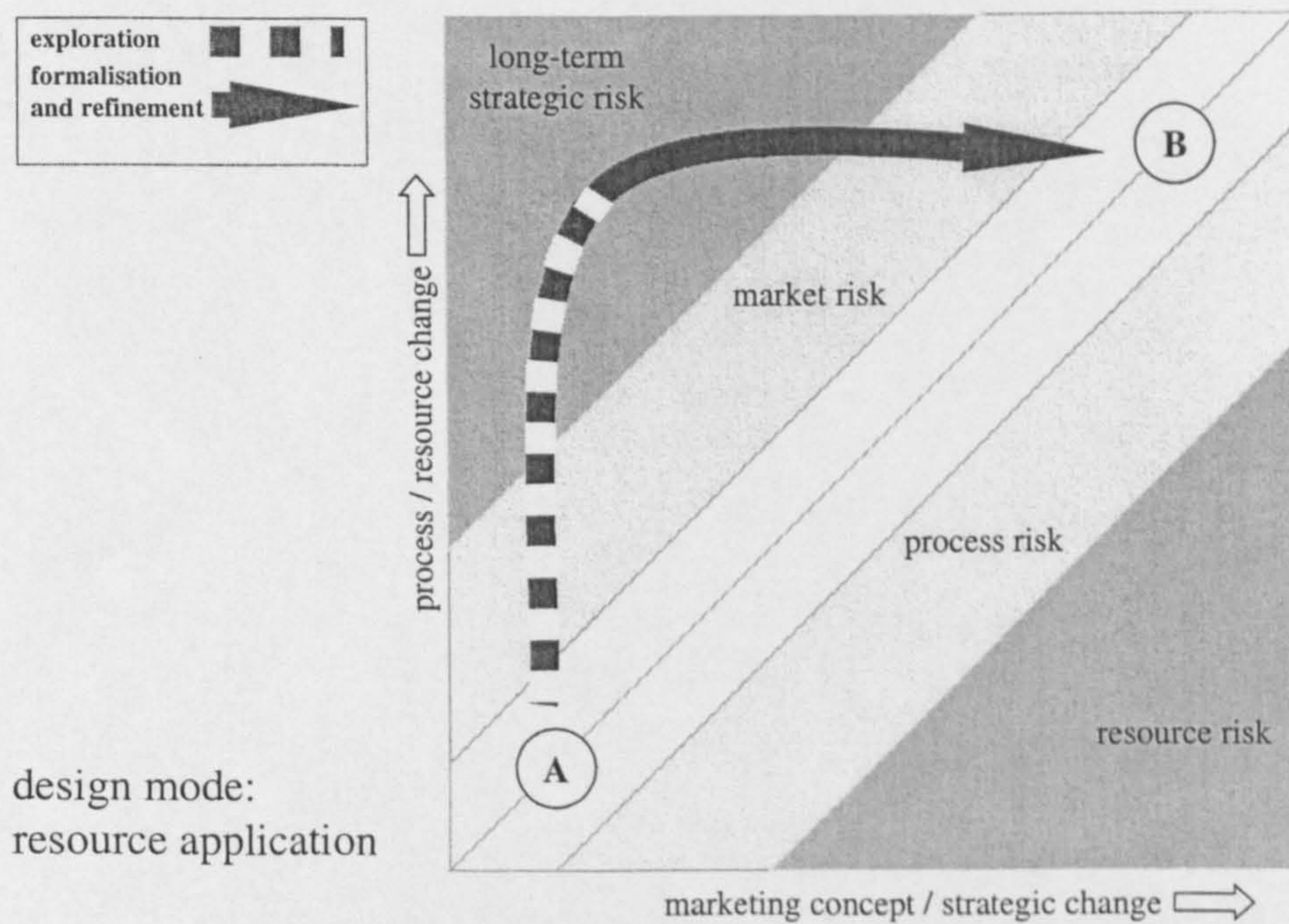
The organisational impact of re-design is likely to be large; the core of the service is, after all, being changed, sometimes completely. The process span of design authority is therefore likely to be complete. Senior management sign-off takes place after an implementation review. Formal project controls are also likely to be used.



## Resource-driven design

### Resource application

In this type of service design approach the organisation's resources are the dominant constraint and stimulus for innovation choice. Often being fixed assets such as buildings, major equipment or estates, the resources remain largely unchanged during the design process either because the design strategy is predicated on resource integrity, or because the resources simply cannot be modified. Sometimes new resources will be recently acquired, and new processes and marketing concepts must be created to link them to markets that can utilise them. This archetype is shown in the following figure.





Design intent concerns building new processes around the extant resources so as to maximise resource utilisation by forging links with market-space elements [marketing concepts]. Supplementary resources may also be developed to support core-resource application.

Resource development is subject to careful and deliberative planning and is likely to be centralised. However, the detail of process design may be delegated to service staff. Primary activities for design managers will then be managing conflicts amongst new supplementary resources and emergent processes, and formalisation of new processes. Outcome design will be emergent, and, in the extreme, may well be in the hands of consumers.

### **Appropriate processes**

If the archetypal innovation modes are accepted, then we can go on to consider what types of process models may be appropriate for each mode. For example it should now be obvious why the FMCG stage models of service design are inappropriate for many design contexts. For example, in process and resource application modes the 'exploratory' phase of service design is the creation of new process and resource potential. Such process ideas and concepts are underpinned by extant process potential and understanding. The notion of screening a multiplicity of process approaches is impractical. More likely process managers will suggest, develop and refine developments or additions to processes, these can then in turn be marketed. However, there seems to be no reason why the manufactured-goods models of

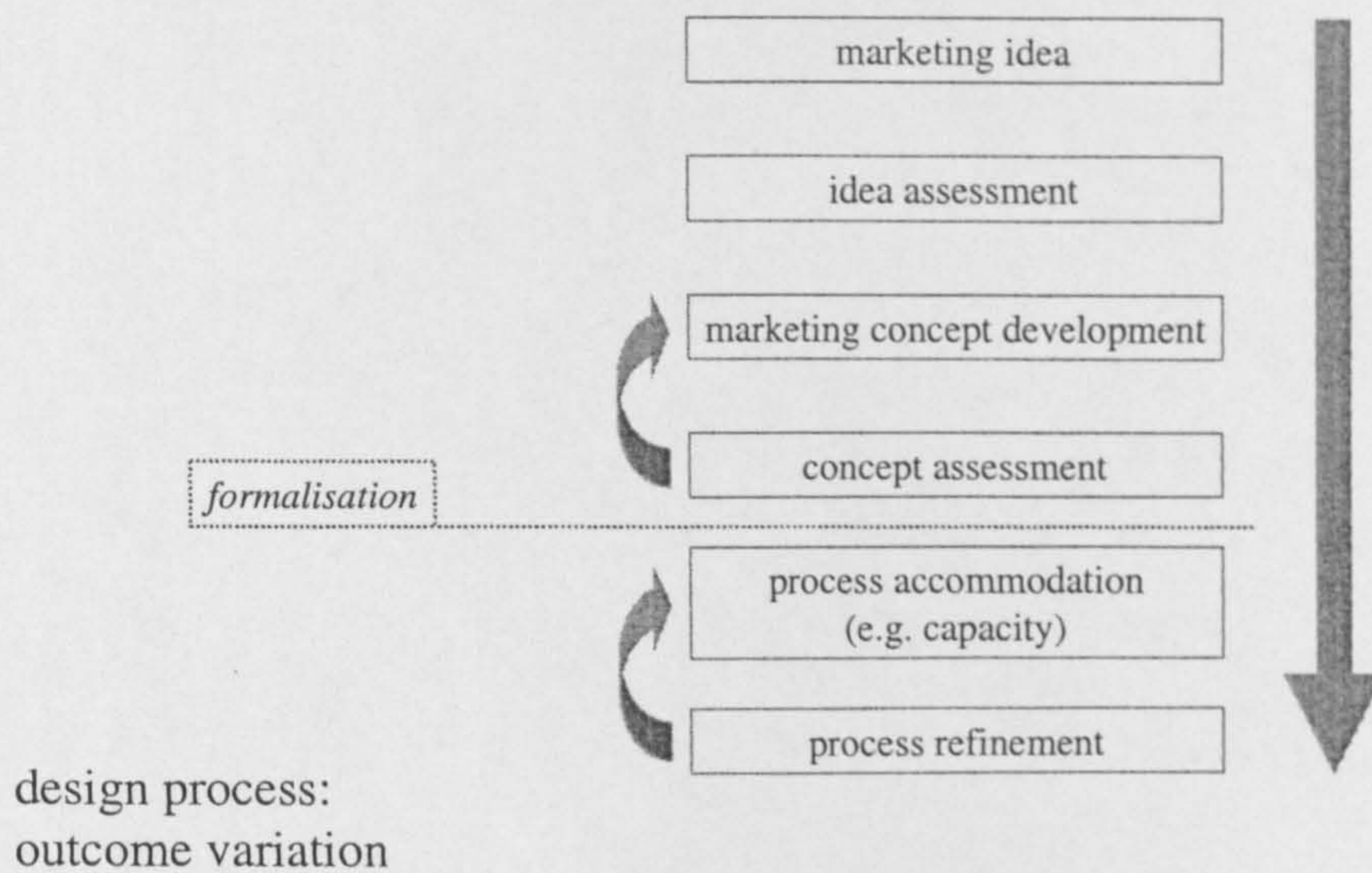
service design should not be applicable in the 'market driven' innovation modes. In outcome variation and outcome extension the NSD process could mirror the goods models with a reasonable chance of success. The main difference between the two processes being the stage at which *formalisation* takes place. The greater the operational impact – and hence operational risk – the later should be the formalisation, or *decision to commit* to the new service design. However, outcome leaping will require major increases in the basic-plan disparity of the service firm. Accordingly, a major element of the NSD process may well be strategic evaluation.

Moving on from this general discussion of which processes might be appropriate for each innovation mode, we now move on to look at particular process prescription. Taking both the archetypal innovation modes together with the innovation processes observed at the case sites, it is now possible to offer prescriptions about the detail of the service design process.

### **Outcome variation**

In outcome variation the first stage is the generation of many ideas for new services. These should be 'variations on the themes' of existing services, for example minor re-branding or re-positioning of existing offerings. The process framework for the outcome variation design mode is shown in the following figure.





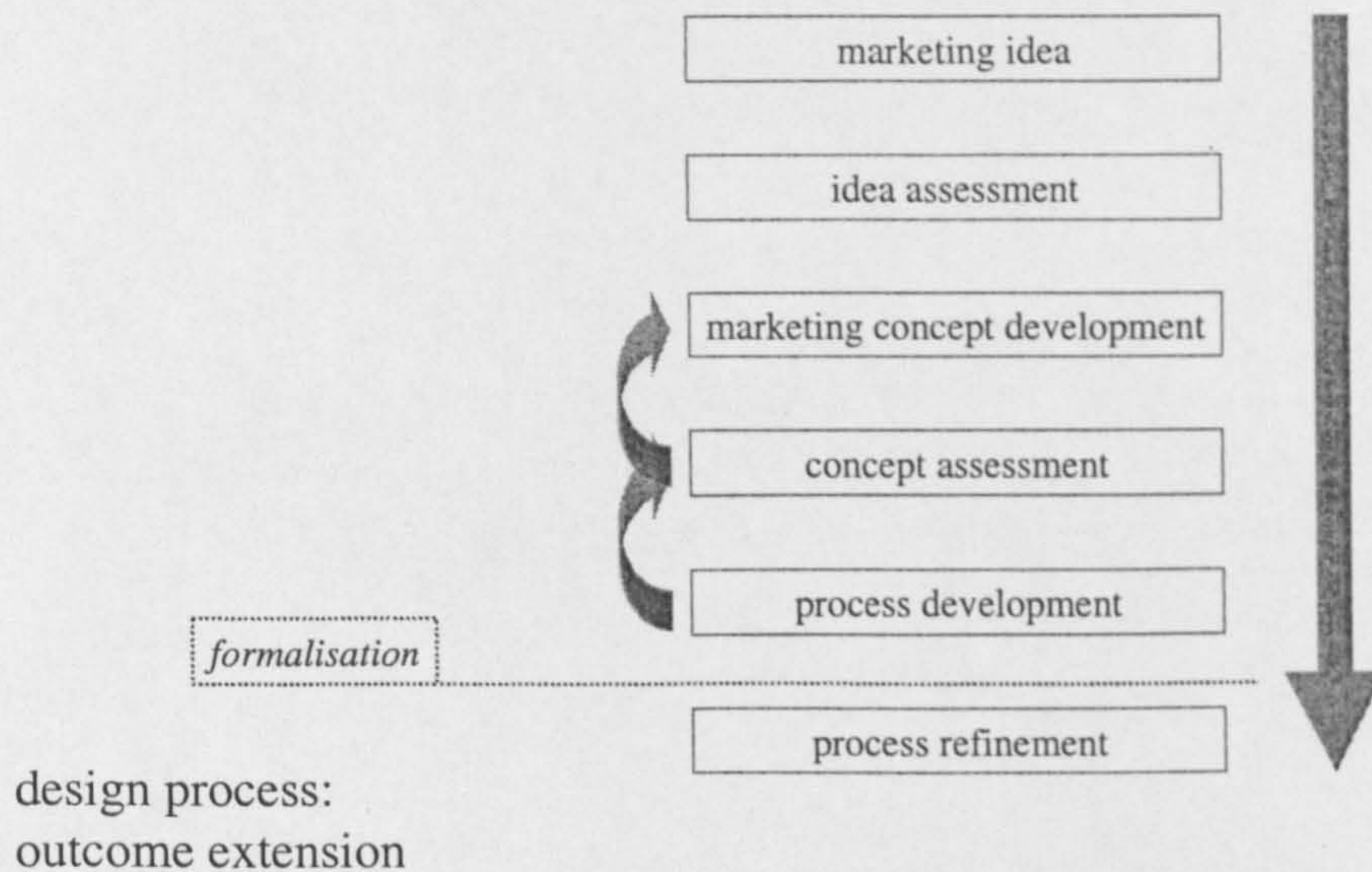
Where the re-design concerns a portfolio of services the idea generation stage could be the re-bundling of existing portfolio elements. Marketing alone could conceivably carry out such activity. However, oversight by operations staffs to ensure limited operational impact will be essential. This oversight will be particularly important in the idea assessment stage. After the screening of ideas, a smaller number are developed into new marketing concepts. That is, target consumer groups and consumer outcomes are specified in detail for further assessment. Concept assessment and concept development are likely to be iterative, and to an extent concern the modification of the new marketing concept rather than concept screening alone. Thus ends the exploratory phase of outcome variation, and after formalisation, or a decision to implement comes the stage whereby operations staff must accommodate the resultant changes to volume, variety variation, and so on. Such



process accommodation may well turn into an iterative cycle of accommodation and refinement.

### Outcome extension

The stage model for the outcome *extension* archetype is almost identical to that for outcome variation. The exception is the point at which formalisation, or a decision to commit to and implement the new service takes place. The process framework for the outcome extension design mode is shown in the following figure.



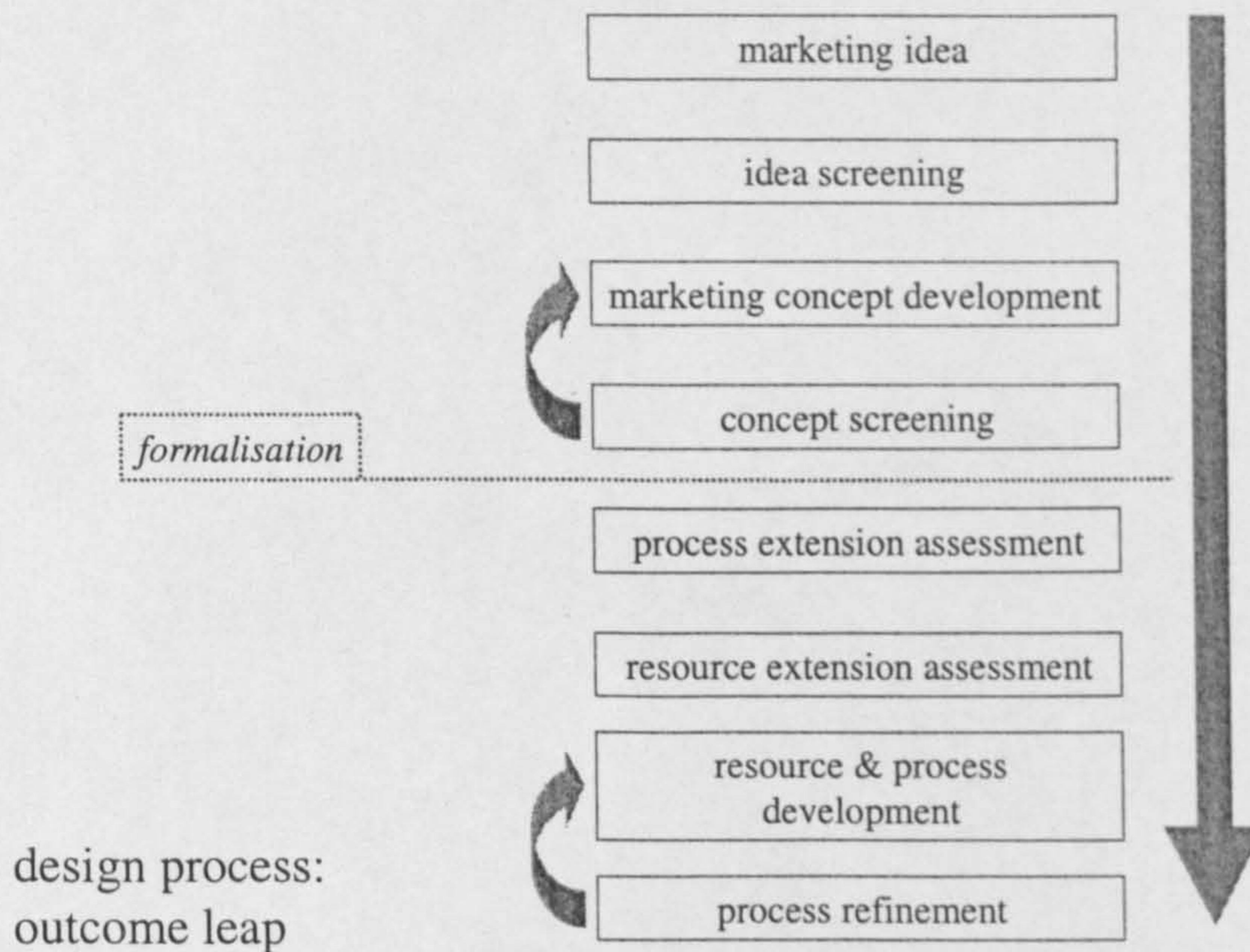
Because of the increased process implications of the re-design, an assessment of process development potential is essential before formalisation. Potential process problems should lead to revision of the new service concept as necessary. Ideally, the operations concept for the new service should be near-complete before formalisation, however, it is likely that a degree of post hoc process refinement takes place. Indeed, it may be advisable for firms to commit to operational refinement in



any case, as it is unlikely that all process problems will be visible during concept design.

### Outcome leap

In this archetype the service firm is seeking to move into a new business environment. New processes and resources will be required for the new area of activity. Investment requirements are likely to be high, as will risk, therefore the risk assessment stages at the beginning of the model are critical. The process framework for the outcome leap design mode is shown in the following figure.



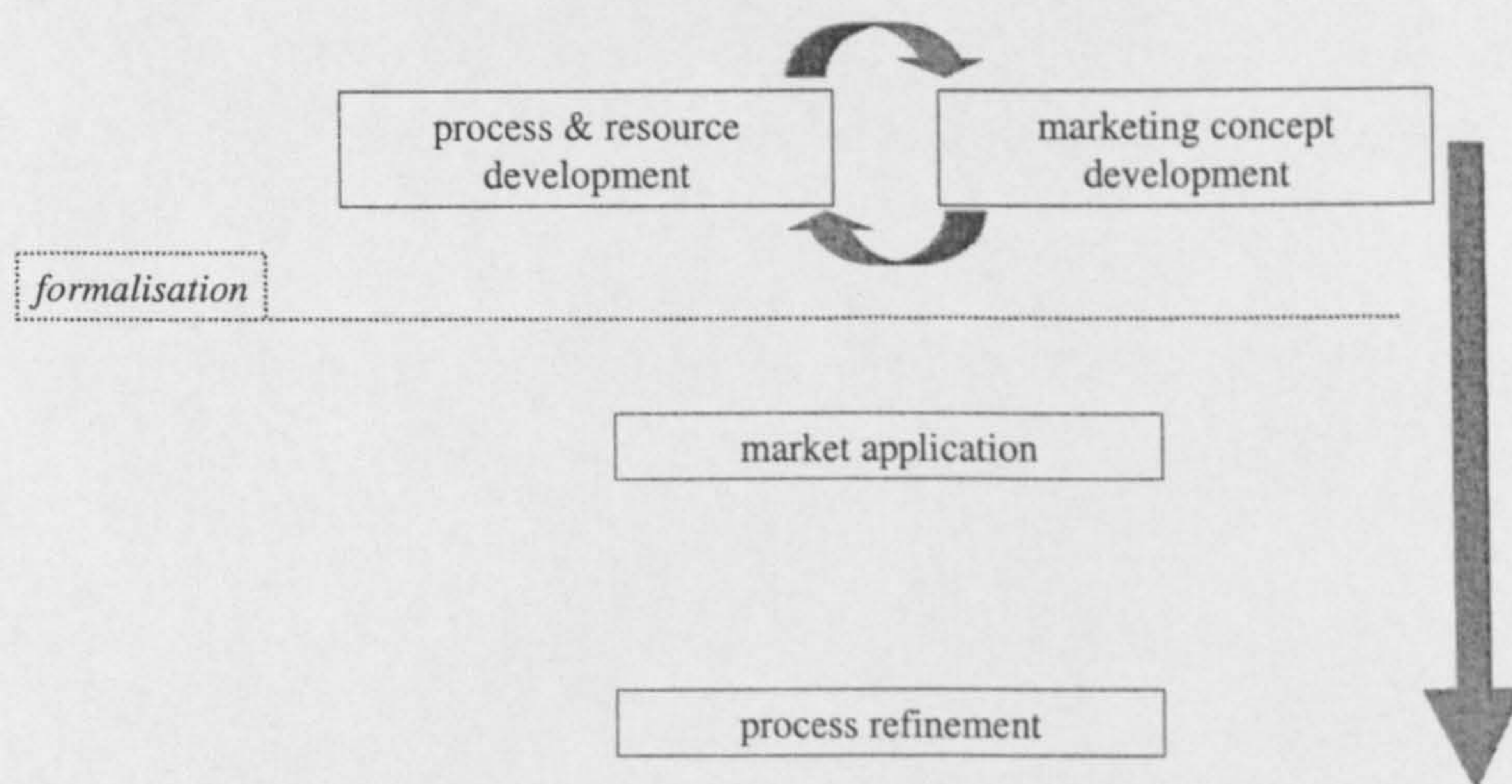
Assessment criteria for new marketing concepts will be the *long-term* viability of the new business area, as well as the future application-potential of any newly developed resources. Cross-functional assessment of both market viability and resource development costs is essential. However, carrying out such appraisal is likely to be



beyond the scope of firm functional expertise, and may require external consultancy support, or the acquisition of new expertise. To this extent, HR may be an extremely important assessor of new concept viability in that they can input skill development lead-times as well as the potential for external skill acquisition. Inevitably, operations concept development will be incomplete even after formalisation, as process and resource development requirements will be difficult to determine – except in outline – until at least some of these resources are on-line.

### **Integrative design**

Integrative design is the service equivalent of what is usually termed 'concurrent design' in the product design arena, that is, the concurrent design of product and manufacturing process. The process framework for the integrative design mode is shown in the following figure.



design process:  
integrative design



In the service context, this is the concurrent design of service marketing concept, service processes and resources. The integrative design stage model begins with a phase in which all functional groups create a unified service concept, that is, an ex ante description of:

- the service strategy, and its rationale in the form of the new service;
- the service marketing concept;
- the operations concept, and;
- the resource requirements description.

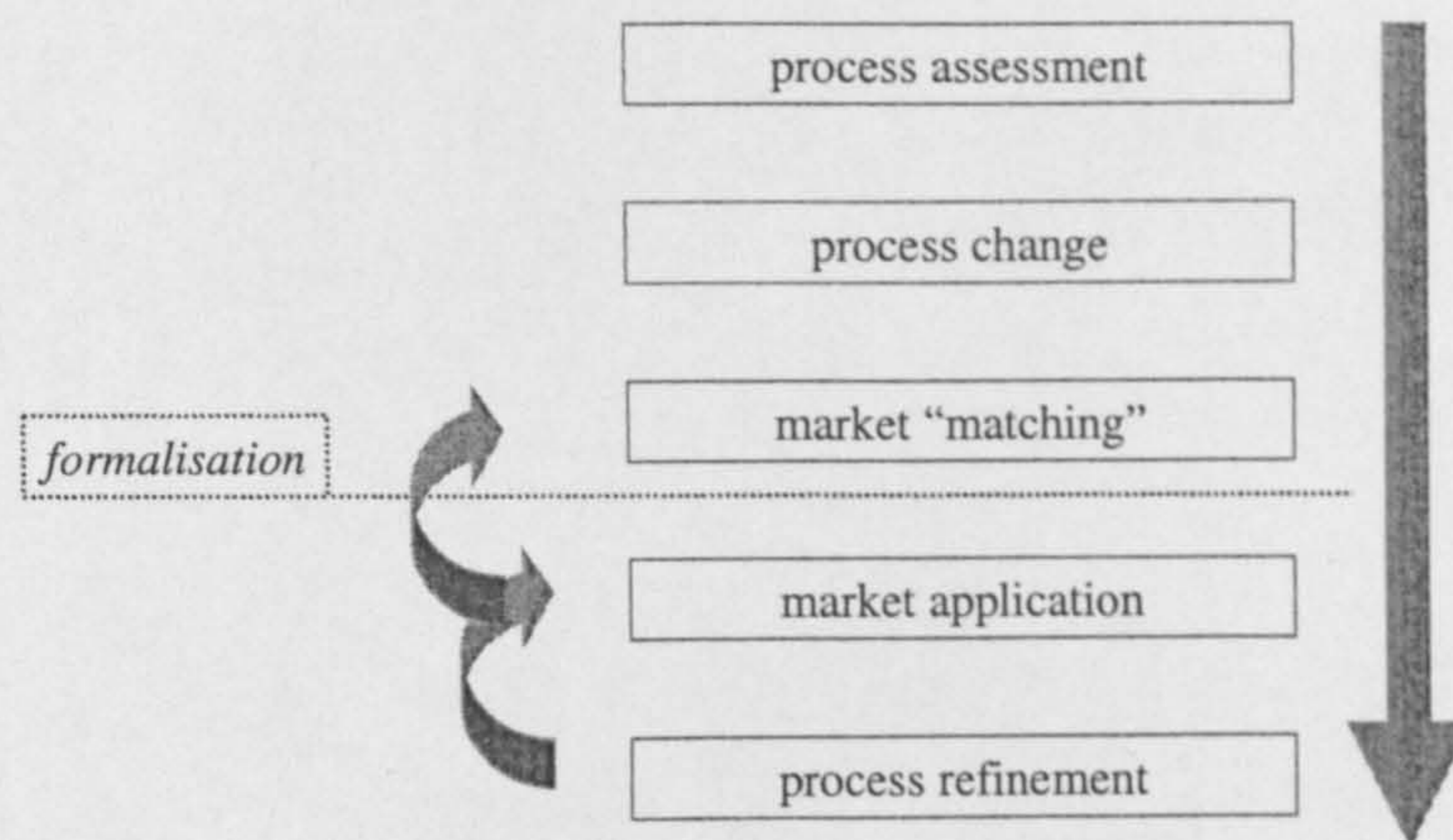
In this way a complete and clear articulation of the new service design is created before formalisation of the concept. After application of the new design in the marketplace, there should, as with the archetypes discussed earlier, be a commitment to operational refinement of the new design.

Risk exposure in integrative design is somewhat different from the other archetypes, in that the high degree of definitional effort required to create a detailed design ex ante, means that there is a high degree of at risk investment in the design process itself. However, this investment lessens the risk of failure on implementation. Further, with the potential for frequent design iteration before formalisation, there is obviously the risk of 'paralysis by analysis.'



## Process application

The process application stage model begins with an assessment of excess process capability by operations staff. This excess may be in the form of slack capacity or the potential to apply existing capacity in new ways. Sometimes minor, near zero-cost process modifications have the potential for marketing as completely new services. The process framework for the process application design mode is shown in the following figure.



design process:  
process application

After developing and testing any – minor - process change, the new process potential is handed to the marketing function to market, re-brand as necessary and sell. Initial market application of the new service may suggest new marketing opportunities or changes to the existing offerings. Similarly, ongoing process refinement will suggest new ‘matches’ and applications. Risk exposure during the exploratory phase of process application is minimal, and is largely that of potential wasted effort during

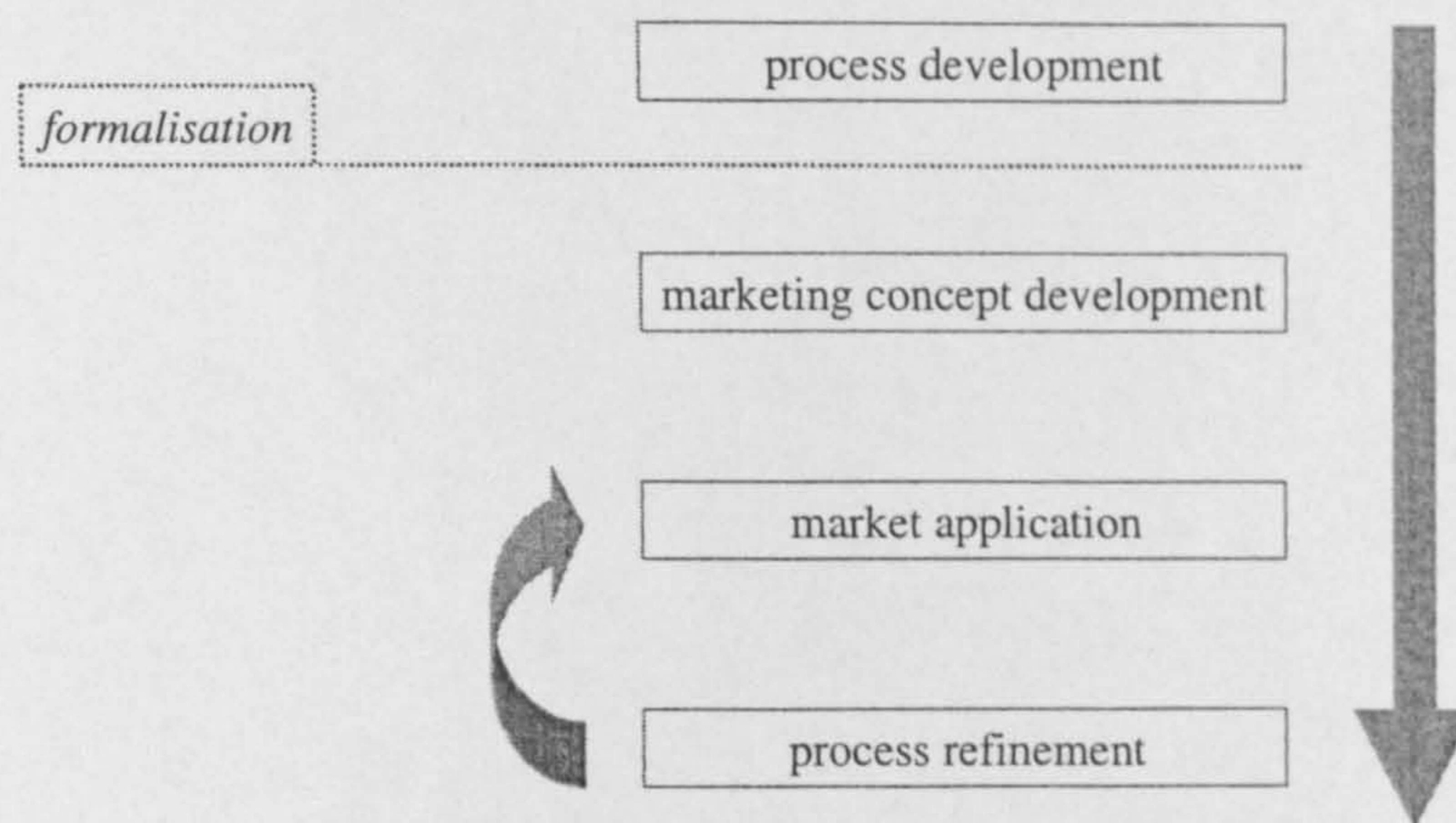


this stage of the design process. However, the contribution of marketing staff to the process assessment stage whilst not essential, should minimise this risk. It may be the case that in most firms, the exploratory phase of process application is implicit and an ongoing aspect of process improvement. The key ability in such contexts is that of marketing in capitalising on the new process potential.

### **Process development**

The first phase of process development is the process change itself. This may involve the modification of existing capacity, or the creation of entirely new processes. At this early stage, significant investment may be required, *before* there is any obvious market application for the new process. For this reason it may be prudent to involve marketing staff early on so as to minimise risk exposure. However, such inclusive design may be difficult if marketing do not possess sufficient technical expertise to comprehend the new process. The process framework for the process development design mode is shown in the following figure.





design process:  
process development

In some cases process development may occur jointly with high degrees of customer involvement. Such highly inclusive design is more likely in professional services, but could conceivably occur in certain mass services. For example, many internet-based services receive such high volumes of real-time feedback, that they are in a position to constantly modify both processes and consumer offerings. Functional screening of ideas and process concepts is unrealistic due to the complexity of the design communication constructs and their likely tacit underpinning by operations expertise.

After formalisation, the new marketing concepts must be developed to exploit the new process. Again, marketing staff may not have sufficient understanding to do this, and so marketing teams should consist of process development staff as well as technical sales staff. In some service sectors it may be the case that new process potential is marketed directly to customers by operations staff. Where the consumer



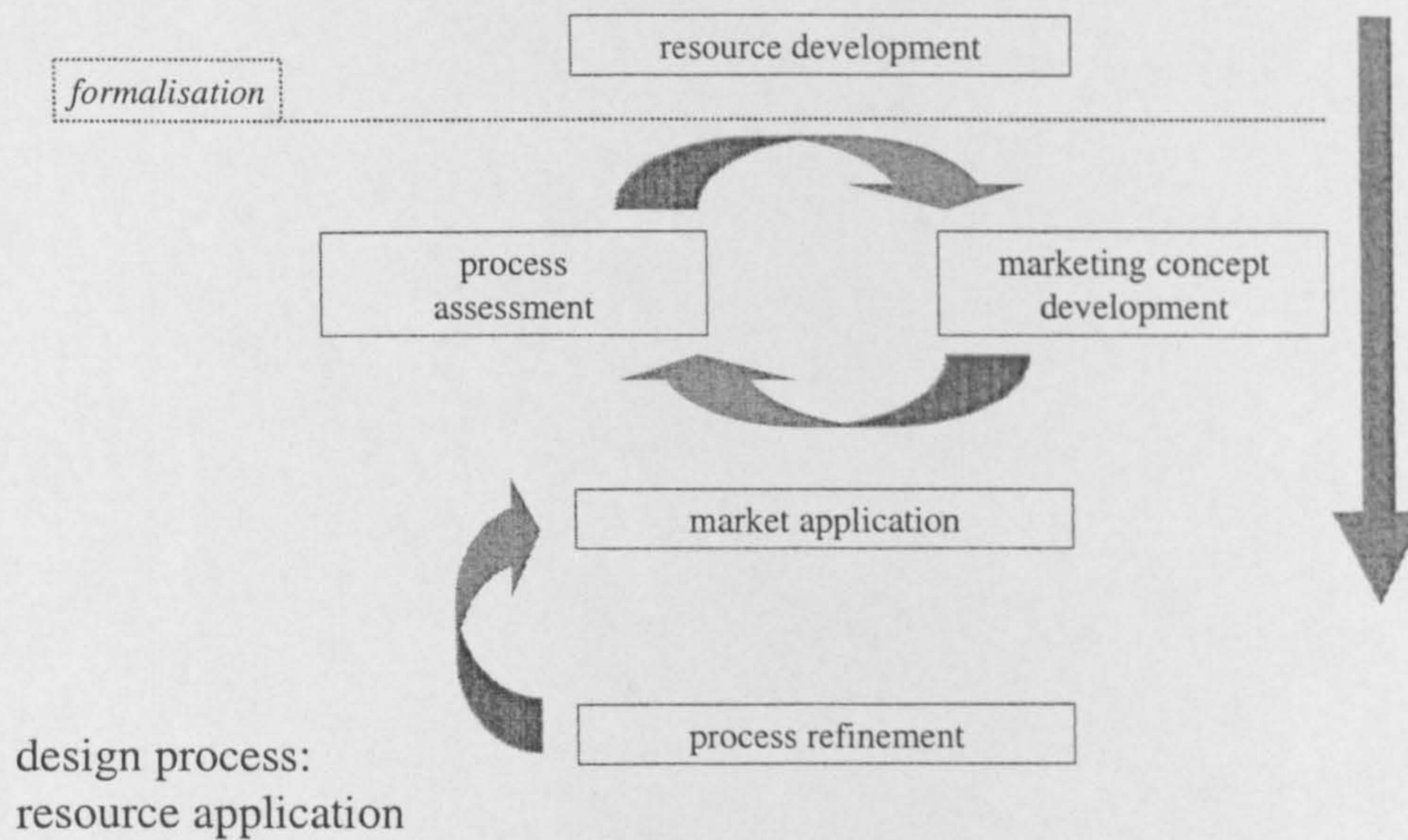
has been actively involved in the design process such direct marketing will implicitly have taken place.

Market application and process refinement stages are likely to be highly iterative and may, in the professional services sector, be customer specific. In this way a high degree of process learning takes place post implementation.

### **Resource application**

The first stage of resource application is the creation or acquisition of major new resources. Alternatively the service organisation may inherit resources that underpinned what is now redundant market activity, as was the case at the Big Pit site. These resources must be utilised, via new marketing concepts, but first intervening processes must be developed. Designing the link between resources and markets is ideally the concurrent design of process and marketing concepts. A fixed resource set imposes major constraints on marketing concept development, new concepts must be within the realm of the possible; operations development can only stretch so far in providing entry routes to fixed resources. The process framework for the resource application design mode is shown in the following figure.





Market application and process refinement are once again ongoing and iterative. In the case of fixed asset resources –for example, a stately home – consumers can, over time develop their own entry-routes / processes into the service.

### **Design modalities and processes – adoption contingencies**

The last section presented seven archetypal service design modes and associated NSD process frameworks. Implicit in the derivation of each mode was a set of contingencies for its adoption. The following section formalises and summarises the discussion by presenting a logic that determines – albeit loosely – which archetypal approach to adopt.

### **Contingency – the NSD stimulus**

Central to this thesis is was the idea that the nature and extent of initial risk exposure is a dominant influence on the mode of NSD response and in turn the detail of



process. Broadly, this risk exposure varies between two extremes; some perturbation in resource capability usually leading to resource redundancy, or a perturbation in the expectations and requirements of the organisations' market (or its analogue). The former perturbation, if small (within the "bounds of excess process capability" in the diagram on page 88) would suggest adoption of the "outcome variation" NSD mode. If the perturbation is larger, but within the "limit of excess process amenability" the outcome extension NSD mode would be appropriate. Perturbations in resource capability exceeding the limit of excess process amenability would suggest the adoption of the "outcome leap" NSD mode. Where a small perturbation in the requirements of an organisation's markets takes place (within the "limit of process capability") then the suggested NSD mode is process application. A greater perturbation in market requirements but one that was still within the "limit of process amenability" would suggest the adoption of the process development archetype. Perturbations resulting in market demands in excess of the "limit of process amenability" would suggest the adoption of "resource application" as an NSD mode.

The assessment of the nature and degree of resource and market perturbation is not an exact science, but the following secondary contingencies are suggested as "modifiers" in cases where adoption of one process mode or another is not clear-cut.

#### **Adoption contingency modifier 1 – dominant functional capability**

This contingency modifier refers to the relative roles of operations and marketing functions within the organisation. Specifically, if operations is innovative, proactive,



flexible and, as Hayes and Wheelwright<sup>6</sup> would put it “externally supportive,” then this would lend support to NSD responses more towards the process application and development, and resource application ends of the spectrum.

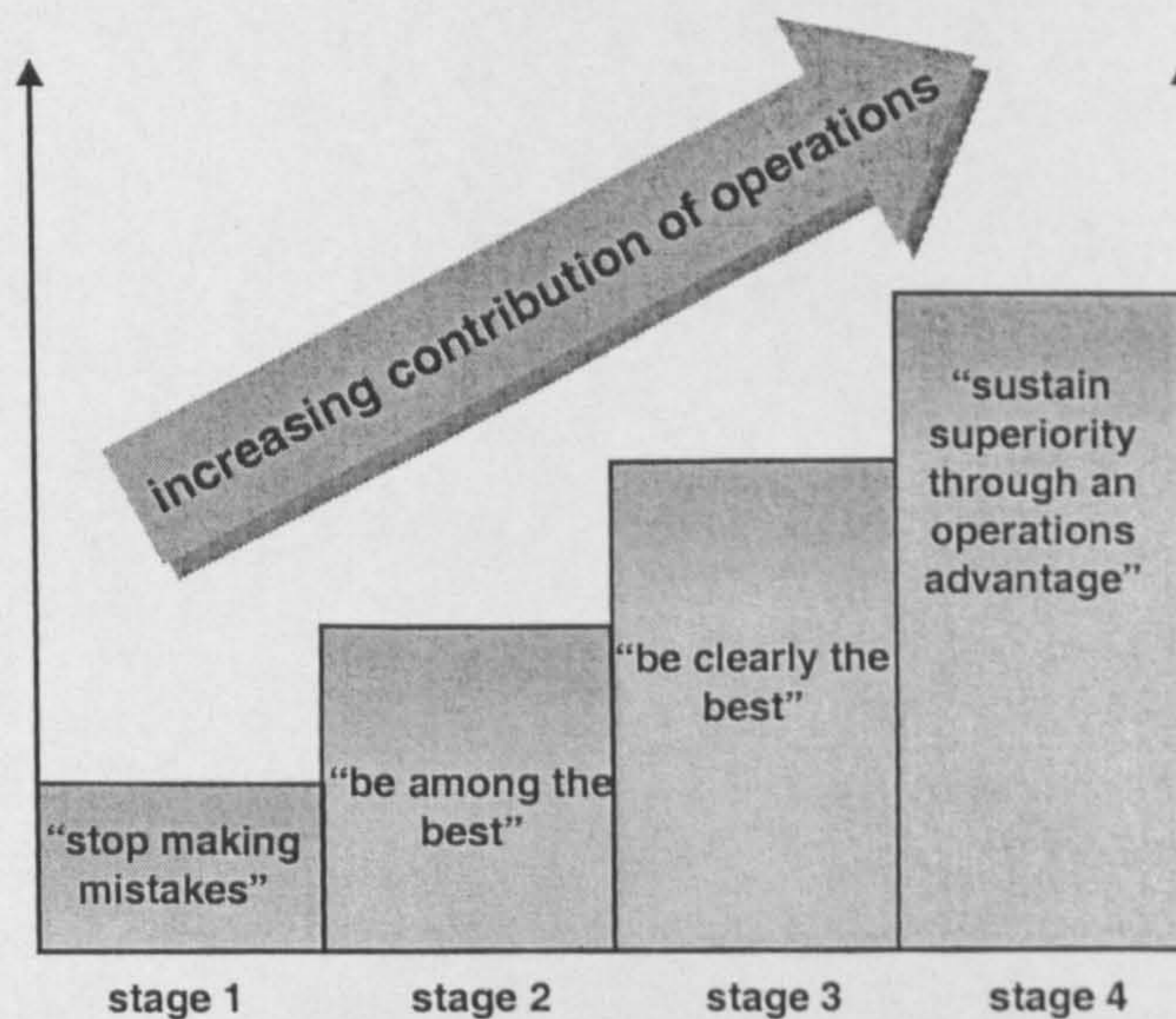
### **Adoption contingency modifier 2 – dominant source of competitive advantage**

This second contingency modifier in some ways deals with the same issues as the last, in that it again asks questions about the relative roles of operations and marketing but this time also assesses the impact of marketing in the external

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<sup>6</sup> Hayes and Wheelwright’s four stage model of the role and contribution of the operations function was introduced in the final chapter of their work: “Restoring our Competitive Edge,” Wiley, 1984. The model (see following figure), and its later modifications traces the progression of the operations function from the largely negative role of stage 1 or “internal neutrality” to it becoming the central element of competitive strategy in excellent “externally supportive” stage 4 operations.

**Hayes and Wheelwright’s “four stage” model:**



*Hayes and Wheelwright, 1984*



environment of the organisation. It is accepted that ultimately, strong brands cannot be delivered without strong operational support. However, it may be that the operations function this time occupies the 2<sup>nd</sup> or 3<sup>rd</sup> stages of Hayes and Wheelwright's four-stage model and that the organisation looks to the marketing function for sources of originality, flair or competitive drive. In such organisations, given the result of assessment against the NSD stimulus contingency, an additional argument for adoption of NSD modes towards the outcome variation, outcome extension or outcome leap end of the spectrum would be an assessment that brands and marketing were the dominant source of competitive advantage.

### **Adoption contingency modifier 3 – dominant service type**

The final contingency modifier assesses the extent to which the service organisation is at one extreme, at the "mass-service" end of the spectrum, characterised by customer relationships that are as Lovelock puts it "distant, routine and simple," or is the relationship with the customer "close, non-routine and complex." (Lovelock, 1995) In the latter domain the service organisation would be similar to those featured in this case study. Examples of the former would be those services that are in some respects the equivalent of FMCG manufacturing organisations and these organisations were discussed at length in chapter 2 and the earlier sections of the current chapter. If the dominant service outcome is goods-like with distant, routine and simple customer relationships, then this would suggest NSD modes towards the outcome variation, outcome extension or outcome leap end of the NSD typology.



## Chapter summary

This chapter was an attempt to answer, using the case study, three questions about design in services:

1. what stimulates / drives design activity in services?
2. what is, and should be the organisation's response – in terms of NSD process – to these stimuli?
3. what is the vernacular of NSD, that is what communication constructs are used in, and produced at the end of the NSD process?

Observations of each case-site were synthesised and analysed and theoretical propositions were derived that provide answers to each question. The next chapter formally re-states each question and provides summary answers.

## Chapter 6 – Conclusions, reflections and further work

### Introduction

This chapter summarises conclusions about research problem based on the results of chapter 5, including their place in the body of knowledge outlined previously in chapter 2. This chapter is a concluding chapter in the “traditional” sense, in that it does little except explicitly and formally answer the research questions. The chapter does so by repeating the research questions and supplementary questions of chapter 2 / 3 and provides answers by extracting and interpreting the analysis of chapter 5. In essence, the detail is in the last chapter, and this chapter is an attempt at a “tight” synthesis.

The research questions are of a general nature. That is – some specific exceptions aside – they are designed to elicit theoretical propositions about NSD that are context invariant. Where there are exceptions the boundary conditions are made explicit. In this way the formal “answers” to the research questions as written below are the attempt at theory generation that is the main outcome of this work. As should be clear from chapter 3 these answers are not *generalisations* from the case-site population to a larger space.

The chapter is short, and consists of two sections; a re-statement of the research problem, and the “answers” to the research questions.



## **The research problem**

In chapter one the research problem was summarised by the following paragraph:

Current NSD process literature appears to be of limited applicability and these limits have not been established. Given that there are limits, NSD process theory and practitioner prescription outside such limits has not been published. Secondly, most NSD process literature is predicated on the assumption that NSD activity is explicit or “conscious” activity on the part of the service firm. However, prima facie evidence suggests that this is often not the case, and that service firms frequently “drift” into NSD. Given that problems, failure, service drift, accident or any other type of stimuli apart from firm intent may result in NSD, questions on the nature and impact of NSD stimuli should therefore be investigated.

After the literature review of chapter 2 these concerns were developed into four research questions and their associated supplementary questions. For reasons explained in chapter 3 only the first three questions were analysed in chapters 4 and 5.

## **The research questions and the answers**

### **Research Question 1 – design imperatives**

#### *1. What are, and should be the imperatives to develop NSDs?*

The answer to this question is provided in the answers to the supplementary questions below.

Supplementary questions:

*1a) To what extent are environmental (external) or internal (resource) factors the imperatives for NSD?*

Within the bounded contexts of this case study the imperatives and stimuli for NSD were clearly a mix of environmental pressure (often failure, problems or risk exposure) and pressure to deploy organisational resource (itself the result of operational risk exposure). This is not to say that deliberate decisions to develop “the new” were not made, but such decisions and the consequent organisational imperatives for NSD ranked low in the overall list of pressures for change.

The analysis of the last two chapters also suggests that service organisations have little choice in this matter. “Creeping complexity,” demand-side pressure for variety at the point of delivery and the propensity of the resource-base (especially service providers) to continually enhance its capability mean that service organisations will inevitably be exposed to varying degrees of resource or market risk.

The key point here is that a problem or failure of some sort acts as a positive influence on the overall development of the service organisation via NSD. This idea runs counter to both the NSD literature discussed in chapter two, and also to the “Design School” paradigm underpinning the great majority of business management literature. (Mintzberg 1990)



Given then that resource or market risk exposure is an important and inescapable influence on NSD, the question of whether it should be an influence is moot. The important next question is therefore:

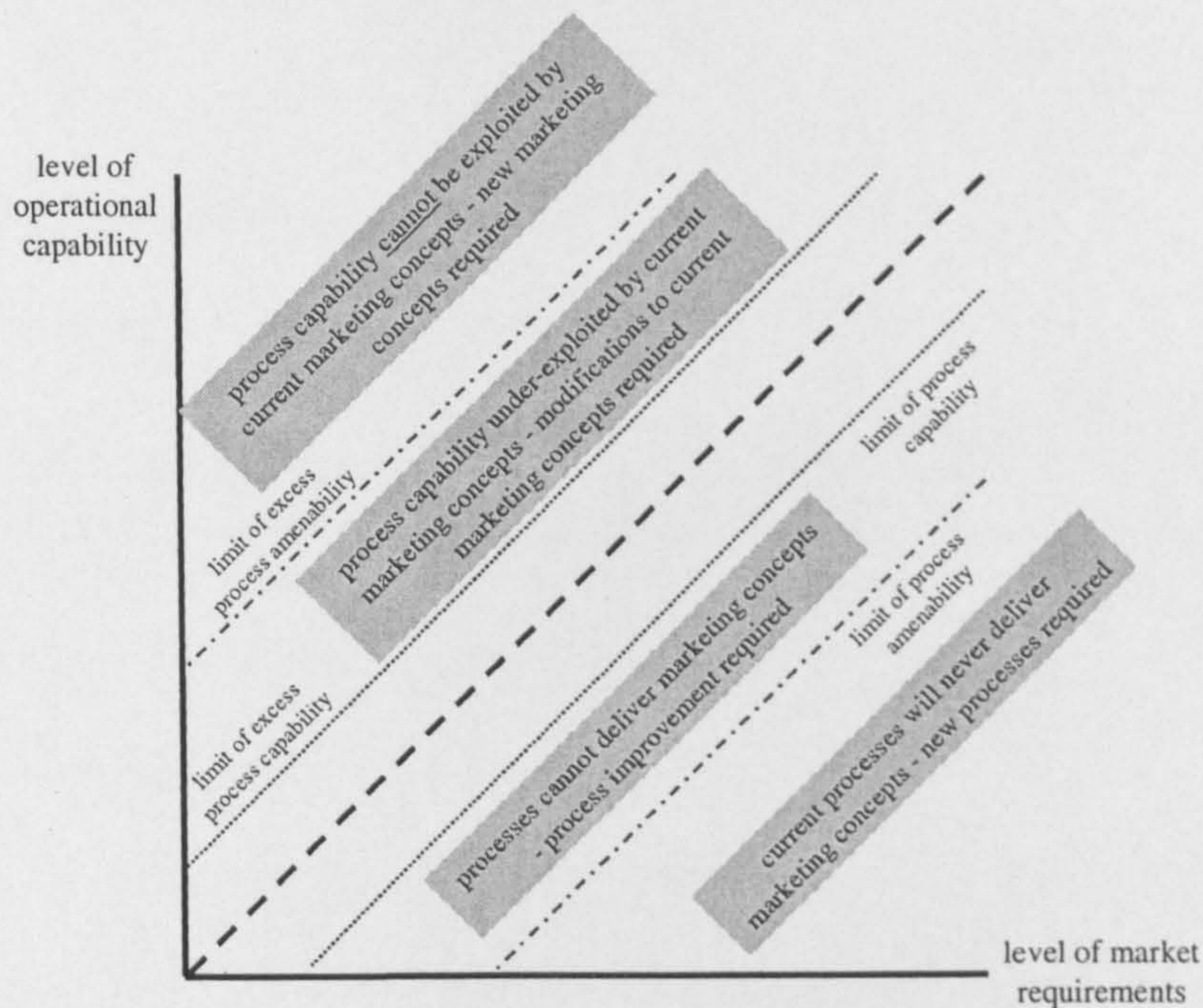
*1b) How should environmental or internal inputs be managed in the NSD process?*

The last two chapters suggest that the appropriate management response in the form of NSD should respect the nature and extent of risk exposure. The NSD stimuli discussed above create an internal ‘imbalance’ between resource capability and market needs and this imbalance must be redressed in the NSD response. In practice this means that misalignment of the separate elements of the service (usually between the market “offering” and process, structural or infrastructural capability) must be addressed in the design activity. Stated simply; if the NSD stimulus creates market risk exposure, then the focus of the operational response (NSD) must be predominantly a marketing exercise, in which the sales and marketing function find or create market spaces in which they can deploy new capability. Conversely if NSD stimulus exposes the organisation to operational risk, then the NSD response must be predominantly the development of resources to a level where they meet or exceed market expectations.

*1c) What are, and should be the nature of tactical responses to NSD imperatives?*

In some respects this question answers itself. Tactical (or non-strategic) NSD activity is, using the definitions underpinning the resource maps (see the figure below) that activity which is bounded by the limits of process amenability and excess process amenability.





That is, the modification of existing marketing concepts or the improvement of existing processes as opposed to the development of new ones. This idea is perhaps more useful if stated another way: Any NSD activity that is expected to result in new marketing concepts or new process development is almost certain to have strategic implications, and as such necessitates the oversight and approval of senior management (the board or its analogue).

## Research Question 2 – design processes

*2. What does, and should the NSD process look like in non goods-like service environments?*

The case-sites offered many possible NSD process alternatives. These provide real, but specific answers to research question 2. General answers are provided by the



theory generated in the second half of the last chapter. This theory is summarised in the answers to the supplementary questions below.

Supplementary questions:

*2a) To what extent are stage-gate models used in NSD?*

It should be obvious by now that in the context of this case study the use of stage-gate models of NSD is almost non-existent. More to the point however, such approaches to NSD were *inappropriate* at all sites in the study and that this was a predicted consequence of case-site choice.

*2b) Is the use of stage-gate, and other models of NSD contingent?*

The evidence suggests that the applicability of stage-gate models of NSD is limited to those service contexts where the service is analogous to a manufactured good. In such contexts the service organisation develops new marketing concepts within the constraints of existing process capability. In chapter 5 this NSD process was referred to as *outcome variation*. However, there are not surprisingly other contexts in which different NSD modes and processes are appropriate. These are discussed in the following section as is research question “2d” which, on reflection and with hindsight, is covered by question “2c.”

2c) If so, what are the contingencies of process adoption? and;

*2d) In particular, is the initial imperative for the NSD activity a factor?*

In addition to the adoption contingency for the stage gate models discussed above there appear, broadly, to be six other contexts with corresponding process ideals.

Where the initial NSD stimulus moves the organisation into the domain of increased process risk but without exceeding the limit of process amenability the service organisation must improve processes capability to remove said risk exposure. This process – described as *outcome extension* in the last chapter – also includes a degree of iteration in that the new marketing concept can be modified after consideration of the feasibility of required process change.

Where the NSD stimulus is, or is expected to result in the organisation exceeding the bounds of process amenability there is, by definition, a requirement for new process development as well as change to structural and / or infrastructural resources. As such change is likely to be strategic in nature and there is a necessity for formalisation / approval of marketing concepts before investment in process and other resource development. This NSD process archetype is referred to as *outcome leap* in chapter 5.

In a context structurally similar to that for *outcome variation* (see above) the initial NSD stimulus is the implicit or explicit development of process improvements that enhance delivery of current service offerings. Consequent marketing concept development may be minimal including perhaps the promotion of improved delivery performance. Alternatively the organisation could advertise nothing and reinvest savings resulting from increased delivery efficiency. Lastly, the organisation could match improved delivery performance with new, and perhaps more demanding service delivery requirements. Either way, because of the relatively low risk incurred by failing to exploit the excess resource potential, formalisation of the NSD can take



place late in the design process. This process archetype was referred to as *process application*.

In some contexts process development – often implicit – will be such that process capability is not fully exploited by current marketing concepts. In such cases new marketing concepts must be developed, but because exposure to market risk – usually the potential opportunity cost of failing to maximise return on investment – is relatively light, such marketing concept development can take place after process development is formalised. In the chapter 5 this process archetype was called *process development*.

In certain contexts process or resource change will be such that resource capability is not and cannot be fully exploited by current marketing concepts. In such cases new marketing concepts must obviously be developed, but crucially, this must take place alongside a fresh assessment of the market potential of new process capability. In the last chapter this process archetype was called *resource application*. The initial stages of this process archetype are not as unlikely as they perhaps appear in the abstract. For example, resource capability such as new computing capacity could have been developed to support one market offering, but may also be available to support many other similar offerings. The development of marketing concepts to exploit the new resource potential may take the service firm into market spaces that it had not previously considered. Such change therefore necessitates some sort of strategic review.

The final process archetype, *integrative design*, the concurrent development of service and service process is not contingent on any particular context in that it could conceivably occur whatever the initial NSD stimulus.

Implicit in the last six paragraphs was the answer to research question “2d,” however, more formally, the evidence suggests that the initial stimulus for NSD is, and should be *the* factor in determining the NSD process response. That is, it is the exploratory phase of NSD, implicit or explicit, that creates the requirement to develop either process / resource improvements or new marketing concepts.

Research Question 3 – NSDs / design communication constructs

*3. What is, and should constitute an NSD communication construct?*

The case-study suggests that unless the final outcome of the NSD process is a *holistic* final design, implementation problems are the likely result. “Holistic” means that the design should include a strategic rationale, a clear picture of the proposed market offering, a description of process implications and finally consideration of any structural or infrastructural resource implications of the NSD. There are an infinite number of ways in which these four design elements can be captured and many examples are provided in the case-site descriptions.

Supplementary questions:

*3a) What influences the constitution of the communication construct?*

The initial configuration of NSD communication devices is, as an output of the NSD process, not surprisingly dependent on the nature of the NSD process itself. That is,



if NSD is focussed on resource / process development then the vernacular of NSD tends to be resource / process descriptions such as building plans, computer system specifications, process maps and so on. Whereas if NSD is addressing exposure to market risk, then NSD constructs tend to be marketing devices such as marketing concepts, brand enhancements, and promotional tools. However, by itself this response is partial, and at the case-sites where both the NSD process and its outcome were perceived to be successful, the initial development of say, marketing constructs was followed by a corresponding development of operations constructs and vice versa. This comment partly answers the next supplementary question, but in addition:

*3b) For a given service design, what effect does position in the design process have on the constitution of the design construct?*

The case analysis therefore suggests that whilst the design communication construct is evolving during the NSD process it need not be holistic, by the end of the process it should be so. Certainly before design implementation design managers must possess a picture of the resource implications of a new marketing concept or vice versa.

### **Observations on the research process**

This second half of chapter 6 reflects on the intellectual and practical journey that the PhD represents. The section begins by exploring the way that the style and scope of the three major research questions evolved during the course of the research. Also

discussed will be those areas of the research and write-up that, with hindsight, would have been handled differently, as well as those areas where the author has concerns over conclusions, method, epistemology ... and so on. Also included is a discussion of emergent empirical and theoretical issues including those areas that were – in the literature review – identified as important areas of NSD research, but were because of space constraints excluded from the main analysis. Related to this issue is the subject of future directions for NSD research, in particular, research building on the ideas in this thesis. Therefore a sub-section is dedicated to future work. Finally the practical implications of the research are explored and offered is some comment on potential applications of the research's findings.

### **Evolution of the research questions**

Research questions 1 and 3 and their corresponding supplementary questions were, at the end of this research essentially unchanged in terms of the way they were deployed relative to the analytical intent for which they were designed. However, this was not true for question 2. With hindsight the discussion of stage-gate NSD models in chapter 2 leads both the researcher and probably most readers to the conclusion that the problem with extant NSD process literature lies in its almost naïve faith in the utility and applicability of stage-gate NSD models in a service context. The critique of such models is expressed in a way that informed readers might conclude the problem was with stage-gate models and stage-gating per se, rather than the manner in which it was suggested they be deployed. Ironically however, implicit in the analysis of chapter 5, especially in the developmental sections towards the end of the chapter is the view that decision stages *are* appropriate. Indeed, such decision stages appear in all the design modes and process



models described in chapter 5. Thus emerged changes to the style and scope of question 2 as the research progressed and the depth of the researcher's understanding increased. Specifically, what emerges in chapters 5 and 6 is a more moderate, and less provocative stance towards the NSD process literature discussed previously. In other words, that the problem with said models is mainly to do with their lack of general applicability, and in particular the limited applicability of the concept of the "development funnel." The notion of decision-stages, and stage-gating emerges relatively unscathed, and is an essential component of the NSD approaches suggested in chapter 5.

Though it was stated above that question 1 remained stable – in terms of style, scope and analytical purpose – it should be noted that the idea of assessing risk exposure at each case site was emergent during the analytical phase – the writing of chapters 4 and 5 – rather than at the earliest stages of literature review and method development. Thus the risk trade-off charting emerged as a "lens" that enhanced the analytical effectiveness of research question 3. During the analysis it was realised that risk trade-off charting was an effective method of separating and understanding environmental and internal imperatives for NSD.

#### **Areas of the research that, with hindsight, would have been handled differently**

The main problem with this research was in the writing phase. When attempting to present the case-site data in the reports of chapter 4 the author was constantly managing the difficult trade-off between contextual richness and the need for brevity. An obvious solution would have been to use a more structured interview guide. However, it was originally felt, and argued in chapter 3 that there was likely

to be little commonality amongst practitioner's perspectives on NSD. Of necessity therefore the question-set would need to be open ended, or managed by the researcher in such a way that interviewees could respond flexibly. Unfortunately this approach, rather than realising the intent of increasing the veracity of the case-site accounts, shifted the interpretation burden away from the interviewee to the researcher, and so increased the potential for an interpretation bias. The conclusion is therefore that with hindsight some contextual richness should have been sacrificed both to reduce the writing / editing task, and to achieve greater accuracy of interpretation.

A second problem was the fact that the researcher took a long time to become attuned to the political environment in the case-sites. As is argued in chapters 2, 4 and 5 NSD invariably impacts on the political domain of organisations. Even a relatively benign outsider such as an academic researcher can become involved in such politics unless s/he takes firm steps to avoid this. For example, people will want to be seen to have played a prominent role in successful NSD, and conversely, will want to diminish their association with less successful projects. As a result people modify the facts. This is obvious in hindsight, but looking back on the evidence collection phase this researcher can see clearly that he was, on occasion successfully manipulated for – internal – political ends. Fortunately, once the researcher is aware of this issue any reporting bias can be removed in the analysis phase. However, this merely adds to the already complex task of evidence interpretation. Such filtering is obviously best done at source, by triangulation and by careful choice of questions.



## **Concerns over conclusions**

In chapter 3 it was argued that this basic research would, and could only complete a part of the cycle of the scientific method. That is, it would present theoretical propositions, but testing of such would only be done in the limited sense that each proposition had to be consistent with the contexts of the seven case-sites. So further testing was always intended to be the subject of future work. The concern however, is that the propositions of this chapter would be difficult to reduce to simple hypotheses – to the level of simplicity required for testing via statistical methods – without rendering them meaningless. This concern is not new, and was discussed at length in chapter 3. However, it implies that the nature of future work to test these hypotheses will be of the same methodological type as the research in this thesis. As such falsification may prove impossible, and the best that can be hoped for is cautious support, and / or a better understanding of boundary conditions and contingencies.

## **Emergent issues**

It was anticipated in chapters 2 and three, that the issue of service designers and design roles would be difficult to avoid. This was so. As should be apparent from the case-site descriptions NSD was a pervasive and multi-constituency activity and certainly not confined to the marketing function as indicated in the extant literature. Further, that many design roles are – using Dumas' terminology – “silent.” (Gorb and Dumas 1987) That is, service designers appeared rarely to occupy formal design roles. Finally, it was observed that much of the informal design and re-design of services was carried out by front line service staff when they attempted to deliver ill-

conceived marketing concepts. Again, this sort of design activity was predicted in chapter 2.

It should be stressed that these observations on service designers are not presented as clear conclusions, and have not been the subject of detailed analysis, as have other areas of the research.



## **Future work**

### **General**

The last section obviously suggests that the issue of design roles in the service sector is an area ripe for future work. A rigorous analysis of this area may result in a useful addition to the service management literature.

A second area for development may be the application and monitoring (perhaps via action research) of the process guidelines developed in chapters 4 and 5.

Finally, a possible addition to the NSD success-levels literature (de Brentani 1989; Martin and Horne 1993) would be a statistical comparison of the comprehensiveness of the final design with the success of the new service. Chapters 3 and 5 argued that a correlation should exist, though chapter 3 raised concerns about the difficulty of isolating exogenous influences on NSD success.

### **Specific projects**

It is intended that this thesis is “cut” into at least six journal papers. The following are outlines of each paper:

#### **Review paper**

In the last ten years there have been only three reviews of the service design literature. The first, by Johnes and Storey is comprehensive in that it covers a large volume of literature. (Johnes and Storey 1998) However, the paper adopts a

marketing perspective and implicitly accepts “as fact” the normative process prescriptions criticised at length throughout this thesis. The second review appears in a recent text on “new service development.” (Johnson; Menor; Roth, and Chase 2000) While this review does take an Operations Management perspective on NSD, it is largely uncritical and re-structures rather than challenges the extant NSD literature. Finally, the most recent book on NSD (Edvardsson; Gustafsson; Johnson, and Sandén 2000) does not contain an explicit review chapter, but does include several piecemeal reviews of specific NSD subjects. Once again, these reviews are uncritical and largely report on, rather than challenge the NSD literature. So there is the potential to take the last three sections of chapter 2 and publish these as an alternative review of NSD research and writing.

#### Design imperatives paper

An article on NSD imperatives and the risk perspective may well be a paper that could be targeted away from the mainstream Operations Management journals, perhaps at a strategic management or general management journal. This paper would begin with the pertinent sections of chapter 2, then use the case studies of chapter 4 and the less developmental sections of chapter five to present an empirically based picture of NSD imperatives and response patterns. Perhaps in the same paper, or as an additional paper the conceptual material in the last sections of chapter 5 (on NSD modes) could also be presented.

#### NSD processes paper

Any paper using the developmental material on NSD process archetypes (final sections of chapter 5) would be critically dependent on the material in the “design



imperatives” paper. Ideally these would appear as a linked pair of papers in the same journal. An alternative approach might be to base a paper on the figure (in the middle of chapter 5 under “Process”) comparing the empirical findings of this research with the normative NSD models. The advantage of this comparison is that it is both rooted in, but presents a clear challenge to the NSD process literature.

#### NSD communication paper

The NSD communication material in chapters 2, 5 and 6 could be easily presented as a stand-alone paper. Further, it could use case material of chapter 4 as well as a meta-analysis of the success levels material which also visits this area. (de Brentani 1995; de Brentani 1989; de Brentani 1993; Martin and Horne 1995; Martin and Horne 1993) Of all the outputs from this research a content checklist for an NSD may be the most useful outcome for NSD practitioners and thus a practitioner version of this paper could also be produced.

#### Methodology paper

The first half of chapter 3 could stand as a paper on research methodology in its own right. Such a paper could be targeted at general management journals such as the British Journal of Management and would be presented as a new perspective on social science research. As much as anything else, chapter 3 was an expression of the angst felt by a former physicist, trained as an engineer and coming to terms with the uncertainties and “fuzziness” of research in social science / studies, liberal arts and humanities. As many engineers and scientist make such a transition a methodology paper of the kind described above might be usefully directed at practitioner journals in various applied science disciplines.

## Design Roles Paper

A paper on service designers and design roles could probably be derived from the research data derived during the research for this thesis. Although not presented because of space constraints, for each case site in the study there exists ample material on designers. One problem with a service design roles paper is that the literature on the subject is extremely fragmented, and much of it appears in practitioner articles. It may be that a paper on designers could be based on the ample material (e.g., (Dumas and Mintzberg 1989;Dumas and Mintzberg 1991)) on design roles in the product design and new product development literatures.

## **Practical implications of the research**

This section analyses separately the conclusions of the last chapter from a practitioner perspective. Each issue was addressed in the main analysis of chapter 5, but is summarised here.

### Research Question 1 – design imperatives

An implication of the conclusions on design imperatives is that “service creep;” the implicit change to operations, but particularly marketing concepts can result in pressure for NSD in order to remove resource risk exposure. This is because demand-side pressure to improve a poorly supported marketing concept often counters the organisation’s desire to withdraw the offering.

Conversely the development of resource without a clear understanding of market potential is difficult to undo because of the sunk cost element of said development.



Thus unwanted pressure is created for marketing concept development to exploit the new resource.

As was indicated in chapter 5 such pressure and risk exposure can be a positive factor, however it does mean that the organisation does a great deal of “walking in the dark.” A solution indicated by this research is not necessarily concurrent design, but at the very least a complete design before implementation. Further, as was stated earlier, any NSD activity that is expected to result in new marketing concepts or new process development is almost certain to have strategic implications, and as such necessitates the oversight and approval of senior management (the board or its analogue).

#### Research Question 2 – design processes

The main implications of the conclusions in this question area are largely negative. That is, that the NSD process prescriptions in the extant NSD literature are inappropriate for many service contexts. This said managers at the case-sites were aware of this and developed their own approaches appropriate to their organisational context.

Several alternative process guidelines based on these case observations were presented as theory in chapter 5, with perhaps more examples of application these could be presented as alternate NSD process guidelines. The key issue will be determining which process model to adopt in that such matching requires a high degree of understanding of causality in the organisation. The process archetypes

were – in part – developed to assist in this process of understanding. However, it may be that firms will require expert facilitation in order to see where they “fit.”

### Research Question 3 – NSDs / design communication constructs

Perhaps one of the more obvious and unsophisticated conclusions of this research is the need for a holistic approach to developing the NSD. The simple checklist is that designs must include:

- a strategic rationale;
- a clear picture of the proposed market offering;
- a description of process implications; and,
- consideration of any structural or infrastructural resource implications.

There are many ways in which these four design elements can be noted and many examples are provided in the case-site descriptions.

### **Discussion**

From the forgoing discussion it should be apparent that a crucial first step for practitioners in the NSD process is answering the questions: “what are we proposing to change?” “what have we changed?” In other words is the organisation changing consumer outcomes, processes, core resources or any of these in combination? Whilst design intent may be to change only one of these elements, consequent change to other elements is likely. Working in isolation, it will be difficult for design managers to assess the consequences of any design or re-design. Whatever the



design intent, impact on other elements of the service will need to be assessed by functional specialists. Marketing managers can assess consumer impact, process consequences can be considered by service managers and any impact on core resources should be assessed by back-office / support managers.

If it is determined that the service design project is limited to the change of one of the elements of the service in isolation, then design managers should nevertheless ensure frequent reassessment during the design process.

When new service design is driven by process or resource change similar issues must be considered. In the absence of marketers to say; 'there isn't a market for that;' operations managers may develop new and appealing process and resource combinations for which latent markets can be sought. However, there remains the problem of stumbling into evolutionary 'dead ends.' The message is a simple one; design management must understand what is being changed. That is, design managers must appreciate the primary and secondary effects of service change. There is no harm in radical process re-design, as long as the outcome and long-term resource development consequences are understood. So cross-functional design involvement is not necessary, but early assessment of design intent usually is. A centralised re-design of consumer offerings by marketing staff is entirely appropriate as long as the limitations of process capability are respected.

Service organisations can offer an infinite diversity of consumer outcomes or, "variations on a theme," without change to their basic plans. However, major environmental change, or strategic intent can necessitate changes to basic plans; that

is, processes and resources. In these circumstances service organisations need to know: what can be changed, what should be change and how to change. The service organisation must also understand the key constraints on design activity. That is, what offerings, process and resources can be changed and under what circumstances.

## **Summary**

This short chapter has explicitly answered each research question by committing to a number of theoretical propositions, each derived from the analysis of chapter 6. The chapter, and the last provides a new conceptualisation of service design and innovation that is different from the deliberative and deterministic “design school” (Mintzberg 1990) paradigm that has previously pervaded the literature on NSD. It acknowledges and builds on the – often unrecognised – role of accident and failure in NSD, and firm development generally.

The chapter concluded with some reflections on the research process and discussed what would have been managed differently if the research were done again. Concerns about the process and content of the work were also presented and there was a brief discussion of emergent issues and future research. Finally, the chapter explored the practical implications of the research.



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### Chapter 3

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## Case-site protocol - service design

### FIELD PROCEDURES

#### Access

Unless contacts already exist within an organization, the standard approach will be an introductory letter followed by a telephone call. Wherever possible the investigator should identify a senior named individual in the target organization. This may help bypass standard filters for unsolicited mail. If correspondence is addressed to an individual as opposed to a group its harder for the recipient to deny receipt. Follow-up calls should avoid Monday mornings and Friday afternoons. In the UK Mondays are often busy and chaotic, and Friday afternoons have usually followed a pub lunch.

Senior contacts are preferred for the obvious reason that their power can help 'make the case happen', but also for the less obvious reason that when permission to publish is required, the contact may not need to refer the case report to a superior.

Managers may want to discuss the research in depth before granting interviews and other access. Access negotiation interviews are often difficult to avoid, but are expensive and time-consuming. The call for such a meeting may indicate that the introductory letter lacks clarity or depth.

Experience suggests that managers are unlikely to give much more than 1.5 hrs of their time for a one to one interview session. Both interviewer and interviewee will show signs of

fatigue after about 45 minutes. By the time pleasantries and the obligatory coffee are over, 1.25 hrs *at most*, are left for the interview itself. Therefore the researcher should attempt to manage interviews so that the four question areas are covered during the first 45-50 minutes of the interview. Interesting or emergent issues can then be returned to for the last half-hour or so. Time should be left to arrange further interviews. It is worth attempting to get the first interviewee to set these up on the spot. At the very least, investigators should obtain contact names and numbers.

Investigators should attempt to develop a working relationship with the P.A.'s or secretaries of the prime contact. Often such individuals wield considerable influence and are of immense value to the researcher.

Interviews should be taped, but the investigator should not rely on taping. Active note taking as well as taping is encouraged. It will focus the investigator on the task at hand and may be a good subliminal signal of attention to the interviewee. Tape recorders may break, or the interviewee may not allow them.

### **Resources**

Besides the obvious pens and paper the investigator will need a tape recorder, blank tapes and spare batteries. Fresh batteries should be installed in the machine. A clip-board is essential, as many senior executives will conduct their interviews in 'comfy chairs'. Research questions should be printed out on note-taking sheets, the researcher should not rely on memory. Also printed should be alternative wordings of research questions in lay terms. This will assist in explaining a question theme to an interviewee.



## Case-study questions

The table below lists questions addressed at the individual case level as well as alternate wordings. As a reminder the form of each question area is also listed.

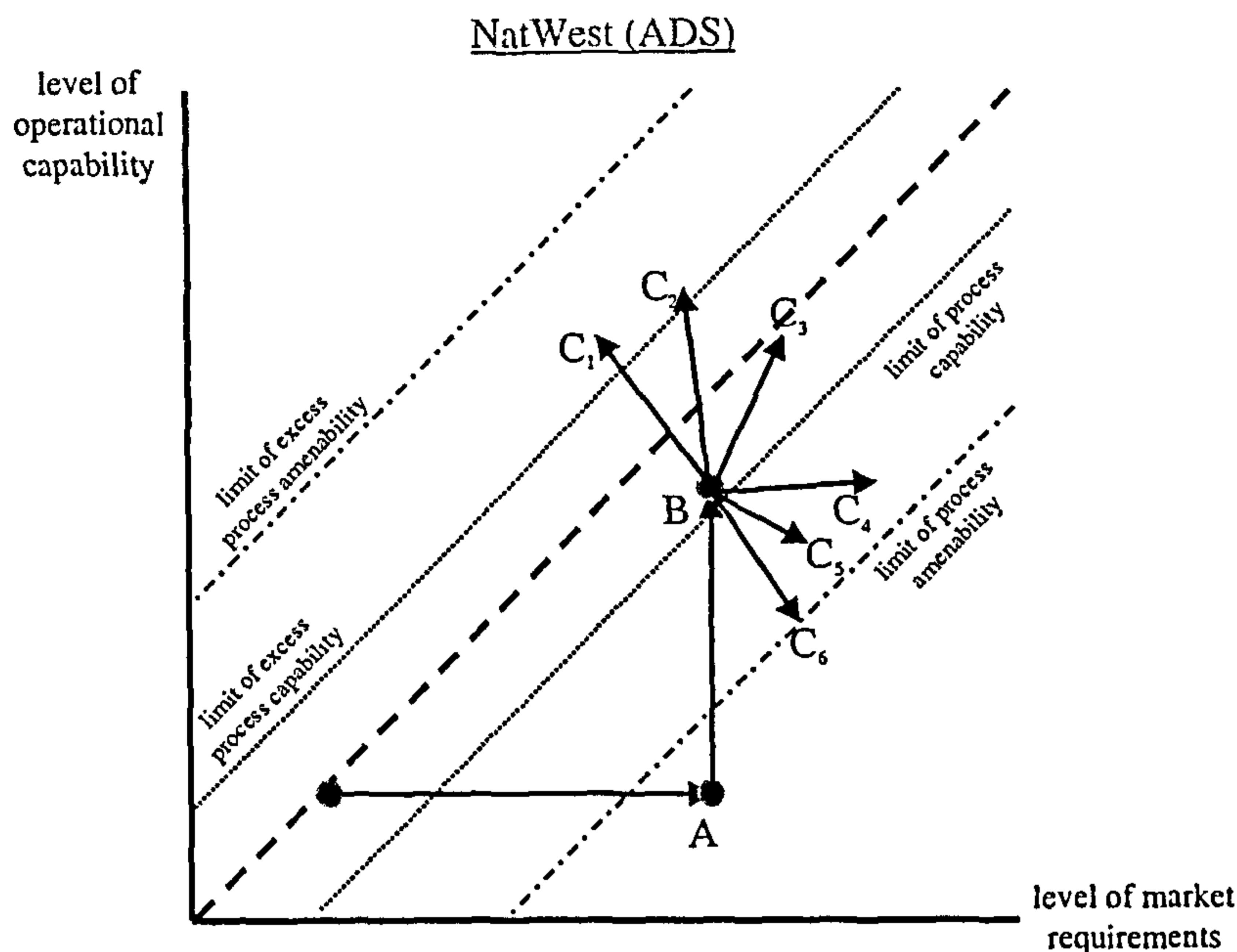
Question level	Question No.	Question and alternate wordings	Data Sources	Lowest data collection level
4	1	<p><i>What factors influence innovation choice in services?</i></p> <p><b>What are the key influences on service design outcomes and process?</b></p> <p>What enables you to specify the service outcomes? Who or what decides? Is only the outcome specified, the process or both?</p>	<p>Design managers.</p> <p>Design contributors.</p> <p>Mission statements, charters or constitutions.</p> <p>Strategy documents.</p> <p>Literature review.</p>	<p>1</p> <p>1</p> <p>2</p> <p>2</p> <p>4</p>
		Form: <i>Why are new services designed?</i>		
4	2b	<p><i>What are the service design process types?</i></p> <p><b>What service design processes are used?</b></p> <p>What are the stages which move the service from a raw idea to full scale service delivery? Are they always the same?</p> <p><b>What tools / techniques do you use in designing and developing new services?</b></p> <p>E.g. market research, QFD, walk through audits ...</p> <p><b>What are the influences on this process(s)?</b></p> <p>Why do you create new services in the way you do? Are there any statutory guidelines which make you create services in any particular manner? Have the participants in the service design or development programs received any training in how to develop new services?</p>	<p>Design managers.</p> <p>Design contributors.</p> <p>Project diaries.</p> <p>Internal procedural guidelines.</p> <p>General standards [e.g. ISO, BS]</p> <p>Literature review.</p>	<p>1</p> <p>1</p> <p>2</p> <p>2</p> <p>3</p> <p>4</p>
		Form: <i>How are new services designed?</i>		
4	3b	<p><i>For a given service design, what effect does position in a process have on the constitution of the design construct?</i></p> <p><b>What is a service design in practice?</b></p> <p>What does the organization conceive of as being a service design? Specification? Work instructions? Models? Requirements lists? How is the outcome and the process communicated? Does this communication device change over time. Does it change during the design process?</p>	<p>Design managers.</p> <p>Design contributors.</p> <p>Design documentation.</p> <p>Project diaries.</p> <p>Literature review.</p>	<p>1</p> <p>1</p> <p>2</p> <p>2</p> <p>4</p>
		Form: <i>What is a service design?</i>		

## Risk tradeoff mapping – worked example

This appendix gives a brief illustration of how simultaneous resource and market risk exposure was incorporated into the development of the risk trade-off maps. The phenomenon was observed at NatWest, Big Pit and Coda-Renaissance and the example used in this appendix refers to NatWest. The appendix is not “stand-alone” and should be read in conjunction with the NatWest case report in chapter 4.

The story up to point “B” on the figure below is explained in the case narrative. At this point the bank has achieved some cost benefits of focus by a limited degree standardisation, centralisation and automation. The bank was also leveraging a distinctive resource; its account histories to considerable competitive benefit and so the considerable operational risk, as well as actual failure on many fronts “A” was to a large extent redressed. However, after reduction of risk exposure under the initial phases of the ADS programme, new – embryonic – enabling technologies available under ADS allowed an almost endless variety of lending centre designs to evolve. Some of these are depicted on the following figure as exposing the bank to both market (C<sub>1</sub> C<sub>2</sub> C<sub>3</sub>) and resource risk (C<sub>4</sub> C<sub>5</sub> C<sub>6</sub>).





$C_1$  and  $C_2$  represent two ADS lending centres that had developed an excess process capability. For example,  $C_1$  was in theory, a credit-sanctioning centre only. The centre was designed to handle credit risk assessments for some 30 branches in the Altrincham area of Greater Manchester. Branches were required to handle customer queries on credit applications by passing consolidated batches of queries to the centre. Conversely, when the centre required further information on a customer in order to process an application they would pass requests back to the branches. When the ADS centres were created they were staffed by using former branch personnel. Obviously, at the same time branch staffing levels were reduced because of the changed and reduced role of the branches. This limited centralisation thus created an increased workload for the branches in the area of application processing and monitoring. With the reduced staffing the branches could not cope and delays with some loss of business was the result. In response centre  $C_1$  provided a direct line for customers to query their progress through the sanctioning process. Similarly, the centre bypassed the branches and contacted customers directly when they required further

information for loan processing. It was apparent that after a few months of operating in this way, C<sub>1</sub> and one or two other ADS centres had developed an embryonic telephony / call centre capability. However, there was no official advertising of this new capability as it was not bank policy at the time to offer such service. So in 1992 in a few areas of the country NatWest customers could go through the credit application process mainly by telephone, calling at a branch only to pick up the initial application forms. Thus developed an excess process capability that was not exploited by the marketing function of the bank. In this way the bank was exposed to a degree of market risk because of the opportunity cost inherent in such a position. C<sub>2</sub> represents a similar story with respect to exceptions<sup>1</sup> management. C<sub>2</sub> was an ADS centre serving branches in the Southend area that had developed a sophisticated exceptions database; a kind of case-study or precedents repository. This could be used by exceptions managers and staff to quickly review previous responses to “odd” credit applications thus making risk evaluation faster and more accurate. The positive impact on C<sub>2</sub>'s lending book was considerable. However while this operational improvement had general applicability, due to a failure of internal marketing it was not “rolled out” across all ADS centres thus exposing the bank once again to an opportunity cost and hence market risk.

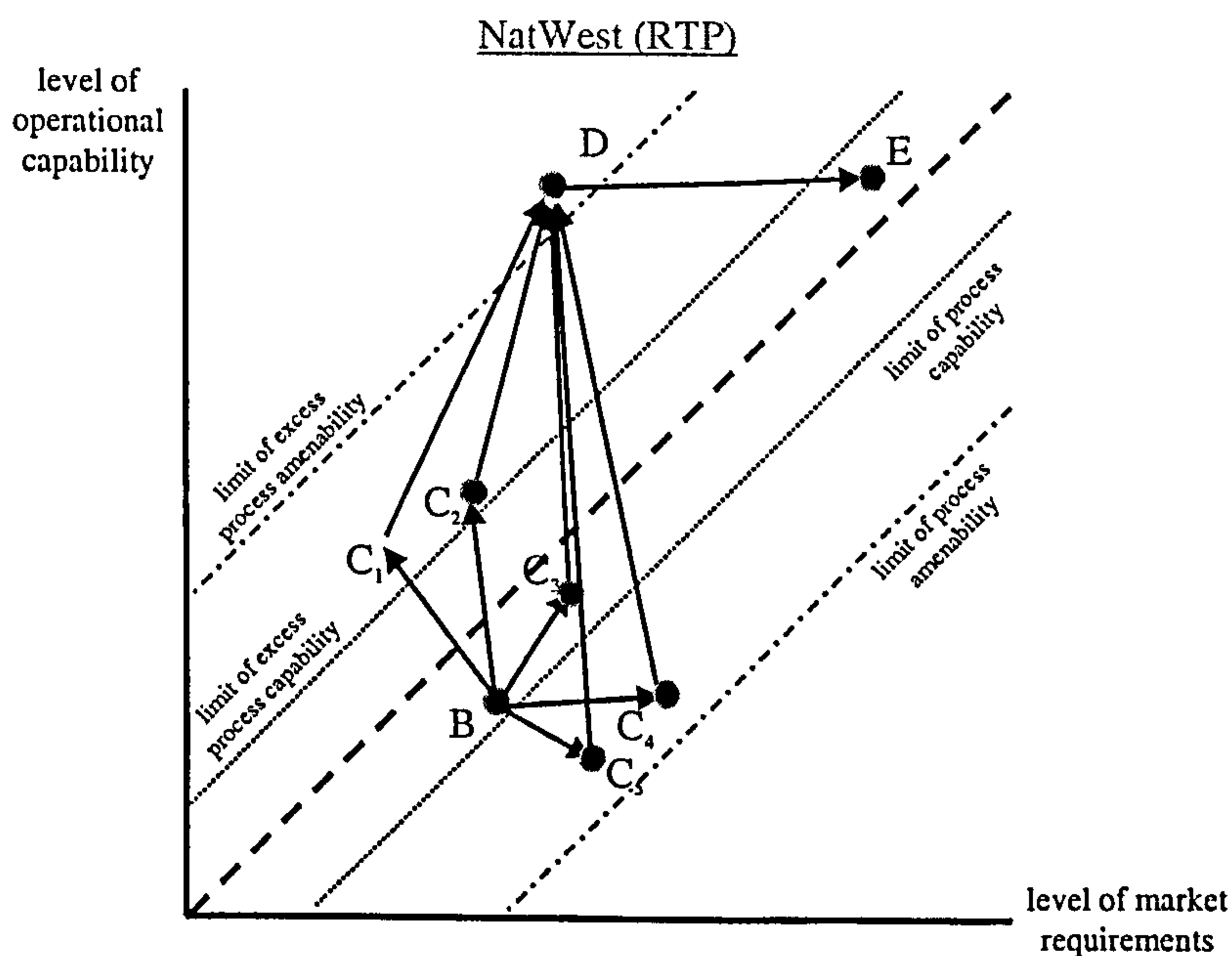
The market risk exposure resulting from these and many other examples of discrete process capability enhancement was compounded when in the RTP programme the bank eventually attempted to disseminate the improvements discussed above across its new lending centres. In the first place new telephony and database management technology was not ready to support the changes. Thus improved process understanding as well as new service delivery methods could not be deployed. Secondly, even after the required infrastructure was in place and new credit application processing capability was being effectively deployed, it was over

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<sup>1</sup> Exceptions – any circumstance not covered by the centres' automated decision algorithms.



a year before the bank's marketing function "woke up" to the potential of this new capability and the potential for new marketing concepts that it represented. This increased exposure to opportunity cost and thus market risk exposure is represented by point "D" in the following figure and the slow exploitation by the bank's marketing function is represented by the path to point "E."



Explanation of the remaining points on the diagram (C<sub>4</sub>, C<sub>5</sub> and C<sub>6</sub>) is more straightforward.

These represent operational failures of one sort or another. For example, one such failure was in the reconciliation of demand and capacity. The staffing models for many ADS centres were developed hastily and they initially suffered serious under-manning (a problem that reoccurred in the early days of the RTP). Delays in processing credit applications as well as quality failures produced by over-worked staff were the inevitable result. Other failures were the result of disagreement about the scope of branch-work to be "mopped up" by a centre. In the absence of a clear policy on the degree of centralisation branches and centre would

sometimes squabble over process ownership, and occasionally individual customers.

Customer confusion and dissatisfaction was the outcome. Conversely a centre and a branch would fail to take responsibility for a particular process and the process would effectively end up being managed by the customer. All these and many more operational failures resulted in the banks exposure to actual and speculative operational risk.