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INTERNAL SERVICE QUALITY AND ITS IMPACT ON
EXTERNAL SERVICE QUALITY

A study of the role of internal customer types and the dimensions which are used to assess internal suppliers within an organisation and how this affects external service quality.

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Doctor of Philosophy

THE UNIVERSITY OF ASTON IN BIRMINGHAM

MARCH 1995

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The University of Aston In Birmingham

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THESIS SUMMARY

This research explores the role of internal customers in the delivery of external service quality. It will consider any potentially different internal customer types that may exist within the organisation. Additionally, it will explore any potential differences in the dimensions that are used to measure service quality internally and externally. If there are different internal customer types then there may be different dimensions which are used to measure service quality between these types and this will be considered also. The approach adopted given the depth and breadth of understanding required, was an action research case based approach.

The research objectives were:

- (i) To determine the dimensions of internal service quality between internal customer supplier cells.
- (ii) To determine what variation, if any, there are in the dimension sets between internal customer supplier cells.
- (iii) To determine any ranking in the dimensions that could exist by internal customer supplier cell type.
- (iv) To investigate the impact of internal service quality on external service quality over time.

The research findings were:

- (i) The majority of the dimensions used in measuring external service quality were also used internally. There

were additions of new dimensions however and some dimensions which were used externally, for internal use, had to be redefined.

(ii) Variation in dimension sets were revealed during the research. Four different dimension sets were identified and these were matched with four different types of internal service interaction.

(iii) Differences in the ranking of dimensions within each dimension set for each internal customer supplier cell type was confirmed.

(iv) Internal service quality was seen to influence external service quality but at a cellular level rather than company level. At the company level, the average internal service quality at the start and finish of the research showed no improvement but external service quality had improved. Further investigation at the cellular level showed that improvements in internal service quality had occurred. Those improvements were found to be with the cells that were closest to the customer.

The research implications were found to be:

(i) Some cells may not be necessary in the delivery of external service quality.

(ii) The immediacy of the cell to the external customer and number of interactions into and out of that cell has the greatest effect on external customer satisfaction.

(iii) Internal service quality may be driven by the customer affecting those cells at the front end of the business first. This then cascades back to those cells which are less immediate until ultimately the whole organisation shows improvements in internal service quality.

Key Phrases/Words: Internal marketing
Service quality
Internal customers
Relationship Management
Action research

Preface

This research is a product of multiple support, technical rigour from Professor Graham Hooley, my Manager and Doctoral supervisor, clients and colleagues who added an extra spice of creativity and that important space factor from Lynne, Christopher and Charlotte.

The Thesis is dedicated to Christopher and Charlotte. May they experience the delights of analysis, opportunity, design, testing, compilation and man management skills at sometime in the future.

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1.0 Introduction.

1.1 Purpose.

To provide the contextual view in which this research project sits and to define the research objectives.

1.2 Contextual view.

Academic literature and commercial pressure are recognising service quality as a critical component in building lasting and profitable relationships with customers. Much of the literature suggests that service quality and product quality should be considered together in a total quality management environment within a corporate body. The resulting internal structure driven by marketing allows the customer to be satisfied cost effectively. This is doing the right things and then doing them right first time.

The role of internal service quality i.e. the level of service provided from one employee group to another in achieving external service quality seems to be less clear. This is not only in terms of how it needs to be measured, if it needs to be measured at all, but how this would work in reality. Internal marketing as a term has many definitions. It could be considered as essentially one group marketing internally derived services to another within an organisation. Internal marketing has arrived as a term in the literature but its definition and application to internal or external service quality is also less well defined.

Such internal service quality measured at the interfaces between internal customer-supplier cells, as suggested in the literature, is posited to improve the culture of the

organisation and so improve the service quality measured by the true customer, i.e. the customer external to the company for which that company exists to serve. It is also implied from the literature, particularly in the area of organisational behaviour, that the dimensions which measure internal service quality are not the same as those used to measure external service quality. The relevance of this is that if external service quality is thought to arise from internal service quality and the dimensions are different how would it be possible to track a particular dimension from the external customer to the internal one. This would be particularly relevant if a service shortfall to the external customer was detected.

This research intends to explore these issues. It will be multi functional by nature as the disciplines of strategy, marketing, operations, quality and organisation behaviour will need to be examined.

1.3 Research Objectives.

These are:

(i) To develop the concept and a model of internal service quality and its relationship to external service quality. This is becoming an increasingly important issue in research. If external service quality can be measured and the literature would suggest so, then the next logical step given the commercial pressures discussed in 1.2 will be to redesign the organisation to improve external service performance. The role that internal service quality plays in this needs to be defined.

(ii) To identify any internal groups within an organisation and classify them using the concept of internal service quality.

(iii) To develop a measurement tool which could be applied to the internal service quality model to determine the levels of internal service quality by group.

(iv) To test the internal service quality model within a company to identify if there is a relationship between internal and external service quality and so test its pragmatic value.

1.4 Thesis Map.

This is detailed in Figure 1.

Chapter 2 examines the research which has been carried out in the field of quality - specifically in the area of internal service quality. It will consider what quality is. Once it is understood what quality is and how it comprises of both goods and service components, the service quality component will be expanded upon to show how it is different to goods quality. This difference will then be explored by how it is measured by the customer. It will then be necessary to explore research in the area of internal service quality, in particular internal service quality measurement and examine how this affects the delivery of service quality to the external customer. This examination will include the role of the internal customer and how they internally market themselves to the next internal customer in the company.

Given the understanding of how internal customer groups market services internally and measure them, there needs to

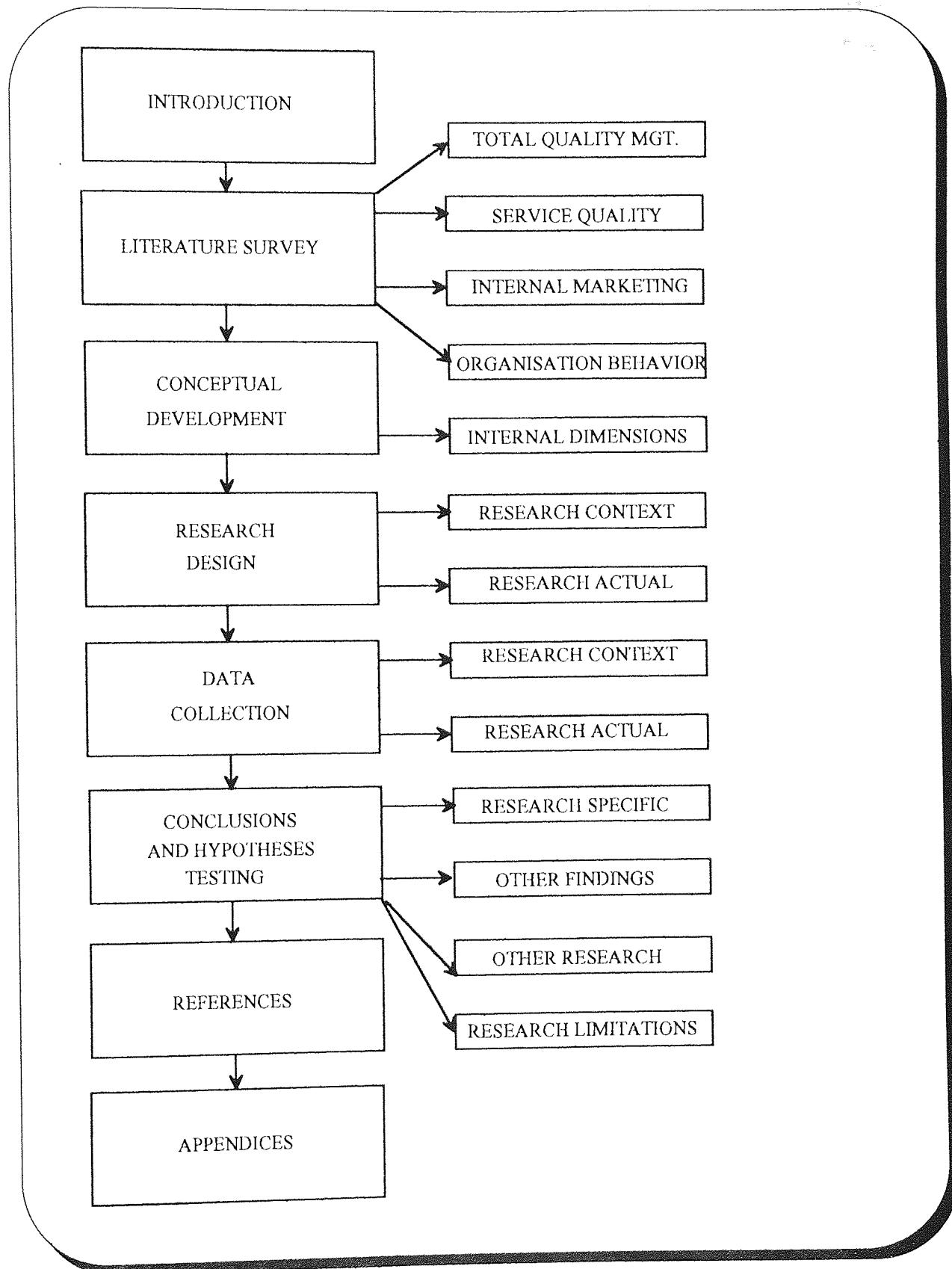


Figure 1 Thesis map.

be an examination of current organisation behavioural theory. This will further examine the dimensions which are used to measure internal service quality. Additionally the effect of management and organisation structure upon the delivery of internal marketing will be explored.

This literature survey resulted in the identification of a gap. This was found to be in the area of internal service quality specifically the dimensions which are used to measure internal service quality. A model was developed to show the internal customers use of internal service quality dimensions and this is presented in Chapter 3 with hypotheses to be tested.

The research design necessary to test the hypotheses is presented in Chapter 4.

Chapter 5 will present the data collected to test the hypotheses developed in Chapter 3. It will present data in two forms, the data which is contextual to the research such as the environment which the case sits in and second the actual research data itself.

Chapter 6 will discuss the conclusions from the discussions of the data in Chapter 4. It will draw upon the results to test the hypotheses and develop other conclusions not directly related to the hypotheses. It will additionally identify the limitations of the research and potential limitation which have been overcome.

Finally, Chapter 6 will point the direction for further research in the area of internal service quality.

The references and the appendices which are cited throughout the thesis are positioned at the end of the thesis. This includes the raw data which is summarised in Chapter 5.

Chapter 2 - Literature Review

2.1 Purpose

To examine the literature which relates to quality, specifically how service quality and its measurement sits within total quality management. Also to explore how an organisation achieves service quality by organising itself internally. This will result in the identification of gaps in the research literature and so define research opportunities.

2.2 Introduction

This chapter examines the research which has been carried out in the field of quality - specifically in the area of internal service quality.

To consider internal service quality, it will be necessary to define what quality is and how this definition fits within a company's structures and systems. It is this understanding which will demonstrate that internal service quality is affected by the organisation. This is the purpose of the section titled "TQM and the need for a market driven approach". The market driven approach is specified because it is an assumption that properly implemented quality initiatives are based upon market information determined from the customer. Once it is understood what quality is and how it comprises of both goods and service components, it will then be possible to explore what service quality is and how it is different to goods quality. This difference will then be explored by how it is measured by the customer. This is the purpose of the next section "The development of customer service quality". Whilst customer service quality

is measured by the customers which the organisation serves, it is necessary to explore research in the area of internal service quality and examine how this affects the delivery of service quality to the external customer. This is covered in the sections "Internal service quality - measurement and tracking processes".

The delivery of service quality depends upon (amongst other factors) the internal structure of an organisation. If internal customers exist then some form of measurement must be taking place internally during an exchange between internal customers. By observing this delivery process we can define the measurement of dimensions. This is discussed in the section "Internal marketing and its relationship to internal service quality". Given the understanding of how internal customer groups market services internally and measure them, there needs to be an examination of current organisation behavioural theory. This will further examine the dimensions which are used to measure internal service quality. Additionally the effect of management and organisation structure upon the delivery of internal marketing principles will be explored. This is covered in the section "Internal marketing and its relationship to organisation behaviour". Conclusions will then be drawn.

2.3 TQM and the need for a market driven approach

To understand what Total Quality Management is, it is necessary to understand what the term quality means. Once we understand quality it will then be possible to see how this is applied across or totally within an organisation and how it is managed i.e. Total Quality Management.

Quality is defined in many ways. These definitions vary in focus but not in the overall message of meeting a need.

Crosby (1979, 1984) defines quality as "conformance to requirements". Translated, this is that a good and/or service should meet the specifications which have been laid down. This definition has interpretation problems as it is not clear whether the specifications should come directly from the external customer or produced within the company. The latter not necessarily focusing upon the external customer requirements but merely what the company perceives as the external customers requirements. Deming (1982) defines quality as a "predictable degree of conformity and dependability at low cost and suited to the market". This definition specifies that the goods and /or service should be produced to the specifications of the external customer at a minimum cost to the company. This is similar to Crosby's definition but differs in how it is delivered to the customer. Deming believes that it is not possible to exactly meet customer requirements but that it can be approached in a consistent fashion. Neither of these definitions distinguish adequately between different levels of quality in the market place. This is better defined by Juran (1974) as:

"fitness for purpose".

Juran identifies the true benefit to the customer in identifying what the customer will be using the good and/or service for. One product may be of the right grade (where grade is defined as meeting design specifications) but inappropriate to use in the application that the customer intended it for - a potential weakness with Demings definition although he does state that the product needs to be suited to the market place even though he does not state which one.

Oakland (1989) defines quality in a similar way to Juran:

"meeting the customer requirements" is an organisation wide
but specifies the marketing role more closely. Oakland
continues:

"Marketing is responsible for determining the key characteristics which determine the quality of the product in the eyes of the customer. This can involve the use of market research techniques, data gathering and analysis of customer complaints. If possible quasi quantitative methods should be applied giving proxy variables which can be used to grade the characteristics in importance and decide in which areas superiority over competitors exist."

This is supported by Hooley (1993) who specifies that quality management should always be marketing led. Thus by marketing determining customer requirements the specifications can then be passed to the internal functions for these needs to be met. Oakland believes that marketing must take the lead in establishing customer and so quality requirements by reviewing, market needs, clarification of not clear or not stated expectations, communication and confirmation of preconceived ideas.

All of these definitions aspire to matching customer requirements and so producing customer satisfaction. Some achieve this better than others. It is Drucker (1989) however, who places these quality definitions in a business purpose context:

"There is one valid definition of business purpose: to create a customer. It is the customer who determines what a business is. What the business thinks it produces is of no importance - especially not to the future of the business and to its success. What the customer thinks he is buying and considers value is decisive - it determines what a business is, what it produces and whether it will prosper".

If we generically translate all of the previous definitions of quality as meeting customer requirements, Drucker is the first to imply complete or total organisation focus. All of the prior definitions are broadly focused upon satisfying

the customers needs but have no organisation wide statements. If Drucker sees this customer satisfaction as critical to the whole organisation's survival then he sees the company effectively shaping itself from the customers requirements. We can expand Drucker to say that company assets have little value without the existence of customers. Thus the key goal is to attract and retain customers at a profit. This customer attraction is by producing competitively superior products and is retained by customer satisfaction previously discussed as a combination of goods quality and service quality. Thus the need for good market research, so that the business can shape itself to the external customer.

By considering Drucker's and the other definitions we can see that quality has two components, "doing the right things" - external market focus and "doing things right" - conformity to requirements specified by external market focus i.e. internal focus upon efficiency. Thus we have to identify what the requirements are and deliver against them. This can be termed as the operationalisation of customer requirements. Piercy et al (1992) supports this approach and defines the management of this quality as having three main pillars:

(i) **Customer focus** which emphasises providing quality in terms of customer needs and specifications.

(ii) **Process understanding** which emphasises the understanding of the design and control of the process by which the product, the combination of goods, service and ideas is delivered to the customer. This is the functional product quality or service quality.

(iii) **People involvement** which emphasises that all employees have a role to play in quality programmes.

Deming (1982) supports the two pillars of process understanding and people involvement in particular:

"Improvement of the process increases uniformity of output of product, reduces re-work and mistakes, reduces waste of manpower, machines and materials and thus improves productivity with less effort. Other benefits of improved quality are lower costs, better competitive position, happier people on jobs and more jobs through better competitive position".

Indeed, in terms of "doing things right" process understanding and people involvement are widely seen as critical. In terms of "doing the right things", customer focus is seen as critical to any total quality management initiative. Brown (1991), Imai (1986), Ishikawa (1987 a,b), Shingo (1989), Taguchi (1986), Fukuda (1985) all support these three pillars.

Given that both Drucker (1989) and Piercy (1992) state that all employees should be involved in the process of identification and delivery of quality to the external customer, we have total quality. As Piercy et al (1992) cite process understanding and people involvement, this requires management. Thus the term total quality management can be formed. Using primarily Drucker's statement, for total quality management to be effective, it must be driven by the market place. We can term this market driven total quality management. Thus an organisation which can demonstrate market driven total quality management will survive and prosper, retaining its customer base and attracting new ones. This is supported by Kotler (1991) and Oakland (1989) in his previous definition of quality and can be summarised in Figure 2.

If we follow this line of argument i.e. that to attract and retain customers for the existence of business and also that marketing is the integrative function between external

marketing is the integrative function between external customers and the company, how do the quality specifications become delivered? Oakland (1989) in the continuation of his previous reference, provides the answer.

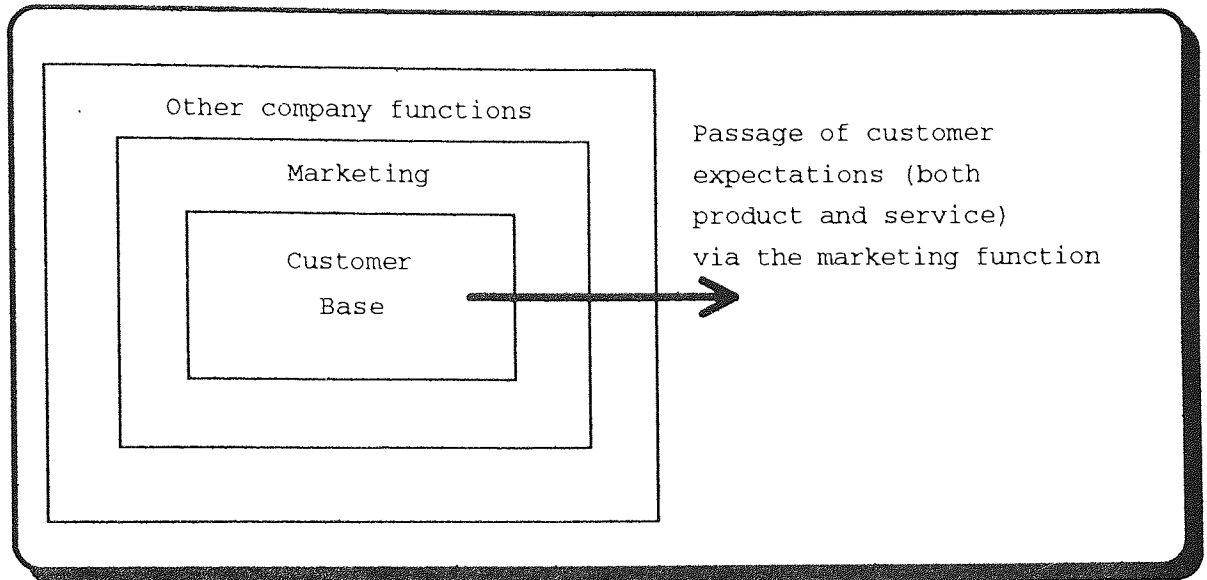


Figure 2 Meeting business purpose through marketing's integrative role between customer needs and the operationalisation of those needs within the business. (Source: Developed from Kotler (1992)).

He states that quality specifications are passed through the organisation by the design of internal customer/supplier cells. These cells are autonomous and take the quality specifications from the customer which they must serve inside the organisation. Equally each of these internal customer/supplier cells will have demands upon suppliers within the organisation. Thus we have internal customer/supplier cells forming a network within the organisation. Ultimately of course, some of these internal customer supplier cells connect with the outside customers and suppliers. This is represented in Figure 3.

Oakland is thus specifying structurally how quality specifications are translated from external identification through to internal delivery. This is supported by Canton

to service businesses from the approach of manufacturers where these cells already exist.

The British Standards Institute (1990) provide process systems (consistent with Piercy (1992)) which allow the delivery to be systematically controlled. Consistent with Piercy and Oakland, two standards exist. These are B.S. 5750 and Marketing Quality



Figure 3 The organisation as comprising of internal customer supplier cells satisfying the external customers functional and technical quality . (Source: Oakland (1989)).

Assurance. The former ensures that the organisation completes the specifications correctly by having quality systems which apply to the operational departments such as stores and production. The latter ensures that the organisation identifies the correct specifications by having quality systems which apply to the marketing, sales and customer assurance departments. The systematic approach of these two quality accreditation's can provide the following benefits to an organisation.

...best practice criteria, it
...short of the

(i) ensure minimal standards of marketing and operations practice are achieved and assist in the professionalism in the practice.

(ii) offer an external and internal perception of marketing and operations achievement from the attainment of MQA and B.S. 5750 registrations.

(iii) clarify the role of marketing as the integrative function between the organisation and the customer base.

(iv) raise the standard of marketing and operations performance of those companies which do not possess a formalised marketing function.

(v) increase customer orientation by the adoption of the customer assurance system.

(vi) control the quality of marketing at the customer supplier interface.

However these standards also:

(i) concentrate on systems and processes rather than the general management approach of Juran (1974)

(ii) imply systems first, people later approach. Successful total quality management programmes consider both elements in parallel (Oakland (1989)).

(iii) ignore the interpersonal elements internally such as management or external elements such as customer relationship building.

(iv) not provide international best practice criteria, it is only a basic standard and as such falls short of the requirements for a detailed market audit.

(v) provide a high degree of documentation and rigidity which may stifle the creative aspects of marketing.

(vi) offer potential conflict between the quality manuals kept by operations and that kept by marketing. Two parallel systems may not integrate. This would make board level strategy hard to formulate.

(vii) not sufficiently cover the innovation process and new product development.

Probably the largest weakness of MQA is that mirrored in the BS 5750 series. It is the minimal acceptable level of quality system and does not offer a true measure of performance orientation. Neither does it take account of people skills to implement and own such a system as Piercy details in one of his quality pillars - people involvement.

Cravens et al (1988) considers the systematic approach of identifying external customer key dimensions of perceived quality. He believes this must come first before the organisations perceptions of quality. He states that once these dimensions have been identified then they should be tracked internally. This is consistent with Piercy but Cravens does not suggest how this tracking should occur or what should be measured. Anderson (1988) does. He believes that the key to any successful quality control of the organisation from the marketing function through to other organisations functions needs an information system.

He advocates the need for intelligence based organisations which are needed to survive the ever increasing rate of

environmental change. This system would allow the rapid response required to react and be pro-active within the market sphere in which the organisation deals. He states:

"The life cycle of an individual, group or an organisation is largely determined by their effectiveness in controlling the environmental demands and constraints that determine the conditions of their continued survival. Yet few go about this process with any deliberateness. For most people, life is a pin-ball machine, ricocheting from one environmental impact to another with no design or direction".

Clearly, such a control and thus the distinction between the organisation which prospers and that which does not, is the development of such an intelligence system. By the structuring of the marketing processes on the external views of perceived quality then the requirements can be translated to the internal processes consistent with the TQM framework cited previously by Deming, Juran, Oakland and Piercy.

Anderson continues to support the structured approach to marketing quality. As the marketing function is the external control function for the organisation i.e. it gains control of the environment by attraction of customers and maintains it by the customer retention, it is logical to assume a need for the structured (process driven) control of it.

The corporate benefits of following the previous discussion are clear and so provide motivation for research into quality which will aid the scientific data collection at a later stage in this project. Amongst others Brown et al (1991) cite the benefits:

"Quality, productivity and profit are triplets; separating one from the other creates an unhappy family...Quality affects all variables that constitute the profit formula: revenue, cost and capital investment. Quality improvements affect revenue through an improved image, increased sales, economy of scale and decreased price competition. They affect cost through diminished costs for re-work, scrap, warranty and product liability. Finally, work in progress

and inventory are reduced, orders can be filled and invoiced earlier, leading to faster payment. Consequently, capital is freed for alternative investment. All of this improves the productivity and eventually the bottom line."

Christopher (1992) supports this in his discussion of the PIMS studies in that customers who rated companies on superior performance (higher levels of customer satisfaction) showed on average 9% higher prices compared to the competition, twice the level of sales growth and 6% increase in market share per year.

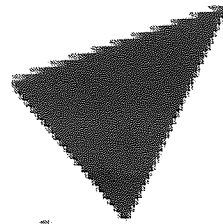
Given the discussion of quality, its generic definition, how it is identified and delivered, the components of quality need to be considered.

Continuing with Piercy's 1992 article, he recognises that:

(i) customer quality perceptions are a product of the difference between the initial customer expectations and the perceptions of the outcomes achieved in buying a product or service.

(ii) customers evaluate at least two dimensions of quality: technical quality in terms of how the product performs and functional quality in terms of how the product is provided including all of the interactions with the customer and the organisation.

(iii) customer perceptions of the technical and functional quality of the products they purchase can be affected by the image of the supplier organisations.



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Figure 4 Total product quality as a composition of technical quality and functional quality. (Source: Brooks and Wragg al (1992)).

Thus we can conclude that the delivery of quality has two components, a tangible goods quality and an equally important service related component. Thus we now need to consider the total product quality concept as discussed by Brooks and Wragg (1992) and depicted in Figure 4. This total product quality is equally applicable where the product is a good as in manufacturing or if the product is a service as in consultancy. Garvin (1984) supports this but considers only the serviceability related to the product after sales and not the service quality in terms of how the product was delivered to the customer.

Brown et al (1992) in their article additionally discuss this relative mix of product and service within a customer specification. The basis of their argument is that for every product which is purchased, the cost of production in even the most dedicated manufacturing company is seldom more than 30% of the final price. More than 70% is consumed by the maintenance of a customer service and delivery system. This is a perfect model as there may be a large % contribution

which is rework and waste and does not contribute to either. This means that the service function must become one of the main targets for the definition and application of quality philosophies and techniques. This service quality is applicable to Brown et al's (1992) above the line service quality (the one which the customer or client actually experiences) and below the line service quality. This is the one which embodies the processes which the customer does not experience, such as the marketing or finance functions, but which is essential for the excellent execution of the above the line activity. Given this cost breakdown - service quality deserves equal if not more attention than technical quality.

The below the line processes are also discussed by Heskett et al (1994) and support the need to identify below the line processes particularly when controlled by internal customers. They cite that the internal customers must be well defined for internal service quality to be effective which contributes to external service quality.

2.4 Summary

(i) There are many definitions of quality, some leaning towards internal efficiency and cost control, some leaning towards external identification of customer needs as the driver for all quality. All agree that specifications should be focused upon customer needs.

(ii) The total quality approach managed across the whole organisation enables the meeting of internal delivery specifications and external identification of specifications.

(iii) Marketing has an important integrative role to play between the customer and organisation so that market driven total quality management will be effective in providing company benefits.

(iv) To deliver quality external specifications have to be defined. A combination of people, structure and systems are also required. Structure in the form of internal customer supplier cells links these together and provides the customer conscious employees required to deliver quality to the external customer. This implies that the first customer supplier cell should reside within the marketing department which is providing the customer focus.

(v) Given the internal customer supplier cells to deliver quality two components of quality need to be considered: the technical performance; and the service performance. Given the proportional loading of costs - service quality across these internal customer supplier cells deserves more attention.

(vi) If these internal customer supplier cells are to be researched which is implied that they should be to look at

internal service quality. then the organisation must satisfy the following prerequisites:

(a) Total quality management must be in place within the organisation.

(b) A detailed understanding of the processes within the organisation will be needed.

(c) People involvement needs to be measured and this may be possible by considering the service element of total product quality as the service element requires people to deliver it.

2.5 The development of Customer Service Quality. (1988)

Given the previous argument that the goods content is significantly less than the service content for many product offerings (but not all), we shall examine the service content classification and how it is measured.

The service component of total product quality as defined by Brooks and Wragg (1992) has several distinctions from the goods quality component. Garvin (1983) supports this and states that goods quality is much more tangible in its classification by considering such indicators as durability and the number of defects. Parasuraman et al (1985 a) describe service quality differently:

"..service quality is an elusive construct because of three features unique to services: intangibility, heterogeneity and inseparability of production and consumption. In the absence of objective measures, an appropriate approach for assessing the quality of a firms service is to measure the consumer's perceptions of quality."

Intangibility means they cannot be measured, tested or verified prior to the sale to assure quality. A good can be tested against its dimensions and end use.

Heterogeneity is related to people. Because it has a high labour content, service personnel are intrinsic to the service. Therefore performance and evaluation of the service can vary upon the individual who is providing it and the customer who is receiving it. The delivery of one service to the next (process consistency) can also vary as it can temporarily within each service offering.

The production and consumption of many services are inseparable. In many situations the customer participates in the process changing the outcome. Parasuraman's definition considers the features of service but does omit a fourth

classification. This is perishability. Rushton (1988) describes that a service, given it is produced and consumed at the same time cannot be saved and once the opportunity is missed, there is no second chance to sell a service to a customer.

Given the people intensity within the interaction between provider and consumer the service quality therefore is as important as the outcome which may include a goods quality component. Kohoutek's (1988) definition of service quality which can be described as:

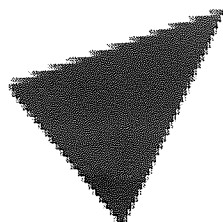
"Multi- attribute product characteristic which can be expressed by a generalised overall rating which is based on multi-dimensional measurements that reflect rank ordering of preferences and their relative importance".

This comes closer to the definition of service quality. It recognises that multi - dimensional measurements are required but does not identify which attributes are required for service quality. Kohoutek (1988) also does not make a clear distinction between the goods quality and service quality component.

One of the first to attempt to define the service quality attributes in a construct was Gronroos (1984 a). This is given in Figure 5.

He develops the argument that technical and functional quality (as described by the outcome and the process itself) contribute to the third generic quality dimension - Image quality. This image quality is perceived by experiencing both the technical and functional quality but is also influenced by other factors such as external factors (tradition, ideology and word of mouth) and internal factors, i.e. those within the control of the marketer (advertising, pricing and public relations). It is these external and internal factors which Gronroos states as

defining the expected service. Again this is similar to Kohoutek's statement because the product and service components seem to be strongly inter-linked. Gronroos does however make an important definition which Kohoutek does not. There is an expectation of service quality before experiencing the process and a measurement of the service quality afterwards. This difference or gap contributes to the direct measurement of service quality.



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Figure 5 Service Quality model (Source: Gronroos (1984)).

Gronroos applied Likert scales to measure service quality items within the service industries such as banking consultancy and insurance companies. His questionnaire was not applied to manufacturing or process industries where functional quality is known to exist. However his findings were that functional quality in some cases is seen as at least as important as technical quality if not more so. Two important findings came from his work:

1. The promises about how the service will perform given by traditional (internal) marketing activities, and communicated by word of mouth, must not be unrealistic when

compared to the service the customers will eventually perceive.

2. Managers have to understand how the technical quality and the functional quality of a service is influenced, and how these quality dimensions are perceived by the customers."

It is clear that in order to keep the gap between the expected service and the perceived service as small as possible then these two findings need to be taken into consideration. This Gap was defined by Gronroos (1984 a), Parasuraman et al (1985) and Headley et al (1992) as the service quality gap. All authors agree that a better understanding of the gap concept enhances any organisation's ability to meet customer expectations. Thus we can deduce that to measure service quality we must measure the size of the gap between expected and perceived performance. The dimensions which are used to measure the difference between the expected and perceived service quality (in a number of specific service offerings) were identified from work carried out by Parasuraman et al (1988 a). They developed SERVQUAL which was a multiple item scale for measuring consumer perceptions of service quality. It is represented in Figure 6.

As Gronroos, this model looks at the perceived quality that a customer experiences and the expected quality that the customer expected prior to the interaction. As Gronroos, the researchers looked at twelve focus groups with consumers within four industry sectors, banking, credit card, securities brokerage and product repair and maintenance. Again the opportunity to explore the functional quality within a manufacturing context had not been pursued.

Whilst the model SERVQUAL looked at the internal gaps which can contribute to the external service quality gap 5, gap 5

was defined in terms of ten dimensions. Each of these dimensions were dimensions which the customer would use to measure the service quality of a provider both for the expected and perceived service quality.

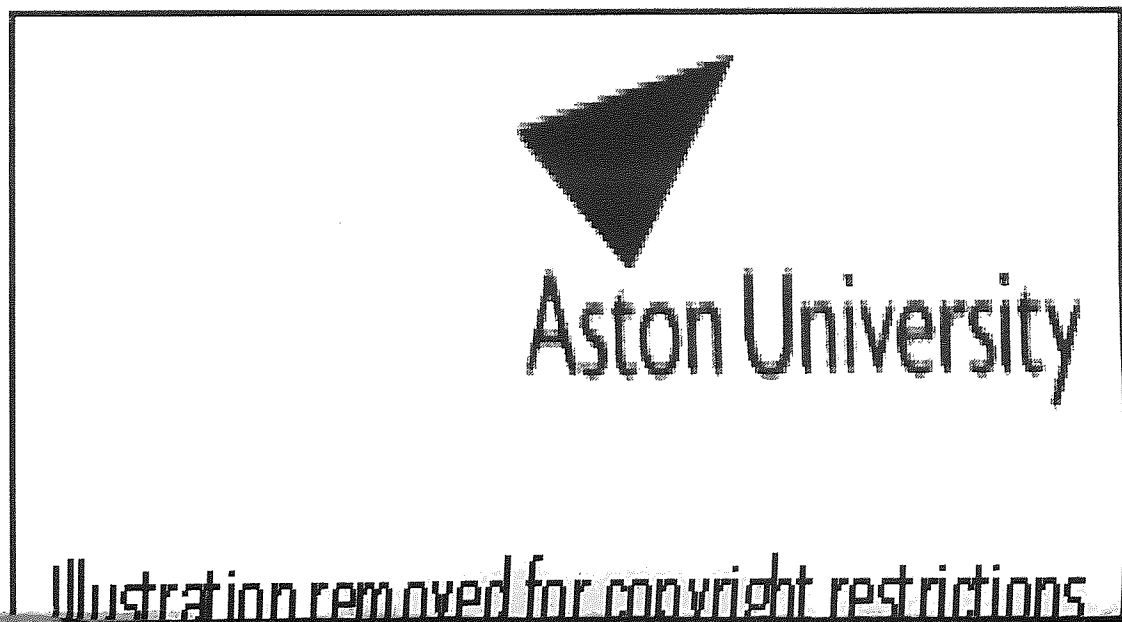
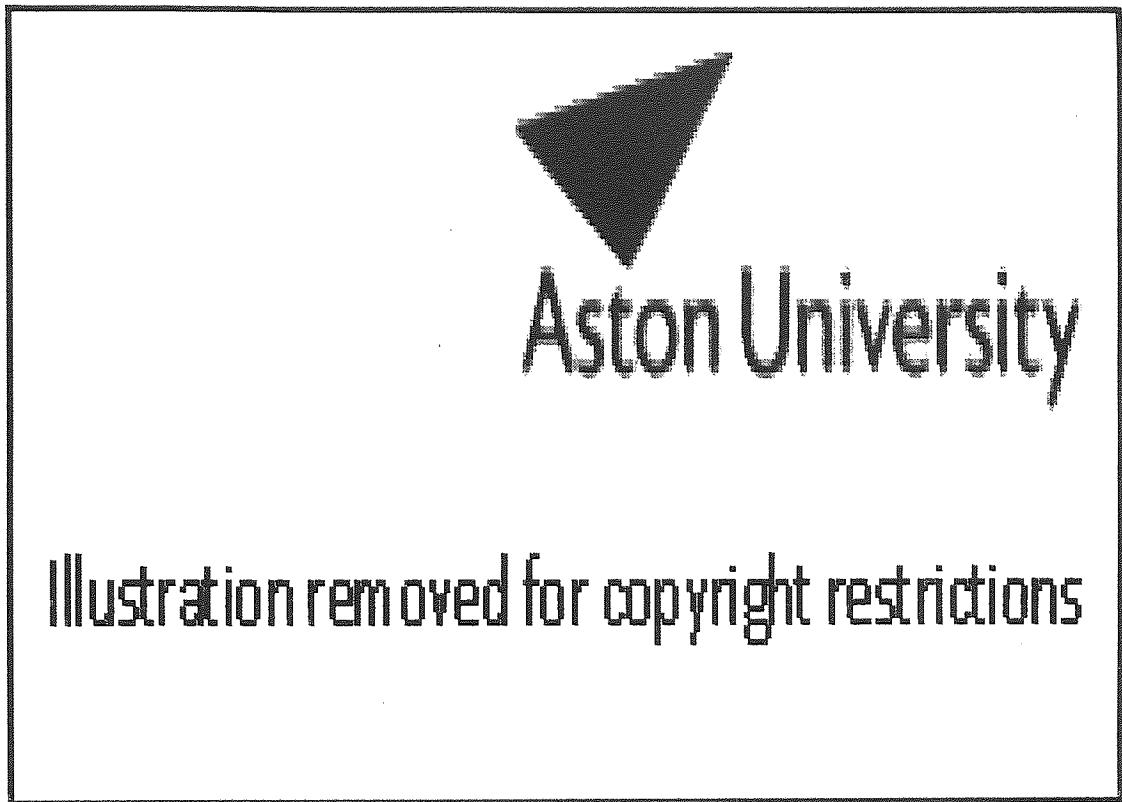


Figure 6 - SERVQUAL a service quality model (Source: Parasuraman et al (1988b)).

These ten derived dimensions were specified as: ~~consideration and~~

- (i) Tangibles
- (ii) Reliability
- (iii) Responsiveness
- (iv) Communication
- (v) Credibility
- (vi) Security
- (vii) Competence
- (viii) Courtesy
- (ix) Understanding/Knowing the customer
- (x) Access

These were defined as:

(i) Tangibles - such as the appearance of the physical facilities, equipment and appearance of personnel.

(ii) Reliability - such as the ability to perform the promised service dependably and accurately.

(iii) Responsiveness - such as willingness to help customers and provide prompt service.

(iv) Communication - keeping customers informed in a language they can understand and listening to them.

(v) Credibility - trustworthiness, believability, honesty of the service provider.

(vi) Security - freedom from danger, risk and doubt.

(vii) Competence - possession of the required skills and knowledge to perform the service.

(viii) Courtesy - politeness, respect, consideration and friendliness of contact personnel.

(ix) Understanding the customer - making the effort to know customers and their needs.

(x) Access - approachability and ease of contact.

Scale purification led to the simplification of these dimensions into five dimensions, three original and two were combined. These simplified dimensions (which also have a weighting applied to them) are :

(i) Tangibles - such as the appearance of the physical facilities, equipment and appearance of personnel.

(ii) Reliability - such as the ability to perform the promised service dependably and accurately.

(iii) Responsiveness - such as willingness to help customers and provide prompt service.

(iv) Assurance - which clustered the dimensions of competence, courtesy, credibility and security.

(v) Empathy - which clustered access, communications and understanding.

The dimensions of assurance and empathy contain the items representing the original seven dimensions of competence, courtesy, credibility; security, access, communications and understanding. These were not distinct after the two stages of purification. Garvin (1987), when considering his eight dimensions of quality upon which a company should compete, supports the reliability as a dimension and ranks this as one of the most important. Garvin additionally supports the

concept that perceived quality as measured by the customer should be the basis from which internal quality should be measured. This work was a postulation however and was not derived empirically.

Moore (1991) is sceptical of Parasuraman et al's approach as these clusters of measurements were raised by only four sectors of industry. As such the generic nature of these five factors is in doubt as to their global applicability. He suggests that different types of customer will have different evaluation criteria i.e. markets are segmented. If we follow Frazer-Robinson's (1991) niche and eventually individual marketing concept, this may well be the case. Customers without the aid of a framework may have subtly differing scales of assessment which makes competitive comparison difficult. Even if we use a framework such as SERVQUAL two problems could potentially exist. One is that the same dimensions may be used but with differing weights, the other is that customers may measure the same underlying dimensions but in a different way.

Other dimensions of service quality have been postulated. Sasser et al (1978) defined service quality dimensions as materials, facilities and personnel. Lehtinen and Lehtinen (1982) defined the dimensions of corporate image quality (what is the quality of the image), physical quality (that measured) and interactive quality (how the service was received). Edvardsson et al (1989) defined the dimensions as technical (that measured), integrative (how well the service systems fit together), functional (that received during delivery) and outcome (that service meeting the original need). Gronroos (1988) accepts the dimensions of Parasuraman et al but adds recovery as an additional dimension. Johnson et al (1990) consider additional dimensions adding to the original ten of Parasuraman et al in the areas of cleanliness, comfort, availability, friendliness. For

Johnson's dimensions we can observe similarity to Parasuraman's dimensions of tangibles (cleanliness), assurance (comfort), responsiveness (availability) and empathy (friendliness).

Bojanic (1991) redefines all of the determinants and arrives at twelve. These are, location, employee appearance, office appearance, accuracy of work, promptness, co-operation, responsiveness, employee knowledge, partner knowledge, professionalism, accessibility, and personal attention. This was based on 30 questionnaires and was for one company which opens the issue of generalisability. Freeman et al (1993) define seven dimensions applicable to an accountancy firm, timeliness, tangibles, assurance, empathy, fees, professionalism, and exceptions. Swartz et al (1989) cite three, competence, credibility and communications when applied to health care.

Whilst these dimension sets have been postulated these determinants in these cases have been for a specific industry sector or are only postulated without empirical validation. All use the concept of the gap to measure service quality. It would appear that dimensions can be determined for specific sectors and that Parasuraman et al's ten dimensions are broadly not specifically applicable, i.e. they can act as a basis to determine the specific dimensions which are applicable to the environment in which the service quality is being measured. The strongest basis for service dimensions given the generalisable critique would still seem to be Parasuraman et al's ten dimensions however because of the volume of empirical validation. This is supported by Lewis (1992) although she does critique the way in which the questionnaire is applied (Lewis (1993)). She believes that the scale of 1 to 7 used to assess the expectations and perceptions can lead to extremes being used and because of the 44 items used can lead to questionnaire fatigue.

Parasuraman et al (1991) have attempted to answer the dimensions questionnaire critique and have modified the questionnaire accordingly. They have identified that some of the dimensions interact but cite this as additional research.

Carman (1990) also supports the use of Parasuraman et al's dimensions and whilst he found variance in his industry sectors in their application he stated that the original ten dimensions were a good starting position to derive the more specific applications. This is supported by Parasuraman et al (1993) who cite the SERVQUAL items as core or skeletal evaluation criteria.

Cronin et al (1992), re-examined the measurement of service quality and derived a simpler model than Parasuraman. They confirm that service quality is an attitude consistent with Parasuraman et al's model.

Cronin et al looks at a simpler measurement of Gap 5 which they term SERVPERF. This is based upon a reduction of items which need to be measured from 44 items of Parasuraman et al. These 44 items comprised of 22 items of expectations and 22 items of perceptions. The 22 items are the same for expectations and perceptions and are clustered into the five dimensions of tangibles, reliability, responsiveness, assurance and empathy. SERVPERF, Cronin's model compared to SERVQUAL simplifies the measurement to 22 items. These 22 items only relate to the perception aspect of the measurement of service quality. An underlying premise is that expectations are always at a maximum score and so it is not necessary to measure them separately.

Other issues which Cronin et al's paper raises is

(i) service quality being an antecedent to customer satisfaction

(ii) customer satisfaction exerts a stronger influence on purchase intention than service quality.

(iii) the generalisability of Parasuraman et al's measurement dimensions.

"Finally, the results from step 1 also suggest that the scale items that define service quality in one industry may be different to another. Perhaps high involvement services such as health care or financial services have different service quality definitions than low involvement services such as fast food or dry cleaning. Managers must therefore consider the individual dimensions when making cross sectional comparisons."

This point confirms Moore's proposition that SERVQUAL may be restricted because of its focus on four industry sectors. Equally, given this lack of generalisability it would be prudent for any research to develop the dimensions of service quality from first principles and not assume any prior dimensions. This would appear to be the case as work by Powers (1988) identified dimensions some of which differ from those determined by Cronin (1992) and Parasuraman et al (1988b).

Powers (1988) as Parasuraman (1988b), Cronin (1992) and Gronroos (1988) highlights the problems of the measurement of quality in customer service and defines it as comprising of the perception of customer expectations and the evaluation of delivered versus customer expectations.

This is essentially no different from Parasuraman et al's model but Powers proposes a differing set of factors which he calls a customer taxonomy for the purpose of customer service measurement. These differ from SERVQUAL gap 5 elements and suggests that these can be used additionally as

the measures for any customer research which will be required by the supplying organisation from the customer. Indeed he suggests that this taxonomy can be used to profile the service quality performance of the competition.

These factors are:

(i) Communication channels which are essential to current and potential customers to ask questions, voice complaints, submit orders and trace shipments. Clearly the number and quality of these channels are indispensable to customer service. There should be standards of performance by communication channel and different types according to pre, during and post sale including a hot-line.

(ii) Uniformity of service. This covered by the quality system aspects and the adoption of quality philosophies via training.

(iii) Simplicity which results from removal of jargon, reducing the number of process steps required for ordering or complaints.

(iv) Truthfulness and accuracy which results from delivery to schedule, delivery against agreed product specification, up to date customer field information.

(v) Objectivity which results from specific time bound objectives such as wastage of customers, new customer acquisitions, not the handling of customer complaints.

These factors have some similarity to the factors within the Parasuraman et al and Cronin dimensions. Communications is expanded to include customer complaints but essentially the same as the communications dimensions of SERVQUAL. It does include simplicity as a separate dimension which SERVQUAL

considers as a communication element. Uniformity of service is the same as SERVQUAL's reliability. Truthfulness includes multiple measures such as assurance, empathy and responsiveness. Powers article did not show scientific proof that these factors would form a robust model.

The external measurement of service quality was revised by Parasuraman et al (1991). The authors argue that the key to providing superior service is understanding and responding to customer expectations, which have been defined already by Parasuraman et al (1988 b) as reliability, tangibles, responsiveness, assurance and empathy. While reliability is largely concerned with the service outcome, tangibles, responsiveness, assurance and empathy are more concerned with the service process. Additionally whereas customers judge the accuracy and dependability (reliability) of the delivered service, they judge the other dimensions as the service is being delivered.

Furthermore, Parasuraman et al (1988) show that reliability is the most important factor in meeting customer expectations, the process dimensions, especially assurance, responsiveness and empathy are most important in exceeding customer expectations.

Parasuraman et al's (1988) preliminary conclusions from this article showed that:

- (i) Customer service expectations have two levels, desired and adequate. Desired is that which the customer hopes to receive. Adequate is that which the customer seems to be acceptable. If this is considered as a range then there is clearly a zone of tolerance which can extend or contract according to the individual customer. This is equally applicable to the quality dimension being examined and the previous experience of the customer and availability of

alternative suppliers. This zone of tolerance will clearly be dynamic.

(ii) As customers view reliability to be a core service then they will have higher expectations and a reduced zone of tolerance.

(iii) Exceeding the desired expectations creates a strong customer loyalty and falling beneath the adequate level creates competitive disadvantage whilst performing within the zone of tolerance (i.e. the area between adequate and desired) creates a competitive advantage in that customers are satisfied and so have a loyalty to the provider. This loyalty may be overcome if another provider delights the customer and here a strong competitive advantage is being displayed.

(iv) Customer relationships are central to exceeding customer expectations because relationship building requires assured, responsive, empathetic service over time.

The relationship management element will be examined further as this has ramifications for the measurement of external service quality and the internal measurements which are required. Measurement of internal service quality will have relationship management aspects because of the relationship between employees will necessarily be long term. This is supported by Robinson (1991) and Gronroos (1990), who believes that sales should be relationship based and not transaction based.

Christopher (1992) and Hooley (1992) supports the relationship approach specified by Parasuraman et al. Parasuraman et al define three levels of quality:

(i) The quality of the service (i.e. perceptions as defined by Parasuraman et al)

(ii) What is expected of the service by the customer (i.e. expectations as defined by Parasuraman et al)

(iii) Where service expectations as in (ii) are exceeded.

The basis of his definition is that every interaction with a customer provides an opportunity to be unique and to go beyond simply meeting expectations. He sees unique customer satisfaction (iii) as "customer delight" similar to Parasuraman et al.

Cravens et al (1986) extend the relationship view in that a customer oriented, quality differentiated service strategy gains customer loyalty, increases market share and reduces costs. As a result they outline three main responsibilities for marketing management:

"Marketing personnel must help to determine customer quality expectations and participate in translating these expectations into quality performance standards (as discussed) as the ultimate success of the companies quality programme depends upon the quality requirements of the buyer"

Marketing professionals must apply the quality process to improve the quality of the marketing operations (the system and tools approach)

Marketing management must use the high quality of products and supporting services to gain the increases in market share."

Fraser-Robinson (1991) also supports this relationship centred approach to service quality.

Consistent with other authors discussed, Robinson advocates that competition will be on quality design and service and that price will be based upon customer perceived value. He

believes that implementation excellence will be a key strategic tool to competitive advantage through exceeding customer expectations.

Given the movement to compete on quality and implementation excellence, broad based relationships with the customers will be required. These customer demands on quality and broad based relationships will generate the need for stability in relationships and customer service levels as a result will have a strategic importance to the organisation.

Customer service gives the competitive edge continues Frazer Robinson, which is shared by Levitt (1985) who believes that product differentiation will only result within a specific market segment by the level and quality of customer service. This is the augmented product concept or the product surround concept and is supported by Christopher (1992).

As a result, customer attraction and retention will be based upon the ability of an organisation to develop a robust relationship. The principle behind this relationship management is that the organisation should consciously strive to develop marketing strategies to maintain and strengthen customer loyalty. The benefits of such a robust relationship are expanded by Christopher (1992):

"The cost of acquiring new customers can be substantial. A higher retention rate implies that fewer customers need to be acquired and these can be acquired more cheaply

Established customers buy more

Regular customers place frequent, consistent orders and therefore, usually cost less to serve

Satisfied customers often refer customers to the supplier at no extra cost

Satisfied customers are likely to pay premium prices for a supplier that they know and trust

Retaining customers makes market entry or share gain difficult for competitors"

Frazer Robinson proposes the following objectives for any organisation which wants to adopt the service quality marketing approach. He advocates that:

(i) Service quality marketing practices place increased values upon the human interaction, chemistry and involvement since they are less focused on the generation of transactions and more on the construction of relationships.

(ii) Companies which are restructuring to provide increased levels of customer involvement should consider when deploying staff that they should have people skills in abundance.

(iii) Marketer's must create forums in which to do business which cultivates relationships rather than simply generate transactions.

Consideration of the above leads to the conclusion that marketer's must adjust on less promotion and build more solid business. Any organisation which uses exploitation processes attracts a less loyal customer who can be more easily tempted away by others. Quality marketers enjoy longer lasting more profitable and satisfying relationships with their customers. As such those companies which appreciate and use total product quality marketing concepts build customer loyalty as an asset for their business. But to succeed in implementing quality techniques, companies must be sure to adopt these on a formal basis and that such new cultural and philosophical objectives are set, monitored, analysed and rewarded.

Robinson continues to advocate greater access to specialists and know how and more communications to satisfy this new demand. The need to be understood by organisation should be via empathy with human dynamics, recognition of demands and pressures, shared growth paths and assistance in the education and training process to help master technology. The need for more intimate relationships should be personal, less corporate, more educated and informed, more reactive to needs and have a higher service expectancy. The service expectancy is believed to be improved stock availability and reaction time, better distribution, faster delivery and more customisation.

This approach has ramifications for the sales and internal processes. On this basis, to secure long term relationships, customer service quality care is fundamental. If this is achieved, there are benefits of security confidence and commitment which will foster a shared development path or mutual growth path. This will result in a new openness over corporate goals, costings and the passage of cost based savings to the customer. This is supported by Coulson-Thomas (1990).

2.6 Summary

(i) Goods quality is primarily measured in tangible terms, service quality is more intangible. It is differentiated from goods quality in that production cannot be separated from consumption, it is heterogeneous and cannot be saved.

(ii) The measurement of service quality is usefully conceptualised by a gap. This is the difference between what a customer expects and what he gets.

(iii) This gap may be measured using a variety of dimensions. Those which most authors agree upon are the ten dimensions which have an empirical derivation are that of Parasuraman et al's SERVQUAL. Other dimensions which are different from the ten typically have a theoretical but little empirical derivation/confirmation. These ten dimensions are:

- (i) Tangibles
- (ii) Reliability
- (iii) Responsiveness
- (iv) Communication
- ~~(v) Credibility~~
- (vi) Security
- (vii) Competence
- (viii) Courtesy
- (ix) Understanding/Knowing the customer
- (x) Access

(iv) There is a question over the generalisability of these dimensions to all industry sectors. Given the weakness in generalisability, any service quality dimensions (external or internal) should be derived from first principles.

(v) For the ten dimensions where tested empirically, there appears to be a priority of dimensions. This may well be reflected if internal service dimensions are to be developed. Thus not only do the dimensions need to be developed but also some sort of weighted scoring system needs to be developed.

(vi) All authors agree that a relationship approach to service quality is preferred over a transactional approach if service quality is to improve. This relationship approach is applicable externally as well as internally. Internal relationships (i.e. internal customer supplier to internal customer supplier) are by their very nature long term. This implies that the service quality gap should be measured over time (longitudinally).

(vii) Service quality perceptions can be exceeded i.e. the gap between perceptions and expectations is positive.

(viii) Merging with conclusions in 2.4, marketing of services both internally and externally are seen to be key to achieving good service quality.

(ix) Therefore to exceed customer expectations and generate customer franchise we can focus upon relationship marketing and its related activities. We can use dimensions and measure the progress by using Gap analysis. This is external service quality and the mechanism which delivers this external service quality is an internal service quality focus particularly given the work by Heskett et al (1994). There is one assumption which underlines the relationship marketing approach and that is of customer choice.

In a free market the customer can choose to take his business elsewhere to a supplier who offers similar goods and services. If we consider service quality internally then

the choice assumption does not hold. The relationships between internal customer supplier cells is fixed with very little room to choose. The only people who can make that choice would be Senior Managers or Directors who may wish to strategically out source internal services (this choice may be pushed down to lower levels with delayering of organisations). It is unlikely that such a choice will come from those participating in the internal customer supplier cell transactions. So the long term relationship is already in place albeit a forced one. This will have ramifications for research as to identify or develop any sort of service quality dimensions the values held and organisation structure plans of the organisation need to be known.

(x) In the measurement of the gap of external service quality, there are contributing factors within the organisation which can affect the level of service quality given. These factors identify the front line providers of the service to be only one of those factors. Several internal gaps can be identified and need more discussion.

2.7 Internal service quality - its role in delivering external service quality.

From the conclusions in 2.4 and 2.6 there is a link between the internal structure, relationship marketing and how this is used to deliver external service quality. We were introduced to Parasuraman et al's (1988 b) model SERVQUAL which recognised that to improve, i.e. reduce, the service quality gap (Gap 5) according to ten dimensions, internal factors would need to be considered. It is the consideration of these internal factors by Parasuraman and other authors that will be examined here. It will then be possible to understand the nature of how internal service quality is relevant to the delivery of external service quality.

Parasuraman et al (1988 b) as discussed in 2.5 extend the model of the service quality gap into the organisation. They state that external service quality (Gap 5) (the difference between expected and perceived) is a function of four internal gaps as given in Figure 5. These are:

(i) Gap 1 - The difference between consumer expectations and management perceptions of consumer expectations. Thus any misunderstanding by the management of the expected service quality can cause a gap. The management will then pass through an imperfect set of customer expectations to the organisation which will result in some expectations not being met. This would occur no matter how good the organisation was at translating these expectations into practice.

(ii) Gap 2 - The difference between the management perceptions of customer expectations and service quality specifications. This gap discusses the difference between what the management understand as the expectations and how

this is written to standards that are understood by the staff delivering the service.

(iii) Gap 3 - The difference between service quality specifications and the service actually delivered. This gap identifies that once the specification has been written down, this is then translated into the minds of the service deliverer and then put into practice during a service encounter. Through this process some of the customer expectations may be lost or misinterpreted leaving the original specifications at variance to those understood.

(iv) Gap 4 - The difference between service delivery and what is communicated about the service to consumers. This gap is produced by all communications with the customers such as via a salesman who may promise that a service will have a content when this may not be delivered. The communications will change the expected service specifications of the customer. It is possible for the service deliverers not to know what has been promised in the communications so affecting the perceived service quality also.

This model agrees with the conceptual development offered by Gronroos (1984) as he sees the development of external service quality resulting from internal gaps.

Parasuraman et al (1988 b.) extended the internal four gaps as given in Figure 6. They identified a set of factors (16) which contribute to the closing of the four gaps internally. The factors involve communication and control processes implemented in organisations to manage employees. The other factors involve the consequences of these processes. The study which was performed by Parasuraman et al (1988 a,b.)

was not designed to test any hypothesis because as they identified:

"..because the literature on organisational processes involved in service quality delivery is not rich enough to suggest formal relationships amongst variables."

The work involved the same industry sectors as were used for the development of the original SERVQUAL model and so may be open to the same generalisation critique as SERVQUAL. The methodology employed was in depth interview followed by case study followed by systematic group interview to produce a list of factors by the four gaps. These are as detailed in Figure 7. Each of these factors had further contributing factors identified and are delineated into the following:

(i) Gap 1

(a) Marketing research orientation which depends upon how the following is applied to external customers:

The amount of marketing research.

The usage of marketing research, if it is applied.

The degree to which marketing research focuses on service quality issues, if it is relevant.

The extent of direct interaction between the managers and customers i.e. do the managers understand what is needed.

(b) Upward communication which depends upon:

The extent of employee to manager communication i.e. are there regular and frequent service forums.

The extent to which inputs from contact personnel are sought i.e. are the service deliverers comments listened to as they are the closest to the customer.

The quality of contact between top managers and contact personnel i.e. is this formal with service specific agendas.

(c) Levels of management which depends upon:

The number of layers between customer contact personnel and top managers such that too many layers result in diluted messages.

(ii) Gap 2

(a) Management commitment to service quality which depends upon:

The resource commitment to quality i.e. are they bothered.

The existence of internal quality programmes i.e. is a mechanism in place which allows ideas to be implemented. The management perceptions of recognition for quality commitment i.e. is quality needed in their market place.

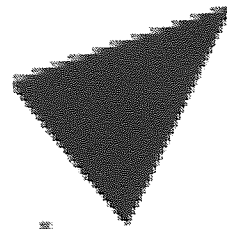
(b) Goal setting which depends upon:

The existence of a formal process for setting quality of service goals i.e. do managers manage by objectives.

(c) Task standardisation which depends upon:

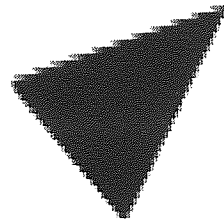
The use of hard technology to standardise operations e.g. computers.

The use of soft technology to standardise operations e.g. operating procedures.



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Figure 7 - Extended internal model of SERVQUAL (Source: Parasuraman et al (1988 a.)).

(d) Perception of feasibility which depends upon:

The capabilities/systems for meeting specifications i.e. is what the company has in place or could put in place enough.

The extent to which managers believe consumer expectations can be met i.e. can the demands be met by the company.

(iii) Gap 3

(a) Team-work which depends upon:

The extent to which employees view other employees as customers i.e. are employees customer conscious.

The extent to which contact personnel feel upper level managers genuinely care for them i.e. commitment to employees should result in commitment to customers.

The extent to which contact personnel feel they are co-operating (rather than competing) with others in the organisation. This results in better resolution to problems by working together.

The extent to which employees feel personally involved and committed i.e. better commitment gives better service delivery.

(b) Employee job fit which depends upon:

The ability of employees to perform the job i.e. are they able.

The importance and effectiveness of selection processes i.e. scientific selection of those that are able.

(c) Technology job fit which depends upon:

The appropriateness of tools and technology for performing the job i.e. do they have the equipment such as computers.

(d) Perceived control which depends upon:

The extent to which employees perceive they are in control of their jobs i.e. can they take immediate decisions.

The extent to which customer contact personnel feel they have flexibility in dealing with customers i.e. can they take creative decisions.

The predictability of demand i.e. setting standard delivery specifications.

(e) Supervisory control systems which depends upon:

The extent to which employees are evaluated on what they do rather than on output quantity i.e. quality of delivery.

(f) Role conflict which depends upon:

The perceived conflict between expectations of customers and expectations of the organisation such as the amount of paperwork needed to complete service transactions.

The less paperwork there is the more time to deliver service. Additionally the number of internal contacts that customer contact people must make to complete a service transaction or answer customer queries.

Futhrmore the existence of management policy that conflicts with specifications i.e. are managers setting rules which are not service quality specific.

(g) Role ambiguity which depends upon:

The Perceived clarity of goals and expectations such as:

The frequency and quality of downward communication e.g. feedback on performance.

The extent of constructive feedback given to contact personnel i.e. as above but specifically the deliverers.

The perceived level of competence and confidence such as:

The product knowledge of contact personnel i.e. do they know what they are talking about.

The product specific training provided to contact personnel i.e. are knowledge gaps being closed.

The training in communication skills provided to contact personnel i.e. are the interpersonal gaps being closed.

(iv) Gap 4

(a) Horizontal communication which depends upon:

The extent of input by operations in delivering promises, planning and execution i.e. is the process company wide.

The extent to which contact personnel are aware of external communications to customers before they occur so promises can be delivered.

The communication between sales and operations people so that there are no specification gaps.

The similarity of procedures across departments and branches i.e. ease of interpretation by all.

(b) Propensity to over-promise which depends upon:

The extent to which a firm feels pressure to generate new business e.g. over promising to get the customer. The extent to which the firm perceives that competitors over-promise i.e. the need to compete for the same customer.

Whilst these variables have been identified there still does not appear to be a parsimonious measuring technique which can be applied to validate these variables. Indeed the variables have been determined for service industries and not manufacturing based industries.

Some researchers such as Bitner (1990), have tried to identify some of these factors such as the tangible aspects such as physical surroundings, but there is no reports in the literature as yet that a complete study has been performed.

The examination of the four internal gaps that contribute to external service quality has received a great deal of attention by Parasuraman et al. No evidence has been found yet which points to the factors which contribute to these gaps in such a systematic or comprehensive fashion. There have been extensions of the five gaps model however but at the gaps level only.

Law et al (1990) are amongst those. They use the Parasuraman et al model- SERVQUAL to describe the translation process of customer needs Gap 5 through the organisation process Gaps 1 to 4. There are three models which he conceptualises. They define these as static, dynamic and augmented. All of which are based upon SERVQUAL. They only differ by customer expectations and how they change.

Law et al's static model considers that the customer's service expectations are always the same and do not change. This model is very close to that of SERVQUAL. The next model is the dynamic model which postulates that the customer expectations continually need to be reviewed as the service needs do change over in time. The latter model is the augmented model. This is the anticipation of customer quality needs. The augmented model, supports both Imai's (1986) and Kohoutek's (1988) view that quality is that of loss minimising as well as revenue/margin. The augmented model if it allows the definition of a goods/service quality specification at the same time that the customer has defined it himself must reduce the failure associated with new product development. This failure cost reduction attempts to minimise loss.

Thus the augmented model i.e. one where the customer approaches the organisation with a specification which the organisation is already aware of and has the product ready, is now moving to customer delight, i.e. the customer need not compromise in his quality specifications. Peters (1984) defines this customer delight as meeting the product specifications in a timely fashion and beyond the initial expectations of the customer.

For the difference between the dynamic and the augmented product there can be difference between what we have to do now to meet changing customer expectations and what we could do in the future to anticipate customer expectations i.e. by proactively augmenting the total product ahead of customer demands to beat the competition. The static model would appear to be limited as the customers service quality needs would continually change.

These models are a logical extension of Parasuraman et al's models but the research for this model is weak in that

telephone interviews were conducted to test the existence of each linked model but not the validity or generalisability of each construct. In the causes for the internal gaps, Law et al conceptualise some of the contributing factors to these internal gaps. In many ways these are similar to Parasuraman et al's antecedents to the internal Gaps 1 to 4.

Law et al talks of these gaps and they can be caused by a failure to research the benefits sought by the customers and expressed in their language, and or a failure to interpret them into product and service features expressed in the language of the designers, engineers or managers.

They continue to talk about the control of process of the non product marketing activities such as timeliness, accuracy of quotations, delivery and invoicing which contribute to customer satisfaction. Not only do they see control as important but also the feedback to those interested internal parties. in addition to measuring the level of customer satisfaction or dissatisfaction with the delivered product. Law et al point out that this gap can exist even if the customer continues to buy as there may be nothing better on the market.

Other factors which Law et al cite are feelings of complacency in that the organisations quality control systems are functioning correctly and/or it is meeting customer requirements even those these needs are changing. Also the failure to be creative by the management or to get sufficiently close to the management or to forecast where the customer will be over time.

Other researchers have also produced their own service quality models predominantly by extending the amount of gaps which need to be considered. Most are still conceptual and lack empirical development or verification.

Service quality as a visible

Lewis and Klein (1986) are a good example of this. They state that the measurement of gaps is a robust way of measuring service quality and have produced an 8 Gap service quality model overlaid on Parasuraman et al's 5 Gap model. These additional gaps are:

(i) Gap 6 - measures the difference between consumer perceptions of delivery and what management believe they deliver, i.e. management's success in carrying out what they perceive to be customer expectations.

(ii) Gap 7 - measures a comparison of management's delivery to consumers expectation.

(iii) Gap 8 - measures an internal situation in that does management deliver as much as they believe customers expect.

Their empirical study of medical services did show the existence of these gaps.

Lewis and Klein's summary is pertinent as no doubt more extended gaps of SERVQUAL will continue to be produced. They have approached the service quality model from a null perspective i.e. rather than define a new model they have reached the generic conclusion that quality can be more easily measured by its non existence i.e. by gaps.

Voss (1990) develops a service quality model for manufacturing. He starts from the premise that quality in manufacturing has traditionally been seen in terms of product and process quality and that there has been a limited amount of consideration of the service element of manufacturing companies such as field service operations. This will inevitably change as manufacturing businesses see

customer retention through service quality as a viable concept. It is consistent with total product quality as stated by Brooks et al (1992). Voss's model is essentially an external model consisting of four roles within this service factory. The model is detailed on Figure 8.

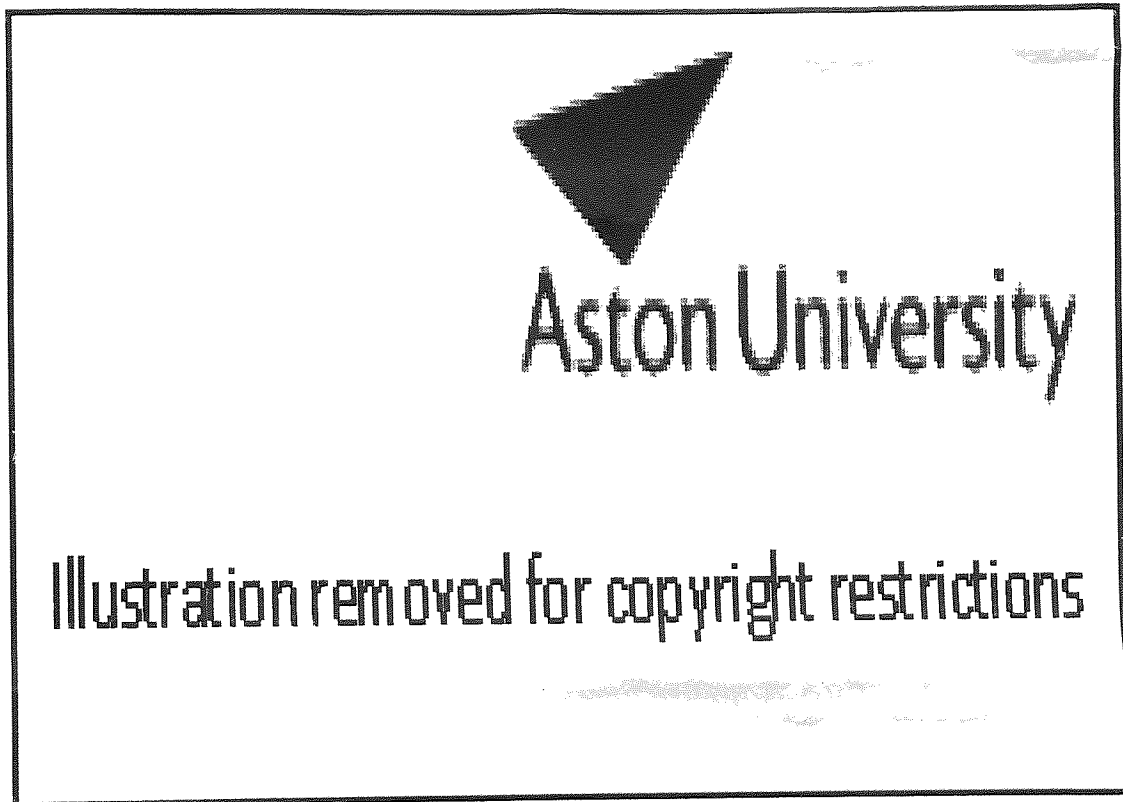


Figure 8. Service quality in manufacture (Source: Voss (1990)).

The first role which Voss considers is the Laboratory role which derives from the competence of the factory in testing new products and processes. It is concerned with the ability to provide fast and accurate process and product builds feedback related to customer orders, new products etc. It may involve the conduct of experiments within the plant.

Technical expertise is also sold as well as products and the second role is the one of the consultant. This is manufacturing's ability to assist internal and external groups in problem solving in areas such as quality improvement, cost reduction, new uses for products and implementation.

These two roles are consistent with the "servitisation" as Voss calls it of manufacturing business.

The third role is the showroom role where the factory supports marketing through exhibiting the companies products and expertise, processes and people.

The fourth role, the despatcher is concerned with the prompt delivery of products, providing timely order status and notifying customers of delays.

Three issues were developed from this model:

(i) Service quality is important to customers of manufacturing firms.

(ii) Service quality requirements and performance will vary between market segments and companies within those market segments.

(iii) Service quality requirements will differ between countries.

All of these statements relate to the external environment and this supports the critique of generalisability of Parasuraman et al's SERVQUAL. There is also clear applicability of some of these concepts to the internal service quality development. Voss in this model has in fact

subdivided internal functions and made them externally focused. This model can be extended for any industry but have the internal functions internally focused as well.

If we look at Voss's model, the link between internal functions has similarity to Oakland's (1989) internal customer supplier cells but with internal focus as opposed to Voss's externally focused. Voss is extending this model of autonomous stand alone cells by implying that there will be a service gap between the cells. This gap Voss measures as the difference between customer expectations and perceptions, the same measure of service performance as other authors.

2.8 Conclusions

(i) Internal delivery of external service quality can be supported by the use of internal gaps. These gaps follow the process flow of order taking through to order delivery in an implicit fashion although this is not stated explicitly. Any internal study of external service delivery would need therefore to identify this process flow within the company (s) in question.

(ii) There has been an expansion of internal gaps since the development of Parasuraman at Al' SERVQUAL. Most of these have been conceptual in nature or based upon limited empirical data. Only SERVQUAL to date seems to have the strongest empirical base.

(iii) There is little research that seems to be available which links internal service gaps with the organisations structure. In particular the application of internal customer supplier cells to the delivery of external service performance. It is implied within the literature but there does not seem to be any direct evidence where models such as SERVQUAL are linked to internal customer supplier cells and the internal service performance is measured. Additionally how this internal service performance is linked to external service performance.

(iv) Of the internal factors which contribute to the internal service gaps communication seems to be dominant. Task standardisation as one factor makes the control function easier to apply.

(v) Some of the internal factors (such as teamwork) which contribute to external service performance point towards internal relationships. Typical examples are commitment, motivation and employee to manager communications. Such

internal relationships will need to be considered from organisation behavioural aspects.

(vi) Some of the contributing factors, such as market research can be applied internally as well as externally.

(vii) There does not seem to be a measure of internal service quality dimensions if we extend internal customer supplier cells to having internal service performance gaps.

(viii) Given that relationships are important and internal markets have been implied by the literature. Internal marketing in addition to organisational behaviour need to be examined to identify if internal service performance has been discussed and what extra internal factors contribute to external service performance.

2.9 Internal marketing and its relationship to internal service quality.

From the conclusions in 2.4, 2.6 and 2.8 we can say that to deliver service quality to the external customer we need to put in place a quality system, an external measurement system and internal organisation structure. Within this internal organisation of internal customer supplier cells there will be gaps in service performance. These gaps can be measured by the difference between perceptions and expectations. These internal customer supplier cell service gaps can contribute to the delivery of poor service quality. These are all systematic issues. There is little mentioned in terms of how the delivery will work when it comes to operating these systems. This is the objective of this section. To examine how the systems work in their delivery of external service quality. Internal marketing as a concept has been touched upon as that mechanism and so requires examination.

Mudie (1987), Collier (1988), Davidson (1978) state that the success of marketing externally to the organisation is in part attributable to the success in the internal adoption of a marketing orientation. Mudie in particular argues that in service organisations the product is produced and consumed simultaneously. Previous discussions would agree with this. Mudie continues that as the degree of direct human contact between the service worker and the customer increases, employee relations become critical in improving quality. The employee is a production and sales person rolled into one. From this, the term internal marketing was developed.

This is however just one definition. There are many other authors which attempt to define internal marketing. They fall into four broad areas best exemplified by the following:

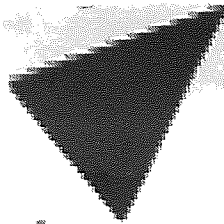
"The managerial actions necessary to make all of the members of the marketing organisation understand and accept their respective roles in implementing the market strategy." - Dibb et al (1991).

"Internal marketing is a managerial philosophy and a set of activities which view employees as internal customers and jobs as internal products, and then endeavours to offer internal products to satisfy the needs and wants of these internal customers, while at the same time addressing the objectives of the organisation." - Tansuhaj et al (1988) and (1991).

"The attraction, development, motivation and retention of employees" - Berry et al (1992).

"to help employees (all) to understand and accept the importance of interaction with customers and their responsibility of total quality and for the integrative performance of the firm. For employees to understand and accept the companies mission, strategies and campaigns to customers and motivating employees attracting and keeping them and informing them." - Compton et al (1987).

From these definitions there are some common elements. Indeed diagrammatically there is a great deal of consistency between Gummessons definition and that of Tansuhaj et al's definition. Gummesson's model (1987) is a 5 step model the internal marketing programme, attitudes, perceptions and know how, behaviour, quality improvements and impact upon profits. This sequential model Gummesson states is affected by other influences which can range from variations in the business cycle to technological advances. Tansuhaj et al's model is the same sequence but different steps, internal marketing, employee attitudes, employee behaviour, external marketing and customer attitudes - quality is missing. We can see these models in Figure 9.



Aston University

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Figure 9. Internal marketing models (Source: Tansuhaj (1988) and Gummesson (1987)).

The first definition considers internal marketing as a communications exercise in the marketing department clarifying its role with the rest of the organisation. The second one considers the job as a product (although it is not explicit that the job is the output from a job role and so the service offered to another employee). This latter definition suggests that the employee is focused upon delivering something to someone else within the organisation. It also suggests that it should be placed in the context of the organisations goals and missions. Whilst Tansuhaj et al use products, this should include services as well.

Berry et al's (1992) view of internal marketing is limited in this respect as they see it as the attraction, development, motivation and retention of employees. The strong focus of their definition is the employee as the centre and this focus creates external reduction in Gap 5 of

the SERVQUAL model. The link in Berry et al's definition that getting the internals correct leads to correct external performance is robust but the strong internal focus in their text could lead to incestuous standards of performance - the internal customer first then the external customer. Tansuhaj et al considers the organisations goals and so is more market focused.

Compton et al's (1987) definition would appear to be more encompassing. He considers not only that the employees should be attracted and motivated (which is consistent with the antecedents for the internal gaps model presented in 2.7) but that it should be performed within a quality system based upon organisations goals. Compton does not mention internal customers directly but Tansuhaj et al does. If we combine Tansuhaj et al's definition (consistent with Oakland's internal customer quality delivery system discussed previously) with Compton's definition.

It would be possible for the author of this Ph.D. to conceptualise a definition for internal marketing as:

Internal marketing is the principle of satisfying relationships between able and motivated company wide internal customer supplier cells (which comprise of one or more employees) for the purpose of satisfying the external customer consistent with the organisations market driven quality goals. Customer satisfaction (internal and external) in this instance would be measured by the total product quality.

This definition considers the needs of the external and internal customers in a measured and systematic fashion, recognising that these needs are centred upon a relationship role and not transactional role. Also it recognises that the internal marketing principle can come from anywhere within the organisation and not from a direction such as personnel which is implied by Berry et al's definition. Additionally that to satisfy the internal and external relationships

there are elements of tangible goods quality and service quality. For this research, this synthesised definition will be used.

Flipo (1990) supports this synthesised definition:

"There is a need to incorporate the relationships of the marketing function with the constituencies both inside and outside the firm. The more numerous the people to be persuaded inside the company, the more relevant the term market will be."

Given this, the marketing function has to deal with both internal and external markets. He continues:

"This will be achieved through the interrelations occurring between external customers and internal (contact personnel) markets. The more co-operative the interrelations (customer oriented for personnel, useful participation for clients), the easier the marketing objectives are met (service performance). It is clear that this co-operation will take place if the marketing function has sufficient control over the two markets to induce it to do so."

Flipo (1990) presents a total system as a tripolar set of relations. The first pole is the external market; it's behaviour influences that of the contact personnel and the strategy defined by the marketing manager. The second pole as the internal market; it's behaviour influences that of customers and the internal strategy defined by the marketing manager. The third pole is the marketing function; it's actions influence the behaviours both of the external and internal markets.

It would seem from the literature so far that the marketing manager should not have total autonomy in determining internal marketing strategy as implied by Flipo. It is clear, however, that a strategy is needed to satisfy internal and external marketing needs.

The issue of company wide internal customer suppliers from the synthesised definition would appear to be contentious. Flipo considers only the contact personnel as the internal market. This is disputed by other authors. Contact personnel are the actual service providers and so any motivation problems which would occur here would have a larger effect upon service quality. Thus prioritising internal marketing first with contact personnel would be a reasonable assumption. Parasuraman et al (1988 c.) in their antecedents to internal gaps cite other internal operations as important in external delivery. Indeed as concluded in previous sections, many of the variables within this internally extended model of SERVQUAL relate to the internal marketing function of a service organisation. It would be reasonable to assume therefore that application of internal marketing should be company wide.

The application of company wide internal marketing has its critics. Bateson (1992) believes that the personnel comprise the bulk of the product. He argues that the contact personnel should be the focus of the training and not the other customer supplier interactions across the value chain. This is contrary to what Taguchi et al (1990) believes about designing in quality at the early stages of the process, not at the later stages because of the increased value of rework when it appears at the end of the process. Taguchi et al in this article, recognise the service and goods components in the total quality offering. Carr (1990) goes even further than Bateson to state that the front end contact personnel should be the only focus for the organisation. These are the people that make the ultimate difference.

Christopher (1992) takes a more balanced approach. He believes in a similar fashion to the other cited authors, that the shared value of customer service i.e. where all of the employees are moving in the same direction with the same

goals leads to a customer service environment which minimises Parasuraman's Gap 5. He discusses the process of alignment (Figure 10), one where there is a need to bring the employees view of service and service priorities into line with the views that the customer holds. He extends this to potential realignment of customer views if management of customer expectations is to occur. Such management can clearly lead to a reduction in Gap 5 and could lead to customer delight (where the gap is not negative but positive). The weakness is that the reverse can occur where the customer is managed to the capability of that organisation to deliver service quality. (Figure 11). There are several problems with this approach but predominantly if the customer finds that a higher grade of service was available elsewhere and the organisation attempted to manipulate the customer to their standards, then the trust element of gap 5 would reduce.

Berry et al (1985) do not explicitly state company wide involvement but certainly extend the internal target market to the operational support employees. Berry et al considers this group critical to the external delivery and that they should be customer service aware (which is possible with the introduction of internal customer supplier cells). Berry et al (1991) imply company wide application of internal marketing from their consideration of the human resource development implications for the delivery of external service quality.

Gummesson (1987) also considers that all employees should be the target in his understanding of internal marketing. He makes the link with quality (total quality management) and the internal customer (consistent with Oakland's structure):

".. a concept less well known but goes well both with quality circles and internal marketing is the internal customer"

Gummeson's implications of company wide application of internal marketing continues as he states that the objectives of internal marketing are:

(i) to help all employees to understand and accept the importance of the interactions with the customers and their responsibility for the total quality and for the interactive performance of the firm.

(ii) To help employees understand and accept the mission, strategies, goods services, systems and external campaign of the firm.

(iii) To continuously motivate the employees and inform them about new concepts, goods services and external campaigns as well as economic results.

(iv) To attract and keep good employees.

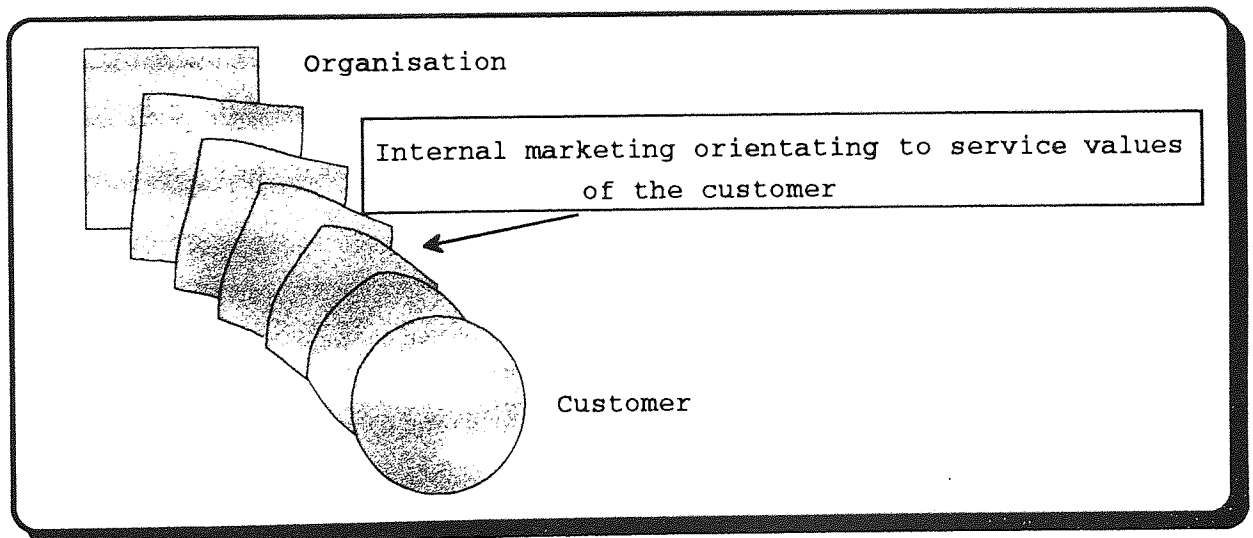


Figure 10. Internal marketing used to orientate the organisation to the customer (Source: Derived from Christopher (1992)).

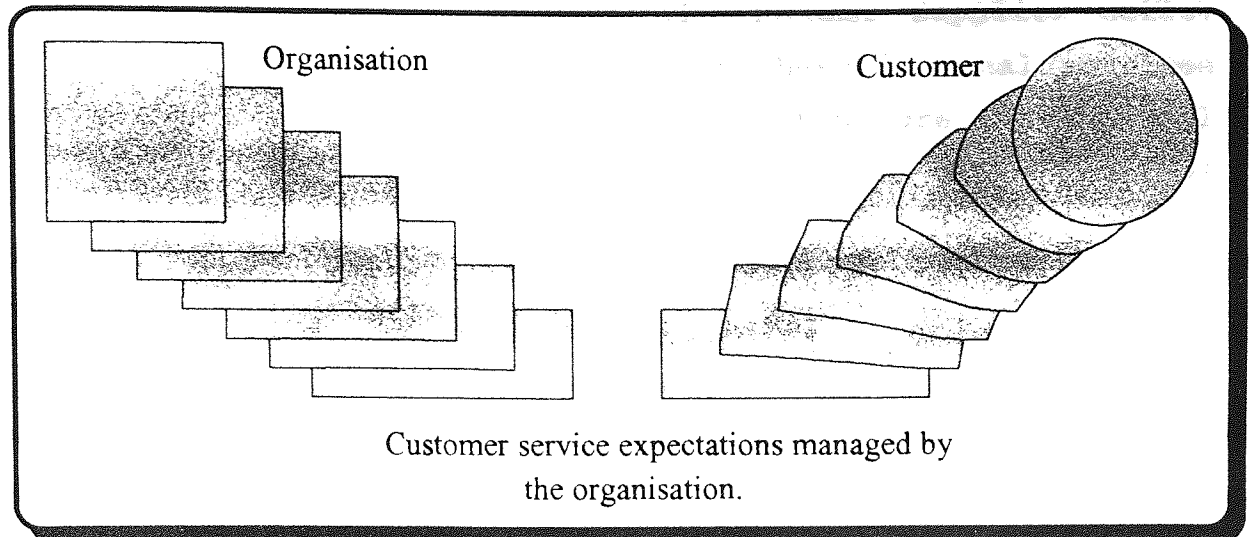


Figure 11 Management of customer expectations to the capacity of the organisation (Source: Derived from Christopher (1992)).

Equally George (1990) supports this definition by Gummesson, who believes that internal marketing focuses on achieving effective internal changes between the organisation and its employee groups (company wide) as a prerequisite for successful exchanges with external markets. His central idea is that internal exchanges between the organisation and employee groups (internal customer supplier cells as will be adopted for this research) must be operating effectively before the organisation can be successful in achieving goals regarding its external markets.

Thus there is literary support for the synthesised definition of internal marketing to include the whole of a company's employees.

Vandermerwe et al (1989) take this internal marketing framework one step further. They recognise that there are internal services within an organisation. These internal services need not necessarily come from internal customer supplier cells. The rationale behind this is that some internal services will already exist without the

organisation structuring internal customer supplier cells. Vandermerwe et al prescribe that if these internal services do exist then an organisation should structure its internal customer supplier cells to the boundary of these internal services.

These boundaries between internal services and so internal customer supplier cells would fit with total quality management as each of the boundaries will mark the beginning and end of processes. Thus by considering the process flow within a company, determination of the internal services and internal customer supplier cells could be mapped. This would fit with previously discussed models of service quality such as SERVQUAL as these are basically a set of sequential processes. Ballantyne (1990) supports this and applies this to the customer value chain inside the organisation. He considers these linkages as things which are done to produce value for that customer which controls or modifies the way in which a firm's output is actually used. He emphasises that cross functional flows of work need to be controlled at interfaces (internal customer supplier cells for this research) as far upstream as possible then moving downstream in the value chain which supports Taguchi's (1986) thoughts on designing in quality.

Vandermerwe et al advocate this as the production of a service factory in the mind of the internal customers. They cite the additional benefits of the correct structure as the sharing of increased amounts of information. This is consistent with Gummesson's and Tansuhaj et al's internal marketing objectives.

Rafiq et al (1993 a.) (1993 b.), agree with internal customers as Vandermerwe and Gummesson, but limit the application of internal marketing to Personnel, marketing and TQM. They try to extend the internal customer concept as

Vandermerwe et al by considering the application of the marketing mix (the seven elements by Cowell (1991)) and apply them within the organisation. This is conceptually sound but lacks empirical application to verify the ideas. The ramifications however from Rafiq's work is that the distinction between internal and external customers is becoming less clear in how they are treated.

Vandermerwe et al continue:

"A market driven approach to internal customers premise is this: if a company aligns internal services to user needs and ultimate usage, the overall effectiveness of the corporation will be enhanced... it leads to a very different way of handling internal services. First, providers and receivers become sellers and buyers. This radically alters their attitude toward each other, their roles and relationships and the kind of information which they share."

Clearly, Vandermerwe et al are considering the application of internal marketing linked to internal services (within manufacturing in this case). Thus if we apply the internal marketing concept to companies and assume that there will be internal services and that the transaction of these services constitute some sort of sale, then we have in concept no difference between internal customers and external customers. This is supported by Mills (1990) who considers the exchange process as critical in services and implies the internal exchanges are also as important as the external exchanges. Falzon (1988) also believes these exchanges, in a quality perspective, should focus on a customer which may be internal or external. Falzon does not differentiate between the two. Whilst conceptually this may be the case, the context of the external customers service requirements should be taken into consideration. We know from previous discussions that internal gaps can exist which contribute to the poor delivery of external service quality. If these gaps do exist then internal customer supplier cells may be delivering internal service exchanges exactly to

specification which may have been derived incorrectly. Thus the requirement to have the customers expectations in context.

We know that the measurement of external service quality is already established and the application of these external service quality dimensions could be applied to internal customer supplier cells. There does not appear to be any evidence to date of an empirical derivation of these dimensions for internal customers. Equally, such a derivation may suffer from the same generalisation problems that have been applied to Parasuraman et al's ten dimensions. Boshof et al (1993) agrees conceptually that some internal measurement needs to be made and in their discussion actually use the term internal service quality. Its treatment is however quite thin and only discusses the need for a management service dimension if we measure internal dimensions. This management dimension is also supported by Bruggeman et al (1988) and Fitzgerald (1988). It is likely however that some of the dimensions will be redefined as indicated by Johnson et al (1990) as well as added to. Bixby et al (1991) also intimates addition of service dimensions such as attention to detail.

From the discussion so far we can see that external service delivery is linked to internal service delivery and that internal marketing is how the internal customer supplier cells orientate themselves to the external market. Flipo has already stated that the integration of the external and internal market is critical to achieving this orientation. He cites that it should be marketing's role to achieve this. This would be supported by market driven total quality management as discussed in section 2.3. What Flipo does not discuss is how the roles are to be integrated and what

auditing systems can be used to ensure that these mechanisms are in place and are working.

Christopher et al (1991) discusses the integration by stating that not only are there internal and external markets, but they should be co-ordinated by the use of a quality systems. He believes that marketing and quality are philosophically the same (i.e. both focuses upon customer satisfaction) and need to be integrated if customer service externally is to be achieved. This is also discussed by Cravens (1988) and Gates (1990). This would fit with the relationship between internal marketing and quality in Gummessons definition of internal marketing discussed previously. Gronroos (1990) and Cina (1989) also see this link. They believe that developing an internal service culture is clearly a means of creating and enhancing good interactive marketing performance needed for implementing a relationship marketing strategy and that this should include a quality system. Cina sees quality and marketing as an integrated activity:

"Marketing is concerned with exchange relationships between the organisation and it's customers and quality and customer service are key linkages in this relationship..... the challenge is to bring these three critical areas into closer alignment. So often in the past they have been treated as separate and unrelated.... Customer service and total (company wide) quality decisions take place in the context of competitive marketing strategy."

The literature suggests therefore that quality is the integrating factor between internal and external markets. If the internal markets and external markets are equal in principles and thought processes as specified by Tansuhaj and others, then Cowell's external marketing mix should be applicable to the internal marketing mix. Therefore, people and processes become important internal mix elements also. If this is combined with the co-ordinating

(internal/external markets) quality system, the process within the organisation and the people which control part or all of the internal process becomes an important factor in external customer service. Therefore to understand the processes within the company and how these relate to the execution of internal marketing (and ultimately external customer satisfaction) is important in defining customer groups. Vandermerwe et al have already concluded this but what is not mentioned is how these processes can be mapped within the organisation.

George et al (1991), Heskett et al (1990), Kingman Brundage (1992) and Shostak (1981) discuss the application of service blueprinting to achieve external customer satisfaction. They cite the identification of process steps to enable improvement and so improvement in external service performance. Wasmer et al (1991) support the need for these internal customer groups to be service aware and so the need to identify process steps. If we have internal processes and internal markets then it is implied that each internal market is likely to have an associated cluster of processes. Each group of processes can then become owned and so we can apply improvement.

Bitner et al (1990) support this process approach as they specify a need for a service delivery system. Such a system sets standards which will enable the employees to inform customers about what happened. These standards can then be tracked through the identified processes through the company.

Vandermerwe (1993) emphasises that this process view is acceptable but certain considerations need to be acted upon if it is to work. These are related in particular to service blueprinting. She believes that if Blueprinting is to be used then it should not be used in a simple cause and effect

type application. Her experience is that blueprinting is used in great detail to identify all of the execution points to the extent that it binds people to the customer and what is important. Equally she states that too much detail can overcome employees concentrating in an incestuous manner rather than solving customers problems. In essence a balance needs to be drawn which is based upon experience.

Albitz (1991) states that to improve quality by process within a company the process steps need to be divided into small groups. This supports the cellular structure to be defined by this group. If each cell has an owned set of processes from the service blueprint then the control of these processes by the employees within that group will improve the intercellular service performance. It would be acceptable to assume that these groups of processes would be those owned by internal customer supplier cells. Roach (1991) also believes that to achieve productive improvements in service quality then the internal tracking mechanisms are important. These can be the processes grouped as discussed into cells.

The concept of internal and external customers focused upon delivering external customer satisfaction requires some analysis. This is to determine how far the organisation has moved to this total external customer focus. Blueprinting does offers a solution to the setting up of these internal customer supplier cells and defining who has responsibility for each cluster of processes. It does not however tell us at what stage we are at.

There are only a few specifically derived tools available at this stage. They are limited because of the authors limited definitions of internal marketing. They can provide points to triangulate the companies internal and external service orientation. Berry et al (1991 d.) and Webster (1992) seem

to have the most comprehensive cover. Scheuing (1989) offers a customer service audit but this is too front end focused and covers elements already covered by Berry et al and Webster's audits.

Berry et al (1991) derived a model for a services marketing audit. It was produced because the researchers did not believe that the existing marketing audit was sufficiently sensitive to the unique characteristics of services to allow the full benefits of a marketing audit to be acquired. In particular service organisation marketing audits should assess the marketing departments effectiveness in facilitating marketing through the organisation (the integrating role previously discussed), not just the effectiveness of performing marketing for the organisation.

Their audit consists of six main elements:

- (i) Existing customer marketing
- (ii) New customer marketing
- (iii) Service quality (using SERVQUAL)
- (iv) Marketing organisation
- (v) Market orientation
- (vii) Internal marketing.

It is the latter element which is of interest in this section given the centrality of employee performance in services marketing (i.e. that services are delivered in the right way). Even in Berry et al's article the definition does not extend as far as Tansuhaj et al's definition as it deals with recruitment, support, satisfaction and rewards for employees. This has ramifications for employee research supported by Parasuraman et al (1990), which will need to be considered during an internal service marketing audit.

2.10 Summary

(i) Internal marketing has many definitions. The synthesised definition which is believed to overcome the weaknesses of the individual definitions and is adopted for the purposes of this project is:

Internal marketing is the principle of satisfying relationships between able and motivated company wide internal customer supplier cells (which comprise of one or more employees) for the purpose of satisfying the true external customer consistent with the organisations market driven quality goals. Customer satisfaction (internal and external) in this instance would be created by the total product quality.

The fundamental assumptions behind this definition are that:

(a) Internal customer supplier cells exist company wide

(b) Each internal customer supplier cell provides and accepts an offering from another internal customer supplier cell which has elements of service and goods quality.

From the literature we can say that internal marketing considers the exchange processes inside an organisation in a relationship rather than transaction based management approach. It is thinking in the long term of buyers wants and needs within the organisation. This being driven by external buyers wants and needs.

Additionally there is much conceptualising of what internal marketing is but little in empirical research. All definitions have common elements but still vary.

(ii) Internal customer supplier cells are structurally how internal markets can be defined. They work conceptually in the same fashion as external customers. These internal

customer supplier cells are logically arranged according to the process chain from order taking to order delivery and also where other internal services have been defined.

(iii) Service blueprinting is an important tool in the definition and delivery of external service quality. Each internal customer supplier owns a cluster of processes as defined by customer service blueprinting.

(iv) Quality systems are the integrating factor between internal and external customer satisfaction.

(v) To determine the state of a company's internal marketing programme audits will need to be applied. Given the varying definitions there does not seem to be a definitive encompassing internal marketing audit. However the application of several audits is likely to be comprehensive.

(vi) There is conceptual work on measuring internal dimensions which measure the service quality component of the exchange between internal customer supplier cells. These do not appear to have been examined empirically.

(vii) If internal customers are to be set up from the service blueprinting then the instrument which is to be used to measure the effect of the internal marketing of a service between internal customer supplier cells will be the service quality dimensions developed.

2.11 The role of organisational behaviour in service quality.

We have already discussed the application of internal customer supplier cells to the achievement of external service quality. We have also considered that it is possible to apply an internal service quality measurement at the interfaces between these cells. This is to measure the satisfaction of the internal service provided. Equally we have examined that contributing factors to the successful delivery of service quality to these internal customer supplier cells is dependant upon systems, people and processes. Predominantly this examination has had a marketing and quality focus. It has not considered the knowledge that exists from an organisational behaviour point of view. This body of knowledge should be examined as it may add to the existing understanding by either contributing new concepts or confirming or disconfirming that which has been developed by the quality and marketing approach.

Several areas will be considered.

- (i) Discussion of internal marketing.
- (ii) The functions of an organisation and its relevance to internal customer cells
- (iii) The learning organisation and how internal customer supplier cells fit
- (iv) Management control and peoples roles in an internal marketing environment.

2.11.1 Internal marketing considerations.

The classification of services as discussed (e.g. the participatory role of customers in the service production process) by Bowen (1985), Bowen & Schneider (1985), Mills

(1986) and Mills et al (1983) agrees with that previously defined by marketing and quality academics such as Levitt, (1981), Berry, (1980), Zeithaml et al (1984) and Shostack (1981). This consistency in approach across the disciplines in what a service is provides a good platform to proceed. Bowen, Schneider and Mills imply that internal marketing and internal exchange processes do not necessarily differ from those externally.

Thompson (1989) discusses the relationship between the internal and external exchange process. He agrees with the idea that internal and external exchange process are similar but questions why organisations have not yet identified that this is the case.

"Why have so few people realised that marketing internally can have the same power as externally?".

He answers this question:

"Because no-one has ever needed to."

He relates this to the increasing competitiveness that companies have had to follow to get closer to the customer and he predicts that internal marketing and the associated internal structure will become much more widespread. He concludes that internal marketing has been available as a technique but it is the market which has forced it's introduction.

Thompson considers the role of internal marketing as a way of controlling the increasing complexity of business. He breaks down the complexity of business activities by defining two component parts.

(i) These are the relationships that are created whenever people are put together,

(ii) The resources that are needed to allow the people to operate and produce the goods and services that the organisation provides.

He equates the relationships as exchange processes and the resources, in part, as the skills of the service deliverers. By placing internal marketing and the associated internal structure in place Thompson believes that these two components can be satisfied.

Thompson (1967) proposes that if the business can be split into two key areas of relationships and resources, the task faced by everyone in the organisation is two maximise these, both separately and together. Thompson believes that these relationships need to be defined and implies that the internal customer supplier cell is a potential application.

Thompson makes it clear that by maximising relationships, maximising resources, and maximising the two working together can be effective.

"Once something has a name, then it can start to be catalogued and defined"

This approach is not too dissimilar from Peters and Waterman's (1983) attempts to manage the organisations effectiveness by the definition of structure and measurement.

"What gets measured gets done"

From previous discussions we have seen that an organisation is made up of two components, processes and people, and people control the processes. This contradicts Thompson. But if we include processes as a third element for the handling of the complexity of business we have all that is required for the business to function. The understanding and development of the exchange processes by relationship management, the resources to deliver it and the processes to

structure it. Thompson implies this in his articles but is not explicit in his definition of processes.

Work by Duncan and Weiss (1979) is relevant here. They consider that the organisation is a system of purposeful action. It may be, therefore that the effectiveness of the organisation in delivering external service quality will be reflected in the ability of the organisations members to determine particular actions which will achieve a given desired outcome. This will involve the choice of courses of action which are intended to achieve the long term goals established for the organisation. It will also involve the choice and specification of the actions which comprise the transformation processes and the administration and support of this process. This supports the three categories which simplify an organisations complexity. The ability of the people (able people as a resource) to define organisational outcome and relationship outcomes and the processes to achieve this.

Duncan and Weiss state that these choices will be based on some prior knowledge of the relationships between actions and outcomes. This implies that if external and internal service quality is to be delivered. Those employees that are currently involved in the exchange relationships within the organisation should not be moved if internal customer supplier cells are to be set up. The premise behind this is that experience will provide an understanding of the action required to produce the outcome necessary to satisfy the exchange relationships.

Additionally, if we assume, following Thompson (1967), that organisational decision makers operate under norms of rationality, the decision maker must base the decision on some understanding or belief that the action will indeed yield the desired organisational outcome and that this

outcome needs to be measured for feedback. This measurement framework can comprise of internal service quality dimensions.

Bowen and Schneider's (1985) analysis of organisational development has implications which support the evolution of internal service quality within organisations. They report that organisation development (and so the development of the processes and internal exchanges) and worker participation have become everyday concepts in understanding organisational behaviour in the 1980's. In marketing, it has become clear that the output of organisations has become dominated by services and external service measurement. They continue to explain that the change in organisational behaviour and the change in marketing occurred concurrently because of an implicit sense that:

"the game was now between persons, not against nature or fabricated nature".

Danet (1987) indicates the customer's absence from organisational theory by noting that the organisational theorists view organisations from the top looking down (management's perspective) or from the inside looking around (employee's perspective) but rarely from the outside looking in. Thus, it is not until one has the concept of service as a "Game between persons", as Bowen & Schneider have suggested, that the importance of the consumer in organisational behaviour becomes apparent. Thus the management of The Company's internal service quality must be considered from the end purpose to reduce the external gap 5 - which is consistent with internal marketing definitions.

The implication here is that given worker involvement, if internal customer supplier cells are to be set up within an organisation, then each member of that cell should work towards improving the exchange processes for that cell. Such

improvement in exchange performance can only come from the measurement of that exchange. If that exchange has a service element then internal service quality needs to be measured.

For this internal service quality to be achieved, employees, need to be as close to the external customers, physically and psychologically, as they are to the organisation's management or either to other employees, Parkington (1979). This supports the contextual view that whilst serving internal service quality specifications the external customers needs should also be considered. Parkington states that this contextual view does not necessarily create conflict in the employees mind. He states that this derives from the closeness between the orientation toward providing a good service, that most employees possess once entering service employment, and the empathy employees feel for customers since they often have at some point occupied the customers role.

Indeed, according to Schneider's research, service employees, have been found to be as satisfied with the supportive behaviours displayed to them by customers than by the supportive behaviour of their immediate supervisors, suggesting that customers might be viewed as the immediate "substitutes for leadership".

2.11.2 Summary.

(i) There is a consistency of approach in the classification of services from marketing, quality and organisational behaviour perspectives which makes the translation of ideas and concepts across these functions much easier.

(ii) Organisation behaviourists do not differentiate between internal and external exchange processes and this is consistent to the non organisation behaviourists view.

(iii) This exchange process is seen as fundamental to an organisation achieving it's goals.

(iv) Internal marketing is seen as a mechanism to control the complexity of an organisation and so the complexity of the internal and external exchanges.

(v) Experience is considered an important factor in the determination of the action which is required to achieve the right outcome in an exchange process. Any internal customer supplier cells which are set up therefore should have experienced employees within it.

(vi) Internal service quality does need to be measured if improvement in the internal exchange process is to occur.

(vii) Internal service quality needs to be considered in the context of the service quality specifications for the external customer.

2.11.3 Organisation Function and Structure.

Burns (1966) divided organisations into 2 types. Mechanistic, (rigid, authoritative and hierarchical) and organic (flexible and evolving). Woodward (1965,1970) extended the understanding of organisations by relating their structures to work they do. Different types of organisation were found to be appropriate to different types of work. Satisfaction tended to be high when organisation structure was appropriate to task. This has ramifications for internal customer supplier cells as the cellular structure within a company which has such cells will be mechanistic. Yet the service requirements to meet internal service quality needs must (because of the classification of services to be heterogeneous) be flexible. Any internal marketing principle which is adopted, should therefore, observe that the mechanistic structure needed for cells does not become adopted within the cell. Thus both with and without the cell there are appropriate organisation functions.

Argote (1982) discusses the diversity and unpredictability of customer demands, and the on-site participation of their customers as major sources of uncertainty. He advocates the need to be flexible to counter this. He continues:

"Uncertainty involves the lack of predictability of client arrival or order, the services they may need, and the time they may take to exit the system. Uncertainty also derives from a lack of specific knowledge regarding specific tasks for individual clients. This lack of knowledge may effect client satisfaction since each customer may require a tailored service."

With the Company's internal customers it is no different. It is clear that customers require different services. So whilst the customer is involved in the production process of the service by specifying specific needs and wants, the customer is also a source of uncertainty. This supports the

difference within and without the internal customer supplier cell. We can say therefore that internal customer participation in internal service operations further adds to the heterogeneity and non standardisation of services.

Sherwin (1976), emphasises how the functional organisation falls short of meeting the criteria of an adequate strategy for achieving service objectives. As Sherwin observes, the functional organisation is a strategy for operating the systems of business. It is a strategy that not only does not distinguish between kinds of objectives, but also does not distinguish between tasks and duties, on the one hand, and objectives, on the other. This is a counter strategy because it fragments work and separates functions without then showing how they must be joined to achieve objectives.

The functional organisation results from specialising the work by dividing into divisions, divisions into departments, departments into sections and so on, each unit being a finer collection of tasks, activities, and functions, until at last every job is described. The whole effort is directed toward classifying, defining, and ranking jobs, duties, and functions. In short the functional organisation conceives the work of the business as consisting of a number of tasks and activities to be performed.

At the same time that it divides up the work, the functional organisation divides up authority and territory. All authority is vested in a board of directors. From there, portions are parcelled in diminishing amounts to the officers and management, down through the organisation by division, department, section, and individual. When the process of delegating authority and allocating domain are complete, all the increments of delegated authority add up exactly to what was originally vested in the directors, and

the fragmented domains add up to the total activities of the business.

This total distribution of authority and domain, Sherwin continues handicaps the functional organisation's strategy for achieving objectives in two ways. Firstly, all the authority and domain are distributed, with nothing left over, implies that the functional organisation is the organisation; there is no other. The pre-eminence of this single organisation diverts our attention from the many organisations, made up of combinations of functions, which achieve the total organisation's objectives. Second, since everyone's authority and assigned domain come to him/her from his superiors in the line above, each person is oriented toward his or her section, department and division, and not towards the deliverance of service quality both to the external customer and within the organisation in its entirety. It appears that from Sherwin's work that the organisation is oriented incorrectly by 90 degrees. The company operates with information flowing upwards and downwards i.e. functionally. It should travel horizontally from the order acceptance to order delivery. Denton (1991) supports this view when considering the need to make companies more responsive to customer requirements. He states:

" In search to demonstrate a greater resolve and greater commitment to the customer, some have talked about "total customer satisfaction". However, "total customer satisfaction will not and cannot occur until companies implement a more horizontal organisation."

What Denton is considering is the flat and focused organisation structure. It differs from the tall and tiered structure in many ways but the communication focus is the one that is different. With the traditional organisation, the focus of information is on the above and below tiers. This is contrary to Porters value chain (1985) as the

communication must be horizontal as value added increases until it reaches the customer from the supplier.

Denton also uses a concept called NOAC. This is Next Operation as Customer. He also postulates internal customer/supplier cells must exist and that identification of these cells is essential if service performance and competitiveness is to be achieved. For his horizontal management concept to become reality and to achieve the benefits the communication mechanisms and factors between cells are essential.

The strategy for meeting objectives, however, requires that employees from different groups combine their functions. An employee's strong feeling of belonging to his/her functional group obscures his necessary membership in these other organisations. However, ordinarily - a point also observed by Sherwin - in many organisations, personnel such as the credit clerk does not concern him or herself with whether the sales department is functioning well, and a sales person has little awareness of what level of performance is sought in accounts receivable. Each department and the individuals who work in them have their own defined tasks to perform. If the objectives of a business were as simple as achieving individual tasks, all would be well, but they are not.

Therefore the organisational system is recognised as a structure of events or human acts. It is also clear that internal service quality is based around the measurement of such acts within the organisation to achieve optimum efficiency and effectiveness. So it follows that a continuing requirement of all human organisations is the motivation of role behaviour, that is, the attraction and retention of individual members and the motivation of those members to perform required acts within the organisation. The Company therefore also faces the task of somehow

reducing the variability, instability, and spontaneity of individual human acts, or roles, within the organisation. There is also the need for an effective management system, by which authority is co-ordinated and controlled. This system needs to control the structure, potentially of cells within the company. If the cells are aligned by function they will not be as effective as if aligned by process flow from start to finish. This places emphasis upon service blueprinting.

Furthermore as Sherwin states, the managerial subsystem and the structure of authority are inseparable. They arise out of the same organisational needs, and they develop interactively and simultaneously. The company must have means of insuring role performance, replacing lost members, co-ordinating and planning activities, responding to external changes and managing how all of these things are to be accomplished. Any control system should therefore consider the length of the process chain (from order to delivery).

The conventional organisational answer is to create a new role, supervisor-of-supervisors, with direct responsibility for the first supervisor, and indirect responsibility for reinforcing responsibility for the object of supervision. Thus, this basic organisational requirement of dependable role performance, in turn, leads to the requirement that each role must be under the surveillance of some other role in order to insure that performance is delivered.

The pyramidal shape of the organisational hierarchical structure is an outcome of such a breeding of supervisory levels in order to attempt to reduce the risk of performance failure. The cost of supervision may well be reduced by prescribing the widest feasible span of control to each supervisor. So there may be a greater gain in efficiency

by reducing the amount of supervision over time, and perhaps by stripping out whole levels of authority structure. This, however, would require that the organisation develop alternative means of insuring role performance and this is implied by the use of information technology Anderson et al (1988).

Hence the internal customer supplier cells approach is potentially both an alternative, and the solution to the evolution of the increasingly complex pyramidal organisational development, of whose downfalls and limitations have been briefly illustrated.

If internal customers are being measured by general organizational/service quality performance dimensions, qualifyably specific to each individual then it remains the given duty, by the implementation of the internal customer supplier cell for that customer to pressurise his/her direct supplier (s) into meeting their performance-specific promises. Whilst this is not a formal supervisory role, it acts as one. For if promises are not met by individuals at the beginning of the value chain, they will be further hindered from being met by an imposed time resource restraint on customers further down the value chain. In such scenarios, providing that the right culture and sense of belonging of employees within the organisation is apparent, there will be no need for the MD to pull the offending individual into line, because the rest of the organisation will do it for him. The benefit of internal customer supplier cells is therefore that it can be a self correcting system.

From Schneider & Bowen's research (1985), it is clear that service firms need to create and sustain cultures that enhance employee attachment to organisational service goals. Their evidence is presented to support this. But cultures

of service quality have a need for established service values within the organisation. These values must come from within, from the individuals, and reinforced from the top down, not just imposed from the top down without an understanding of organisational capabilities. It is thus important to have a designed service quality ethos and management system, upheld by service quality measures that work. These service values that work can be generated through internal customer supplier cells. The measures should be instigated by internal customer - supplier relationships, then checked and followed through to external customers by continual measurement on a continual basis.

2.11.4 Conclusions

(i) The structure of an organisation is important to the type of task that is being carried out. Internal customer supplier cells need to have an external mechanistic structure of control but an internal organic structure for service delivery.

(ii) Derived value statements are needed for internal and external service delivery. They provide the ethos for the organisation.

(iii) Internal customers can be used to achieve service objectives.

(iv) The design of internal customer supplier cells must be horizontal i.e. in line with the process flow from order taking to order delivery. It should not align itself by functions within the organisation.

(v) Operating correctly, internal customer supplier cells can be a self correcting system.

2.11.5 The learning organisation

Service quality in the latter discussion has revolved around measurements of internal and external customer needs. Also there has been implications of the importance of the design and the communication process of the organisation to maintain service quality. However, Weick (1979) believes that the error of organisations is not merely the fault of the design and communication processes which take place, it is the thinking and learning ability of the organisation which is lacking. Measuring is not thinking. It is what an organisation does with those measurements conducted, from Weick's perspective, which is critical. Measurements of any sort within organisations may only be considered as a fruitful process if they add to organisational learning capabilities, which in turn add to competitive practices and organisational capabilities.

Weick, illustrates the link between organisational behaviour and reality by making the environment as problematic for inquiry as possible. That is where the joining of organisational theory and epistemology becomes crucial. Epistemology is concerned with the mind and environment relationships that are actively constructed. To argue that the chief problem of organisational theory is to articulate the relationships between organisations and environments is to miss the point that organisations and environments both undergo considerable construction in the eyes and minds of organisational members. The environment may be problematical, but it can be dealt with. On that assumption, individuals within organisations are then able to move their worlds around and make sense of it.

According to Berlo (1977), these individuals constitute and shape organisational processes that result in rigid organisational structures. This is not the objective of

service quality management. We have seen that flexibility within a rigid measuring system is an acceptable way forward.

It is now possible to outline a concept of required organisational effectiveness. If an organisation is viewed as a system of purposeful action in which the basic element is an action-outcome relationship, effectiveness must be the degree to which organisational actions lead to the outcomes intended. Therefore, if the constituent actions undertaken within the company are not effective, the overall transformation process cannot be achieved without an organisational learning capability.

Organisational effectiveness as defined previously has been broken down by Duncan and Weiss (1979) into three components:

(i) The action-outcome relationships to achieve the intended outcomes.

(ii) The ability to continue achieving organisational outcomes by specifying changes in organisational action given changes in conditions which affect action-outcome relationships.

(iii) Organisational actions are consistent - different activities in different parts of the organisation are co-ordinated.

If each of the three components of effectiveness above can be discussed in terms of organisational knowledge, then it follows from here that an organisational learning capacity needs to exist within the company. This is so that the

company can be adaptable in the daily dynamic business environment.

The concept of organisational learning can be defined in terms of the action-outcome concept of the organisation. Organisational Learning is defined as the process within the organisation by which knowledge about action-outcome relationships and the effect of the environment on these relationships is developed. The development of this knowledge need not imply any change in effectiveness or adaptation. Unlike individual learning, which is often defined as a process by which relatively permanent changes occur in a person's behaviour as a result of some experience the person has had.

The kind of knowledge addressed here can be referred to as organisational knowledge. This is defined as the knowledge which is available to organisational decision makers and which is relevant to organisational activities.

There are three basic assumptions that we can make about the characteristics of such organisational knowledge.

(i) Organisational knowledge need not be held by all the decision makers in the organisation. Indeed, the complexity of most organisations - this company included, suggests that it is not likely and probably impossible. Individuals in the company hold specialised knowledge about the organisation. It is the access to and use of knowledge and not the possession of it that is critical in this concept of organisational knowledge.

(ii) Organisational knowledge should be distributed across the organisation. Many different individuals will hold such knowledge as a result of specialisation. However, since the activities within the company are

interdependent, and actions will be related to a common purpose, individual decision makers will require access to a wide range of knowledge that they themselves do not necessarily hold. This requires that such knowledge is communicable and can be expressed and explained in a meaningful way to other individuals. But whilst not everyone need know everything, individuals must filter information to the needs of their internal customers. Any individual may contribute three functions. Either they are intelligence units, filters, or policy makers. In such a manner, information should be supplied on a need to know basis through the field of intelligence, from specialist filters to the policy makers of the organisation.

(iii) To be organisational, knowledge must also be consensual. That is, there exists acceptance of this knowledge across members of the organisation and agreement concerning the validity and utility of this knowledge. This is especially crucial for the policy makers of the organisation.

Thus organisational learning, if it is to produce the kind of knowledge that is argued as important for organisational effectiveness, must involve an organisational process in which the learning done by a given individual can be shared, evaluated, and integrated with that done by others. Thus, while the individual is the only entity in the organisation who can learn, this must be viewed as part of a system of learning with exchanges of what is learned among individuals. Some type of learning mechanism needs to be identified within the organisation if internal customer-supplier cells are to function correctly. These may be in the form of groups such as quality circles or regular improvement meetings.

Therefore it is proposed that the success of the company in maintaining internal service quality performance, which reflects the external service quality deliverance, is related to the organisations ability to manage information richness. This is supported by Daft et al (1984). Information is a core construct for understanding any organisational form and process. Human organisations must use information to reduce equivocality. This is particularly important for the company who deliver a service and product to the customer.

As suggested by Thompson (1989), organisations have two information related tasks, which are to interpret the external environment and to co-ordinate internal activities. Each of these tasks requires the reduction of equivocality and processing of a sufficient amount of information.

Information richness is an important concept for explaining how organisations perform the task of reducing equivocality to an acceptable level for internal efficiency. Different complexities within the company require different information management processing for the organisation to be efficient.

Rich media utilise multiple variables, feedback and high variety language. It enables people to interpret and reach agreements on not analysable, and often emotional issues. Face to face discussion lead to a shared language and interpretation. Media of low richness are appropriate for communicating about routine activities within the organisation. Paperwork rules and computer printouts are accurate and efficient for the transmission of unequivocal messages.

An understanding of media richness is also a basis for constructing a horizontal information model that explains

how the company co-ordinates its activities. When departments are highly differentiated, for instance the sales management and representatives and the Financial manager and assistants, equivocality is high. When equivocality is high, the company might use rich information media to resolve departmental differences to reach a common language and perspective. Group Meetings are the most common media used by the company, usually chaired by the MD.

However, usually, once differences are resolved and agreement is reached, less rich forms of communication such as memos and formal reports will be sufficient for co-ordination.

What is clear here is that the media selection within the organisation is related to the extent of differentiation and interdependence among departments. So if internal service quality is to be measured on this basis, then the responsiveness, ability to understand internal customer needs, communication and feedback skills are in effect being measured. These would add to the internal service quality dimensions which are sought after in order that the quality system can be designed appropriately. Because such dimensions are drawn out of interviews with employees, they represent a meaningful solution for the employees who instigate the measurement of such dimensions in the first place.

Therefore, an understanding of the information processes and such "richness" of information within the company, reinforces internal marketing as the correct way forward, from an organisational behaviour viewpoint. The latter discussion has highlighted that organisations need learning capacities to make sense of measurements, but this knowledge must be shared by individuals if it is to be of any use at

an organisational level. It also follows that communication skills, media selection and translations of technical information within internal supplier and customer groups is fundamental. These are further organisational behaviour observations which correspond to internal service quality dimensions set out by the internal customer supplier cell structure.

2.11.6 Summary.

(i) The ability for an organisation, group and individual to learn appears to be central for improvements in both internal and external service quality to be delivered. Rate of learning may present itself as a dimension to measure for internal service quality exchanges.

(ii) Any examination of internal service quality will need to consider what learning mechanisms there are within the company. This may take the form of TQM initiatives, quality circles or regular performance review meetings. Without these the internal service quality will stagnate.

(iii) Given the heterogeneity of services there is a need for information richness. Any internal and external service performance needs therefore to be fed back to the employees or cells of employees accordingly. Clearly, quantitative measurement is not enough particularly in the early stages. Qualitative information is needed also. Such feedback suggests that communication is an important dimension in internal service quality.

2.11.7 Employee role and motivation

Rizzo (1970) illustrates that the principle of chain of command (i.e. moving from the top of the pyramid down) and the principle of unity of command and direction have implications for role conflict in complex organisations.

According to the chain-of-command principle, organisations set up on the basis of hierarchical relationships with a clear and single flow of authority from the top to the bottom should be more satisfying to members and should result in more effective economic performance and goal achievement than organisations set up without such an authority flow.

According to Katz and Kahn (1980), theoretically, such a single chain of command not only provides top management with more effective control and co-ordination, but is also desirable because it is consistent with the principle of unity of command. The principle of unity of command states that for any action, an employee should receive orders from one superior only, and that there should be only one leader and one plan for a group of activities having the same objective. The essence of the principle is that it should keep a member from being caught in the crossfire of incompatible orders or incompatible expectations from more than one superior.

According to Rizzo's and Katz and Kahn's discussion of role theory, when the behaviours expected of an individual are inconsistent, causing one kind of role conflict, he will experience stress, become dissatisfied, and perform less effectively than if the expectations imposed on him/her were not in conflict. Role conflict can therefore be seen as a resulting violation of individual satisfaction and organisational effectiveness. If an employee does not know

what he/she has the authority to decide, or what to accomplish, or how accomplishments will be judged, he/she will hesitate to make decisions and will have to rely on a trial and error approach in meeting the expectations of his supervisor. From discussions in service and organisation literature if such role conflict occurs then dimensions of management Authority, Leadership, and Specific Skills and competencies might be dimensions by which internal service quality exchanges are measured.

Ford et al (1975) published their findings of role conflict investigations in a typical sales force. They cited that the salesman's job has several unusual characteristics that can produce perplexing problems for both salesmen and the men who manage them. The salesmen occupy a position at the boundary of the firm where he must often reconcile the conflicting goals and demands of two organisations in an exchange relationship. Many of his tasks are non-routine and many of the problems he faces require innovative solutions. His job performance is critical to the success and goal achievement of many other people within his own organisation as well as of his external customers. These job characteristics often make the salesman a classic example of the middle man. Thus as a single group the salesforce can act as a single customer supplier cell. In this case that cell will have two types of interaction, that of external exchange and that of internal exchange. Clearly the accuracy of service specifications for this internal external customer supplier cell is important. The role of the salesforce at the front end of the internal customer supplier cells means that any poor translation of service specification will move through the whole organisation.

Belasco (1966) also considered salespeople and role conflict and stated that the nature of his job makes him particularly susceptible to role conflict. This coming from the belief

that two or more members are making incompatible demands concerning how he should perform his job.

According to Katz et al (1980), role theory likewise states that role ambiguity, which is a lack of necessary information available to a given organisational position, will result in coping behaviour by the role incumbent, which may take the form of attempts to solve the problem to avoid sources of stress, or to use defence mechanisms which distort the reality of the situation. Thus according to role theory, ambiguity increases the probability that a person will be dissatisfied with his/her role, will experience anxiety, will distort reality, and will thus perform less effectively.

Several studies, Green et al (1973) Gross et al (1957), Katz et al , (1980) Hage et al (1971) show that perceived role conflict is positively related to feelings of job related tension and anxiety, and negatively related job satisfaction. In addition to the high potential for conflict, the non-routine nature of the salesman's job at the interface between the organisation and the customer, also makes him particularly susceptible to feelings of role ambiguity. Bowen and Schneider's research supports this judgement, by taking notice of the fact that external customers may be seen by salesmen and engineers as substitutes for leadership. In such scenarios, a salesman perceives role ambiguity when he feels uncertain about what kinds of behaviour are expected of him by his various role partners - when it is not clear to him how the organisation wants him to perform his job. Several studies have indicated that perceived role ambiguity can produce psychological reactions similar to those produced by perceived role conflict, which can have a negative impact upon the salesman's satisfaction and performance. Given the focus on the customer as a pseudo leader, consideration of

leadership should be given as an internal service quality dimension. This could arise from the direction that a sales cell or other cell may need from a linked cell further up the process chain. This lead may come directly from the service specifications.

From the last section we discussed the need for value statements within the company to generate a service ethos. Employees also identify with the organisation's service values. It has been revealed by Schneider (1985) by such practices and procedures, employees have been found to be less inclined to quit their jobs and customers are more satisfied with the service they receive. Additionally, when employees turnover is minimised, service values and norms are more easily transmitted to newcomers and successive generations of service employees. When we consider one of internal marketing's objectives as the motivation and satisfaction of employees, it would seem to confirm that the service derived value statements are important mechanisms if research into internal service quality is to be investigated.

Research into branch banks by Schneider and Bowen (1985) demonstrates the linkage between personnel practices such as motivation and the service culture they support, and employee and customer satisfaction. They found that when employees described their training and supervision as service oriented, customers had favourable views of the quality of service they received. This suggests that a service-oriented culture for the Company can be enhanced by treating front line employees as:

"partial customers"

These individuals deserving same treatment that management wants the organisations customers to receive. This is the

foundation upon which internal marketing operates, for everyone in the organisation. This again confirms the internal customer supplier cells mechanism by identifying that the measurement of internal customer needs is on par of importance with measuring external customers wants. It is however taking the viewpoint of Carr (1990) in that the front line employees should receive all motivation attention. This has been challenged when discussing who should receive internal marketing principles.

Also, managing customers as "partial employees" can be an effective organisational response to the difficulty of co-ordinating supply and demand. Increasing customer participation and voluntary flexibility in service production and delivery offers service managers one mechanism for adjusting capacity to fluctuating demand. So the internal as well as external customers must be understood as part of the service production design process.

McGregor (1967) discusses the approach of organisations to attitudes about people. The *Theory X'* view of people saw man as naturally disliking which hence only gets done when people are coerced and controlled. This view assumes that most people are lacking in ambition and disliking responsibility, and hence prefer to be directed. The contrary or *Theory Y'* view regarded work as a natural activity to which people directed themselves in order to achieve objectives, commitment stemming from the rewards of the achievement. Our assumption if any research is to be carried out is that *Theory Y* dominates. If we assume theory x then the flexibility required within cells to deliver service on a heterogeneous basis may not be possible. Observation will determine if this has occurred since the level of managerial input can be noted to achieve a step change in internal service performance.

Argyris (1964) discovered that workers in plants found detailed supervision to be oppressive and developed defence mechanisms against it such as apathy, ambivalence or even aggression. These mechanisms can put a strain on individuals and organisations. This would support the theory Y approach.

The critical question of motivation across employees was considered Maslow (1954) who saw people as possessing a hierarchy of needs ranging from the basic needs such as food, sex and shelter, through security and safety to recognition and self-respect, and ultimately self-realisation.

However, this behavioural theory assumes that the earlier, more basic needs must be satisfied before an individual can progress to satisfying the higher needs, the inference being that the extent to which individuals satisfy their higher needs for self-respect and self realisation depends in part upon themselves but largely upon the design and functioning of organisations. Personal observation will be used to ensure that employees will be at the self realisation stage and that there are no issues with the key employees by cell that prevents from being at this stage.

Herzberg (1966), whilst examining the organisation of work, drew a distinction between two categories of motivation satisfiers. Achievement, recognition, responsibility and promotion and hygiene factors such as pay, working conditions, perks and levels of supervision. Hygiene factors were often largely the reasons for deciding whether or not to join or leave organisations, while on-the-job performance was regarded by Herzberg as largely dependent upon the presence of satisfiers.

The absence of satisfiers can lead to alienation. Robert Blauner (1964) found assembly-line working as much more likely than craft working to lead to alienation. Whyte (1957) chronicled the alienation felt by the middle manager as a result of the pressure upon him to conform. Brown (1970) found that in practice the oppressiveness of formal organisational systems is often relieved by informal networks and contacts. At Glacier Metal, Jaques (1961) examined group behaviour at the point of work and found motivation to be high where reward was seen as related to the length of time that elapsed between discretion being exercised and its success or failure being able to be determined.

At a general level Schneider (1985) has argued that organisations, and their cultures are a function of an attraction-selection-attrition (ASA) cycle. Different kinds of organisations attract, select, and retain different kinds of people, which is one of the primary reasons why organisations look and feel different, i.e. have different cultures. In other words occupational choice is not a random process. The nature of persons who enter and remain in service oriented jobs and organisations is different from people who enter other kinds of jobs and work environments.

Hence the Company as a service firm must begin to manage the recruitment, selection, and training issues, supporting the ASA cycle and to motivate and provide satisfiers to ensure they have service oriented personnel. In recruitment, firms need to be sensitive to how their overall service culture attracts certain personalities as applicants.

According to Schein (1985), in many cases the firm's personality and public image is a reflection of the firm's founder. In the Company's case, even if the company could change its Managing Director, the company cannot change its

founder, but it must change its culture to reflect a measured and consistent internal service quality performance which is reflected by external service quality deliverance. This points to discussion with the founder to identify the service orientation and so how the founder motivates his senior management to become service orientated. A non service orientation may work in reverse. Identifying and maintaining such a human resource policy within the Company will therefore help attract and maintain those individuals who can easily relate to and maintain the quality determinants which the organisation has instigated as its service quality driving force.

2.11.8 Summary.

(i) The role which an employee assumes within their organisation is important to the delivery of service quality both internally and externally.

(ii) The employee requires clarity of his role to perform his service task. In the case of sales people some role ambiguity can occur between who the salesman actually sees as the customer and leader. The link of the salesman between the inside and outside worlds do dictate that the salesforce should be a customer supplier cell.

(iii) Role ambiguity can also affect the delivery of service quality both internally and externally.

(iv) The management's view of employees is important to the motivation of employees and tight internal control is seen as constricting to this motivation and hence delivery of service quality. This implies leadership may be an internal dimension which should be measured for internal service quality exchanges. This leadership dimension is supported by the need for one internal customer supplier cell to have its service quality specifications specified by another internal customer supplier cell.

(v) Management authority, skills to do the job and competency seem to be additional internal service quality dimensions to measure. There is no clarity at this time that management authority is distinct from leadership skills.

(vi) Any examination of internal service quality will need to consider the background that the employees operate in. This will range from the pay and conditions through to the training programmes that are in place. This necessary background information will be needed to determine if the

internal customer supplier cells are motivated and competent to carry out these internal service quality exchanges.

(vii) Any internal service quality exchanges that are measured need to be fed back to the employees formally to act as satisfiers so that each internal customer supplier cell can empower itself in taking improvement decisions.

(viii) The role and focus of the founder of the organisation needs to be considered in examining any internal service quality. His views are likely to set the overall culture of the organisation and so how service oriented it is.

(ix) Clear and precise internal service quality objectives are a necessary pre requisite for the delivery of internal service quality.

2.12 Conclusions from literature review.

We have examined the definitions of quality and found that whilst each definition provided by authors have different biases to how quality should be achieved, all believe that the quality should be focused upon customer need. Meeting such a need requires a total quality approach driven by marketing and including the whole organisation.

To achieve this market driven quality, there are ramifications for people, systems and structures. The structural requirement appears to be met by internal customer supplier cells which link from the outside environment where the true customer exists through to the internal environment where the whole company is focused upon delivering external quality. This structure of internal customers is a way that all employees in the company become customer conscious through the passage of quality specifications from one cell to another. Implicit in this structure is internal inter-linked customer supplier cells. is the need to understand the processes within the company. By understanding these processes so internal customer supplier cells can take to improve quality and define internal customer supplier cell boundaries.

The systems requirement given small reservations seems to be met by specifications such as B.S. 5759.

In examining the definition of quality, there appear to be two distinct elements. Technical quality which is the tangible goods aspect of quality and functional quality which is how the customer is treated in the receipt of the technical goods quality.

If we consider the proportion of costs that an organisation allocates to quality, the greatest percentage (even

considering companies in a high goods content market place such as manufacturing) is allocated to the functional quality element. This functional or service quality element has a high people content and needs to be measured.

Service quality provides different problems in its measurement to goods quality because of the properties it exhibits such as heterogeneity, inseparability of production from consumption and perishability and intangibility. It is measured by a gap.

This gap is the difference between what the customer actually receives to what the customer expects. There appear to be ten dimensions which this gap is measured upon. These ten dimensions have been simplified to five empirically. Literature suggests that these ten or five dimensions can be applied internally between internal customer supplier cells as externally. This does not appear to have been verified empirically and there are reservations in its direct application as the relationships that are formed between the internal customer supplier cells is long term with no real opportunity of substitution without management direction. Therefore the underlying ethos to improve service quality to the external customer to retain that customer in a competitive marketplace is not present internally. Choice is not present.

If we consider the external service quality gap without considering internal customer supplier cells. Empirical data suggests that there is a contribution to this external measurement of service quality from within the company. These have been defined as internal gaps. The amount of gaps that have been identified within the literature does seem to vary from four upwards. Of these gaps, only the four internal gaps of SERVQUAL have received an appreciable amount of empirical verification. The common theme in the

consideration of these gaps is that they follow the process flow within the company from order taking to order delivery.

The quality literature does not as yet appear to make or to explore any links between these internal gaps and the internal customer supplier cells. It is implied behaviourally that internal customer supplier cells should have a mechanistic tightly controlled system between cells and an organic evolving structure within each cell to deliver service quality. It may be possible therefore to link the application of the four internal gaps of SERVQUAL internally within each cell. There does not appear to be any empirical evidence which should support this.

Some of the dimensions measuring external service quality, such as communication do appear to be replicated when the causes or antecedents for these internal gaps are considered. This is likely to be an internal dimension to be measured if application of internal service quality at the interfaces between internal customer supplier cells could be applied.

Internal and external service quality gaps have been identified and there is a structural requirement for internal customer supplier cells. The question of how the internal customer supplier cells satisfy each of the inter-linked internal customer supplier cells in daily operations is raised.

This appears to be satisfied in the literature based upon internal marketing. If each internal customer supplier cell needs to satisfy another internal customer supplier cell in the process flow of the organisation, how each cell markets its services to the receiving cell appears to be important. It can be concluded from the literature on internal marketing that internal customer supplier cells are a way of

structurally defining the markets. From a behavioural viewpoint there appears to be nothing which differentiates between internal and external exchange processes. The exchange process is seen as fundamental to achieving an organisation's goals. The issue of control of the organisation depends upon these exchange processes sitting within a structure.

Given this, the literature provides differing definitions of what internal marketing is. It ranges from satisfying employees and keeping them motivated through to satisfaction of internal relationships. All of the authors who have provided the definitions are clear upon the issue of exchange processes within the company. They must be based upon a relationship management as opposed to a transaction management approach both internally and externally.

In a conceptual context, internal service quality dimensions are suggested for use within an internal marketing framework but these have not been proven empirically and a fuller examination of the literature in this area showed omission of some dimensions and addition of others - all conceptually based. Indeed behaviourists advocate that such internal measurement is needed for internal improvement and so improvement in the external exchange process (between the company and the customer). There still does not appear to be an empirically based definition of the internal service quality dimensions that can be applied between internal customer supplier cells.

Dimensions that are suggested from the literature are leadership, communications, management authority, and the formal ten dimensions of, responsiveness, reliability, communications, competence, tangibles, credibility, access, security, understanding the customer and courtesy

Given the importance of people, process and structure in the delivery of internal service quality at the interface between internal customer supplier cells, appropriate analysis tools need to be identified. These tools will enable a companies state of operation of internal marketing and internal structure to be identified. Understanding of this state will then allow investigation of internal service quality dimensions within a company. It will determine if the correct procedures and structure are in place or if not, to be designed for the purpose of investigation.

The need for a common glue or thread that runs through the organisation is needed if internal customer supplier cells are to operate. These are service specific value statements and need to be evident in their definition to all employees.

Service blueprinting was examined from the literature and proves to be an effective tool for identifying processes and internal customer supplier cells boundaries. Indeed behaviourally, it was identified that the backbone to any internal customer supplier cells should follow the process flow from order taking to delivery.

Internal marketing audits which are the same philosophically as external marketing audits proved to be more elusive. There are several available but these have been derived upon the original definitions of internal marketing. Because these definitions differ then so do the internal marketing audits. It was concluded therefore that to identify the companies internal marketing status a multiplicity of audits would be used. Each supporting the other in their respective areas of weakness.

Central to any satisfaction and improvement in internal and therefore external service quality is the ability of an organisation to learn. The existence of learning groups such

as meetings or quality circles are seen to be important internal mechanisms. Rate of learning itself may be an important internal service quality dimension.

Allied to this learning need is the need for information richness and this as the literature suggests needs to be qualitative and quantitative between internal customer supplier cells. Evidence of this will be needed if any examination of internal service quality is to be conducted.

It has been established therefore that if front line employees need various service qualities which customers can associate with and recognise, internally, employees must possess a similar yet different set of service qualities. Behaviourists, as outlined, have found such "interpersonal" relationship to be true. Now that we know that these relationships ordinarily exist, we can turn these relationships into a comparative advantage by beginning to identify the most needed service qualities internally on a global basis and measuring the performance of employees against these quality dimensions. By using process time variables we can statistically check internal service deliverables against actual performance.

It has been identified that the success and maintenance of service quality revolves around measurements, training, human resource policies, and both internal and external customer needs. It has been highlighted the importance of the design and the communication process of the organisation to maintain service quality. It has also been highlighted that it is the thinking and learning ability of the organisation which is an important element by which any quality improvements can be made.

If organisational decision makers operate under norms of rationality, the decision makers must base the decisions on

some understanding or belief that the action will indeed yield the desired organisational outcome. It will be regardless of where the decision is made within the organisation, the rationality of these decisions turns on the existence of knowledge which must be added to by organisational learning. The internal customer supplier cells can act as the process upon which the gathering and sharing of such knowledge rests.

The organisation has been defined as consisting of two primary parts, relationships and resources which should be maximised for organisational effectiveness to be achieved. It is also clear that internal service quality is based around the measurement of such acts within the organisation to achieve optimum efficiency and effectiveness. So it follows that a continuing requirement of all human organisations is the motivation of role behaviour, that is, the attraction and retention of individual members and the motivation of those members to perform required acts within the organisation. This identifies a need for such an effective management system, by which authority is co-ordinated and controlled. It therefore further underlines the need for some type of internal structure to be working on a continual basis within the Company.

Such a practise will wither and fail if it does not have the support of Directors and Management and needs to be considered under research design. It implies that the Director's of the company must foster a level of freedom and creativity within the organisation. The director's must assume the mantle of service leadership to be the best they can be. To give them the systems, tools, and technologies to facilitate their work; remove unnecessary obstacles and discouragement from their paths; and allow them the freedom serve their customers, whilst building internal cultures of teamwork, congruence, and achievement.

3.0 Theoretical development.

3.1 Purpose

To develop a theoretical internal customer supplier types model.

3.2 Introduction

This chapter will deal with the development and design for the testing of an internal customer supplier types model. This model will be based upon the definition of internal customer supplier cells and how each cell measures the service quality during internal exchanges at the cell interfaces. These dimensions of measurement will be suggested from the literature.

The internal customer supplier cells will then be considered in terms of how the model will be tested and in what environment. It will detail the tools that will be used to translate the model into working reality that can be researched.

3.3 Conceptual development

Gap analysis provides an objective view of the direction and size of difference between expectations and perceptions between the critical players in the service exchange. This concept of gap analysis is well established in the literature. As a technique it can be applied externally as well as internally. The five gaps model of SERVQUAL demonstrates this (Parasuraman (1988b)). They demonstrate that gaps can exist within a company which can influence

external service quality. These internal gaps considered the management, definition of standards, customer communication and service deliverers as causes. This chapter contends that an internal gap analysis is also relevant for measuring the quality of service between internal suppliers and their internal customers.

When measuring external service quality, the main focus for attention is the exchange between front line employees and external customer. With internal gaps between internal customers and suppliers, service quality can still be measured. For example, an accounts department may provide information to the marketing department in the costing of particular products or services. In this case, the marketing department may be considered the internal customer, while the accounts department is the internal supplier. The quality of service provided by the internal supplier to the internal customer in this instance might be measured by an adaptation of the externally designed gap analysis model.

Empirical evidence of external measurement of service quality by applying dimensions in the gap analysis is present in the literature. The volume of articles cited on dimension measurement support this, but yet there are none for internal application when internal customer supplier cells are specifically considered. Zeithaml et al (1991) have suggested, but not demonstrated empirically that the application of SERVQUAL can be used for internal customers. This makes however a fundamental assumption that the dimensions are the same and yet there does not appear to be empirical evidence to support this. It is hinted in the term "appropriate adaptation" below, but it is unclear if these are the dimensions or merely changing the name to internal customer in the questionnaire leaving the dimensions the same.

"Assessing Quality Perceptions of Internal Customers."

SERVQUAL with appropriate adaptation, can be used by departments and divisions within a company to ascertain the quality of the service they provide to employees in other departments and divisions." - Zeithaml et al (1991).

It is this application which presents itself as a research opportunity. This can be defined in terms of examining the service quality exchange processes between internal customer supplier cells and identifying the internal service quality dimensions. On the basis that we consider internal customer supplier cells and their interactions, how does the literature indicate the need for their existence and what is the overall company structure?

The need for internal customer supplier cells has been defined in the discussion in the literature survey (Denton (1991), Compton et al (1987) and Flipo (1990)). We also know from the literature, that the need for this is amongst others to generate customer conscious employees at every level within the organisation. Equally the literature suggests that internal customer supplier cells exist already in support functions and if we follow Denton's (1991) horizontal management, then internal customer supplier cells are needed to track total product quality from external supplier to external customer horizontally through the organisation. We can additionally say that the recognition of the role of others as customers in the organisation is needed to make internal customer supplier cells work. This fits with creating customer conscious employees at every level. We can also imply from the literature that these internal customer supplier cells should follow the process flow within the company (Denton (1991)) and that some customers will naturally exist because of internal services which they provide. How these internal customer supplier cells have their boundaries defined also seems unclear. Several questions remain unanswered. What actually defines the responsibility of the customer supplier cell and what

tools can be used to determine these boundaries of responsibility. This will be discussed later.

Given that there is a need to develop a service quality measurement instrument for internal customers (both internal services or otherwise) which links to the external service quality assessment, this is to be the focus of this research.

By following the previous discussion, it is possible to conclude that internal customer supplier cells should be developed according to the process flow within an organisation and according to those support services already in place. The process flow can be defined in the following sequence:

(i) Order taking typified by a salesman.

(ii) Order processing typified by administration or accounts.

(iii) Order co-ordination (if more than one customer is being dealt with at one time) typified by distribution.

(iv) Order delivery.

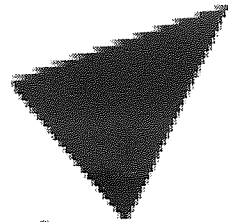
(v) Post delivery service typified by customer services.

This view is consistent for the need to design such customer supplier cells horizontally through the organisation and is also consistent with Porter's (1985) value chain given in Figure 12 a. We can match order taking as in-bound logistics through to post-delivery service matching with Porter's service element.

If we consider the whole of Porter's value chain and consider also that the literature defined other customer

supplier cells as those which acted as services to support the flow of goods and service, other cells must exist. These cells if we adhere to the value chain can be defined as:

- (i) Firm infrastructure typified by management, secretarial services and information services.
- (ii) Human resource management typified by personnel.
- (iii) Procurement as typified by the stores department.
- (iv) Technology development typified by a research and development department or group.



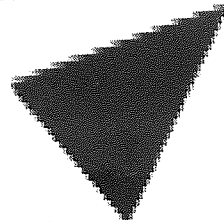
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Figure 12 a. Porter's value chain as basis for horizontal alignment of customer supplier cells. (Source: Porter (1985)).

Thus we see Porter's value chain modified to Figure 12 b. We can observe the different elements of the value chain now separated, existing of distinct cells with distinct cell boundaries. One can consider this to be the skeletal framework for internal customer supplier cells. For example one cell would be the firms infrastructure and another outbound logistics.

These cells would not be in any sequential order as the cells which are aligned to the value chain are but they do provide an internal exchange which allows the main internal customer supplier cells to perform their function. In essence, providing support for the improved internal service quality performance between these main cells.



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Figure 12b Porters value chain with a separated functional cell structure.

We can therefore identify two main groups of internal customer supplier cells. These are those cells which are directly involved in the satisfaction of an external customers quality requirements as it passes along the value chain. Equally also those cells which are not directly involved in this process but support those cells that are. We can now define these cells as:

- (i) Direct internal customer supplier cells (those directly involved in the production of the service

specification for the external customer along the value chain).

(ii) Indirect internal customer supplier cells (those which support the direct cells at any point along the value chain.).

These are represented in Figure 13. It is noted that there are potentially two different types of internal market operating within the organisation. The direct market and the indirect market. These two different markets may indicate two different demands for service quality in that the dimensions may be different. In a direct internal market, the focus on the external customer is more immediate than in an indirect market. The direct market (direct cells) will have external quality requirements to satisfy directly as part of each customer supplier cells job. It is expected therefore that any service dimensions which are used to measure the internal customer supplier cell transactions will more strongly mirror those used for the external customer. In the indirect market i.e. one based upon satisfying direct internal customer supplier cells, the external customer specifications (passed to the direct customer supplier cells) may not necessarily be directly passed to indirect customer supplier cells. As a result the dimensions are more likely to reflect those required by the direct cells. It is not possible to say at this stage whether those dimensions will mirror those used by the direct cells which may mirror those of the external customer, in effect all dimensions being the same as external measurement. This should be subject to investigation.

It is possible that the dimensions are different for each of the internal customer supplier cell types. For example, one direct to direct interaction using a different dimension set

than another direct to direct interaction. This may be the case and this researcher will adopt an open mind to this event. Dimensions may change because of changes in the immediacy to the external customer. For example an internal customer supplier cell of the direct type which sits in the middle of the process flow is less immediate than the internal customer supplier cell which actually delivers the external service and the internal customer supplier cell which is closest to the external supplier. It may be that:

- (i) the dimensions change subtly or
- (ii) that the requirements are actually different
- (iii) or that the dimensions stay the same.

If we consider the number of potentially different exchange types, these are given in Figure 13. They are represented by the arrows. Each arrow points to the customer and away from the supplier. If we consider these exchanges, there are four and these can be classified as:

(i) Direct internal supplier to direct internal customer. This would occur typically in the direction of flow of the customers quality specification from order taking to order delivery "(b)". The supplying direct cell passing this process specification further down stream. There may be also a reverse exchange where the supplying cell expects some sort of feedback or information for it to do its job correctly "(a)". In essence the supplier cell becomes a customer cell at the same time (a reverse interaction).

(ii) Indirect internal supplier to direct internal customer. This is where a support customer supplier cell is providing a service to a cell in the value chain. These

exchanges are denoted "(e)". As in (i) above, the supplier may have requirements upon its internal customer.

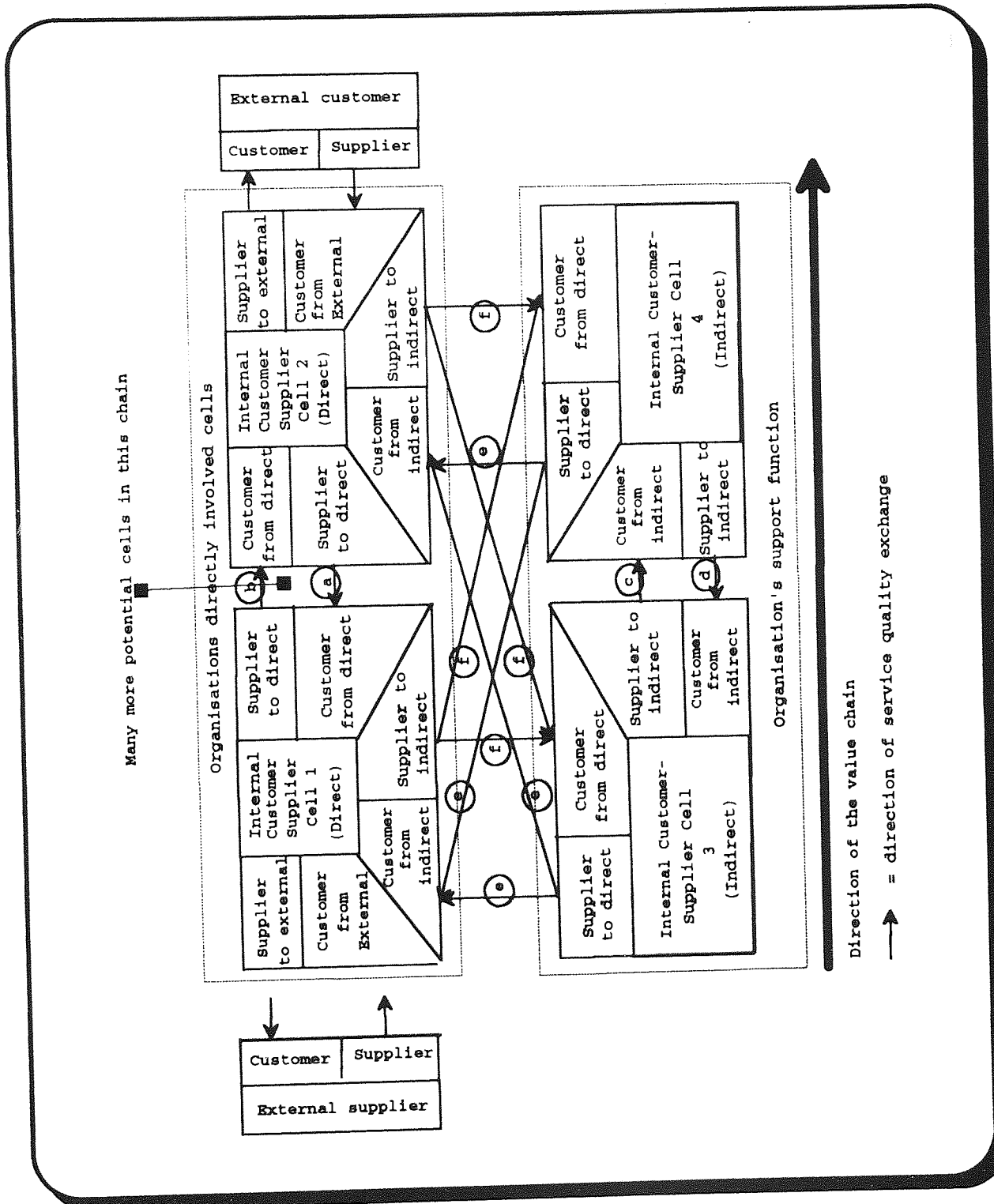


Figure 13 Derived internal customer supplier cell model with exchange types.

(iii) Indirect internal supplier to indirect internal customer. This is where a support service such as Information technology, is supporting another support service such as personnel. These exchanges are denoted "(c)" and "(d)" and include the reverse interaction as specified in (i) above.

(iv) Direct internal supplier to indirect internal customer. This is where a direct cell performs an indirect activity which is needed by the support function such as accounts. These exchanges are denoted "(f)" including the reverse interaction as specified in (i).

Figure 14 simplifies these exchange types. It should be noted that if two different markets can potentially exist within an organisation (the direct and indirect market) given these four exchange types then the dimensions are likely to be different for these types. It should be noted that each cell has an exchange type which is fixed by the cell that they are either supplying to or receiving from.

Figure 14 only presents four of the potential six interactions. If we consider all of the interactions there are 6 major types. These are typified by interactions a,b,c,d,e and f. Whilst (c) and (d) are identical (there is no through movement of product or service entailed), (a) and (b) may be different. If we assume that the flow is one way in the company and this flow is the direction of the value chain then interaction (a) is called into question, it is a feedback loop not the provision of a service.

Thus the simplification to four major interaction types is performed by considering only the interactions which are in a forwards direction in the organisation and which provide the majority of the service flow in the company. For example a supporting (indirect) internal customer supplier cell

which is servicing a direct internal customer supplier cell has two possible interactions. The first is the indirect cell supplying the direct cell with the service specification and the second is the direct cell supplying the indirect cell with the information on the specification and feeding back how effective the satisfaction of that specification was.

On this basis, it is questionable whether the reverse interaction is indeed a valid service exchange as the internal customer supplier relationship remains static. By this it is meant that the reverse exchange is only to facilitate the main interaction not act as a new and significant one. On that basis we can remove (a) as an interaction type option.

	Indirect Internal Customer	Direct Internal Customer
Indirect Internal Supplier	II Service quality (c&d)	ID Service Quality (e)
Direct Internal Supplier	DI Service Quality (f)	DD Service Quality (b)

Figure 14. Four exchange types simplified by removal of reverse interaction types (derived from internal customer supplier cell interactions).

A service interaction will involve one party meeting the specifications and the other party specifying and receiving them. How the specifications are met is then subject to a

review or feedback loop. Even though the review is being carried out to improve the next service interaction the customer still remains the specifier and receiver of service and the supplier still remains the supplier. We can see that this view is consistent with Porter's value chain. All specifications emanate from the external customer (from a variety of sources for example, by proxy from market research) and flow into the organisation via the direct direct interactions i.e. a customer's requirements are passed to the first direct cell and these specifications are then passed along the value chain (occupied by Direct cells). Where support is needed by the direct, indirects can become involved. Given the different interaction types and who should be the customer and who should be the supplier, it is necessary to provide a criterion therefore which assists in the determination of who is the customer and who is the supplier. It can be termed as:

"Recognising that the interaction between two internal customer supplier cells is two way, the internal customer in the transaction is the one who is defining the specifications to be met for that internal customer to be satisfied. The internal supplier is the one who satisfies this requirement and can, to improve the internal customer's satisfaction, request information or a service as if the internal customer was acting as an internal supplier."

From Figure 14 we have the simplified interaction types. If we now apply the above criterion (derived from the previous discussion) to determine the true internal customer and supplier, we can see that all of the service quality interactions simplify to five separate service transactions (the external customer interaction, and internal interactions "(b)", "(c)&(d)", "(e)" and "(f)". Each of these transactions may be evaluated using gap analysis.

How each gap is measured in terms of dimensions however does not seem to be apparent from the literature survey. The external service gap has already been discussed in terms of

the dimensions which are used to assesses it and these have been shown to be the ten dimensions of Parasuraman et als SERVQUAL (1988 b),

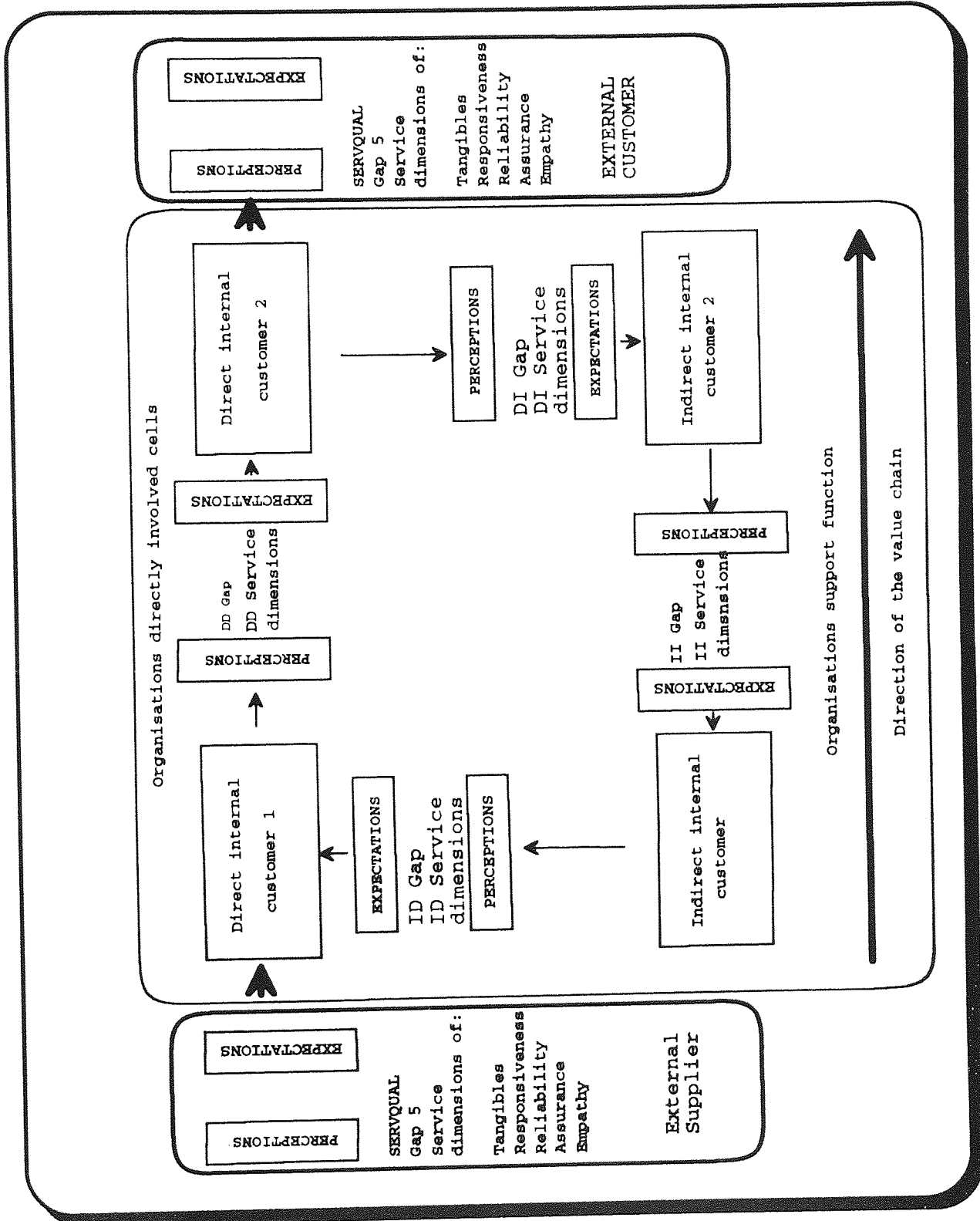


Figure 15 Derived internal gaps model using one of each of the interaction types.

It is suggested from the literature that the dimensions which may be used to measure internal service quality between these cells could comprise of the following (Figure 16 a, b, c, d.) for each of the interaction types. Bowen and Schneider cite leadership (1985), Katz and Kahn (1988) and Rizzo (1970) cite management authority. Given the discussion in the literature of Parasuraman et al's (1988 b) ten dimensions as skeletal for external service quality. These dimensions are believed to be applied internally by Zeithaml (1990) so, tangibles, reliability, responsiveness, access, credibility, communication, courtesy, security, understanding the customer and competence should be considered also. Given that two potential markets can exist internally, the direct and indirect markets, there may be a different emphasis on the dimensions which are used in these markets and across them. The literature does not give any indications as to how these dimensions would differ and thus empirical work would explore:

(i) If the dimensions do differ by market and so interaction type.

(ii) What emphasis is placed upon each of the dimensions by interaction type i.e. importance ranking of the dimensions.

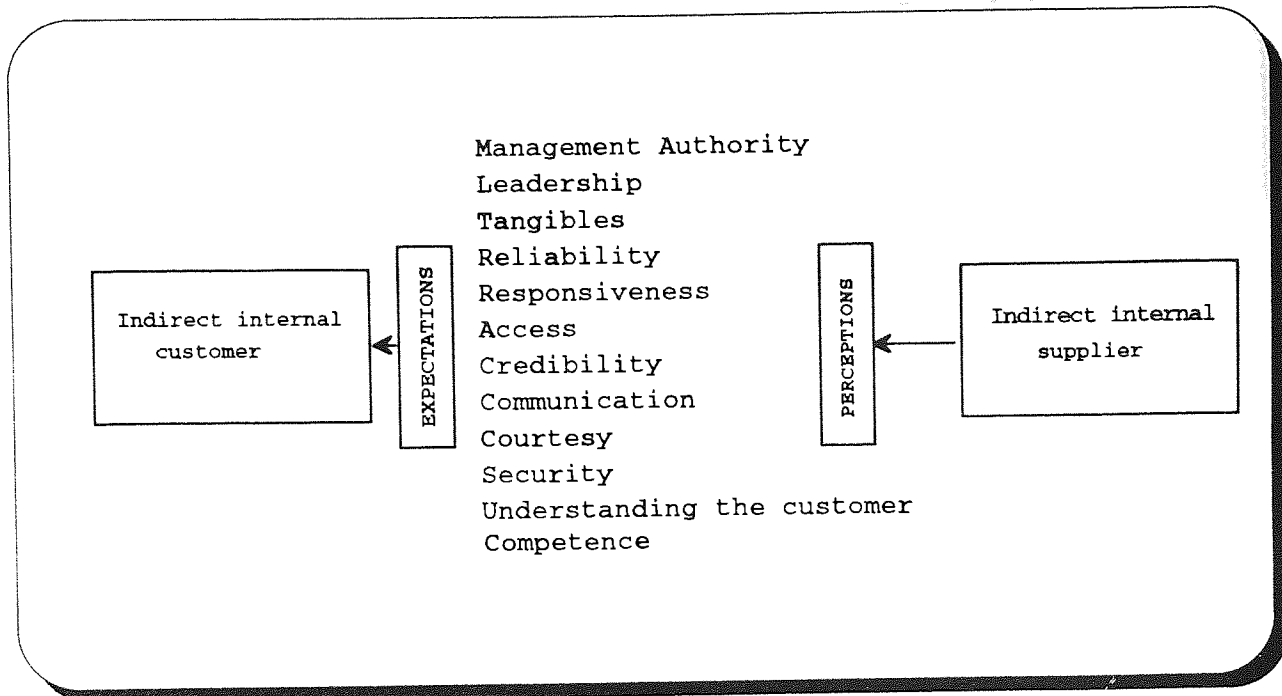


Figure 16 a. Potential internal service quality dimensions for II interactions derived from literature review.

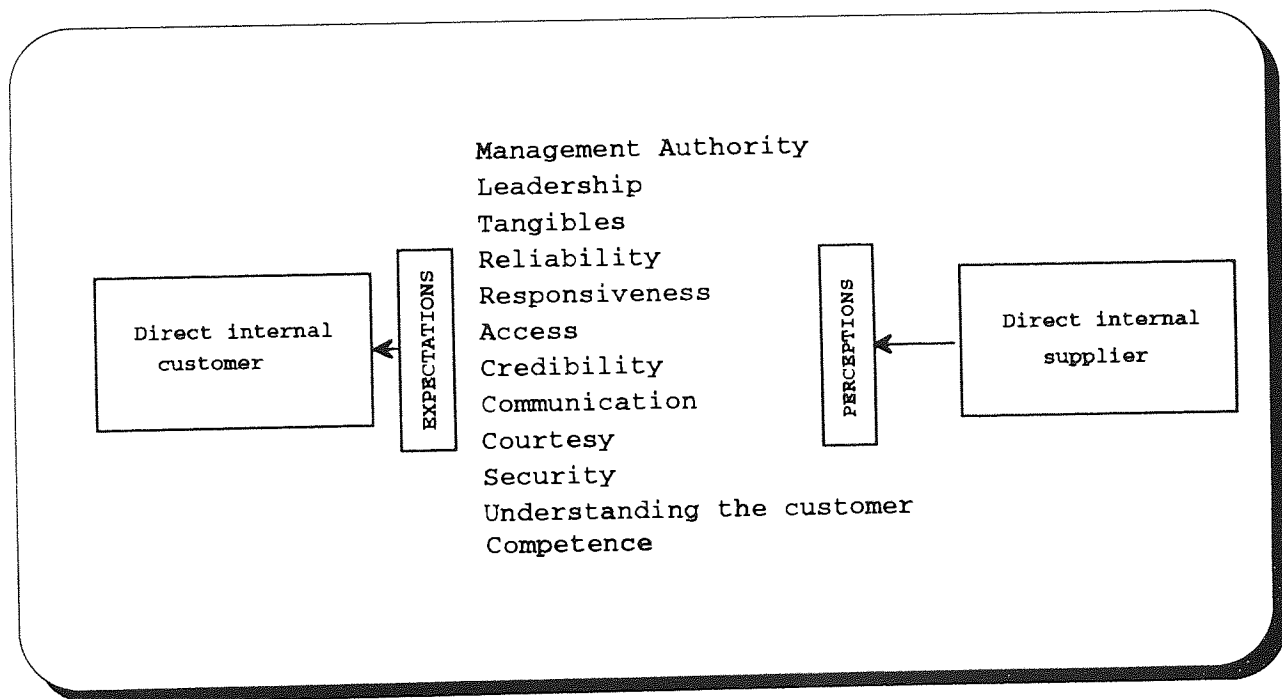


Figure 16 b. Potential internal service quality dimensions for DD interactions derived from literature review.

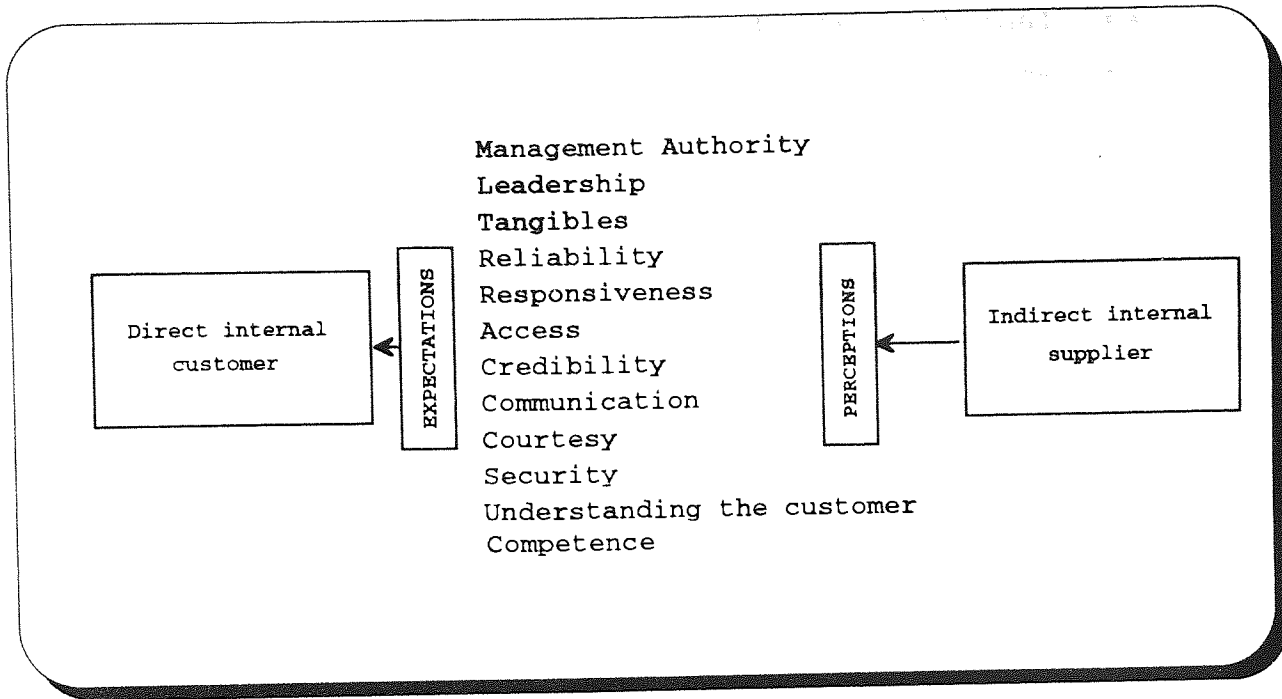


Figure 16 c. Potential internal service quality dimensions for ID interactions derived from literature review.

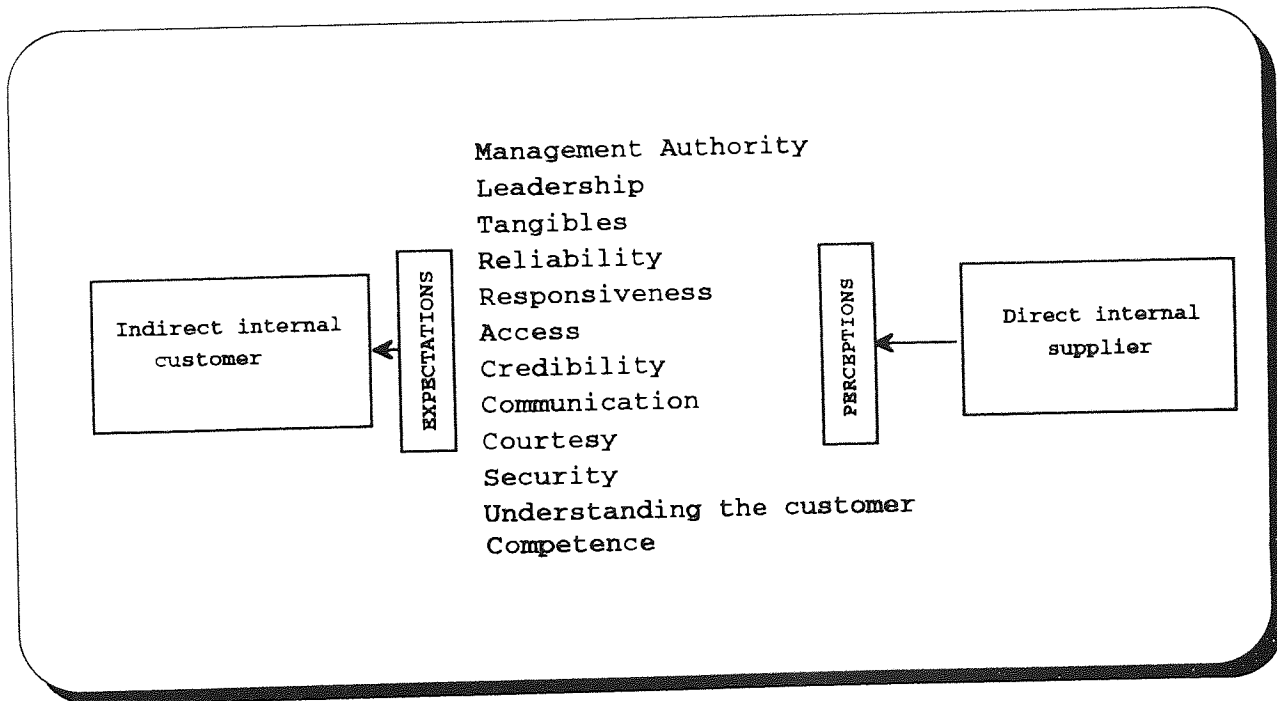


Figure 16 d. Potential internal service quality dimensions for DI interactions derived from literature review.

If there is a difference in these internal service dimensions then empirical work would identify the priority and so how each of the internal customer supplier cells would weight these dimensions. As discussed from Figure 15 we can see that the four internal interaction types are simplified, i.e. one internal customer supplier cell type interacting with another internal customer supplier cell type. Clearly, this model represents the simplest position in the total set of internal customer supplier cell interaction types. In any application within an organisation these types are likely to be replicated many times over. In its simplest sense we can model this now using the figures from 12 to 16 to produce Figure 17.

We will have a sequence of interaction types with their gaps and associated dimension sets throughout the organisation. If we use the process flows and Porter's value chain we can set up these internal cells and their interaction gaps as described in Figure 16. This theoretically demonstrates structurally how the internal customer supplier cells would work moving from the external customer to the direct cells and their supporting indirect cells and management cells. It does not show however, how the boundaries of the interactions are defined. This is important for the research as by defining the boundaries we have defined the point of service interaction and so the position of the gap. Once we have defined the boundaries we can also apply accountability and responsibility to each cell to improve service performance as defined by the literature. For this we need to return to Piercy (1992). He stated that for an organisation to be effective three pillars needed to be considered, customer focus, people involvement and process understanding. It is logical to consider these pillars when defining the internal customer supplier cell boundaries.

A detailed process understanding is required so that each internal customer supplier cell can identify a collection of process steps which that cell owns and so improves upon if the concept of the learning organisation adopted from the literature needs to occur. Those process steps which the internal customer supplier does not own, but which is next to that cell is in fact the boundary across which the service interaction takes place. Given that each customer supplier cell owns clusters of process steps to improve upon and so improve internal service quality, the boundaries can be defined by people involvement, Piercy's next quality pillar.

Each internal customer supplier cell will have a skill base associated with it. Once the process steps require a different skill type to execute correctly, and those skill types are possessed by another group of employees, so boundaries can be put in place. Another criteria that can be applied and is associated with the skill types will be the managers.

These individuals are accountable and responsible for the efficient and effective running of their area.

Piercy's last pillar is that of customer focus. Some cells such as a customer services department will be a logical cell as would be a sales force. These processes are visible in the customer's eyes and so need to be responsible and accountable for external performance. Because each customer visible process step is by definition direct, i.e. it satisfies the external customer directly, the customer visible processes can be reference points to assist in the determination of direct and indirect cells.

The role of service blueprinting has been previously discussed which considers the customer visible and invisible process within the organisation and it is suggested that

this tool be used to help define the internal customer supplier boundaries.

We can propose a very simple model for a company in terms of the process steps it will follow for that business to perform its function of satisfying customers. It should be emphasised that this model is minimalist as the process step will vary significantly between organisations. By identifying the process steps and marking those which are customer visible we can start to define the structure of the internal cells. This is presented in Figure 18. We can see the movement of a customer enquiry being passed to either a salesman to sell a product and/or service or to an engineer to service an existing product at the customers premises.

Once the salesman has closed a deal, then the relevant finance is raised for the customer and the order logged to computer. The paperwork is raised and the engineer who will be installing the equipment is co-ordinated. At the same time stock is ordered and delivered to site where it is installed.

The customer visible processes can be identified from Figure 18 and these are starting points to build the internal customer supplier cells. Some process step can be clustered. For example all of the reporting is handled by people in accounts and so it is possible to cluster reporting into a finance cell. Equally, the co-ordination of the engineers for maintenance and installation requires technical knowledge and so becomes another cell. By using the customer visible process, we can determine which of these process clusters belongs to either a direct or indirect cell. From that we can determine the four different internal interaction types. This is presented in Figure 19.

It is this model which will be applied to the target company to identify internal customer supplier structure and interaction boundaries. Once these boundaries had been defined with interaction type, then the service gaps can be put in place and the dimension sets by cell type could be identified.

If a difference in dimensions were to be detected empirically then a question is raised in terms of how these internal service quality measures can be translated into external service quality. It may be that the absence of a dimensions such as access internally has no effect upon the external measure of access externally.

3.4 Research Hypotheses.

From our discussion therefore we can make the following hypotheses:

(i) There is no difference in the dimensions used to measure service quality internally and externally.

(ii) There is no difference between the dimensions sets of each of the four interaction types of the internal customer supplier cells.

(iii) There is no difference in the dimension ranking by interaction type.

(iv) Improvements in Internal Service quality do not produce improvements in the external service quality of an organisation.

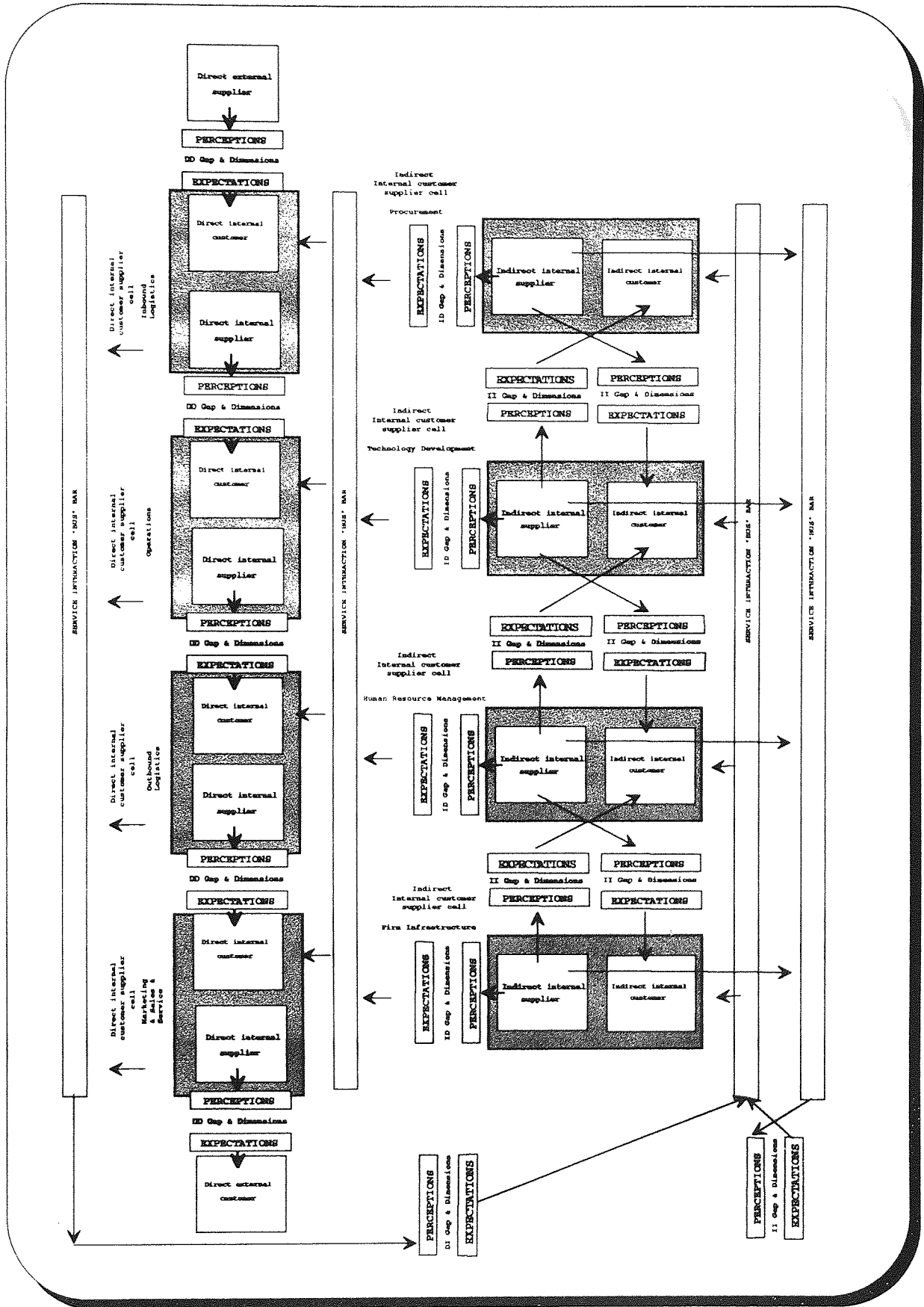


Figure 17. - Simplified internal customer supplier cell Interaction Map using value chain and gap analysis.

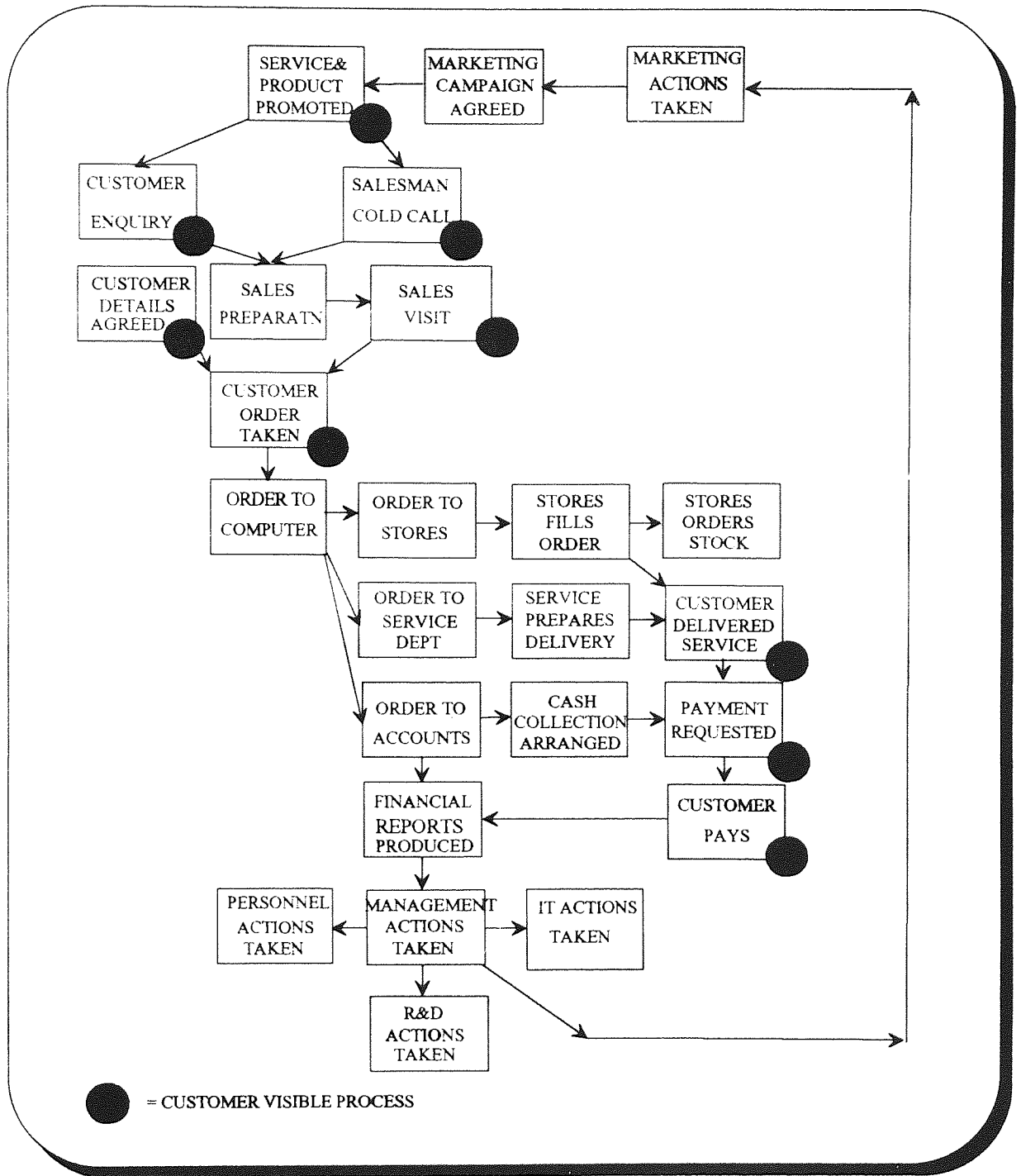


Figure 18. - A hypothetical Combined interaction and service blueprint map using typical company process flow.

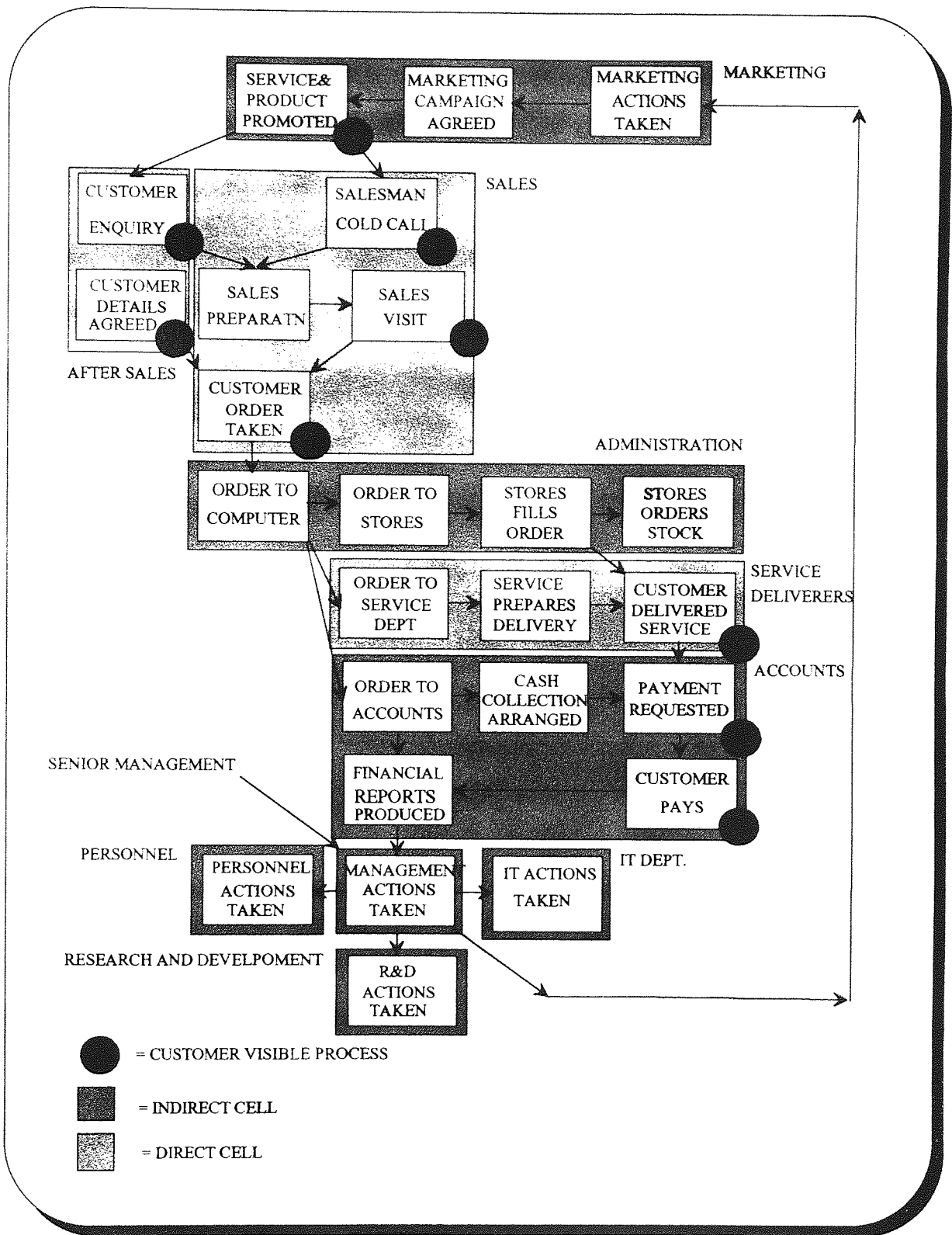


Figure 19 - Hypothetical Internal cell definitions using clustered processes from typical company process flow.

3.5 Summary

(i) Two distinct internal markets exist within a company. A direct market concerned with the delivery of the service specifications to the customers and an indirect market. This indirect market is concerned with supporting the direct internal market.

(ii) Given that internal customer suppliers will exist within a company, there are four main types of exchange. These exchange types are specific to the type of internal customer supplier cells involved in the interaction. They are derived from the two internal markets. These are direct-direct exchanges, direct-indirect exchanges, indirect-indirect exchanges and indirect-direct exchanges.

(iii) These exchange types can be measured by gap analysis.

(iv) The dimensions specific to each gap are to be defined using structured and unstructured data acquisition techniques. From the four service quality exchange model, four hypotheses were derived:

(i) There is no difference in the dimensions used to measure service quality internally and externally.

(ii) There is no difference between the dimensions sets of each of the four interaction types of the internal customer supplier cells.

(iii) There is no difference in the dimension ranking by interaction type.

(iv) Improvements in Internal Service quality do not produce improvements in the external service quality of an organisation.

The gaps model approach to measuring external service quality has been extensively tested elsewhere. This approach will now be applied to internal gap analysis as a means of testing the above hypotheses.

4.0 Research design.

4.1 Purpose.

To design the data collection methodology which will collect data so that the hypotheses can be tested.

4.2 Introduction.

This chapter will discuss the methodological options open to the researcher to test the hypotheses postulated in the previous section. It will consider the five main choices for research approach and select the most suitable for the research. It will then specify the target company and audience for the data acquisition. At this stage the problems of the research methodology will be highlighted and the appropriate measures to overcome the limitations will be suggested.

The specific company chosen will then be discussed and the detailed data collection methodology will be presented for that company with the structure and process flow of the data collection.

4.3 Choice of research method.

Once the hypotheses were developed, the choice of research method needed to be determined. To take a broad overview first, if we consider the first three hypotheses:

- (i) There is no difference in the dimensions used to measure service quality internally and externally.

(ii) There is no difference between the dimensions sets of each of the four interaction types of the internal customer supplier cells.

(iii) There is no difference in the dimension ranking by interaction type.

to test these, access to an organisation(s) was seen to be necessary. This was because the internal customer supplier cells would need to be identified from looking at the value chain and the service blueprint as discussed in the literature and conceptual development. Such an examination was clearly going to need a detailed view of the organisation(s) involved as once the organisation(s) had the internal customer supplier cells identified, each cell would then need to be interviewed to determine what service quality dimensions they would use. Any dimension ranking would then be identified at that point. The data that would result from this analysis would then be sufficient to test these first three hypotheses. This approach to research pointed to a case based approach and so was going to need to be explored as a potential research methodology.

The last hypothesis:

(iv) Improvements in Internal Service quality do not produce improvements in the external service quality of an organisation.

was seen to have different research design needs. It would require the researcher to not only identify internal customer supplier cells and explore any dimension sets and rankings, but actually implement the proposed model. This is the model as detailed in Figure 17. If the researcher was needed to implement the model to test the last hypotheses

that internal service quality did not affect external service quality then action research would need to be considered as a potential technique.

If action research and case based research were decided to be investigated as the correct research design. This would have to be compared against other research methodologies and work by Smith et al (1991) allows this comparison to be made. They identified five choices of approach to research design and are:

Researcher Independent Vs Researcher Dependent

Large Sample Vs Small Samples

Testing Theories Vs Generating Theories

Experimental Design Vs Fieldwork Methods

Verification Vs Falsification

and so each of these choices needed to be considered.

4.3.1 Researcher Independent Vs Researcher Dependent

Researcher dependant was chosen because of two reasons. Firstly, the very act of conducting data acquisition upon service quality within internal customer supplier cells will generate increased service quality awareness which is one of the objectives of internal marketing. Furthermore, as the dimensions are developed, the factors which were extracted from the questionning will give more indications of how the service quality measure will be derived, making it very difficult to disguise the objective of the research.

Secondly, as driven by the fourth hypothesis, the implementation of the model defined in Figure 17 requires co-operation between the researcher and personnel of the company. This is cited by Gummesson (1988) as a main

requirement for an action research problem i.e. that the researcher is dependant. This would be particularly important as the implementation of the model into the company would involve real day to day issues and so feedback to the parties involved and continuous adjustment to new information and new events would be necessary.

As researcher dependancy was chosen, the role of the researcher and the potential problems which the researcher would need to overcome then needed to be defined. Gummesson (1988) in his discussion of action research as a resaerch technique discusses this. Gummesson cites the role of the dependant researcher as a composite role of the scientist and consultant. By following the consultancy and scientists paradigm, so the action research paradigm is achieved. These paradigms are:

The scientific paradigm which affects:

The researchers goals of obtaining new knowledge.

The researchers pre-understanding.

Choice of research territory.

Choice of methods and research roles i.e. conduct and access.

Choice of quality criteria i.e. assessment by the scientific community.

The consultant paradigm which affects:

The consultants goals i.e. the assignment to the satisfaction of the client.

The consultants pre-understanding.

The consultants choice of field .

The consultants choice of methods and roles.

The choice of quality criteria i.e. the clients assessment of consultancy work.

As seen above Gummesson (1988) states that the criteria to evaluate research findings are different to those who assess the work of the consultants. Researchers must be able to substantiate their findings and produce a report in which it is possible for the reader to follow a certain line of reasoning and the resultant conclusions. The method is seen to be of critical importance. The consultancy paradigm places greater weight on the implementable recommendations to initiate change. The issues of methodology and report writing are often of secondary importance. Whilst both quantitative and qualitative methods are used for data collection it is the qualitative collection which predominates. This action research paradigm fits the research needs as the many different disciplines within the company would all potentially have an effect upon the project outcome and data collected would need to be both quantitative and qualitative. For example, the skill of the marketing department in measuring service quality and the ability of the operations department in understanding the process map requires not only discussions with the relevant employees but also the monitoring of performance data. Thus both quantitative and qualitative data was seen to be needed to fully understand the context within which the research project sat but also the actual research data collection itself.

Two sub roles are identified under the consultants component of the researcher/consultant role. That of the process consultant and that of the expert consultant. Process consultation is one where it is interactive with the organisation. Schein (1988) states that:

"Process consultants may or may not be expert in solving a particular problem....such expertise is less relevant than the skills of involving a client in self diagnosis."

Expert consultation is described by the doctor patient model where the expert researcher/consultant diagnoses what is wrong and delivers a prescription. Schein continues:

"This model is fraught with difficulties as the information can be distorted".

Clearly whilst both roles should be adopted the process consultation role is preferred as the access to true data is made much easier.

The process consultation role integrates with the area of study i.e. the definition of internal service quality models. To understand the processes, the definition of boundaries and process steps were needed. From presentation of the service blueprint to the Directors, the role of facilitation had commenced as there were clearly areas which could be improved. This facilitation or change agent role as described by process consultancy is considered by Gummesson as valid action research. Thus the dependant researcher would have to adopt the researcher/process consultant composite role. This necessitates the use of the ethnographic approach as cited by Yin (1984). This is one where the researcher immerses himself in a setting and to become part of the group under study in order to understand the meanings and significance's that people put upon their own behaviour.

In terms of the potential problems which the action based researcher could have encountered, Gummesson (1988) cites the problem of access as a major contributor to poor action research quality, This is the ability of research to produce scientifically derived results from the implementation within a company. In particular, the researcher-consultant is frequently unable to gain access to the processes that he wishes to study and influence. This is exacerbated by the problem that the researchers themselves are unaware of the

Physical access i.e. the presence of the researcher, which can either be covert or overt. Covert physical access can be defined as the researcher positioning himself in an environment where he is not wanted and overt the converse. Clearly the former is a more attractive setting for the researcher as in a covert setting so hidden agendas and true value statements become evident. Both overt and covert physical access was considered. By working in the environment during the full working day, inevitably discussions are overheard which relate to "office politics" and reflect the true value statements. Indeed, verbal proofs such as "You will be on the payroll soon" indicates the integrative role that this researcher has achieved within the organisation. Covert access was achieved. Overt access was also achieved by the design and installation of a free personnel review system which was designed by this researcher. The goodwill generated has ensured that the barriers to overt access were removed (both initial physical overt access and continual physical overt analysis).

The issue of mental access was also achieved. Mental access is the ability to understand what is actually going on. This is not only applicable to the formal processes in the organisation but the informal - the networking processes.

As the role of the researcher was defined in an action research based project, so it was necessary to consider the other factors which need to be satisfied for this type of project approach. These other criteria which Gummesson (1988) uses to validate action research is pre-understanding and the conduct of the project within a hermeneutic and positivistic paradigm.

Gummesson (1988) defines pre-understanding as the understanding of business processes and decision making prior to commencing a research project. This experience

should come from the researcher having worked in a company, not so much as the role of an analyst but in a position where he is responsible for making and implementing decisions. The researchers prior experience qualifies the use of action research methodology.

Gummesson also cites that the action research should be governed by the hermeneutic paradigm although elements from the positivistic paradigm may be included.

These are best summarised as follows.

(i) Positivistic research

Research concentrates on description and explanation. This is well defined and usually narrow in study. The thought process is governed by explicitly stated theories and hypotheses and concentrates on generalisation and abstraction. In this case the theory and application of service quality is well understood.

The researcher seeks to maintain a clear distinction between the facts and value judgements in the search for objectivity. In many cases the researcher is detached from the case, he takes the role of the external observer in an emotionally neutral fashion, making a clear distinction between reason and feeling. Observation at the Improvement meetings meet this criteria. The distinction between science and personal experience is always made. Given the externalisation of the research the researcher discovers an object of research external to himself rather than creating the actual object of study.

Statistical and mathematical techniques for quantitative processing of data are central. The application of the

structured internal/external service performance questionnaires meet this criteria.

(ii) Hermeneutic research

This approach concentrates on understanding and interpretation as does positivistic research but whilst it is narrow in its area of study, it takes the total studies or holistic view. This holistic viewpoint via multiple sources is essential to the rigorous nature of this research. The researcher needs to understand all of the disciplines and how they interact to affect the internal service quality dimensions being sought. The cause and effect of the actions in one department upon another needs to be understood if the measurement of service quality is to be implemented within the organisation. This will require quantitative as well as qualitative information.

4.3.2 Large Sample Vs Small Samples.

The second choice, large or small samples is predominantly defined by the complexity of the research. A sample size of one was chosen and this single case would be investigated in detail. The reasons for this are that the area of internal service quality has from the literature encompassed bodies of knowledge from quality, marketing and organisation behaviour. This multi-disciplined approach implies that access to different parts of an organisation would be needed. Additionally, for the service dimensions to be defined a detailed knowledge of the processes of the organisation would be a needed as defined by service blueprinting. If we also consider the action based research approach, a great deal of formal as well as informal information is required. By understanding how the single company operates at this level of depth any data which is

acquired by the researcher can be cross checked against his perceptions of their validity. For instance, if responsiveness is not perceived by an internal customer supplier cell as being important and yet there are responsiveness targets set for that cell in their day to day activities, then clearly there is room for questioning the respondent. Also logistically, a sample size of one is needed. To test the final hypothesis across more than one company would take too long if those companies were analysed in parallel and implemented in parallel. This length of time would also be experienced if the organisation analysis was done in series. The first implementation because of dealing with changing circumstances may not be directly comparable with the others because it is at a more advanced phase.

Additionally, large samples by the use of cross-sectional designs i.e. different organisations in different contexts may well be useful to test the generalisability and reliability, but does suffer from deciding how large the sample needs to be to be representative. More importantly such a design may well have problems eliminating all of the external factors and how they can affect the observed correlation.

The single study holistic approach overcomes the external factor correlation problem. It focuses upon the change processes within the broader social, political and economic context surrounding the organisation. The rigorous nature of the holistic approach did however ensure that the hypothesis to be tested was understood well within the context of the case.

Internally, generalisability is seen to be a critique of the single case based approach (Yin(1985)). This was tested by including other internal customer supplier cells not used in the original determination of the internal service quality

dimensions. It also used different employees within the same internal customer supplier cell. The four dimension sets were defined and tested and would be company specific but would meet the three criterion which are necessary to produce a robust research model. It should be noted that no attempt is being made to externally generalise the results. The issue of generalisability is applied to theoretical propositions and not to populations or universes. In this case, like an experiment, it does not represent a sample. It was the researchers goal to expand and generalise theories i.e. analytical Generalisation not enumerate frequencies i.e. statistical generalisation Yin (1985).

The other critique of the case study approach Yin (1985) is that the level of rigour can result in weak presentation of data. The observations that this researcher took was multi stranded ranging from qualitative observation through to tracking of key performance indicators. This holistic approach provided the contextual understanding pre during and post dimension building.

The target company for such an action based single case approach needed to be selected on the basis of the following criteria:

(i) On the basis of access, a target company would need to be a small to medium sized enterprise. The rationale behind this, is that a company of this size can be understood fairly quickly. Equally, any access problems can be driven by the Managing Director who will still be close enough to the business to ensure that compliance to the research is happening. Because the Managing Director is still close to the business, the time taken for his decisions to take effect should be a lot faster than a much larger company.

(ii) The company should be on the verge of systematic growth. Any company which is on the verge of becoming more professionally run will be motivated to take on board new techniques. This will make the collection of data more accurate and faster than a larger company where the research will be seen in line with many other initiatives and where the possibility of lip service to the project becomes a greater threat.

(iii) The company should have a service content to its product range and so the need to be service orientated and so motivated to be involved in the research.

(iv) The company should not have an existing service quality system in place. This is because of implementation problems. An existing system is likely to compete with the model described in Figure 18 that requires implementing. This may encourage employees to "pick and mix" existing and new systems and so effectively not allow the testing of the hypotheses.

4.3.3 Theory testing against theory generation.

The third choice, theory testing against theory generation took the approach of theory generation validated by theory testing which is consistent with Gummesson's (1988) description of action based research. Each of the four internal quality interactions and their dimensions were to be developed from the interviews. Four resultant interaction types specifically dimension sets were expected to occur which would then test the hypothesis that the dimensions are different between indirect and direct internal customer interactions. Before the dimensions were formally used to test the theory, they were confirmed and ranked by the review with the original interviewees.

4.3.4 Experimental design or field work.

The fourth choice was that of experimental design or field work. Field work is the chosen option largely dictated by the prior choices. To consider one company for the sample design i.e. the case study approach, predefines the study of the real organisation and social setting. The case study approach was to answer the how and why form of the research question to determine the dimension structure of the models in a contemporary setting Yin (1985).

4.3.5 Verification against falsification.

The final choice was that of verification against falsification. In the data collection process presented later, the issue of verification was used to finalise upon the different dimensions which exist within the four separate interactions.

Essentially, for the selected company, the data collection technique for dimension acquisition was by personal interviewing using open ended qualitative questions in a one to one environment, not focus group based. The advantages of using this technique are described amongst others by Smith (1991).

"It will be necessary to understand the constructs that the interviewee uses as a basis for his/her opinions and beliefs about a matter or situation and also to develop an understanding of the respondents world so that the research when complete can influence it either independently or collaboratively in action research."

Parasuraman (1986) discusses the uses of focus groups against one to one interviewing and suggests that the use of the focus groups will generate a rich and varied amount of data, but the logistics of gathering Senior Managers from

all of the functions determined from the primary interaction types proved difficult. Additionally, personal objectives held by the Managers are likely to produce mis-information and without the intimate knowledge of relationships it would be difficult to filter out the information. Furthermore, versatility is a major advantage of personal interview as in the early stages many of the factors which contribute particularly to the functional quality are largely undetermined. This versatility also precludes the use of a structured questionnaire. The personal interview additionally overcame the perceptions issue of satisfaction and dissatisfaction. This would not be easily extracted by observation, structured or otherwise.

Given the structure in the research design the one to one personal interview was supported by the use of Protocol analysis as defined by Burgoyne et al (1983). This analysis determined the factors chosen just after the time of exchange between the two internal groups. This is hoped to gain a more realistic perception of internal functional quality as assessment of transactions sometime after the episode is open to rationalisation.

The target population for the open ended questioning was at three levels within the organisation structure.

(i) Level 1 - Directors

This group sets the culture for the organisation and the policies which will control it, particularly the service value statements which have been demonstrated to have an important effect upon the internal marketing. Any internal customer if at an advanced stage of TQM or simply as assumed customer but not formally declared, will be one which will have had the authorisation or had the philosophy initiated at this level. In the primary

internal customer interactions, Directors are also the head of each customer cell. They will then be responsible for guiding the type of interaction with other internal customers. Data which would be extracted from these individuals was the conscious knowledge of customers within the company and the policies and guide-lines which allow these cells to exist and to meet the strategic direction of the company.

(ii) Level 2 - Managers

In a similar fashion to Gap 1 in Parasuraman et al's SERVQUAL, the management will be operationally controlling the quality of the internal functional and technical product performance through the perceptions of what the internal customer (primary and secondary) needs. Data extraction from this level was the perceptions of technical and functional quality requirements, quality delivery processes and compromises and quality improvement systems.

Level 3 - Service providers - contact personnel.

These contact personnel will be delivering both technical and functional quality at the point of internal customer interaction (or moments of truth). This is essentially the total quality performance as perceived by the internal customer and as indicated by SERVQUAL are affected by many antecedents such as empowerment. The data acquired from this group was the perceptions of quality processes and standards/dimensions and the empowerment of these personnel.

The target internal customer interactions were exclusively primary in nature. Clearly any internal customer supplier cell will have interactions which are needed to either

deliver the customers quality specifications to him or to support the process. There will be other interactions in the company which exist but on an infrequent or ad hock basis such as one off company report preparation. This may involve internal customer supplier cells which are formed only for this purpose. The research is intended to cover those which are stable and are derived from the process analysis.

To ensure the full contextual position of the company, supporting data acquisition techniques were two structured internal service quality assessments delivered to all members in the company (including SERVQUAL's Gap 1 to 4) for triangulation and observation at all improvement meetings. Analysis of the company's markets and market strategy was equally understood to determine the external customer focus to service quality. The external service quality will be measured by SERVQUAL gap 5. SERVQUAL is used for external service quality because of its empirical strength and because it will fit with internal service quality audits. The Gap 5 score will be kept confidential from the company so that clues to dimensions are removed. Clearly an undisclosed structured questionnaire to determine the internal service quality dimensions could of helped to overcome this, but this presupposes that many of the dimensions in the model are already known and this was not the case as explained in the previous chapter. Thus all four sets of service dimensions were developed and tested with the remainder of the interactions not covered in the exploratory research by the use of structured questions. This refined the dimension structure and validated the dimensions in context that have been acquired.

4.4 Specific data collection.

The target company, CCBB Ltd., was identified and access arranged to all company information. Because access was

granted to all levels within the company including strategic intent information the company wishes to remain anonymous. It operates in the telecommunications area providing a service of installation and maintenance of third party sourced telephony systems to the business sector.

4.5 Data collection methodology.

The data collection process had three strands to it. These were:

- (i) Organisation direction
- (ii) Internal service performance
- (iii) External service performance

To gain the holistic view as defined by the research design, it would be important to determine the direction in which the organisation would be preceding and what plans and controls systems were in place to ensure that CCBB LTD would get there. This process started with the Directors of the company and determining what their values and expectations were. These were considered important, as these values would drive the company forward.

How these values then translated into marketing action were then explored and a marketing audit was then performed. This explored how marketing was carried out within CCBB LTD. and how effectively and efficiently the company exploited the market place.

Whatever values and marketing plans are in place, these will be affected by the market place. If the competition in the

market place is highly service oriented then by necessity CCBB LTD would need to be as well. Thus a market audit was performed. The value statements and the market and marketing audit provided the holistic view in which the research sits.

The data collection for the research itself is contained in the next two strands, that of internal service performance and external service performance.

Internal service performance measured how the company's culture was conducive to service both internally and externally. This allowed the researcher to determine the degree of difficulty of implementation of internal service quality measurements for any internal customer supplier cells. For example a low grade service culture would mean that the researcher would have to educate the organisation on how to use any dimensions determined and support the implementation in a much closer fashion than if the company had a high grade service culture. In this type of culture, the organisation would be more conducive to dimension and internal customer orientation and the motivation to implement this would likely to be higher not needing the researcher to coach the company in as great a detail. An internal service culture audit would be used, Berry et al (1991).

To provide a high level of rigour in determining the internal service culture the four internal gaps of Parasuraman et al's (1988) SERVQUAL were used. This triangulated the results from the internal service culture audit.

The literature indicates that understanding processes is important and so the process steps within the company needs to be formalised indicating those which are customer visible, in effect a customer service blueprint (George and

Gibson (1991)). From this blueprint, the process steps can be clustered into logical groups by manager or skill type and so help to determine natural internal customer supplier cells. Once these cells were developed i.e. an internal customer map had been produced for CCBB LTD, the research of determining the dimensions of service quality measured between these internal customer supplier cells commenced. These measures were then set, once verified by each internal customer supplier cell and the model was implemented measuring the internal service quality changes and the corresponding external service quality changes.

For the external service performance, we know that the research is action research based and that the literature has identified that internal service quality leads to external service quality. It was necessary therefore to track external service performance at the start and at the end of the project to determine if a step change externally had occurred. Equally an external service performance test was needed prior to the implementation of the internal service dimensions to see if the external service had moved because of researcher involvement in the research. Gap 5 of SERVQUAL was applied, i.e. the ten dimensions of service quality as defined by Parasuraman et al (1988). The reason this was chosen is that it is consistent with the internal gaps analysis (1 to 4) previously discussed and the service excellence audit defined by Berry et al (1991). This whole research process is detailed in Figure 20.

The particular tools that were used in the research process are as follows.

For the value statements these took the form of questionnaires and as an observer participant in the Directors strategy meetings. How the strategy was operationalised was observed in the managerial working party

meetings where Directors would pass down the plans to the next level within the company.

Structured questionnaires were applied to determine the external service performance (Gap 5 SERVQUAL) and observations on the service delivery process taken. Gaps 1 to 4 of SERVQUAL were applied to determine the internal service orientation with other service cultural questionnaires. The internal service dimensions were identified after the service blueprint was produced and used to determine where the internal customer supplier cells should be according to the direct and indirect classifications. These service dimensions were then confirmed using structured questionnaires and ranked. Once the internal cells had identified the internal service quality dimensions, each cell was measured by these dimensions over a period of time feeding back to the relevant cell the results so that they could improve upon them. At the same time the external service quality was being measured using Gap 5 of SERVQUAL.

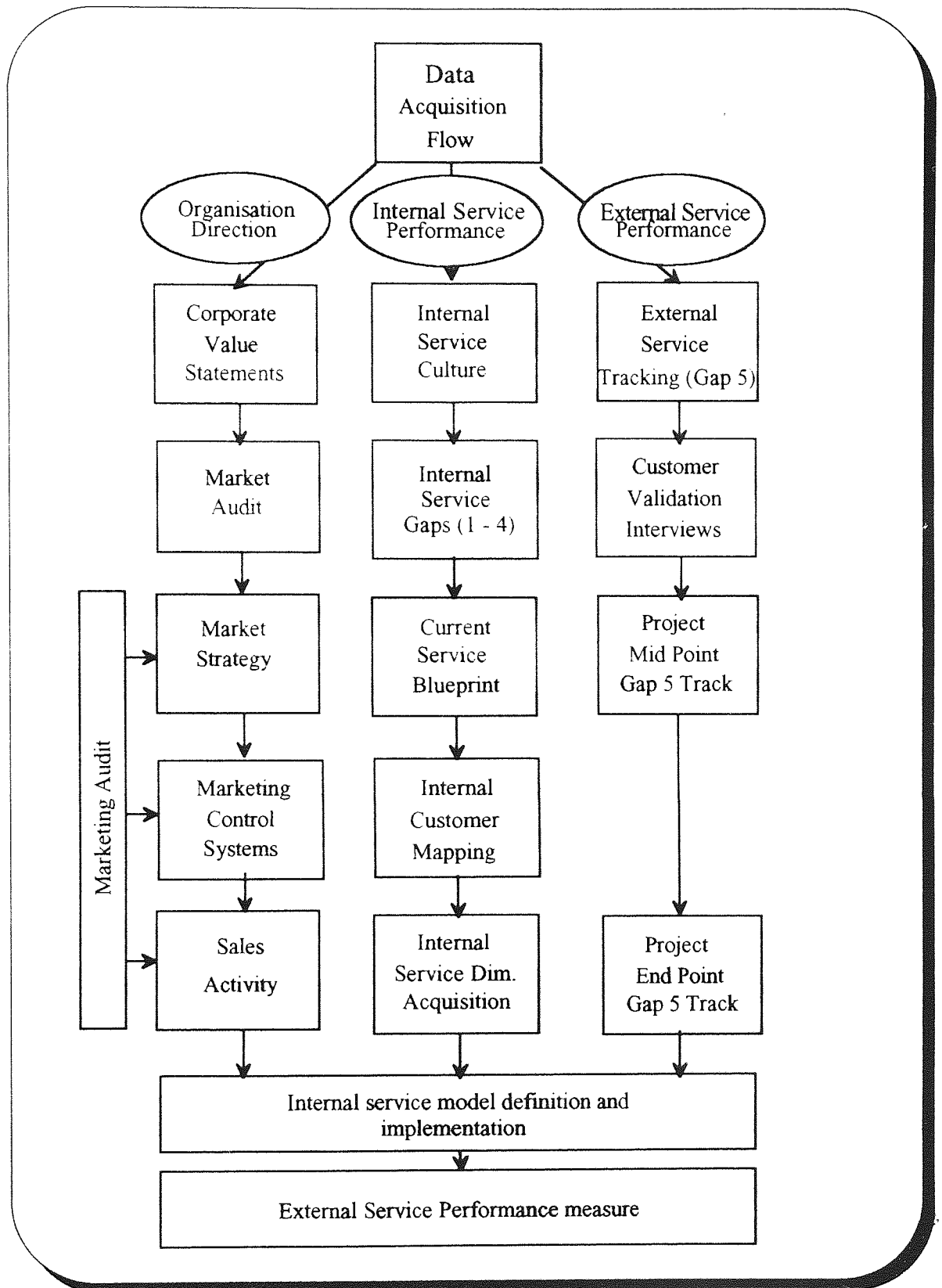


Figure 20 - Data collection process.

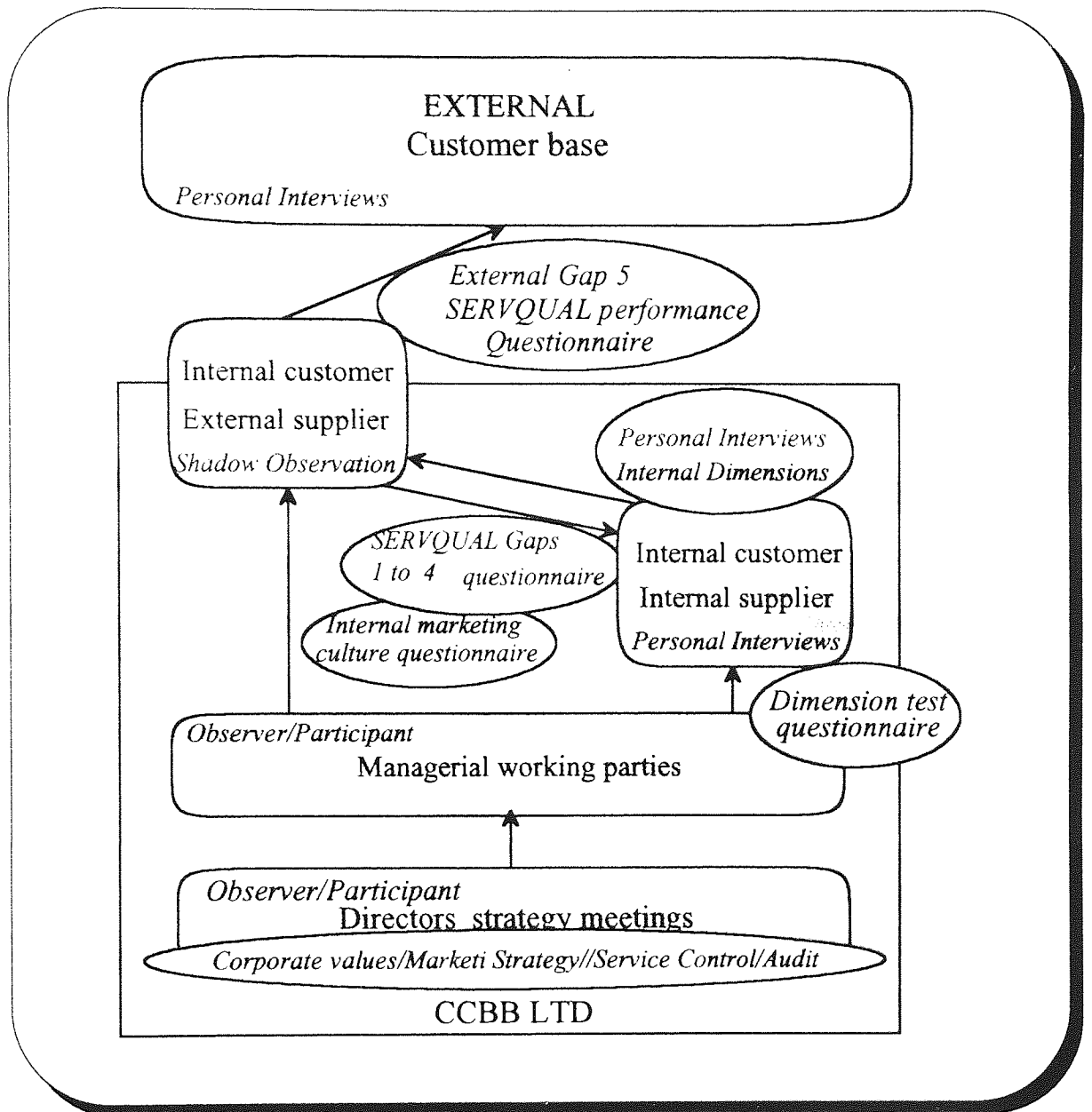


Figure 21 Data collection structure.

The data collection structure, i.e. where and how the data was collected is given in Figure 21.

In order to study internal service quality models several different data acquisition techniques were adopted as given in Figure 18. It is necessary to examine these further as they are central to the data collection process to test the models.

The techniques are:

- (i) Questionnaires
- (ii) Personal Interviews
- (iii) Activity analysis sheets
- (iv) Group Interviews
- (v) Personal observation
- (i) Questionnaires.

These have taken different forms according to the purpose of the data. Structured questionnaires detailed in Appendix 1 were used both externally and internally.

To track the external service performance was a main benchmark for the organisation. Tracking allowed not only to formally set the base but also to monitor longitudinally service performance. Any changes in service performance were measured during the lifetime of the project and the implementation start date closely aligned with the moving internal and external service performance.

As a tracking measure, Parasuraman et al's SERVQUAL was used to track external service performance. Empirically this appears to be the strongest measure of service quality as defined in the literature review. Three separate snapshots were taken. At the beginning of the research, just before implementation of the internal service quality measurements and after the implementation. The external customers were not aware of any service improvement programme via Newsletters or otherwise. The questionnaires were completed on an ongoing basis only seeking the current perceptions of the customers immediately a service encounter had occurred. This could have occurred by a maintenance call or new equipment installation call. The questionnaires were administered following the protocol analysis. Internal questionnaires

were applied to determine the service culture orientation. In order to benchmark the service delivery culture, two separate questionnaires were applied to triangulate the results. These are the four internal SERVQUAL gaps and the Service marketing culture (Berry et al (1991)).

(ii) Personal interviews.

These are presented in Appendix 2, the process in particular is given in Figure 22.

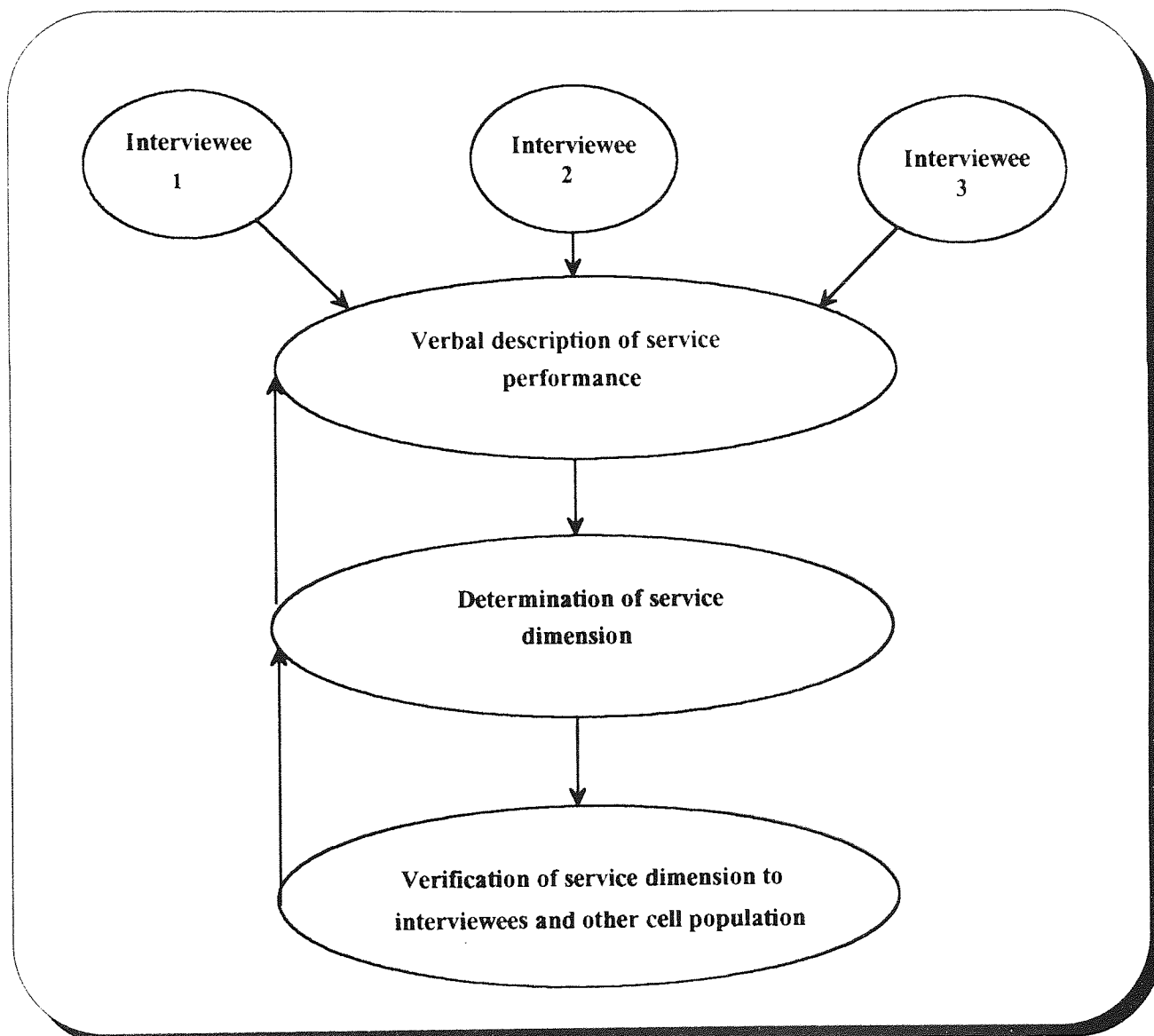


Figure 22 - Service dimension acquisition process

These were the structured questionnaires and unstructured open ended questionnaires which were administered to the Managing and Group Managing Director. These were used to determine mission statements, value statements and service performance orientation and including external market strategy. To support the climate and to provide context for the application of service performance market research was used to determine the external markets.

Open ended personal interviews were used to determine the customer service blueprint, internal customer groups and the dimensions of service measurement between internal customers. These were applied to the employees to produce a internal customer interaction map.

The service blueprint (George and Gibson (1991)) was used to validate the internal customer maps by grouping processes that sit with individual/group accountability.

Once the internal customer groups were defined and the dimensions defined using open ended personal interviews, the confirmation process was by using structured questionnaire. These questionnaire asked respondents to validate the customer groups (all co-verified by management), the internal service dimensions and the ranking of the dimensions.

(iii) Activity analysis sheets.

These are given in Appendix 3.

These were sheets which determined the skill levels within the organisation. We have seen from the literature under the learning organisation that an organisation which exhibits a high degree of skill and acumen is likely to have a faster rate of learning than one which has not. The

learning organisation has been discussed in the literature survey. The faster the rate of learning, would set in a qualitative fashion, the time period between installing the internal service measures and setting the post installation external/internal service performance tests. The sheets therefore determined the tasks which all of the employees in the organisation performed and their perceptions validated by their managers of their ability. Weekly time plans at management levels were submitted to determine the time taken to contribute to increasing internal or external service performance scores.

(iv) Group Interviews.

These are given in Appendix 4.

These were used infrequently and only at worker level within the organisation. Groups of engineers and salesmen were called to meetings to ask for confirmation of the observers perceptions (testing all data acquired) and to communicate the internal groupings/expectations.

(v) Personal observation.

This is given in Appendix 5.

This was focused on the weekly improvement meeting. Observations were taken on managers and specifically those who would drive through initiatives to improve the company's performance. Visits with engineers and salesmen were also carried out to determine the service delivery process and how it validated the service performance blueprint.

In addition key performance indicators such as customer complaints were tracked to see if there was any movement at the same time as the installation of the internal service performance scores.

4.6 Data processing.

All structured questionnaires were initially processed on a spreadsheet to determine the internal and external service performance. The data was processed according to the methodology specified by Parasuraman (1988 b.). Feedback was given to each internal customer group after the first internal analysis and then after the second.

The same methodology was applied to the pre and post internal customer installation and the mean performance compared by a T-test to determine if the mean performance had improved. The means that were considered were for the company as a whole (the average of all the internal service quality scores) and the mean performance for each internal customer supplier cell.

Open ended questionnaires were analysed by content analysis and all external market research considered in the context of the exploration internally.

Activity analysis sheets were ranked by level of incompetence (i.e. a prioritised list of training needs) and the effect upon customer satisfaction (a high level of incompetence in a skill which has a significant effect upon customer satisfaction would score very highly). Movement in service performance scores would be compared against the internal skills audit.

Personal observation and group interviews provided the holistic understanding of the company.

4.7 Conclusions

(i) Given the need to understand the formal and informal processes within the company in detail, a case based approach to the research was adopted focusing upon one company. This case based approach would operate within an action research framework. This action case based approach also overcomes the critique of past service quality work that service quality is specific to industry and customer type.

(ii) This company would need to be a small to medium sized enterprise to overcome logistical problems of total access and ownership of the research project by the employees..

(iii) Given the need for such a detailed study, an external environment (market) and internal environment (market and service) analysis would be required to understand the context in which the internal customer supplier cells would operate.

(iv) The internal customer supplier cells would be determined by a detailed customer service blueprint logically following the process flow of the company.

(v) The internal service dimensions would be determined, validated, then measured and measured again after a period of time determined by the researchers perceptions of the learning ability of the organisation. The internal service quality scores would be measured at the same time as the external service quality scores to correlate the effect of

the internal customer supplier cells. The effects would be statistically tested.

5.0 - Data collection

5.1 Purpose and Contextual view of the research - Organisation direction.

The purpose is to collect data which will test the hypotheses presented in the last chapter.

This chapter will present the data collected categorised into two areas:

(i) Data relevant to providing the contextual view to the research i.e. that which provides an in-depth understanding of the environment within which the internal customer supplier cells sit. This can be further categorised into two areas:

(a) The external environment in which the company sits.

(b) The environment within the company.

This data is examined in the section titled organisation direction consistent with Figure 17 and Figure 18.

(ii) Data directly relevant to the research itself i.e. that which is used to test the hypotheses. This will include the service quality dimensions determination and measurement and tracking of these (once implemented) against the external service quality performance of the company. This data is examined primarily in the section titled internal performance as defined in Figure 17. External performance in Figure 17 will also be discussed here as the implementation of the internal service quality dimensions will need to be tracked against external company performance.

The data presented will be a summary of the data collected in total and this is represented in the appendices. References to the appendices will be drawn as necessary.

5.1.1 Company profile.

This company sells, installs and maintains different types of telecommunications systems such as exchanges, Fax machines, telephone-sets, telephone answer machines and pay-phones. The suppliers of this equipment are Toshiba, Panasonic and Philips.

It specialises in fixed applications for business customers and the most important part of the business concerns lease orders (80%). These are arranged in co-operation with lease companies who provide the finance for the customer to buy the equipment. Maintenance contracts are also sold to the customers. This is a legal requirement for any company which has over two extensions. Safety concerns caused this legislation.

Whilst maintenance is a legal requirement and is built in to the first year after a telephone installation has been ordered, it can be cancelled at any time providing an alternative maintainer has been arranged to take over the contract. It is desirable therefore to sell as much maintenance as possible not only to existing customers but new customers who have a contract already with a competitor. This installation and maintenance of the different systems are therefore the core of CCBB LTD's business. The dependence of the company and the independence of the customer to be bound to the company places a requirement upon the service performance of the company from the salesmen who make the initial sale to the engineers that

install the product and the maintenance engineers who are called out if there is a problem.

This company's activities are linked to Mercury Communications very closely. Mercury which is the second largest provider of lines after British Telecom switches its potential customers to this company and other dealers for installing and maintaining. This company because of its aggressive selling not necessarily because of its customer service, as shall be demonstrated later, is by far the largest dealer to Mercury.

Mercury is far smaller than British Telecom and operates almost entirely in the business area. In 1991 BT provided 5.6 million of lines, whereas Mercury was installing 646,000 lines.

CCBB LTD is based in the northern midlands, Birmingham and Manchester, The catchment area is predominantly in the Midlands. The employees total 120. An organisation chart is given in Appendix 6.1. As stated the company was chosen because it met the selection criteria of:

(i) Being at the point of systematic growth and so ready to accept a model which would not compete with any existing service structure in the company.

(ii) Being small enough so that compliance to total access would be achieved. The smaller the company the more rapidly non compliance to access could be resolved.

(iii) Being small enough so that all of the information was manageable and large enough to provide substantial data for research. As the research was holistic, a large company would have presented too many logistical problems in gaining the in-depth understanding required.

... of all of the

(iv) Having a substantial service content to the product which it marketed to the customers. A company which did not have a high service content would not necessarily have the desire to restructure the whole company around service.

(v) Being interested in the research project and willing to provide full access as required and also to be willing to implement its findings.

5.1.2 Value statements

The value statements, i.e. the values of the Directors which are used in steering and shaping the organisation are the driving force behind the company. These were not explicit from focus group interviews with the Company Directors and were needed as a direct consequence of the research to determine the level of service orientation at the top of the company. Whilst they knew what they wanted in the organisation they had not formalised these into value statements. Thus explicit definition was required. For this research the two key Directors are the Group Managing Director and the Sales Director and were asked to define them. They were refined over several meetings and were felt to be the values which would not change irrespective of the implementation strategies within the company. These are given in Appendix 6.2. Given the turnover of Directors beneath this level (due in part to the size of company) it was felt by the two key Directors that their presence would not be beneficial to the development of these values. This was not seen to impact the acceptance of the research project by other Directors as the values of the two driving Directors would be known informally. Once these values were defined they were discussed at the company meeting and were

found to be representative of the feelings of all of the employees. These were then printed into a credit card and issued to the employees as a reference point in all of their transactions.

In order to place a priority on these value statements these value statements were then rated from 1 to 10 (excellent) in terms of where the directors believed CCBB LTD to be now and used the same 1 to 10 scale in terms of where it felt CCBB LTD would be in 1 years time. The same directors were then asked to rate each of the value statements in order of priority allocating 100 points between them. This factor would then be multiplied by the difference between where the company was and where it wanted to be. This then would specify the direction but also the size of the shortfall to achieve the desired target. The greater the shortfall, the greater the effort would need to be expended to get there. The raw data is presented in Appendix 6. The ranked shortfalls in the value statements are presented in Figure 23.

Whilst the need to provide excellent service and to innovate seems well justified, the Directors believe that these two value statements will be the most difficult to implement, which is confirmed concerning managerial quality issues raised in the suite of service audits. This implies that the degree of service orientation and rate at which the company can innovate is low. Simple focus group interviews and one to one interviews confirmed this to be the case. None of the employees understood the need to provide services that would make them stand out from the competition. Nether did the employees have any improvement meetings such as quality circles where the concepts of service orientation or the meeting itself to act as a vehicle for innovation could occur. Passive observation by sitting in the locality of the engineers proved also this statement. In one to one

conversations between employers there was no mention of how to improve the organisation or a particular service. The conversations would centre on scheduling work. There was no customer complaints procedures in the company either.

This level of service and innovation orientation given the Director's recognition of the need, shows that whilst the desire was present there was no implementation vehicle. This provides an excellent base for the action research as there will be no conflicting policies for service or innovation and so the isolation of the experiment from the processes within the company becomes less problematical. Providing there is not a change in staff at the company and the observations continue in the fashion defined in Chapter 3, any increase in service and innovation orientation will arise from the action research.



Illustration removed for copyright restrictions

Figure 23 Ranked value statements by degree of need and importance of implementation. (Source: Directors)

5.1.3 Market Audit

The telecommunications industry is made up of two main sectors - telecommunications services and telecommunications equipment. These serve overlapping industrial and consumer markets. The UK user's expenditure is estimated to total around £16 bn in the telecommunications services market and some £2.5 bn in the telecommunications equipment market. This includes expenditure by operators and service providers as well as expenditure directly by consumers). UK telecommunications services make up one of the most rapidly growing sectors of the UK economy. During the current recession, the industry has been one of the few to show significant positive growth.

Results from the market audit given in Appendix 7 confirm (unsurprisingly) the need for service performance and innovation, but highlight that service orientation is still at its early stages.

Given the current duopoly position of Mercury and BT, Mercury has adopted a strategy of obtaining market share from BT (measured in number of lines) by price leadership. It offers the user significant savings on the use of a Mercury connected telephone than a BT one. The market research does not indicate that differentiation by service performance is a strategy. This was confirmed by Senior Managers within Mercury. Dealers such as CCBB LTD are tied quite closely to the strategy of Mercury, in that Mercury provides significant amounts of support for dealer development in return expecting transparency and coherence of market strategy. This enforced dealer strategy with the positive growth of telecommunications industry has not in the past or for the moment provided an incentive into looking at service performance as a strategic weapon. The absence of advertisements in this area confirms this.

The position is however far from stable as recent market research in Appendix 7 has indicated that the telephone exchanges market is in a static at best position and some research indicates that it is declining. The advent of PCN and micro cellular products removes the need for existing exchange equipment. This combined with the increased competition in a potential declining market for telephony and technological substitution by cordless options will need some other strategic route to the marketplace. The use of service performance is a possible option here and this is confirmed by the Directors in their value statements and in the validation of the market research done. Wrapping services around a product will obviously be a way to add value and offer the opportunity to take market share.

ISDN is the new networking service which is a potential vehicle to this. This network as given in Appendix 7 is the means to integrate computers and telephony but the customer will need to be supported in a consultancy fashion in how to use it. This again provides the opportunity for services and so service performance is likely to become a critical issue in these areas where most of the telecommunications companies will go.

It can be concluded therefore that the market whilst still driven to acquire share by price leadership, CCBB LTD is now on the verge of needing to improve its service performance to survive for the future. The evidence from the market research and the interviews with Mercury and the directors of The company is that it is in an early but receptive stage of development. This provides an excellent environment for the receptivity of external service performance measurement and it's associated internal service performance measures.

5.1.4 Marketing Audit, Control Systems and Sales activity.

The marketing audit was applied (Wilson (1993)) and the raw data is presented in Appendix 8. As discussed in the literature review there is no single marketing audit tool which will cover the external and internal marketing activities of a company. Because several audits were used there will be an inevitable overlap between the audit of the marketplace, the market strategy and the service culture. The raw data is extracted by each of these classifications and placed in the relevant section. Because the marketing audit will naturally encompass the internal service culture, this is presented in Appendix 8 also as are the internal gap analyses.

CCBB LTD is in the installation and maintenance telecommunications market; it undertakes very little scanning - in reality there is no marketing. As The company is 'business users' oriented like Mercury and has many small companies as customers. The company provides them with a service, a quality product which is measured by it's reliability and the right price. Price and product quality are the main dimensions against which The company's products and services are positioned. There are no positioning indicators for service.

There are about 350 competitors involved in maintenance and installation of telecommunications equipment. At least 60 are local competition and so there is an incentive to improve service but as Mercury is competing on price this incentive is not yet strong. We do see however that the need is identified from the Director's value statements.

The company's objective is to become the No.1 maintainer in the UK in the segment for 2 to 50 lines. There is no marketing plan in the company, a contributing factor is the

absence of a marketing department and marketing skills. No money is allocated for advertising and promotion. Yet The company believes that price and differentiation in terms of service quality should form the core of CCBB LTD's competitive strategy.

The amount of rework inside the company contributes to the poor external service performance. The Job pack which are the detailed installation instructions for the engineers to carry out their work correctly is a central document to the company. It is not a perfect document. The order quality as identified in the appendices is not perfect leading to missing or inaccurate details entered to this pack. These errors as they are evident at the start of the value chain multiply as it moves through the company. The final step before reaching the engineers is at the co-ordination stage. Here the customer is contacted and amendments need to be made to the Job pack and it moves back up the chain. This will continue for some time and so the responsiveness score drops. The fragmented customer database means that searches for updating the Job pack cannot be done in one sweep. This is compounded by the stock for the customers. The problems of shortage of stocks concern especially Panasonic (3 to 4 weeks). This shortage of many weeks does have a bad effect on the The company's service quality.

The sales department is very important; every day sales personnel submit reports on their activities; the main source of informal information comes from sales people discussing competition. This external information comes from Mercury and from the trade magazines. The forecasts in the company are sales oriented and the short term forecasts are fairly successful. Monitoring of the forecasts allows pressure to be put on salesmen to improve their performance and the installation department to speed up installation. There is no doubt that the incentive system given to the

salesmen and the skill of the Directors in selling has earned The company the reputation of Mercury's number one dealer for sales.

In terms of marketing productivity measures, there are no indicators by product, region, customer and supplier (sales and profit). The indicators measure only the sales volume. The proportion of new customers is 50% and the rate at which the base is turned over is not known but it is expected to be around 13%. This implies that aggressive selling combined with poor service performance is producing poor customer satisfaction (the operationalisation of service quality) and so customers are leaving the base.

The performance ratios for CCBB LTD does indicate that it is a fast moving business albeit with high levels of rework. The sales department have no ownership of the rework which is caused at the start of the value chain.

The company offers a choice of product with individual service to customer needs providing individual solutions to requirement along with cost benefit through offering more competitive options through advance technology. The objective of becoming No.1 maintainer in the UK for the segment for 1 to 50 lines implies market penetration. In addition The company wants to develop new products/services in the future. This is confirmed by the Directors prioritised value statements. The company takes account of the life cycle of the phones (4 years) when revisiting its existing customers. The company in this case promotes new features aesthetics and their compatibility.

The company uses direct contact-personnel selling and supplies brochures to its existing customers. This promotional material aims to achieve an attitude of credibility. The company uses only the Yellow Pages for

advertising. The company provides incentives (e.g. free installation) in order to obtain the sales. Direct mailing and exhibitions are not used.

The sales territories are arranged by postcode; there are different targets based on the ability of the salesmen to sell technical products. Not all the salesmen are customer oriented. Training in products and quality would be necessary for some. The recruitment of sales people is focused on 'energy' and a certain level of intelligence. Commission payments, sales competitions and leadership are used to motivate the salesmen. Not all the salesmen are technically qualified. The calls are more committed to new rather than to existing customers. New business is far more important than repeat business, as far as the average order value is concerned. The company doesn't analyse very carefully its lost business. All of these factors point to a company which is not service oriented. These values sit mainly at the managerial level.

Berry et al's (1992), International Standard for Service Marketing Excellence highlighted that after the process of installation there was no after sales customer service. Before installation there are 3 contacts: salesmen, the installation co-ordinator and the credit controller. After installation the service line can be considered as the single point of contact for the customer. They do not make follow up calls. There is equally no customer service manual but a contact telephone number and customers contact the company in case of problems. This makes the company reactive to service problems and because of this there are no capacity plans for service engineers. This makes the company poorly responsive to the customer. It is only the service line which is responsive to customers claims but the rest of the company seems to be less responsive when a customer complaint is tracked through the organisation. It moves

through all tiers in a random fashion. This is confirmed externally by measuring customer complaints and a general opinion about the company in installing telephone systems. These are represented in Figures 24, 25 and 26 SERVQUAL Gap 5 score also confirms this, which is particularly poor in the areas of responsiveness and reliability - Figure 27.

Because there is no written customer service policy, the true costs of providing customer service are not known and there are neither internal nor external service measures. The employees do not associate enough value to customer service. There is no differentiation of service levels by product and by customer. Segmentation is unheard of within the company and so segmentation by service level does not exist.

Equally new customers are given a priority over older ones. Internal marketing does not exist and it is not understood. Marketing is not considered a line function.

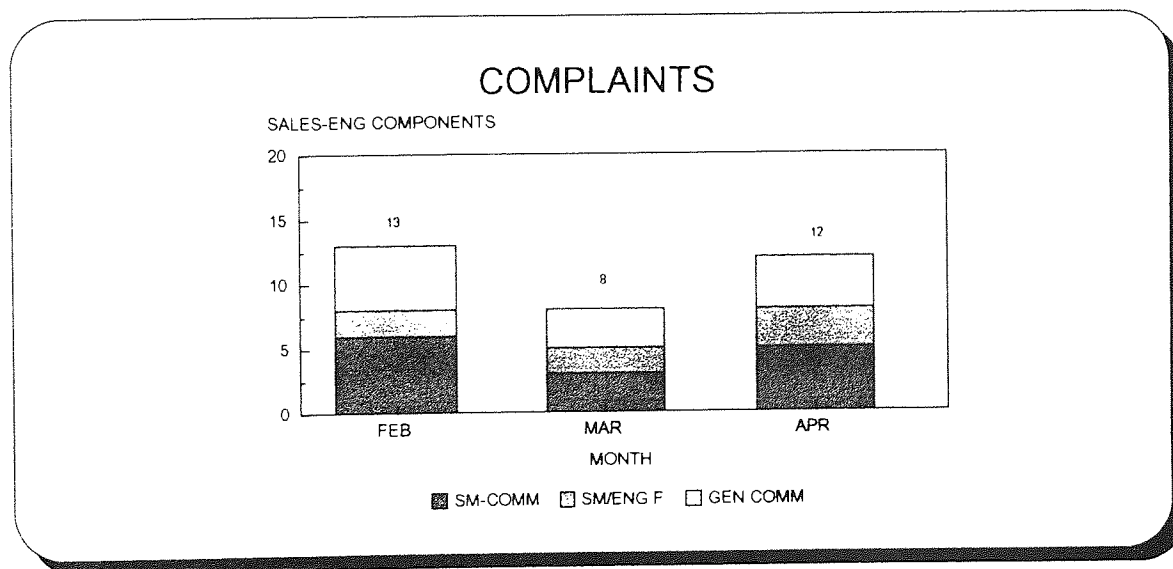


Figure 24 Source and number of customer complaints. (Source: Company complaint register).

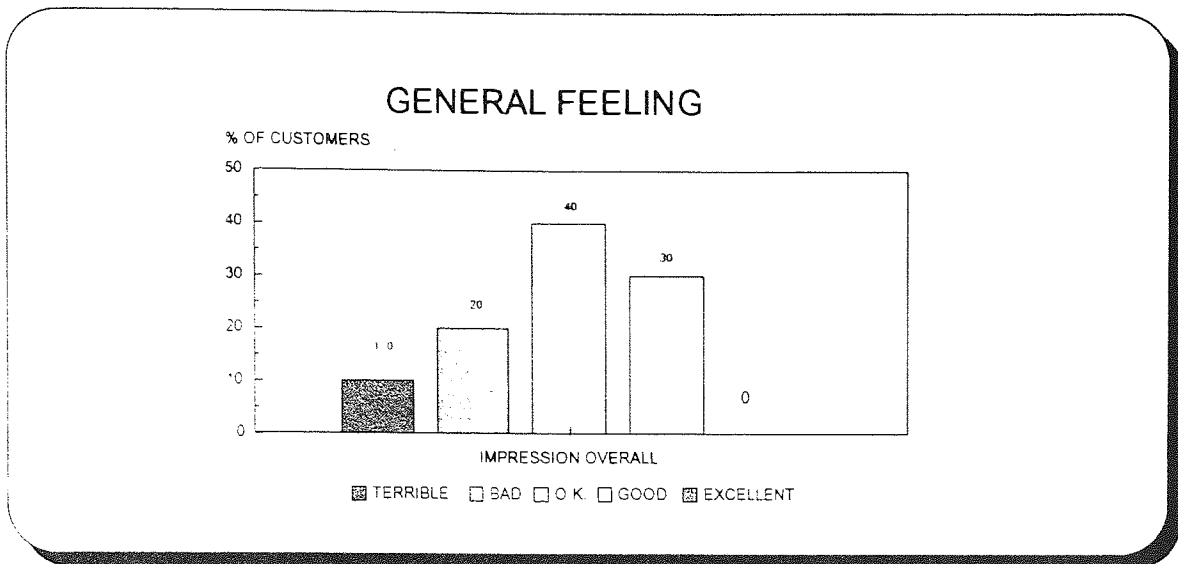


Figure 25 Overall impression of service performance of the company. (Source: Telephone questionnaire to customers).

There is clear evidence that the employees are aware of the importance of service quality to customers and of innovation but they do not understand what the operationalisation of these terms mean. Webster's audit in particular highlights this as the employees were shown to regard the organisation and internal communications as not important. This implies no internal marketing or truly customer conscious employees. This fact is crucial in terms of management implications.

CCBB LTD has the equipment and the technical skills to install and maintain systems up to 50 lines. Philips' exchanges have recurrent problems with dust in the keyboards. Knowledge of equipment's and good relationships between the engineers and the customers are key issues as far as service quality to customers is concerned.

There are some difficulties in getting repair parts particularly for Phillips's equipment. There has not been a decision to remove Phillips's from the supplier list because of the profit in purchasing the equipment. The decision to remove them because of poor service performance has not been taken.

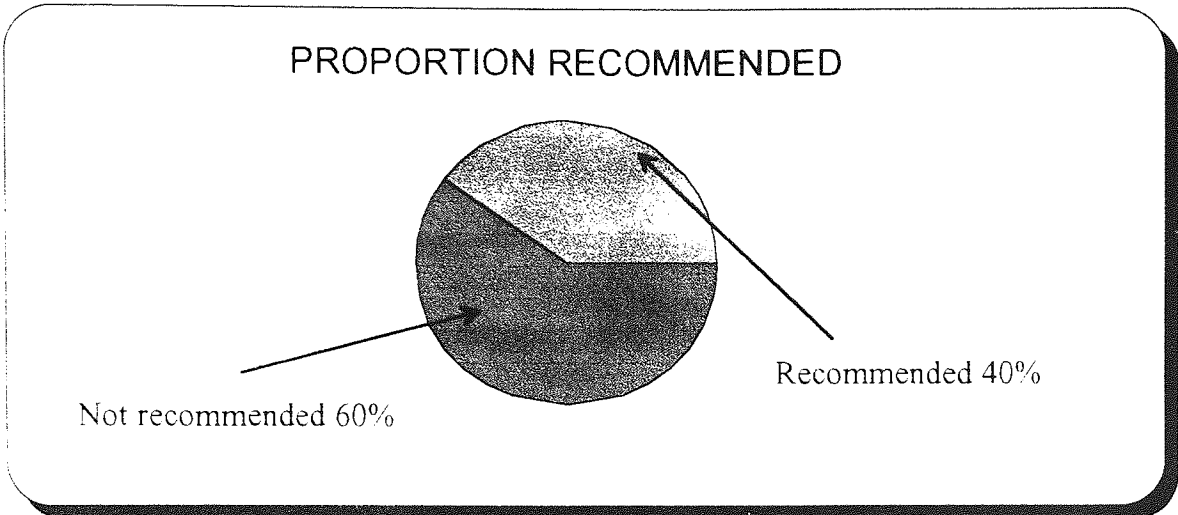


Figure 26 Ultimate measure of customer satisfaction - the referral. (Source: Telephone administered questionnaire).

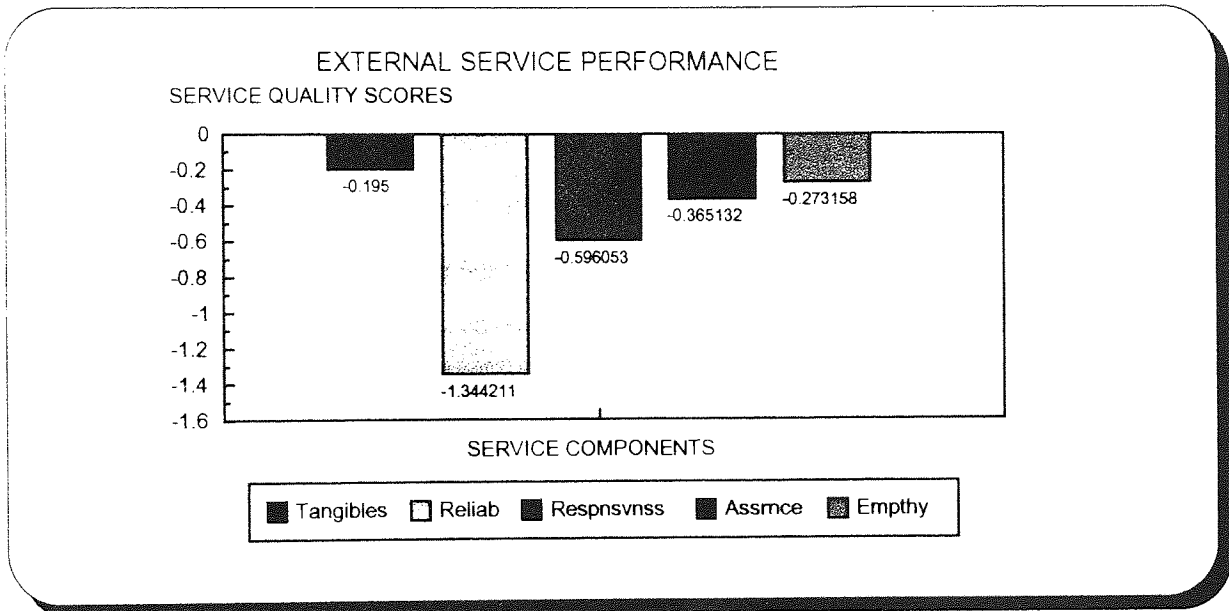


Figure 27 External service performance scores SERVQUAL Gap 5. (Source: Questionnaire)

5.2 Internal and external performance

The raw data and discussion is given in Appendix 8.

5.2.1 Internal service culture

third highest need

The internal gaps analyses confirms the findings of the marketing audit tools applied. Gap 1 which measures the management's understanding of the customers need for service quality shows (Figure 28) that reliability of service performance is the best understood by all. Tangibles were overrated and the need to be responsive, assure the customer and empathise with him underrated.

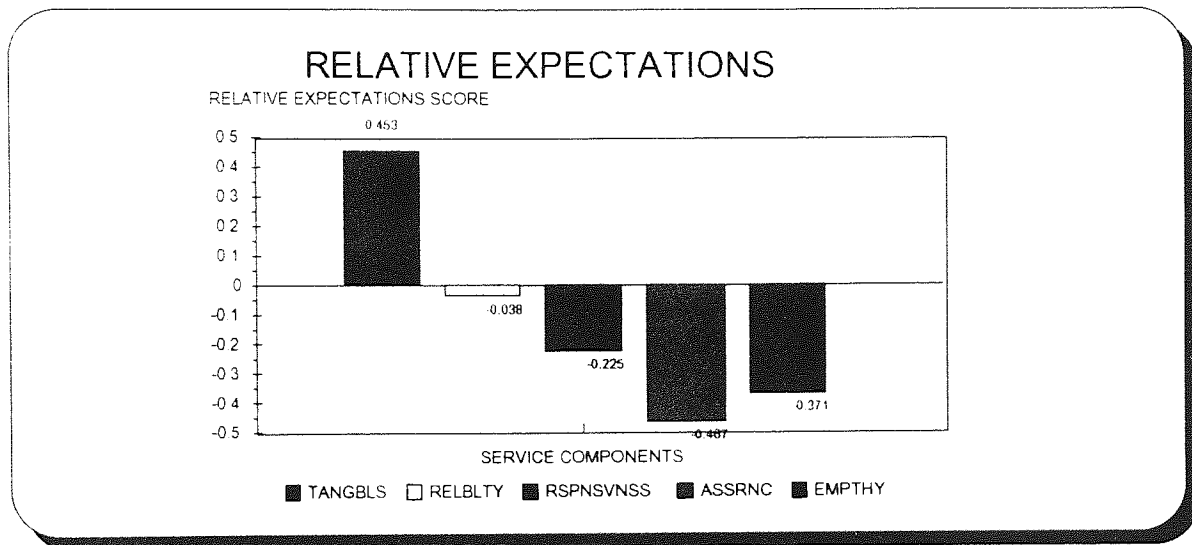


Figure 28 - Managers Expectations (Source: Internal questionnaire)

The main causes for this appeared to be the lack of marketing orientation and talking to the directors. Communications seems to be a dominant problem within the organisation.

Gap 2 the definition of standards showed that little formal service standards exist within the company. This is represented in Figure 29 and is confirmed by the lack of a customer service manual. The supervisory commitment and setting of formal goals were seen to be the cause for this and was confirmed by the skills audit (Figure 30) which showed that the mangers needed management training to do

their job (supervisory training was the third highest need within the company. The lack of service standards is additionally confirmed by the lack of marketing controls.

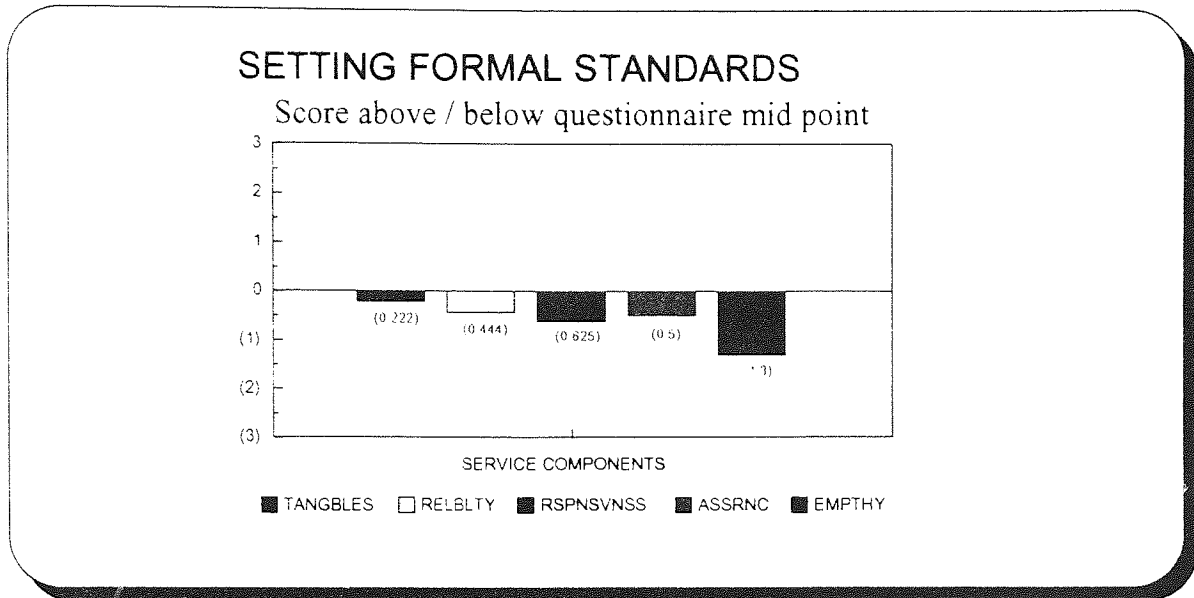


Figure 29 - Setting of service standards (Source: Internal questionnaire)

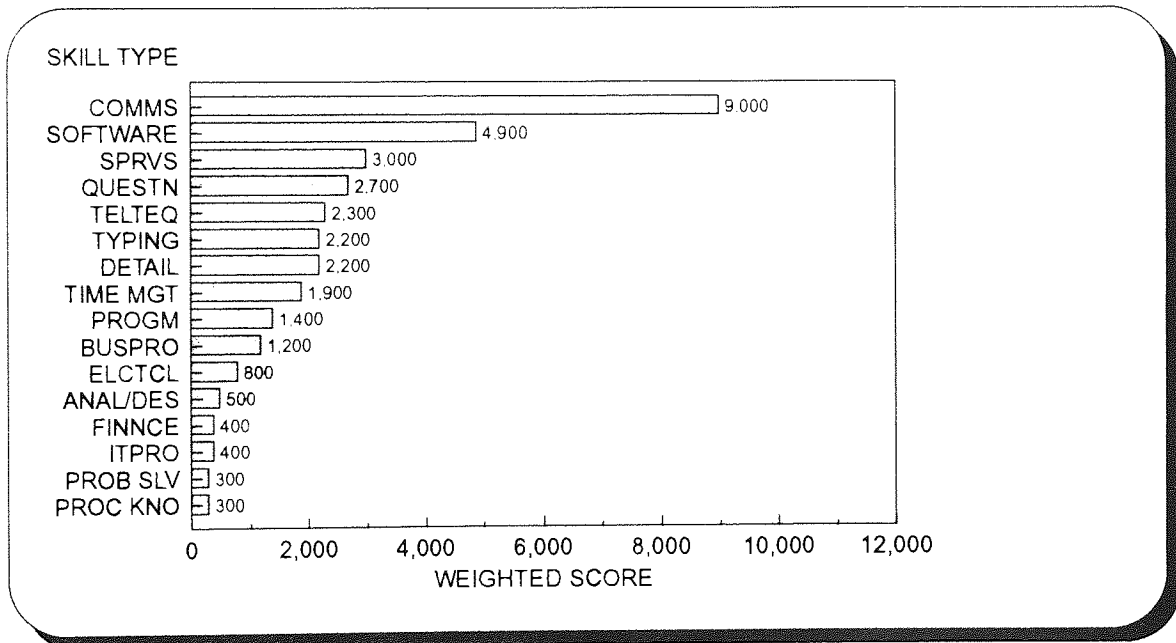


Figure 30 - Skill deficiency/customer dissatisfaction ranking for all departments except sales. (Source: Internal questionnaire)

The issue of management commitment is open for debate as this may be a potential cause and effect argument. The managers may not be committed to service quality because they do not understand why it is important and so this results in the poor external service performance. However, it may be that the managers have lost their commitment to service performance because the directors have not invested in the training of the managers in the past and so feel demotivated.

Gap 3 the delivery of service to the customer as understood by the front line employees, showed that the delivery was possible but was hampered by the lack of control systems. This delivery was split into administration and engineers as both had a front line service role. These are represented in Figures 31 and 32. The employees felt also that autonomy to make service decisions could be improved. As was verified by interview, opportunities arise to optimise the level of customer satisfaction, but the permission to do this had to go to director level. The opportunity was often missed. Exploratory discussions with the directors and managers showed that tight management control was needed because of the lack of quantitative data in the organisation upon which such service decisions could be taken.

Gap 4 the degree to which the delivery meets the specification communicated to the customer showed that in both the administrations and engineers cases they felt confident in delivering service according to specification (the scores were above the questionnaire mid point). This is represented in Figures 33 and 34. However the problems (confirmed by interview) that stopped this from occurring was the lack of communication from the sales force and over-promising by the sales force to the customer.

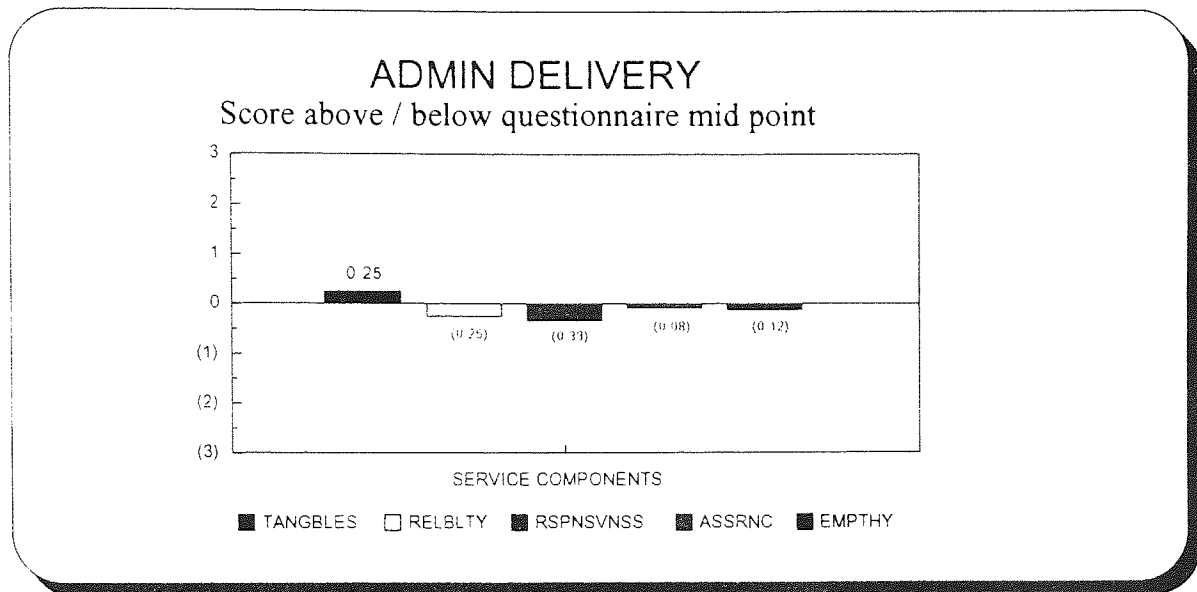


Figure 31 Administrations delivery to standards (Source: Internal questionnaire)

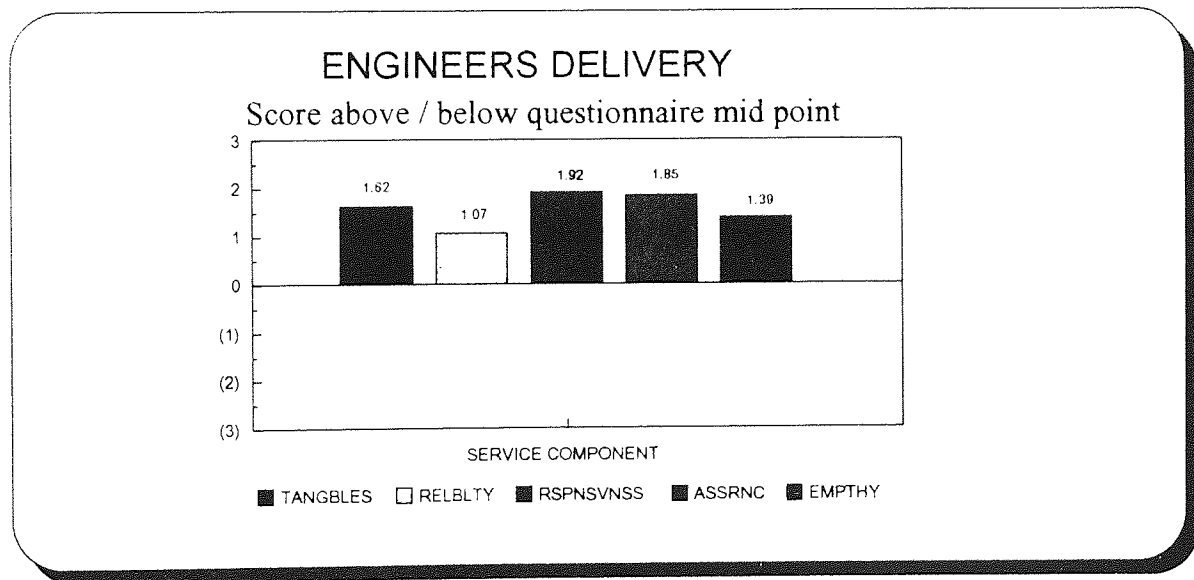


Figure 32- Engineers delivery to standards (Source: Internal questionnaire)

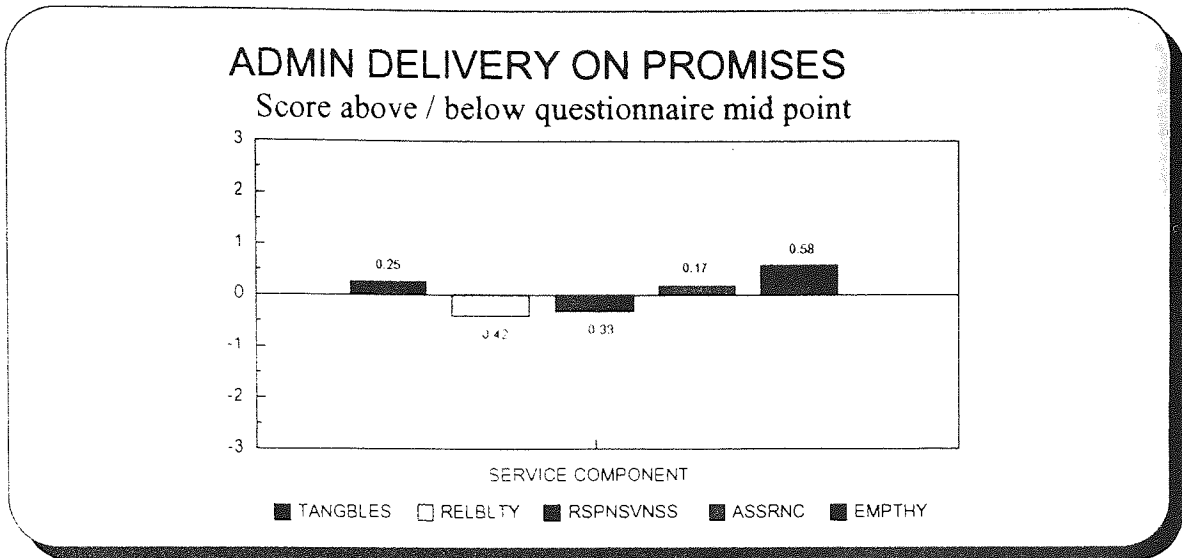


Figure 33 Administrations delivery to promises (Source: Internal questionnaire)

This was confirmed when examining the skills of the sales force presented in Figure 35. This showed that the level of product knowledge and communications skills were poor. If we look at the selling skills also, there is little difference between communication and selling. It is possible to say that selling is a communication skill. If we assume this then this confirms the salesmens lack of ability to sell. Interviews revealed that often a salesmen needs technical support for the product he is selling and so makes promises which may not be necessarily kept. Additionally the standard of order documentation was found to be poor leaving ambiguity in its interpretation by the administration and engineering departments. This was exacerbated by the difficulty of trying to get hold of a salesmen to progress a query.

ENGINEERS DELIVERY ON PROMISES

Score above / below questionnaire mid point

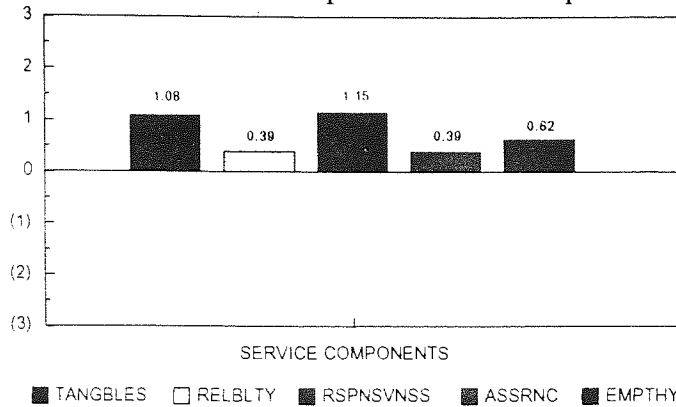


Figure 34 Engineers delivery to promises (Source: Internal questionnaire)

SKILL TYPE

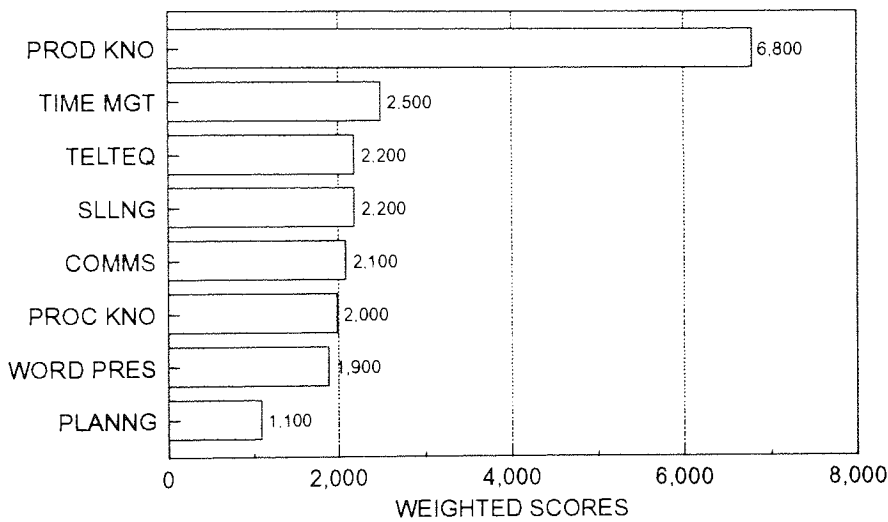


Figure 35 Skill deficiency/customer dissatisfaction ranking for the sales department. (Source: Internal questionnaire)

5.3 Conclusions (Research environment)

(i) The company is currently selling a product line in a declining market. There are many competitors on a local and national basis operating in this market selling the same product. The predominant form of selling to the customers in this market place is by price. This has been driven by Mercury who are adopting a penetration strategy to take lines from BT. In addition to this, new suppliers are competing with Mercury and BT which will lead to over-capacity in the industry.

(ii) There is an understanding in the company and in the industry sector that some form of differentiation is needed and service performance is likely to be the solution.

(iii) Within the company, service and the rate of innovation are seen as most important and yet are areas where the company has the largest shortfall in performance. This was confirmed by all employees and has ramifications for the company's learning capacity. Customers have also confirmed the weakness in service quality in particular. Thus when internal customer supplier cells are designed the understanding of the concepts and the time between giving results and waiting for improvement will have to be closely monitored. Communication meetings may have to be set up within the company.

(iv) The company's marketing orientation is weak. There is a complete absence of marketing control systems and what databases are available are fragmented and of little use. Sales dominate and this combined with the negative cash flow places pressure upon the employees who deliver the service within the organisation. Profitability is eroded by the large amount of rework within all areas of the company.

(v) There are no feedback systems within the company for improvements to be measured upon. A customer service system does not exist.

(vi) In terms of external service performance reliability and responsiveness are the main weaknesses. A significant contributor to this is the manager's perceptions of what they perceive the customers service requirements to be. Other contributory factors to the poor external service performance are:

(a) Poor communications in all directions

(b) No external or internal marketing (at all)

(c) No service control systems

(d) No service standards

(e) Questionable middle management commitment to service quality.

(f) No set policy on service performance (internal or external).

(g) Lack of implementation skills by the directors (recognised need in value statements and yet no actions).

(vii) These points provide a good base to conduct the research upon. If there is an absence of marketing controls then there will not be a conflict with the internal customer supplier cells that will be designed and installed. This will allow the employees to accept this action research as a new initiative and so confusion of understanding or operation will not exist. Indeed the training the managers

have identified that they need will be given and may overcome the management commitment to service quality issue.

Equally the market place and competitive activity is just raising service performance as a critical issue for the survival of companies for the future. As this is a new requirement and the Directors have identified the need and prioritised this for the company. The environment within which this research will be conducted is receptive and compliance to the experiment is likely to be good.

(viii) These results may however pose a problem for the research from two areas. Primarily if we do not have customer conscious employees then the implementation of the internal service quality models may be difficult and is likely not to be supported by the managers who are not committed to it. Secondly, if the Managers who do not seem to be committed to the customer decide not to co-operate with the research, then the determination of the internal quality dimensions may be difficult. This latter part is not as problematical as the former as the internal gaps analysis show that the employees feel that they are capable and because they perceive that they are operating in a lack of standards, the formalisation of service quality by setting dimensions is likely to be appealing and so motivation to co-operate may well be high. It is the employees not the managers who will be determining the internal service quality dimensions. The former is the largest problem as when the dimensions have been verified it will be the managers responsibility to implement the measures by identifiable internal customer group. The motivational aspects of training discussed in (vii) will hopefully overcome this.

5.4 Research

5.4.1 Current service blueprint/Internal customer mapping.

The absence of any process mapping and internal customer boundaries required design by this researcher. The process mapping was carried out using Shostak's (1991) customer service blueprinting, this blueprint is given in Appendix 11. From the process steps it was possible to identify groups which could then act as internal customer supplier cells. This internal customer supplier cell definition followed that defined by the literature survey. The cells comprised of process steps where logical breaks would occur such as boundaries of authority or where there is already an internal service in existence. This is given in Figure 33. Each of the cells have interfaces along which the internal service quality dimensions would be researched and calculated (the interfaces are given a PD prefix).

The interface or internal service quality points are identified as in Figure 36. Three clusters of internal customer supplier cells presented themselves:

- (i) Internal customer supplier cells which were related to the production of the service.
- (ii) Internal customer supplier cells which were related to supporting or facilitating those internal customer supplier cells directly involved in the production of the service.
- (iii) Internal customer supplier cells which were not involved in the day to day operations of the service

production and delivery but provided the direction for the company or groups of internal customer supplier cells.

For each of these cells the dominant interaction was determined. This dominant interaction was the main flow of the service (e.g. employee to managers) not other flows (e.g. managers reporting back to employees). The dominant flow contains the direction of the service interaction which is fundamental to the organisation serving the customer.

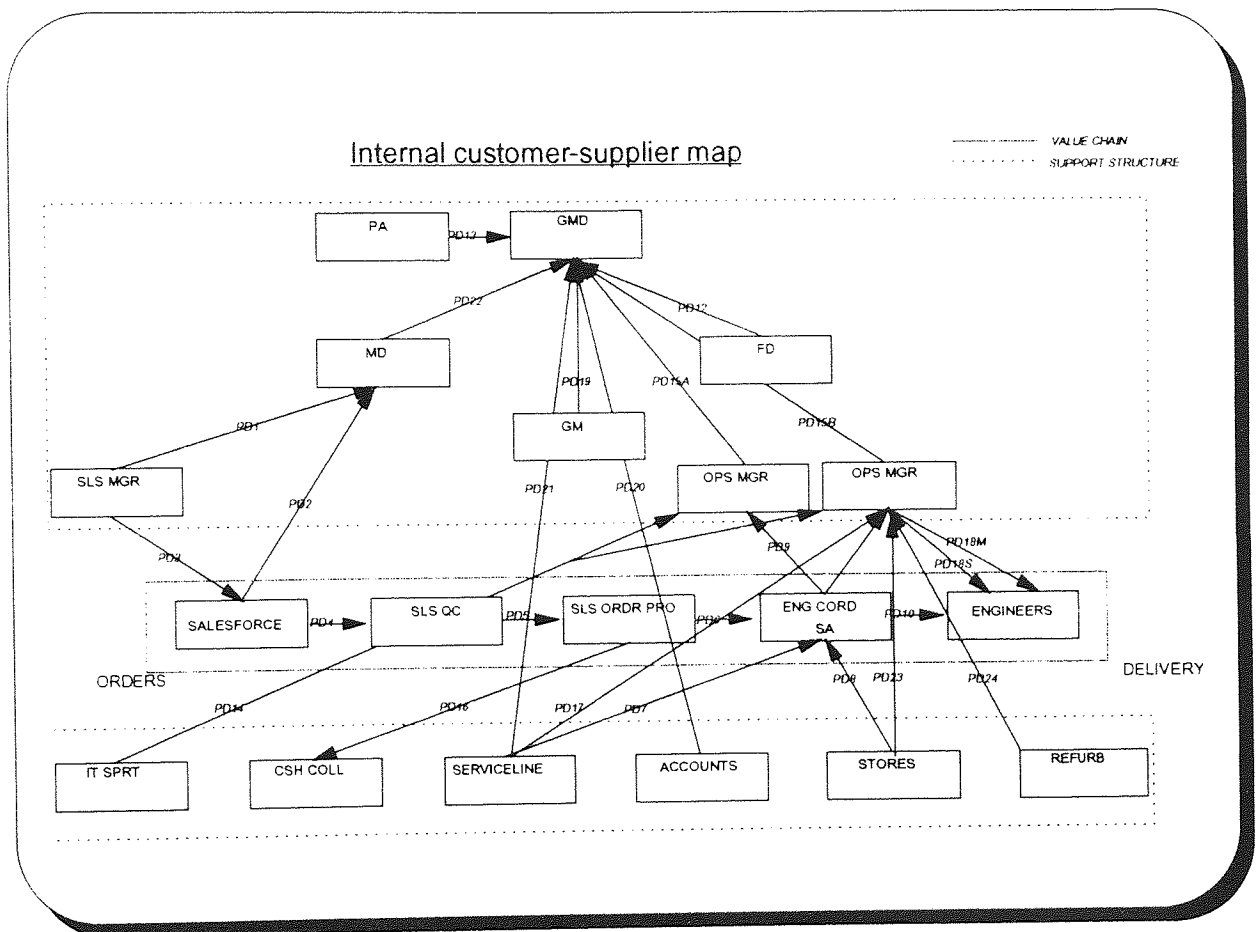


Figure 36 - Internal customer supplier map (Source: Developed from Customer service blueprint)

From this analysis a total of 24 separate customer supplier cell interactions were identified. These were then verified by the Directors of the company and the employees as being the most critical of interactions. These are summarised in Table 5.1 and are justified as:

(i) PD1 Sales manager to sales director - the sales manager provides the service to the sales director in ensuring targets are met and meeting immediate day to day needs.

(ii) PD2 National sales manager to sales director - this performs the same function as above.

(iii) PD3 Sales managers to sales force - this interaction is needed to keep the sales force up to date on the sales targets and motivate the salesmen in the field. This is considered an essential service for the survival of the company.

(iv) PD4 Sales force to quality control - on completion of an order the quality needs to be checked before it can go further in the organisation. It is the service which is given to the sales quality assurance.

(v) PD5 Sales quality assurance to sales order processing - the checked order documents are passed to the sales order processing cell to define engineering and finance requirements. The service needs to be provided from the sales quality assurance to progress the order through the company.

(vi) PD6 Sales order processing to co-ordinator - the order is processed and awaits allocation of engineers by expertise to each job. The service to the co-ordinator requires certain documentation within a specific sequence.

(vii) PD7 Serviceline to co-ordinator - the customer service department provides information to the co-ordinator concerning either customer complaints or extra work.

(viii) PD8 Stores to co-ordinator - when the engineers have been allocated to specific jobs the co-ordinator requires stock to be sent via the co-ordinator to the engineers.

(ix) PD9 Co-ordinator to install managers - the progress and quality of the installation is critical to cash flow within the company, information is provided via the co-ordinator to the manger.

(x) PD10 Co-ordinator to engineers - the engineers need information to perform their installation and the stock to do it with. The co-ordinator provides this function.

(xi) PD11 Install managers to finance department - the manager needs to progress the signing of the satisfaction note by the customer to progress cash collection.

(xii) PD12 Finance department to Group MD - the need for reports both management and financial are need so that direction decisions can be taken.

(xiii) PD13 PA to Group MD - to co-ordinate report production the PA needs to provide a service to the Group MD.

(xiv) PD14 IT to Install managers - in order to progress reports and stock issues, information technology needs to support this in a maintenance and development role.

(xv) PD15 Install managers to Group MD - the managers need to report progress to the group MD so that any organisation decisions can be made.

(xvi) PD16 Sales order processing to cash collection - once documents have been passed to the co-ordinator for

installation, cash collection needs to be given information to assist in the progressing of cash.

(xvii) PD17 Serviceline to install managers - ongoing complaints or additional work needs to be agreed and then co-ordinated at install manager level.

(xviii) PD18 Install managers to engineers - engineers need motivation, information and tools to do their jobs more effectively this service is supplied via the install manager.

(xix) PD19 General Manager to Group MD - the strategist need to provide plans and staff co-ordination to the group MD for organisation direction to be determined.

(xx) PD20 Finance department to Group MD - day to day running of the accounts department may have strategic ramifications for the organisation such as level of agreed overdraft.

(xxi) PD21 Serviceline manager to Group MD - this is the reporting of the progress of the Serviceline department to the Group MD.

(xxii) PD22 Sales director to Group MD - this is the reporting of sales and strategy through to the Group MD.

(xxiii) PD23 Stores manager to Install manager - this is the reporting of stock outs and service to the installs department.

(xxiv) PD24 Refurbishment to Installs manager - the refurbishment manager repairs stock which can be installed to customers premises this service is important for buffer stock.

From these service quality interfaces the four types of interactions were determined which are consistent with the methodology in Chapter 4. Direct/direct, direct/indirect, indirect/direct and indirect/indirect.

In these definitions the former is always the supplier of the service the latter the customer (e.g. direct/indirect is a direct internal customer supplier cell supplying a service the indirect customer supplier cell), For the 24 primary internal customer supplier cell interactions each can be classified by these four interaction types and are given in Table 5.1. and summarised in Figure 37.

Once the interactions between the internal customer supplier cells had been determined the maps were given to the cells so that they knew who they were supplying to and who were supplying to them. The interactions were confirmed by these cells and the cells were then interviewed to determine which dimensions were used in the assessment of the service quality as received by the supplying cell.

Interaction code	Suppliers	Customers	Intrctn Type
PD 1	Sales Managers	Sales Director	II
PD 2	National Sales	Sales Director	DI
PD 3	Sales Managers	Salesforce	ID
PD 4	Salesforce	Sales QC	DD
PD 5	Sales QC	Sales order Processing	DD
PD 6	Sales order Processing	Co-ordinator	DD
PD 7	Serviceline	Co-ordinator	DD
PD 8	Stores	Co-ordinator	ID
PD 9	Co-ordinator	Install Managers	DI
PD 10	Co-ordinator	Engineers	DD
PD 11	Install Managers	Finance Department	II
PD 12	Finance Department	Group MD	II
PD 13	PA	Group MD	II
PD 14	IT	Install Managers	II
PD 15	Install Managers	Group MD	II

PD 16	Sales Order Processing	Cash Collection	DD
PD 17	Serviceline	Install Managers	DI
PD 18	Install Managers	Engineers	ID
PD 19	General Managers	Group MD	II
PD 20	Finance Manager	Group MD	II
PD 21	Serviceline Manager	Group MD	II
PD 22	Sales Director	Group MD	II
PD 23	Stores Manager	Install Managers	II
PD 24	Refurbishment	Install Managers	II

Table 5.1 - Customer supplier cells and interaction type
(Source: Developed from Customer service blueprint)

		CUSTOMER	
		DIRECT	INDIRECT
SUPPLIER	DIRECT	PD 4,5,6,7,10,16	PD 2,9,17
	INDIRECT	PD 3,8,18	PD 1,11,12,13,14,15,19 20,21,22,23,24.

Figure 37 - Service quality interaction matrix (Source: Developed from Customer service blueprint)

5.4.2 Internal service dimension acquisition

Interviews were conducted with employees within each of the separate customer/supplier cells which accounted for the 24 interfaces where the internal service qualities would be measured. The stage was a two step process.

The dimensions were determined using one-to-one interviews with members within each of the internal customer supplier cells. The members were not prompted in the dimensions but just asked how they assessed the supplying internal customer supplier cell in terms of service quality. The verbal response was then translated into a dimension by the interviewer and that dimension repeated back to the interviewee. A second interviewer was employed to confirm the findings of the first interviewer. This was to ensure that interviewer bias was not present in determining the dimensions.

After dimensions had been confirmed, the completed sheet was then passed back to the interviewee to confirm the dimensions. These dimensions were then given to all members of the internal customer supplier cell to confirm. At the same time they then ranked the dimensions appointing points out of 110. The dimensions were then clustered into the four interaction types identified in Figure 37. In some cases dimensions gathered by the cells of the same interaction type (e.g. two cells, both classified as direct-direct interactions) showed dissimilarity of dimensions. To confirm whether these dimensions had been omitted or were not used to measure service performance, the cells with the dimensions missing were interviewed again. They were asked given time to reflect if there were any other dimensions which would be used to measure the service performance. The new dimensions if any were offered were then confirmed with the rest of the cell. The "re-visiting" of these cells had to be done rapidly because of the informal intercellular conversations that were occurring once the dimension acquisition interviews had been conducted. The dimensions were then compared against other interactions of the same type and no variance was found. The dimensions by interaction type are summarised below in Table 5.2.

Dimension	Indirect-Direct	Direct-Direct	Direct-Indirect	Indirect-Indirect
Reliability	Y	Y	Y	Y
Responsive	Y	Y	Y	Y
Competence	Y	Y	Y	Y
Courtesy	Y	Y	Y	Y
Access	Y	Y	Y	Y
Communication	Y	Y	Y	Y
Understanding	Y	Y	Y	Y
Proactive	Y	Y	Y	Y
Credibility	Y	Y	Y	Y
Leadership	Y			Y
Detail	Y	Y	Y	

Table 5.2 - Acquired dimension sets by interaction type.
(Source: Developed from cell interviews).

These dimensions are defined as:

They are defined as:

(i) Reliability involves the consistency of performance and dependability. It means that the internal customer supplier cell performs its internal services right first time. It also means that the internal customer supplier cell keeps its promises consistently.

(ii) Responsiveness concerns the willingness or readiness of suppliers to provide service to those in demand. It involves the timeliness of the service.

(iii) Competence means having the required skills and knowledge to perform the required task. It involves the knowledge and skill of the internal task supplier (not management within that cell).

(iv) Access involves the approachability and ease of contact which means the internal supplier can be assessable physically and over the telephone. The waiting

time is minimal and that there is a convenient location to meet at.

(v) Courtesy involves politeness, respect, consideration and friendliness of the internal supplier and consideration for his property.

(vi) Communication means keeping the internal customer formally informed in a language that they can understand. It does not involve informal communication or information which provides a contextual view.

(vii) Understanding the customer involves two threads. The first is the immediate internal customers requirements and the service that they demand from the supplier. The second thread is the contextual understanding of the customers further down the process chain and ultimately the effect of their service on the external customer. These two are mutually inclusive and high internal service performance scores indicate that both have been achieved.

(viii) Proactive decision making involves the service supplier having the ability to solve problems by controlling their environment and this was usually but not always oriented to the delivery of service to the next internal customer supplier cell. It may be directed to the external customer or another disconnected internal customer supplier cell. It also related to issue where the receiving internal customer supplier cell did not have the competence to resolve the problem themselves.

(ix) Credibility involves the trustworthiness and believability of the provider. Within the company this also included presence. This term presence was translated by the cells as a property which a cell or individual had

that immediately demanded attention when the individual was present in the room.

(x) Attention to detail involves the ability to work with detailed information without making mistakes. It does not include a conceptual thought process but the ability to work accurately.

(xi) Management leadership involves the management qualities expected from leaders within the internal customer supplier cells. These include management being receptive, responsive caring, nurturing, guiding, planning, rewarding and controlling. The management are judged by suppliers as also needing to possess a vision to guide others and the delegation skills to progress the pathway to that vision. Many separate dimensions of management leadership were cited but these were the most common and clustered such that any questionnaire which would be administered when internal service quality was defined by each of the interactions.

All of the internal customer supplier cells and all interaction types therefore did not need to be measured upon Tangibles and Security. It was globally felt that the presentation of the individual physically and of his work and work surroundings, such as his desk, was not important in the individual delivering high levels of service quality to his next internal customer supplier cell.

Security was not a dimension that was felt to be important in the measurement of service quality between internal customer supplier cells. This was tested across several areas which ranged from the delivery of reports and the need to share between a single pair of internal customer supplier cells through to the ability of internal customer supplier

cells to keep quiet when doing particular tasks for each other. The consensus of all internal customer supplier cells was that information of all types should be shared equally throughout the company so that it would enable internal customer supplier cells to perform their tasks properly. This need for lack of security was important for direct information concerning external service quality and for the contextual view that would help each internal customer supplier cells to perform better. This particular dimension was thought to arise from the poor horizontal and vertical communication within the company. Because communication was bad, it was highly desirable to be open. This was tested against the cells to determine if there was some interaction between the dimension acquisition and the company culture. This was confirmed that independent of the communication within the company, freedom of information would always be critical to performing well between cells.

In some cases the internal customer supplier cells when asked about security found it difficult to differentiate between security, access and communications. The remaining dimensions of access and communications were then defined as being present when a task needed to be performed and for general enquires and in the case of communications formal instruction of task requirements only not secondary or contextual communication.

Each internal customer supplier cell felt that the competency dimension meant two things, firstly the competency of the task worker and secondly the competency of the Management within the internal customer supplier cell. Competency as a dual dimension rose as an issue that was of worth when assessing the internal customer supplier cells. Three dimensions did appear as new dimensions and these were, Proactive decision making, Attention to detail and management leadership, the latter applying to the management

competency dimension. These were defined by the employees in each of the internal customer supplier cells as defined previously.

These dimensions were then confirmed by each of the internal customer supplier cells. These dimensions could clearly be subsets of other dimensions. If we consider proactive decision making, this could be considered a core competence of the cell. Competence is a stand alone dimension. The same could be applied to attention to detail and management leadership. This was presented to the cells but it was found that the other dimensions should remain separate from the new ones as they were so important. To include or "lose them" as one respondent quoted within the other dimensions would provide internal service quality feedback to be of little use in improving the internal and so external service quality.

The dimensions which were then ranked are presented in Tables 5.3, 5.4, 5.5 and 5.6.

RELIA	RESP	COMPTNC Y	CRTS	ACCE	CRED	COMM	UNDERST	PROCTV	LDRS
0.14	0.09	0.09	0.05	0.09	0.09	0.05	0.09	0.09	0.23

Table 5.3 - Indirect - Indirect interaction ranking.
(Source: Developed from cell interviews)

RELIAB	RESPN	COMPTNC Y	CRTSY	ACCES	COMM	UNDST	PROCTV	CRED	DTL
0.2	0.11	0.16	0.03	0.07	0.1	0.13	0.08	0.08	0.04

Table 5.4 - Direct - Indirect interaction ranking. (Source: Developed from cell interviews)

RELIA	RESP	COMPTN CY	CRTS	ACCE	COMM	UNDS	PRCTV	CRED	LEDERS P	DETL
0.16	0.14	0.12	0.03	0.09	0.06	0.14	0.09	0.06	0.06	0.04

Table 5.5 - Indirect - Direct interaction ranking. (Source: Developed from cell interviews)

RELIAB	RESPN	COMPTNC Y	CRTSY	ACCESS	CRED	COMMS	UNDERST	PROCTV	DETL
0.12	0.12	0.12	0.05	0.11	0.03	0.08	0.11	0.1	0.16

Table 5.6 - Direct - Direct interaction ranking. (Source: Developed from cell interviews)

The rankings highlight several issues within the internal customer supplier cells by interaction type.

For Indirect-Indirect interactions between the internal customer supplier cells the highest ranking is given to leadership skills and the reliability dimension. This is easily understood. The indirect interactions within the organisation tend to deal with more qualitative information than quantitative and also the degree of ad hock initiatives are present - indirect internal customer supplier cells are not as sharply task focused. Because of this there is a greater dependency upon the leadership within the organisation to provide support to the customer along the process line. This is confirmed if we look at the Direct - Direct interactions between internal customer supplier cells. There is an absence of the leadership dimension and the focus for service performance here becomes the delivery to the next internal customer supplier cell becomes one of

responsiveness reliability and attention to detail. Leadership does not become an issue because the tasks are well understood along the direct- direct interaction process chain. Because of this and the higher quantitative content of direct - direct interactions it was confirmed that leadership was not an issue.

The two other interactions show the same rankings for internal service performance. Reliability, competency and understanding the customer become more important. This highlights the understanding barriers and ethos between direct and indirect internal interactions. Both felt that to deliver across this barrier a detailed understanding of the customer was required. Once this understanding was in place for a direct to supply and indirect and visa versa, the need to be reliable and responsive was key. For the direct being supplied to by an indirect, responsiveness with the correct service (reliability and understanding the customer centred) was critical because of the effect upon the external customer. Equally, indirect needed the same usually in terms of information for reports such as accounts or stock listings.

The dimensions were then used to construct four separate internal interaction type questionnaires. The questionnaire for gap 5 of SERVQUAL was used as a basis for this. Each of the questions were derived from the dimensions determined for each interaction type thereby producing four separate questionnaires, one per interaction type. Each question was presented to the groups with the relevant supplier interaction and these were confirmed as the questions that would be used in assessment.

Additionally, the clustering of dimensions in Gap 5 of SERVQUAL was applied to these questionnaires. The reason for this is that the dimensions of reliability etc. could then

be directly compared with that identified internally. Clearly as tangibles were not seen as an internal measurement dimension this would be omitted from the comparison. All of the extra dimensions identified by the internal customer supplier cells were considered by the cells as measures of competency and so should be placed in the assurance dimension of service quality as given in Appendix 12.. As the Gap 5 questionnaire the weighting of these clusters of dimensions was added to the internal questionnaires.

Once the whole questionnaire was developed, it was represented to the relevant cells and each type of internal customer supplier cell confirmed that the questionnaire was measuring what they would measure and would expect the supplying cell to improve upon. The questionnaires are given in Appendix 12.

The questionnaires were then implemented according to Appendix 13. In essence the questionnaires were immediately applied to each internal customer supplier cell and then the results of the internal service quality fed back to the supplying cells each customer cell presenting the questionnaire findings to the supplying cell. A target of two months was given before the next internal service quality questionnaires were to be applied. At the same time the external Gap 5 service quality was applied both at the first internal service quality application and also at the second. The implementation methodology was problematical to install within the company. It was critical for each of the internal customer supplier cells and the totality of employees within each cell to understand completely the 19 or so measures that were being used by the next internal customer supplier cell to assess that internal customer supplier cells service performance. Eventually this took the route of one to one interviews with verbal testing to ensure

the service performance measures were understood. The results from the external Gap 5 of SERVQUAL is given in Figure 38.

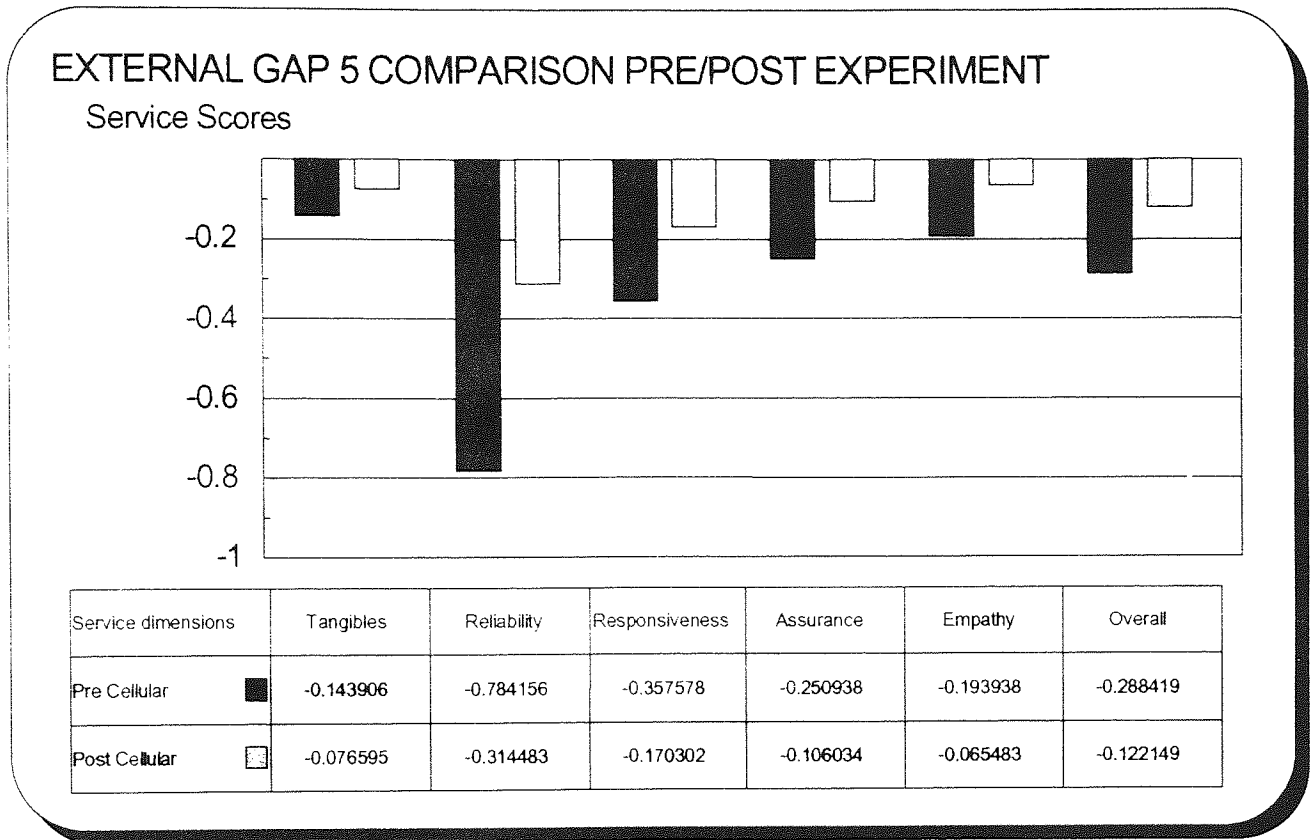


Figure 38 - External Gap 5 comparison pre and post internal customer supplier installation. (Source: External questionnaire)

This step change in service performance has been T-Tested to determine the levels of significance and the results are summarised in Table 5.7. The main data is presented in Appendix 14, Tables 14.1 to 14.6. In all cases but the Tangible dimension the means between pre internal customer supplier and post internal customer supplier are different to the 5% significance level. The tangible dimension is different but only to the 10% significance level. This may or may not reflect the lack of internal measurement of the Tangible dimension for internal service performance. This came as some surprise because these dimensions were not

measured internally. It is suggested that the tangible dimension is understood by the service deliverers for the external customer but do not consider it important for their internal customers. Personal observations proved that there had been no internal tangible improvement in terms of work space, uniforms, facilities or personal dress. None of the direct internal customer supplier cells knew that they were being measured on the tangible dimensions. The T-Tests for the tangible dimension show a less significant population move than in the other dimensions which tends to support this suggestion.

Dimensions	Tangibles	Reliability	Responsiveness	Assurance	Empathy	Overall
PreCell	-0.14	-0.78	-0.35	-0.25	-0.19	-0.20
PostCell	-0.07	-0.31	-0.17	-0.1	-0.06	-0.10
Significance	Yes 10%	Yes 5%	Yes 5%	Yes 5%	Yes 5%	Yes 5%

Table 5.7 Step change in service performance (Source: Developed from internal service quality questionnaire.)

The internal service performance scores for each mapped interaction are presented in Tables 5.8 to 5.32. These detail the initial internal customer supplier cells service performance and that achieved 8 weeks after a review between customer and supplier and an action plan had been put in place. The step change in internal service performance for that internal customer supplier cell is also given.

Dimensions	Reliabilty	Responsive	Assurance	Empathy	Overall
Pre cell	-0.9	-0.53	-0.66	-0.06	-0.54
Post Cell	-0.9	-0.6	-0.54	-0.1	-0.54
% Step Chng	0	-14.29	18.18	-66.67	0.23

Table 5.8 - Longitudinal service performance for interface PD 1 (Source: Developed from internal service quality questionnaire.)

Dimensions	Reliabilty	Responsive	Assurance	Empathy	Overall
Pre cell	-0.24	-0.53	-0.66	-0.14	-0.39
Post Cell	-0.6	-0.45	-0.66	-0.14	-0.46
% Step Chng	-150	14.29	0	0	-18.21

Table 5.9 - Longitudinal service performance for interface PD 2 (Source: Developed from internal service quality questionnaire.)

Dimensions	Reliabilty	Responsive	Assurance	Empathy	Overall
Pre cell	-0.65	-0.24	-0.12	-0.02	-0.26
Post Cell	-0.21	-0.29	-0.28	-0.13	-0.23
% Step Chng	68.46	-19.83	-144.05	-660	11.61

Table 5.10 - Longitudinal service performance for interface PD 3 (Source: Developed from internal service quality questionnaire.)

Dimensions	Reliabilty	Responsive	Assurance	Empathy	Overall
Pre cell	-1.5	-0.56	-0.08	-0.41	-0.63
Post Cell	-1.5	-0.55	-0.09	-0.41	-0.63
% Step Chng	0	0	-12.5	0	-3

Table 5.11 - Longitudinal service performance for interface PD 4 (Source: Developed from internal service quality questionnaire.)

Dimensions	Reliability	Responsive	Assurance	Empathy	Overall
Pre cell	-0.55	-0.56	-0.4	-0.4	-0.48
Post Cell	-0.3	-0.08	-0.32	-0.12	-0.2
% Step Chng	45.45	86.67	20	70	57.39

Table 5.12 - Longitudinal service performance for interface PD 5 (Source: Developed from internal service quality questionnaire.)

Dimensions	Reliability	Responsive	Assurance	Empathy	Overall
Pre cell	-0.88	-0.2	-0.36	-0.24	-0.42
Post Cell	-1.3	-0.1	-0.21	-0.06	-0.42
% Step Chng	-47.73	50	41.67	75	0.6

Table 5.13 - Longitudinal service performance for interface PD 6 (Source: Developed from internal service quality questionnaire.)

Dimensions	Reliability	Responsive	Assurance	Empathy	Overall
Pre cell	0	0	-0.26	0	-0.07
Post Cell	-0.16	-0.25	-0.1	-0.36	-0.22
% Step Chng	err	err	61.54	err	-234.62

Table 5.14 - Longitudinal service performance for interface PD 7 (Source: Developed from internal service quality questionnaire.)

Dimensions	Reliabilty	Responsive	Assurance	Empathy	Overall
Pre cell	-1.44	-0.08	-0.03	-0.04	-0.4
Post Cell	-0.54	-0.4	-0.1	-0.09	-0.28
% Step Chng	62.5	-433.33	-300	-125	28.48

Table 5.15 - Longitudinal service performance for interface PD 8 (Source: Developed from internal service quality questionnaire.)

Dimensions	Reliabilty	Responsive	Assurance	Empathy	Overall
Pre cell	-1	-0.68	-0.3	-0.02	-0.5
Post Cell	-0.5	-0.25	-0.24	0	-0.25
% Step Chng	50	62.96	21.05	90	50.38

Table 5.16 - Longitudinal service performance for interface PD 9 (Source: Developed from internal service quality questionnaire.)

Dimensions	Reliabilty	Responsive	Assurance	Empathy	Overall
Pre cell	-0.27	-0.21	-0.32	-0.2	-0.25
Post Cell	-0.23	-0.41	-0.26	-0.08	-0.24
% Step Chng	16.05	-91.41	20.02	62.56	3.81

Table 5.17 - Longitudinal service performance for interface PD 10 (Source: Developed from internal service quality questionnaire.)

Dimensions	Reliabilty	Responsive	Assurance	Empathy	Overall
Pre cell	invalid	invalid	invalid	invalid	invalid
Post Cell	invalid	invalid	invalid	invalid	invalid
% Step Chng	invalid	invalid	invalid	invalid	invalid

Table 5.18 - Longitudinal service performance for interface PD 11 (Source: Developed from internal service quality questionnaire.)

Dimensions	Reliability	Responsive	Assurance	Empathy	Overall
Pre cell	-2.1	-0.2	-0.26	-0.22	-0.7
Post Cell	-1.82	-0.18	-0.22	-0.24	-0.61
% Step Chng	13.33	12.5	15.38	-9.09	11.69

Table 5.19 - Longitudinal service performance for interface PD 12 (Source: Developed from internal service quality questionnaire.)

Dimensions	Reliability	Responsive	Assurance	Empathy	Overall
Pre cell	-0.66	-0.53	-0.2	-0.6	-0.5
Post Cell	-0.42	-0.6	-0.22	-0.6	-0.46
% Step Chng	36.36	-14.29	-10	0	7.3

Table 5.20 - Longitudinal service performance for interface PD 13 (Source: Developed from internal service quality questionnaire.)

Dimensions	Reliability	Responsive	Assurance	Empathy	Overall
Pre cell	-1.92	-0.95	-0.14	-0.15	-0.79
Post Cell	-0.96	-0.88	-0.34	-0.31	-0.62
% Step Chng	50	7.24	-138.37	-112.33	21.09

Table 5.21 - Longitudinal service performance for interface PD 14 (Source: Developed from internal service quality questionnaire.)

Dimensions	Reliability	Responsive	Assurance	Empathy	Overall
Pre cell	-0.88	-0.68	-0.2	-0.08	-0.46
Post Cell	-0.72	-0.68	-0.18	-0.08	-0.41
% Step Chng	18.18	0	10	0	9.81

Table 5.22 - Longitudinal service performance for interface PD 15a (Source: Developed from internal service quality questionnaire.)

Dimensions	Reliability	Responsive	Assurance	Empathy	Overall
Pre cell	-0.8	-0.68	-0.18	-0.09	-0.44
Post Cell	-0.64	-0.68	-0.18	-0.09	-0.4
% Step Chng	20	0	0	0	9.17

Table 5.23 - Longitudinal service performance for interface PD 15b (Source: Developed from internal service quality questionnaire.)

Dimensions	Reliability	Responsive	Assurance	Empathy	Overall
Pre cell	-1.04	-0.45	-0.52	-0.28	-0.57
Post Cell	-0.9	-0.35	-0.32	-0.14	-0.43
% Step Chng	13.46	22.22	38.46	50	25.33

Table 5.24 - Longitudinal service performance for interface PD 16 (Source: Developed from internal service quality questionnaire.)

Dimensions	Reliability	Responsive	Assurance	Empathy	Overall
Pre cell	-0.72	-1.5	-0.28	-0.26	-0.69
Post Cell	-1.26	-0.4	-0.14	-0.08	-0.47
% Step Chng	-75	73.33	50	69.23	31.88

Table 5.25 - Longitudinal service performance for interface PD 17 (Source: Developed from internal service quality questionnaire.)

Dimensions	Reliabilty	Responsive	Assurance	Empathy	Overall
Pre cell	-0.45	-0.28	-0.24	-0.16	-0.28
Post Cell	-0.09	-0.32	-0.22	-0.27	-0.29
% Step Chng	79.52	-15.73	7.89	-67.19	-3.56

Table 5.26 - Longitudinal service performance for interface PD 18 (Source: Developed from internal service quality questionnaire.)

Dimensions	Reliabilty	Responsive	Assurance	Empathy	Overall
Pre cell	-0.6	-0.18	-0.12	-0.1	-0.25
Post Cell	-0.6	-0.18	-0.12	-0.1	-0.25
% Step Chng	0	0	0	0	0

Table 5.27 - Longitudinal service performance for interface PD 19 (Source: Developed from internal service quality questionnaire.)

Dimensions	Reliabilty	Responsive	Assurance	Empathy	Overall
Pre cell	-1.68	-0.2	-0.27	-0.07	-0.56
Post Cell	-1.26	-0.23	-0.3	-0.07	-0.46
% Step Chng	25	-12.5	-11.11	0	16.44

Table 5.28 - Longitudinal service performance for interface PD 20 (Source: Developed from internal service quality questionnaire.)

Dimensions	Reliabilty	Responsive	Assurance	Empathy	Overall
Pre cell	-0.26	-1.13	-0.16	-0.03	-0.39
Post Cell	-0.24	-1.13	-0.16	-0.03	-0.39
% Step Chng	7.69	0	0	0	1.27

Table 5.29 - Longitudinal service performance for interface PD 21 (Source: Developed from internal service quality questionnaire.)

Dimensions	Reliabilty	Responsive	Assurance	Empathy	Overall
Pre cell	-0.96	-0.7	-0.18	-0.1	-0.49
Post Cell	-0.88	-0.8	-0.18	-0.1	-0.49
% Step Chng	8.33	-14.29	0	0	-1.03

Table 5.30 - Longitudinal service performance for interface PD 22 (Source: Developed from internal service quality questionnaire.)

Dimensions	Reliabilty	Responsive	Assurance	Empathy	Overall
Pre cell	-1.08	-0.5	-0.22	-0.3	-0.53
Post Cell	-0.5	-0.3	0.06	-0.48	-0.31
% Step Chng	53.7	40	127.27	-60	41.9

Table 5.31 - Longitudinal service performance for interface PD 23 (Source: Developed from internal service quality questionnaire.)

Dimensions	Reliabilty	Responsive	Assurance	Empathy	Overall
Pre cell	-2.56	-0.35	-0.18	-0.17	-0.81
Post Cell	-1.4	-0.75	-0.3	-0.28	-0.68
% Step Chng	45.31	-114.29	-66.67	-64.71	16.26

Table 5.32 - Longitudinal service performance for interface PD 24 (Source: Developed from internal service quality questionnaire.)

These data can be summarised into Table 5.33 by their common interaction types. It demonstrates that there have been improvements in internal service quality in some areas and no improvement or actual degradation in internal service quality in other areas. These changes (has one group improved at a better rate than another) are T-Tested by

interaction types and are summarised in Table 5.34, raw data is in Appendix 14, Tables 14.7 to 14.13. This is to determine if there has been a significant change by interaction type. This is to determine any possible contribution by interaction type to internal or external service quality change (i.e. does any particular group have a demonstrable effect on service quality).

Tables 5.35 summarises the T-Tests (raw data Appendix 14 Tables 14.14 to 14.23) of the significance between the internal and external service performance dimensions (on a company average basis internally i.e. not interaction specific) such as assurance at time T0 the start of the experiment and T1 the end of the experiment. This is to determine if there is any difference between the internal and external service dimensions at the start and end of the experiment. Table 5.36 shows the average internal service quality at time T0 and T1. Tables 5.37 (raw data in Appendix 14, Tables 14.24 to 14.27) summarises the change in internal service quality for the company as a whole across the service quality dimensions (such as Assurance).

ID	Reliability	Responsiveness	Assurance	Empathy	Overall
PD18	79.52	-15.73	7.89	-67.19	-3.56
PD14	50	7.24	-138.37	-112.33	21.09
PD8	62.5	-433.33	-300	-125	28.48
PD3	68.46	-19.83	-144.05	-660	11.61
PD18M	-57.77	-19.29	-129.51	-60.66	-61.03
DD					
PD4	0	0	-12.5	0	-3
PD5N	45.45	86.67	20	70	57.39
PD6N	-47.73	50	41.67	75	0.6
PD10	16.05	-91.41	20.02	62.56	3.81
PD7			61.54		-234.62
PD16	13.46	22.22	38.46	50	25.33
DI					
PD2	-150	14.29	0	0	-18.21
PD17	-75	73.33	50	69.23	31.88
PD9	50	62.96	21.05	90	50.38

II					
PD1	0	-14.29	18.18	-66.67	0.23
PD12	13.33	12.5	15.38	-9.09	11.69
PD13	36.36	-14.29	-10	0	7.3
PD15	18.18	0	10	0	9.81
PD19	0	0	0	0	0
PD20	25	-12.5	-11.11	0	16.44
PD21	7.69	0	0	0	1.27
PD22	8.33	-14.29	0	0	-1.03
PD23	53.7	40	127.27	-60	41.9
PD15A	20	0	0	0	9.17
PD24	45.31	-114.29	-66.67	-64.71	16.26

Table 5.33 - Grouped cellular improvements in service performance. (Source: Internal questionnaires)

Interactions	Significance
ID & DD	No
ID & DI	No
ID & II	No
DD & DI	No
DD & II	No
DI & II	No

Table 5.34 Mean Improvement by interaction type (Source: From Internal service quality questionnaires)

Dimensions	Significance at T0	Significance at T1
Reliability	No	Yes 5%
Responsivness	No	Yes 5%
Assurance	No	Yes 5%
Empathy	No	Yes 5%
Overall	No	Yes 5%

Table 5.35 Internal and external dimension significance tests. (Source: From Internal service quality questionnaires)

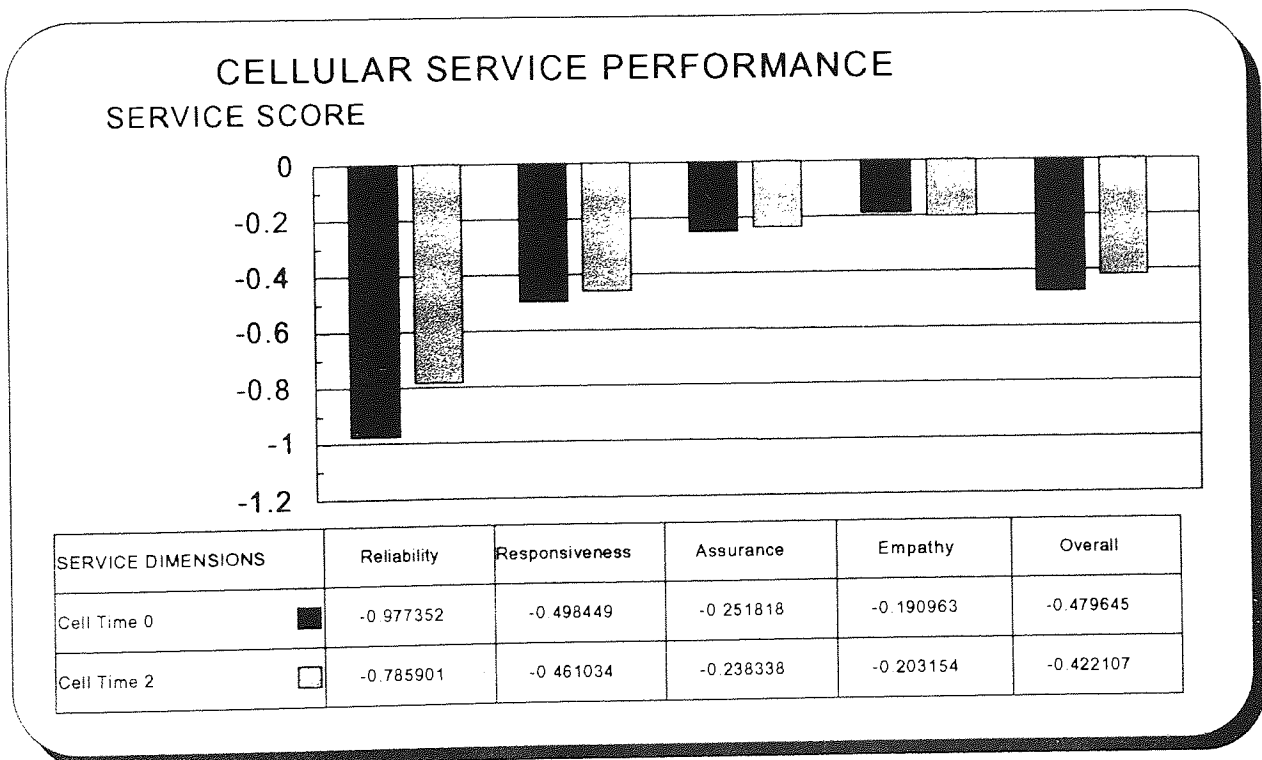


Table 5.36 Company Internal improvement at T0-T1 (Source: From Internal service quality questionnaires)

If we consider the significance between the rate of improvement by interaction type, no significant difference was observed. This implies that all groups had improved by the same rate. This was also confirmed by informal discussions with the cell members.

If we consider the difference between internal and external dimensions (e.g. reliability externally and internally) at the start of the experiment (T0) there is no significant difference. This implies that the external service quality is in direct 1 to 1 relationship to the internal service quality dimensions or that it is co-incidental or that the means are the same but the variances may be different. This does not consider the tangibles dimension.

At the end of the experiment, there was a significant difference between the internal and external dimensions. which implies that either the internal service quality dimensions or external service quality dimensions have improved but not at a 1 to 1 relationship to each other. The means are different. It may also imply that some of the internal dimensions by cell have moved proportionately to the external dimensions but because of other cells have not moved the average.

The significance test on internal service improvement at time T0 and Time T1 provide evidence of increasing internal cellular service quality variance.. There was not a significant difference in the companies change in internal service quality. This implies that the company has not improved. Yet if we consider the external service quality change it is significant. Thus we have an external movement without a corresponding movement by the whole company internally. Some internal movement must have occurred and so this cellular movement may be obscured by the rest of the company.

If we look at Table 5.33 there are increases in internal service performance at PD 4,8,9,10,12,14,15,16,17 and 23. These increases have been either on a single dimension and/or overall. If we consider the interaction type of these improving cells we observe that 33% of these are direct - direct interactions and 80% are direct - direct or indirect - direct. This shows that those cells which either produce or support the production of the service externally have made an improvement which is likely to have resulted in the external improvement. There is a question that if these DD and ID interactions can show improvement then why cannot the other interaction types. This may result from either poor motivation and/or the external customer being too distant from the internal cell and so that its meaning and so need to improve was never fully realised.

We can say that the improvement in the external service quality is caused by increases in internal service performance but only in given areas. It is possible to say therefore that there are interactions on the process map which has a more critical effect on customer service performance externally than others. This is conformed by observation. The engineering co-ordination function is central to customer service. it co-ordinates engineers visits to a site and the availability of the stock for the installation. It is also responsible for producing reports to management which allows on going capacity planning. This internal customer supplier cell could be said to be nodal given the quantity of interactions and the amount which are direct - direct in type.

It may be that the lack of company change in internal service performance has resulted from the change in expectations, i.e. the difference between expectations and perceptions gap remaining the same even though the

perceived service performance has improved. These are the comparison of the expectations scores at the start of the research and at the end of the research, and are summarised in Table 5.37. The raw data is presented in Appendix 14, Tables 28 to 113.

Expectations comparison at start and finish	Significantly different means
Whole company	No
All Dimensions for company	No
All Weightings for company	No
All Indirect-Direct types	No
All Direct-Direct types	No
All Direct-Indirect types	No
All Indirect-Indirect types	No
ID	
PD18	Yes - Increased
PD14	Yes - Increased
PD8	No
PD3	No
PD18M	Yes - Increased
Reliability	Yes - Decreased
Responsiveness	No
Assurance	Yes - Increased
Empathy	Yes - Increased
DD	
PD4	No
PD5N	No
PD6N	No
PD10	No
PD7	No
PD16	No
Reliability	No
Responsiveness	No
Assurance	No
Empathy	No
DI	
PD2	No
PD17	No

PD9	No
Reliability	No
Responsiveness	No
Assurance	No
Empathy	No
II	
PD1	No
PD12	No
PD13	No
PD15	No
PD19	No
PD20	No
PD21	No
PD22	No
PD23	No
PD15A	No
PD24	Yes - Increased
Reliability	No
Responsiveness	No
Assurance	No
Empathy	No

Table 5.37 - T-Test comparison of expectations change at the start and finish of the research. (Source: Internal questionnaire)

We can see that the expectations have not changed at the start of the research or at the end. There are notable exceptions to this - interaction types PD14, PD18 and PD24 where the expectations have increased. Not only this, but the weightings placed upon the dimensions for interaction types Indirect-direct have moved also. Assurance and empathy have received a greater weighting at the expense of reliability. Responsiveness has stayed the same. This implies that the direct cells expect the indirect supplying cell to understand their service needs more rather than reliability which may already be at the level which is satisfactory to the engineers.

We can see that the expectations of the operations managers by the engineers has been raised and that the expectations of the operations managers upon the refurbishment department and IT support has increased. These support functions are seen to be critical (including stores also) in providing service to the external customer. It may also suggest that the engineers who are at the front end of the business have become more service aware and are specifying higher expectations because of the desire to serve the customer. As the managers and refurbishment and IT are the next cells the engineers may be forcing a back flow of service need. In effect this could be the customer who is driving the organisation. The next logical step would be the cells which support the managers, refurbishment and IT to have greater expectations placed upon them.

The exception to this is the co-ordinating cell which does not have aspiration changes applied to it by the engineers. A potential explanation is that the high level of task standardisation within the Direct-Direct interactions has not required an increase in service expectations to the extent that was required by the supporting cells.

Chapter 6.0 - Conclusions, Limitations and Future research directions.

6.1 Introduction.

This chapter will draw conclusions from the results presented in chapter 5 and relate these back to the models defined in chapter 3 and literature discussed in chapter 2. It will additionally discuss the limitations of the research and where the research points towards for further investigation.

6.2 Conclusions.

6.2.1 Contextual view of research.

The company which was researched in an action centred cases based approach sits in a market place where the need to differentiate itself from the competition is recognised as becoming stronger. This is mainly forced by increased competition and downward pressure on prices.

The company itself has little understanding of service performance or the dimensions of measurement of service quality. This is exacerbated by the lack of a marketing department. The Directors of the company believe that service must become an issue shortly but recognise that to arrive at a position where excellent service is achieved will be a difficult one. There is a question that if this is recognised why nothing has been done about it to date.

The lack of understanding of service quality was confirmed by the internal gaps model and internal audits where few

people at managerial level understood what service performance was. Indeed, the manager's commitment to service quality appears to be in doubt. This manifested itself with poor standards of service performance.

It can be concluded therefore that the research starts from a position where there is likely to be interest in the application of the research. This is because if there is little understanding in service quality so there will be interest in the project and so people will be willing to co-operate to see the outcome. Equally as the Directors see service as the way forward there will be co-operation at the top of the company. Furthermore, no other service mechanism exists within the company which might conflict with that which would be developed by the research.

Process mapping, cells, interaction types and dimensions were then obtained by compiling the process steps within the organisation and clustering the processes into internal customers. These internal customers then defined who they interacted with and the dimensions were obtained. The data was verified by representation of the process steps, internal customers and interface dimensions back to all members of the internal customer supplier cells. In addition verification was carried out by formal and informal observation.

6.2.2 Research conclusions.

From Chapter 3 the developed hypotheses are:

- (i) There is no difference in the dimensions used to measure service quality internally and externally.

(ii) There is no difference between the dimensions sets of each of the four interaction types of the internal customer supplier cells.

(iii) There is no difference in the dimension ranking by interaction type.

(iv) Improvements in Internal Service quality do not produce improvements in the external service quality of an organisation.

6.2.2.1 Hypothesis 1

There is no difference in the dimensions used to measure service quality internally and externally.

This hypothesis is rejected. Service quality should be measured differently internally to that externally. This has been demonstrated in three separate ways:

(i) There has been an omission of dimensions of security and tangibles. These factors do not appear to be important when assessing the quality of internal service performance.

(ii) New dimensions of

(a) proactive decision making

(b) attention to detail

(c) management leadership

are important in the internal service context. The management leadership dimension is confirmed by the

are important in the internal service context. The management leadership dimension is confirmed by the literature survey. Management authority was not confirmed. Proactive decision making and attention to detail are new dimensions.

(iii)

(a) The external dimensions as defined by Parasuraman et al have been redefined internally. Reliability, responsiveness, competence, access, courtesy and credibility remain unaffected in their definition.

(b) Communication and understanding the customer are redefined. Communication involves communicating to many, if not all internal customers within the cell in a language that the customers understand.

(c) The communication dimension is different to the external dimensions as the internal communication is multiple in nature, external communication involves only one customer at a time.

(d) To improve service performance a supplying cell must talk to many separate customers within the receiving or customer cell. A supplying customer must therefore satisfy all the parts (employees within a cell) to satisfy the whole customer (the cell).

(e) Understanding the customer involves two components. The first is the immediate internal customer and understanding those needs and the second is the true external customer. For an organisation to deliver to the this external customer it must understand the needs of the distribution intermediaries as well as ultimate purchasers, influencers, users and consumers. In some

Instances were observed where specifications were set by the customer cell and these were at variance to the external customers needs. The supplying cell took the decision to meet the external customers requirements than meet those of the immediate internal cell. The reasons were communicated to the receiving or customer cell to avoid a poor internal service quality score. Probably the best example was a listening device needing to be installed at the customers premises but refused by the engineering co-ordinator because of legal standing.

6.2.2.2 Hypothesis 2.

There is no difference between the dimensions sets of each of the four interaction types of the internal customer supplier cells.

This hypothesis is rejected. The dimension sets to emerge from the research for each of the interaction types are different. This is demonstrated in Table 5.2.

(i) The dimensions of reliability, responsiveness, competence, courtesy, access, communication, understanding, proactive decision making and credibility were common dimensions amongst all of the four interaction types.

(ii) The leadership dimension was only shared by the Indirect-Direct interaction and Indirect - Indirect interaction. A potential explanation for this is that all managers belong to indirect cells - they do not have a direct role to play in the delivery of service quality, even though they influence it. If management is a dimension therefore that is to be measured on managers, it is likely to be cells which involve some interaction with

managers. This will be an indirect supply such as in Indirect-Indirect and Indirect-Direct.

(iii) Attention to detail is shared by all except the Indirect-Indirect interaction. This is explained by the nature and thought processes of the roles which are carried out within the organisation. In the company it was observed that the passage of external customer specifications occurred down the value chain. Such specifications to the engineers at the external customer interface requires precise detail (i.e. a Direct-Direct interaction type). Equally requesting support from an indirect cell to facilitate a direct cells work also needs detailed specification. (Indirect-Direct interaction). If a direct needs to report (supply) results to an indirect then detail is required. The same level of detail that stems from the external customers specifications. This is the Direct-Indirect interaction. The interaction of Indirect-Indirect is understood by the thought process. Many of the indirect customer supplier cells will be management or strategy cells. This thought process needs to be conceptual in nature and not detailed to the level that directs would need to perform to in meeting customer specifications. It could be thought of in terms of a ship. The directs are allowing the ship to function, the indirects looking after the steering. The indirects do not need to know the precise running conditions of the engine or how to make it work.

6.2.2.3 Hypothesis 3.

There is no difference in the dimension ranking by interaction type.

This hypothesis is rejected. Tables 5.3 to 5.7 show the different rankings to the derived internal service quality dimensions. These are presented in Figures 39 to 42 below.

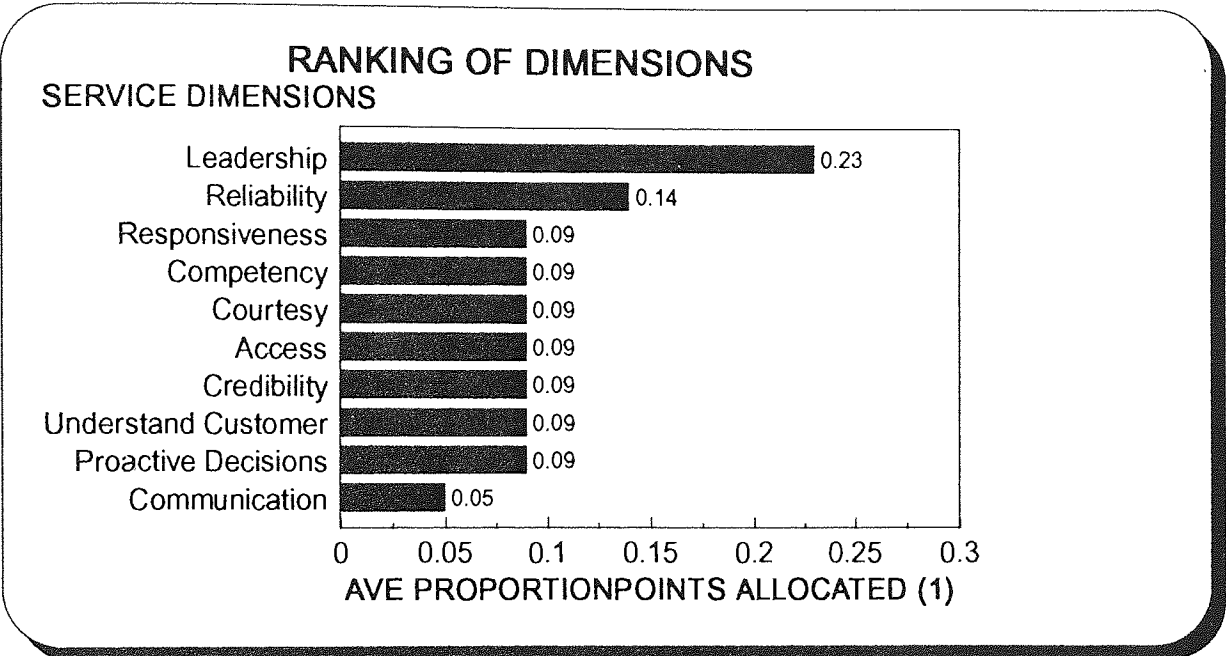


Figure 39 - Indirect - Indirect interaction ranking.
 (Source: Developed from cell interviews)

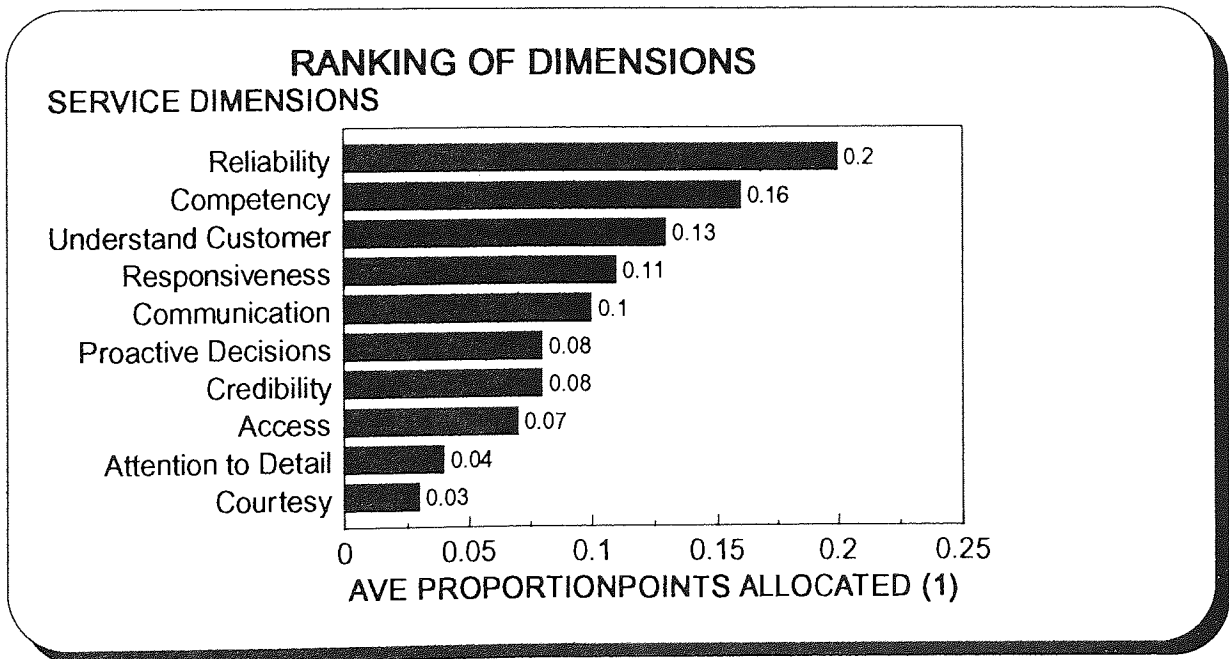


Figure 40 - Direct - Indirect interaction ranking. (Source: Developed from cell interviews)

RANKING OF DIMENSIONS
SERVICE DIMENSIONS

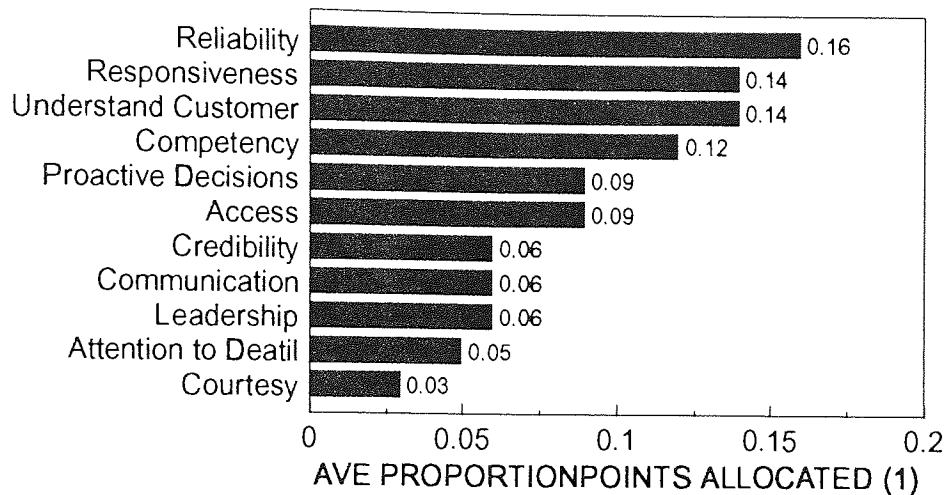


Figure 41 - Indirect - Direct interaction ranking. (Source: Developed from cell interviews)

RANKING OF DIMENSIONS
SERVICE DIMENSIONS

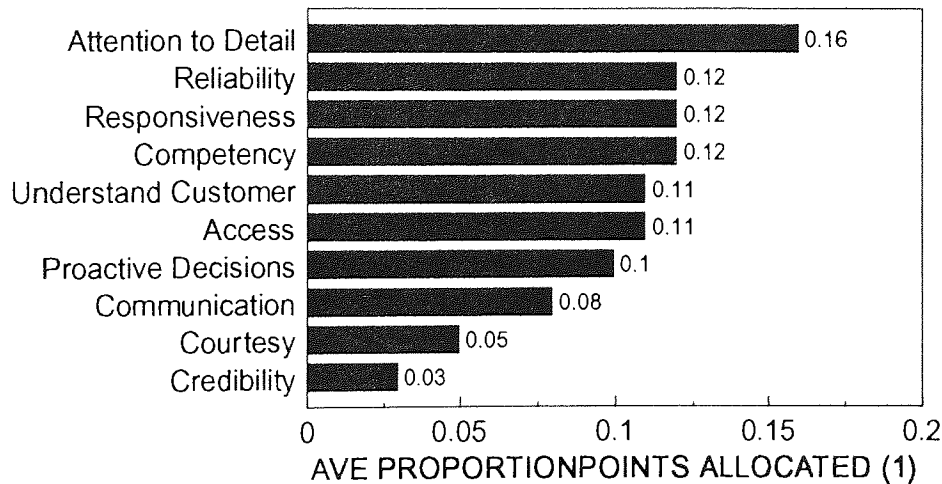


Figure 42 - Direct - Direct interaction ranking. (Source: Developed from cell interviews)

The Indirect - Indirect interaction ranking shows leadership as the highest weighting. As previously discussed, managers

are indirect employees in a company. These managers reside in indirect cells and so as these managers provide leadership, this particular factor is pronounced in interactions which are indirect. Additionally, as the level of task standardisation is lower than in the direct roles, so the role of leadership becomes more important. High task standardisation does not need a great deal of leadership as the job is well understood. We can say that for interactions which do not have a direct content (i.e. Indirect-Indirect only) so the need for leadership becomes the greatest. The other dimensions appear to be balanced with the exception of communication. No explanation is offered for this as not only must managers provide leadership, communication is a technique to achieve this. This tends to contradict research findings.

The Direct - Indirect interaction shows the consistency of supply of information to be the most important. There may be some misunderstanding between the attention to detail and competency as direct cells only supply detailed information to the indirect cells.

Understanding the customer is understood because of the indirects often changing reporting needs and how these needs change with external customers changing needs. The lowest score indicates that providing the indirect cells receive their information, courtesy does not really matter.

The indirects supplying to the directs shows that reliability and responsiveness performance rates highly. This is typified when an engineers scheduling system breaks down on a computer. Like the other two interaction types, courtesy does not figure highly providing the job gets done. The leadership dimension is understandably low as the only leadership which was observed to occur was technical leadership and not management leadership.

The direct to direct interaction shows that the highest weighting is placed upon attention to detail, reliability and responsiveness. This can be understood because these cells are the closest to the external customers and these specifications must be satisfied exactly hence the focus on detail which is supplied to them. Communication does not figure highly because of the standardised tasks. Once the specification has been drawn up by the customers the methodology of satisfying it is standardised to the point of being mechanistic. Thus the need to continually communicate to see if the specifications or cell requirements have changed is not so important. As with the other cells, courtesy is not ranked highly. It shows that it does not matter how the service is delivered in terms of customer friendly behaviour. The higher task orientation and quantitative nature of the direct's roles is thought to contribute to this ranking.

6.2.2.4 Hypothesis 4.

Improvements in Internal Service quality do not produce improvements in the external service quality of an organisation.

This hypothesis has been accepted.

There has been a movement in external service quality and this has been reflected by a movement in internal service performance in only some cells. There has not been an improvement in service quality by all cells. This lack of global change (i.e. average service increases or decreases for all of the cells) cannot describe therefore the improvement in external service quality. It is the changes at individual or cellular level rather than organisational

change which has contributed. So at the cellular level the hypothesis can be confirmed but not at company level.

This has ramifications for the design of internal customer supplier cells. It would appear that some cells have a greater effect upon external service quality than others. This raises questions as to whether from an organisational perspective some cells would need to exist at all. To take an extreme viewpoint, it may be acceptable for cells only to exist along the direct-direct chain.

6.2.2.5 Other conclusions.

(i) The examination of the literature suggested that the original ten dimensions of Parasuraman et al's SERVQUAL could be applied internally to internal customers as identified by Oakland and Denton. This would then improve external service performance. This has been demonstrated not to be the case without modification. Some of the dimensions are not required and their presence if included for the sake of completeness may cause internal service performance problems. The dimension of security in particular highlights this. Employees requested freedom of information to assist in the job to be done more effectively. Often, as observed during the research, retention of information such as accounts actually prevented the cells from doing their tasks. In one particular example a cash flow crisis which the accountants (indirect) knew about but did not inform operations (direct) about could have made the operations department speed up installations not only resolving the cash flow but also improved the external responsiveness score to the customer. The cell keeping this information secure would score highly on that dimension if it existed as measure..

(ii) Service blueprinting (George and Gibson (1991) as a technique, provided a useful means of defining internal customer groups according to external service requirements. This customer visible and invisible process orientation allowed logical customer cells to be defined. Of the cells defined from the blueprint, all without exception, were accepted first time as the logical cells by the employees and managers alike.

(iii) Internal customer supplier cells can be prioritised according to the effect upon external service quality. It may be possible to conclude that the more interactions by a cell the more critical the effect of that cell upon the external customer satisfaction.

6.3. Potential Research Limitations

This research is applicable to one corporate body and is action research focused. No attempt is being made to generalise this work to the world outside this body. The issue of generalisation is dealt with inside the company. Findings are then compared to existing theory and conceptualisation to confirm or disconfirm these postulations. In the case of the application of SERVQUAL to internal customers this postulation has been disconfirmed. This would make this case a revelatory case therefore.

The dimensions which are determined may suffer from employees needing certain dimensions to overcome their perceptions of weakness in the organisation. For example, if leadership is considered a weakness in the organisation then employees may cite leadership as a service dimension to counterbalance or force focus upon it. This is the same as saying that employees inside a company may perceive that the organisation lacks some important issue to make it function correctly. In this case the holistic approach adopted by the researcher confirms this not to be the case.

It is equally possible that the ranking of the internal service performance dimensions can change. If a particular internal customer supplier cell shows excellent performance in one or more dimensions, then it might be possible for the internal customer who is receiving the service to prioritise the dimensions. He would start from worst performance to best performance to focus the internal supplier. This is another view of the actual dimensions argument discussed in the above paragraph but in a ranking sense than an actual existence of dimension sense.

This is also applicable to the weightings given to the service performance dimension clusters (specifically empathy

and assurance). The weightings may change in a dynamic fashion according to the performance of the supplier.

The results have been obtained on a time frame of two months from Time T0 to T1. Given the analysis, it may be possible that the time frame would need to be extended to gain a greater insight to the differences in internal and external means. This is thought possible but unlikely as the researcher's experience is that new initiatives normally have an enthusiasm phase at the start of the project where the employee adopts the principles. Interest in the project is at it's highest at this stage.

The internal dimensions may have been manipulated according to the environment i.e. relative service performance rather than absolute with respect to the environment. This is possible and cannot be disproved. Each internal customer supplier cell assessed the supplying cell according to service performance. It may be likely that the cells were assessed under conditions of work. For example a customer may be assessing an individual cell against what the customer feels that the supplier can achieve within the constraints of the job, equipment etc.. This can lead to suppliers with high level of support/equipment etc. to be more heavily marked down than one supplier who shows poor service performance with poor levels of support. The subconscious process will be difficult to validate but given the consistency of environments the step changes would not be subject to variation.

It can be concluded that the main substantial limitation of the research is the generalisation issue. There are limitations to this belief as generalisation in statistical research can be problematical in that it does not truly understand cause and effect that the holistic view of case based research does. Equally statistical generalisation does

not represent the whole population. This is one of the reservations of Parasuraman et al's work on SERVQUAL, the researchers did not consider the possible dimensions across the full range of industry sectors. Equally, to explain the dimensions (i.e. an analytical generalisation) a detailed analysis was essential which would not have been possible with a statistical generalisation.

6.4 - Further Research Opportunities.

The following present themselves as realistic additional research opportunities.

(i) Definition of critical or nodal internal customer supplier cells. It is implied from the results that some internal customer supplier cells may have a stronger influence on the external service performance than others. Issues that could be explored are that external service performance is dependant upon the varying effects and ranking of internal interaction type and the number of interfaces within an individual internal customer supplier cell.

(ii) The size of the internal customer supplier cell and the effect on external customer performance may need to be examined. It will be possible to divide down a company into a group of customer supplier cells according to the service blueprint. The size of the internal customer groups can vary from one (the whole company) to many (a customer supplier cell) for each process step within the blueprint. This can lead to a hypothesis that there is an optimum customer supplier cell size which contributes the maximum external service performance.

(iii) For logistics the effect of the secondary interactions i.e. those which back flow from the customer to the supplier and those which are ad hock and not continuous (i.e. improvement initiatives) were not included. Each of these may have an effect upon the external service performance.

6.5 Academic Contributions of the Research.

(i) The existence of four types of internal interaction were identified between internal customer supplier cells. These were Direct to Direct, Indirect to Indirect, Direct to Indirect and Indirect to Direct. A direct cell is a cell which is directly on the value chain, i.e. involved in the production of the external customers specifications. An indirect cell is a cell which is not involved in the production of the customers specification but supports the direct cell in doing so. The existence of these interactions confirmed the conceptual model.

(ii) The internal service quality dimensions sets by interaction type were different in comparison to each other with the exception of the Direct-Direct and Direct-Indirect interactions which shared the same dimensions. This means for the determination of internal service quality three separate questionnaires would be needed across the whole organisation:

- (a) One type for Indirect-Indirect interactions.
- (b) One type for Indirect-Indirect interactions.
- (c) One type for both Direct-Indirect and Direct-Direct.

This implies for any organisation that wishes to measure internal service quality between internal customer supplier cells, a single measuring tool is not adequate. It will not allow all of the dimensions which contribute to internal service quality to be highlighted and so worked upon by cell members.

(ii) The rankings across the four interactions were all different. For Direct-Direct interactions, attention to detail was seen as the most important dimension resulting from the need to meet external customer expectations exactly as it passes down the Direct-Direct chain.

For Indirect-Indirect interactions, leadership was seen as the most important dimension thought to arise from the low task standardisation and so need to be led more than in the mechanised Direct-Direct interactions where the task is well understood.

For Direct-Indirect interactions reliability was seen as the most important dimension. This was thought to arise from the need of the indirects to achieve their work tasks needing reliable supply of information. An example would be the number of installations per day that accounts would need to bill customers

For Indirect-Direct, reliability arose again as the most important dimension. This was thought to be attributed to the need for indirects to support directs upon demand. This is confirmed as the next most important dimension was responsiveness.

(iii) In the case, the application of Gap 5 for internal customer supplier cells was disconfirmed. It is cited by Zeithaml (1991) that SERVQUAL and so the ten dimensions can be used internally. From the previous points in this section, we have seen that the dimensions are different and some not present at all such as security and tangibles.

(iv) Internal service quality on a company wide basis does not contribute to external service quality. We have shown

that external service quality can move positively without an average move in internal service quality. If we examine the movement in internal service quality we can see that those cells, particularly direct ones closest to the customer have shown a positive movement implying that cells at the front end of the business can have the greatest effect upon customer satisfaction. This tends to support work by Denton (1991).

(v) Different internal customer supplier cells have a different effect on external service quality. From a qualitative viewpoint it has been observed that the cells which have the greatest amount of internal interactions to and from it can, if improvement is shown in that cell, have a dramatic effect upon external quality. The engineering co-ordinator is an example of this.

6.6 Practical Contributions of the Research.

Since the internal cellular definition and measures in internal service quality there has been a 78% improvement in external service quality (a movement of $-.55$ to $.12$ in the average SERVQUAL score). This has resulted in a reduction in the churn rate on the customer base (customers lost / total customers) from 13% to 6% resulting in a lower cost of sales.

Within the company, rework reduction has reached £98000. This has resulted by cells identifying the causes of the poor internal service quality and removing them.

On a qualitative basis the companies morale is higher. There is a much greater level of sharing ideas at forums such as managers meetings. The level of direct management by the directors of the company has reduced as each cell has taken autonomous steps to improve performance. An example of this is a customer complaints meeting was set up to reduce external complaints without direction from above.

The profitability of the company has also improved but is not specified here as other issues have drawn on that profit.

Finally, several employees whose careers seemed to be limited, enjoyed a great deal of success in the project. As a result two have been promoted to managerial posts. One in particular is likely to adopt the role of Director of customer services at some time in the future.

Bibliography

Albitz, L., (1991), "Processing business improvement", TQM Magazine, Dec , pp 351-357.

Anderson, W., Hoyer, W., (1988), "Marketing in the age of intelligence -The case for control", European Marketing Journal, Vol 25,8, pp 32-54.

Argote, L., (1982), "Input uncertainty and organisational co-ordination in hospital emergency units", Administration Science Quarterly, 27, 1982, pp 420-434.

Argyris, C., (1964), "Understanding Organisational Behaviour", Dorsey 1960, "Integrating the Individual and the Organisation", Wiley.

Ballantyne, D., (1990), "Coming to grips with service intangibles using quality management techniques", Marketing intelligence and planning, 8,6, pp 4-10.

Bateson, J., (1992), "Managing services Marketing", 2nd ed, The Dryden Press, , PP 259-335.

Belasco, J., (1966), "The Salesmen's Role Revisited.", Journal of Marketing, 30, April, pp 6-8.

Berlo, D., (1977), "Communication as process: Review and commentary," in B.D Ruben (ed.), Communication Yearbook, I, New Brunswick, N.J.: Transaction Books, pp 11-27.

Berry, L.L., Conant, J.S., Parasuraman, A., (1991), " A framework for conducting a services marketing audit.", Journal of the Academy of Marketing Science, Vol 19, No 3, pp 255-268.

Berry, L.L., Parasuraman, A., (1992), "Marketing services", Free Press, Various.

Berry, L.L., (1980), "Services Marketing is different."; Business, May-June, pp 24-29.

Berry, L.L., Zeithaml, V., Parasuraman, A., (1985), "Quality counts in services too", Business Horizons, May-June , pp 44-52.

Berry, L., Zeithaml, V., Parasuraman, A., (1991), "Perceived service quality as a customer based performance measure: An empirical examination of organisational barriers using an extended service quality model", Human Resource Management, Fall, Vol 30, No 3, pp 335-364.

Bitner Jo, M., (1990), "Evaluating service encounters: The effects of physical surroundings and employee responses.", Journal of Marketing, Vol 54 , April, pp 69-82.

Bitner, M., Booms, B., Tetreault, M., (1990), "The service encounter: Diagnosing favourable and unfavourable incidents", Journal of Marketing, Vol 54, Jan , PP 71-84.

Bixby Cooper, M., Droge, C., Daugherty, P., (1991), "How buyers and operations personnel evaluate service", Industrial Marketing Management, "), pp 81-85.

Blauner, R., "Alienation and Freedom: The Factory Worker and His Industry", University of Chicago Press 1964.

Bojanic, D., (1991) "Quality measurement in professional service firms", Journal of Professional Services Marketing, Vol 7(2), pp27-36.

Boshoff, C., Mels, G., (1993), "A causal model to evaluate the relationships among supervision, role stress, organisation commitment and internal service quality", EMAC Conference proceedings, Barcelona , pp 223-247.

Bowen, D., (1985) "Managing customers as human resources in service organisations", Human Resource Management, 25, pp 371-384.

Bowen, D., Schneider, B., (1985), "Boundary spanning role employees and the service encounter: Some guidelines for management and research.", The Service Encounter. Various.

Brooks, R.F., Wragg, T., (1992), "Channelling Customer Loyalty", TQM Magazine, Dec , pp 361-363.

Brown, W., Gummesson, E., Edvardsson, B., Gustavsson, B., (1991), "Service quality - Multidisciplinary and multinational perspectives", Lexington Books .

Brown, J., (1970), "The Social Psychology of Industry: Human Relations in the Factory", Penguin .

Bruggeeman, W., Bartholomeeusen, L., Heene, A., (1988), "How management control systems can affect the performance of service operations", extracted from "The Management of Service Operations", Proceedings of the Operations management association, Jan , pp 663-77.

Burgoyne, J., Hodgeson, V.E., (1983), "Natural Learning and Managerial Action: A Phenomenological study in the Field Setting.", Journal of Management Studies, 20(3), pp 387-389.

Burns, T., (1966), "The Management of Innovation", Tavistock

Canton I.D., (1988), "How manufacturer's can move into the service business.", Journal of Business Strategy, July/August, pp 40 -44.

Carman, J., (1990), "Consumer perceptions of service quality: An assessment of the SERVQUAL dimensions", Journal of Retailing, Vol 88, No1, Sping, pp33-55.

Carr, C., (1990), "Front end customer service - 15 Keys to customer satisfaction", John Wiley and Sons, pp 56-83.

Christopher, M., Payne, A., Ballantyne, D., (1991), "Relationship Marketing - Bringing quality, customer service and marketing together", Butterworth - Heinemann, pp 3-5.

Christopher, M., (1992), "The customer service planner", Butterworth Heinemann .

Cina, C., (1989), "Creating an effective customer satisfaction program", Journal of Business and Industrial Marketing, Vol 4, No 2, Summer/Fall , pp 33-42.

Collier, E., (1988), "Managing a service firm: A different management game", National Productivity Review, Winter, pp 36-45.

Compton, F., George, W., Gronroos, C., Karvinen, M., (1987), "Internal marketing, The service challenge: Integrating for competitive advantage", J. Czepiel et al eds., American Marketing Association, Chicago, pp 7 -12.

Coulson-Thomas, (1990), "Quality: The next steps.", extracted from "Beyond Quality", BIM report.

Cowell, D., (1991), "The marketing of services", Butterworth - Heinemann, pp 57-113.

Cravens, D., (1988), "The marketing of quality", Incentive, Nov, pp 26-35.

Cravens, D., Holland, C., Lamb, C., Moncrief, C., (1988), "Marketing's role in product and service quality", Industrial Marketing Management, Vol 17, pp 285-304.

Cronin, J.J., Taylor, S.A., (1992), "Measuring service quality: A re-examination and extension.", Journal of Marketing, Vol 56 July , pp 55-68.

Crosby, P., (1979), "Quality is free", McGraw Hill, New York.

Crosby, P., (1984), "Quality without tears", McGraw Hill book company, New York.

Daft, R., Lengel, R., (1984), "Information richness: A new approach to managerisl behaviour and organisational design.", Research in Organisational Behaviour, Vol 6, pp 191-233.

Danet, D., "Client organisation relationships". In P.C Nystrom and W.H Starbuck (Eds). Handbook of organisational design. New York: Oxford University Press.

Davidson, D.S., (1978), "How to succeed in a service industry turn the organisation chart upside down", Management Review, April, pp 14-16.

Deming, W.E., "Quality, Productivity and Competitive Position", MIT Press, Cambridge, Massachusetts, 1982, Chap. 1, pp 1-2.

- Denton, K., (1991), "Horizontal management", Lexington Books, pp 1-55.
- Dibb, S., Simkin, L., Pride, W., Ferrell, O., (1991,), "Marketing", Houghton Mifflin, Various.
- Drucker, P., (1989), "The practice of management", Butterworth Heinemann .
- Duncan, R. Weiss, A., (1979), "Organisational learning: Implications for organisational design"; Research in Organisational Behaviour Vol.11, pp.75-123.
- Edvardsson, B., Gustavsson, B.O., Riddle, D.J., (1989), An expanded model of the service encounter, with emphasis on cultural context, Research Report 89:4, CTF, Services Research centre, University of Karlstad, Sweden.
- Fakuda, R., (1985), "CEDAC: A tool for continuous improvement", Productivity Press , Various.
- Falzon, J., (1988), "Met life's quest for quality", Journal of Services Marketing, Vol2, No 2, Spring , pp 61-64.
- Fitzgerald, L., (1988), "Management performance measurement in service industries" ,extracted from "The management of service operations", Proceedings of the Operations management association, Jan, pp 128-139.
- Flipo, J.P., (1990) "Service firms: Interdependence of external and internal marketing strategies", European Journal of Marketing, 20,8, pp 4-13.
- Ford, N., Walker, O., Chirchill, G., (1975), "Expectations - Specific Measures of the Intersender Conflict and Role

Ambiguity Experienced by Industrial Salesmen". Journal of Business Research, Vol 3, April .

Frazer-Robinson, J., (1991), "Total quality marketing-What has to come next in sales, marketing and advertising", Kogan Page , Various.

Freeman, K., Dart, J., (1993), "Measuring the perceived quality of professional business services", Journal of Professional Services Marketing, Vol 9(1), pp27-47.

Garvin, D.A., (1983), "Quality on the line", Harvard Business Review, 61 (Sept-Oct), pp 65-73.

Garvin, D.A., (1984), "What does "Product Quality" really mean?", Sloan Management Review, Fall , pp 25-41.

Garvin, D.A., (1987), "Competing on the eight dimensions of quality.", Harvard Business Review, November-December , pp 101-109.

Gates, M., (1990), "Is quality the ultimate marketing tool?", Incentive, Jan , pp 30-31.

George, W., Gibson, B., (1991), "Blueprinting - A tool for managing quality in service", extracted from Brown, S., Gummesson, E., Edvardsson, B., Gustavsson, B., "Service quality - Multinational and multidisciplinary perspectives", Lexington Books, pp 73-91.

George, W., (1990), "Internal marketing and organisational behaviour: A partnership in developing customer conscious employees at every level", Journal of Business Research, 20, pp 63-70.

- Greene, C., and Organ. D., (1973), "An Evaluation of Casual Models Linking Received Role and Job Satisfaction." Administrative Science Quarterly, 18, March : pp 95-103.
- Gronroos, C., (1984), "A service quality model and its marketing implications.", European Journal of Marketing, 18,4, pp 36-44, .
- Gronroos, C., (1988), "Service quality; The six criteria of good perceived service quality", Review of Business, Vol 9, No3., Winter, pp 10-13.
- Gronroos, C., (1990a), "Relationship approach to marketing in service contexts: The marketing and organisation behaviour interface.", Journal of Business Research, 20, pp 10-18.
- Gronroos, C., (1990b), "Service management and marketing", Massachusetts, Lexington Books, Various.
- Gross, N., Mason, W., McEachern, A., (1957), "Explorations in role analysis: Studies of the School Superintendency role". New York: John Wiley and Sons, Inc..
- Gummesson, E., (1988), "Qualitative methods in management research", Chartwell-Bratt, Various.
- Gummesson, E., (1987), "Using internal marketing to develop a new culture - the case of Ericsson quality.", Journal of Business and Industrial Marketing", Vol 2, No 3, Summer, pp 23-28.
- Hage, J., Aiken, H., and Marrett, C.B., (1971), "Organisational Structure and Communication." American Sociological Review, , vol 36, pp 860-871.

Headley, D.D., Choi, B., (1992), "Achieving service quality through gap analysis and a basic statistical approach.", Journal of Services Marketing, Vol 6, No. 1, Winter, pp 5-14.

Hertzberg, F., (1966), "Work and the Nature of Man", World Publishing Company.

Heskett, J., Sasser, W., Hart, C., (1990), "Service breakthroughs", The Free Press, Macmillan Inc.,. Various pages.

Heskett, J., Jones, T., Loveman G., Sasser, W., "Putting the service profit chain to work", (1994), Harvard Business Review, March - April , pp164-174.

HMSO. (1990), BSI, "MOA quality assurance specification for marketing sales and customer assurance to BS5750 (ISO 9001)"

Hooley, G.J., (1993), "Market led quality management", Journal of Marketing Management, No 9., pp 315-335.

Imai, M., (1986), "Kaizen, the key to Japans competitive success", The Cambridge corporation, Various.

Ishikawa, K., (1987), "What is total quality control?", Prentice Hall Inc., New Jersey, Various.

Ishikawa, M., (1982), "Guide to QC", Asian productivity organisation, Tokyo , CH 3.

Jacques, E., (1961), "Equitable Payment", Wiley and Heinemann

Johnson, R., Silvestro, R., Fitzgerald, L., Voss, C., (1990), "Developing the determinants of service quality", Marketing, operations and human resources insights into services, 1st International research seminar in service management, June , pp 373-400.

Juran, J., (1974), "Quality Control Handbook", Mc Graw Hill, New York, .

Katz, D., Kahn, R.L; : "The Social Psychology of Organisations", Power and Authority; Chapter 8.

Kingman - Brundage, J., (1992), "The ABC of service blueprinting", extracted from Lovelock, C., "Managing services - marketing, operations an human resources", 2nd ed, Prentice Hall, pp 96-102.

Kohoutek, H., (1988), "Coupling QA to marketing", Industrial Marketing Management, Vol 17,4 Nov , pp 278-284.

Kotler, P., (1991), "Marketing management - Analysis, planning and control", 7th Ed., Prentice Hall .

Law, P., Cousins, L., (1990) "Is quality market led?", British Academy of Management , Various.

Lewis, B., Mitchell, V., (1992), Defining and measuring the quality of customer service, Marketing Intelligence and Planning, 8,6, pp11-17.

Lewis, B., (1993), "Service quality measurement", Marketing Intelligence and Planning, 11,4, pp4-12.

Lehtinen, U., Lehtinen, J.R., (1982), "Service quality: A study of quality dimensions", unpublished working paper, Helsinki:Service Management Institute, Finland.

Levitt, T., "Marketing success through differentiation - of anything", Harvard Business Review, Jan-Feb, pp 83-91.

Levitt, T. (1980), "Marketing intangible products and product intangibles."; Harvard Business Review, 59, pp 94-102.

Lewis, R.C., Klein, D.M., (1986), "The measurement of the gaps in service quality", AMA service marketing conference, pp 33-38.

Market Assessments, (1991), Communication Systems, Market Assessment Publications, UK.

Maslow, A., (1954), "Motivation and Personality", Harper and Row

McGregor, D., (1967), "The Human Side of Enterprise",

Mills, P., (1990), "On the quality of services in encounters: An agency perspective.", Journal of Business Research, 20, pp 31-41.

Mills, P.K., Chase, R.B., & Margulies, N. (1983), "Motivating the client/employee system as a service production strategy". Academy of Management Review, 8, 301-310.

Mills, P.K., (1986), "Managing service industries: Organisational practices in a post-industrial economy", Cambridge, M.A: Ballinger. Various.

Moore, B., (1991), "If the achievement of outstanding customer service is not rocket science then what is it and how might it be measured?", British Academy of Management. Various.

Mudie ,P.M., (1987), "Internal marketing-cause for concern.",
The Quarterly Review of Marketing, Spring-Summer, pp 21-24.

Nightingale, M., "Defining quality for a quality assurance programme - a study of perceptions.", in "The practice of hospitality management II.", R. Lewis et al eds., Darien, Conn., AVI publishing.

Oakland, J.S., (1989), "Total Quality Management",
Hienemann, Oxford.

Parasuraman A., Berry, L.L., Zeithaml, V., (1985), "A conceptual model of service quality and the implications for future research", Journal of Marketing, Vol 49, pp 41-51.

Parasuraman, A., Berry, L., Zeithaml, V., (1990), "Guidelines for conducting service quality research", Marketing Research, Dec pp 34-44.

Parasuraman, A., Berry, L.L., Zeithaml, V.A., (1991)
"Understanding customer expectations of service.", Sloan Management Review, Spring , pp 39-48.

Parasuraman, A., Berry, L.L., Zeithaml, V.A., (1993)
"Refinement and reassessment of the SERVQUAL scale., Journal of Retailing, Vol 67, No 4., Winter, pp420-450.

Parasuraman. A., (1986), "Marketing Research.", Addison Wesley, Various.

Parasuraman. A., Zeithaml, V., Berry, L.L., (1988a),
"Communication and control processes in the delivery of service quality", Journal of Marketing, V52, April , pp 35-48.

Parasuraman. A., Zeithaml, V.A., Berry, L.L., (1988b), "SERVQUAL: A multiple item scale for measuring consumer perceptions of service quality.", Journal of Retailing, V64,1 Spring .

Parkington, J.J., Schneider, B., (1979), Some correlates of experienced job stress: A boundary role study. Academy of Management Journal, 22, pp 270-281.

Peters and Waterman; (1983), "In Search of Excellence".

Peters, T., () "Thriving on chaos", Macmillan book publishers, London, Various.

Piercy, F.P., Morgan, N.A, (1992), "Market led quality", Industrial Marketing Management, 21, pp 111-118.

Porter, M.E., (1985), "Competitive Advantage.", New York: Free Press, Various.

Powers, T., (1988), "Identifying and fulfilling customer service expectations", Industrial Marketing Management, Vol 17,4, Nov , pp 273-276.

Rafiq, M., Ahmed, P., (1993), "The scope of internal marketing :defining the boundary between marketing and human resource management" , Journal of marketing management, Vol 9, No 3, July , pp 219-233.

Rafiq, M., Ahmed, P., (1993), "The foundations of internal marketing", European Marketing Academy, EMAC Proceedings 93, Barcelona, Vol 1 May, pp 140-164.

Rizzo, J., House J., and Lirtzman S., (1970), "Role conflict and ambiguity in complex organisations.", Administrative Science Quarterly, , Vol 15, p150-163.

Roach, S., (1991), "Services under siege - The restructuring imperative", Harvard Business Review, Sept -Oct, pp 82-91.

Rushton, A.M., Carson, D.J., (1988), "The marketing of services: Managing the intangibles.", European Journal of Marketing, 23,8, pp 23-44.

Sasser, W.E., Olsen, P., Wychoff, D., (1978), Management of service operations: Test and cases, Allyn and Bacon, Boston.

Schein, E., (1988), "Process Consultation", Vol 1, "2nd ed, Addison - Wesley, pp 3 -11.

Schein, E.H., (1985), "Organisational culture and leadership." San-Francisco: Jossey-Bass.

Scheuing, E., (1989), "Conducting customer service audits", Journal of Services Marketing, Vol 3, N03, Summer , pp 35-41.

Schneider, B., (1985), "The people make the place". Presidential Address, Society for Industrial and Organisational Psychology, American Psychological Association Annual Convention, Los Angeles, August .

Schneider, B., Bowen. D., (1985), "Employee and customer perceptions of service in banks: replication and extension." Journal of Applied Psychology, vol 70 (3), pp 423-433.

Sherwin, D.S., (1976) "Management of objectives", Harvard Business Review, May-June, pp 149-160.

Shingo, S., (1989), "Zero quality control, Source inspection using the Poke-Yoke system", Productivity press, Mass.

Various.

Shostack, L., (1984), "How to design a service." In J. Donnelly and W. George (eds.), Marketing of services, Chicago; American Marketing Association, pp 221-29.

Smith, M., Thorpe, R., Lowe, A., (1991), Management Research - An Introduction., Sage Publications , Various.

Swartz, T., Brown, S., (1989), "Consumer and provider expectations and experiences in evaluating professional service quality", Journal of the Academy of Marketing Science, Vol 17, No.2., pp189-195.

Taguchi, G., Clausing, D., (1990), "Robust quality", Harvard Business Review, Jan-Feb , pp 65-75.

Taguchi, G., (1986), "Introduction to quality engineering", American Supplier Institute, Herts, UK, Various.

Tansuhaj, P., Randall, D., McCullough, J., (1991), " Applying the internal marketing concept within large organisations: As applied to credit Union.", Journal of Professional Services Marketing, Vol 6(2), pp 193-202.

Tansuhaj, P., Randall, D., McCullough, J., (1988), "A services marketing management model: Integrating internal and external marketing functions", Journal of Services Marketing, Vol 2, No 1, pp 31-36.

Thompson, K., (1989), "The Employee Revolution - The Rise of Corporate Internal Marketing", Pitmann Various.

Thompson, J., (1967), "Organisations in Action", New York, McGraw-Hill,.

Vandermerwe, S., Douglas, G., (1989), "Making internal services market driven.", Business Horizons, Nov-Dec ,PP 83-89.

Vandermerwe, S., (1993), "from Tin Soldiers to Russian Dolls", Butterworth-Hienemann, pp 48-72.

Wasmer, D., Buner II, G., (1991), "Using organisational culture to design internal marketing strategies." Journal of Services Marketing, Vol 5, No1, Winter , pp 35-46.

Webster, C., (1992), "What kind of marketing culture exists in your service firm? An audit", The Journal of Service Marketing, Vol 6, No 2, Spring , pp 54-67.

Weick, K., (1979), "Cognitive Processes in Organisations", Research in Organisational Behaviour, JAI PRESS, Voll, pp 41-74.

Wilson, A., (1993), "Marketing Audit Checklists", McGraw Hill. pp 1-262.

Whyte, W., (1957), "The Organisation Man", Cape .

Woodward, J., (1970), "Industrial Organisation",

Woodward, J., (1965), Oxford University Press , "Industrial Organisation: Behaviour and Control", Oxford University Press.

Yin, R.K., (1984), "Case Study Research - Design And Methods", Applied Social Research Methods Series, Vol 5, Sage, pp 17-23.

Zeithaml, V., Parasuraman, A., (1984), "Making Service a potent marketing tool."; Various.

Zeithaml, V., Parasuraman, A., Berry, L., "Delivering Quality Service", (1990), Free Press, pp 180-183.

Appendix 1 - Structured Questionnaires

1.1 Questionnaire to determine external service performance

This is the same as that used by Parasuraman et al to determine Gap 5 from the SERVQUAL model.

1. Telecommunications companies use modern looking tools and equipment.

	<i>Strongly Disagree</i>		<i>Strongly Agree</i>
Excellent companies		1 2 3 4 5 6 7	
CCBB LTD.		1 2 3 4 5 6 7	

2. The vans and cars used by telecommunications companies will be visually appealing.

	<i>Strongly Disagree</i>		<i>Strongly Agree</i>
Excellent companies		1 2 3 4 5 6 7	
CCBB LTD.		1 2 3 4 5 6 7	

3. Employees at telecommunications companies will be neat appearing.

	<i>Strongly Disagree</i>		<i>Strongly Agree</i>
Excellent companies		1 2 3 4 5 6 7	
CCBB LTD.		1 2 3 4 5 6 7	

4. Materials associated with the service (such as pamphlets or statements) will be visually appealing in a telecommunications company.

	<i>Strongly Disagree</i>		<i>Strongly Agree</i>
Excellent companies		1 2 3 4 5 6 7	
CCBB LTD.		1 2 3 4 5 6 7	

5. When telecommunications companies promise to do something by a certain time, they will do so.

	<i>Strongly Disagree</i>		<i>Strongly Agree</i>
Excellent companies		1 2 3 4 5 6 7	
CCBB LTD.		1 2 3 4 5 6 7	

6. When a customer has a problem, telecommunications companies show a sincere interest in solving it.

	<i>Strongly Disagree</i>		<i>Strongly Agree</i>
Excellent companies		1 2 3 4 5 6 7	
CCBB LTD.		1 2 3 4 5 6 7	

7. Telecommunications companies perform the service right first time.

	<i>Strongly Disagree</i>		<i>Strongly Agree</i>
Excellent companies		1 2 3 4 5 6 7	
CCBB LTD.		1 2 3 4 5 6 7	

8. Telecommunications companies provide their services at the time they promise to do so.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent companies		1	2	3	4	5	6	7
CCBB LTD.		1	2	3	4	5	6	7

9. Telecommunications companies will insist upon error free paperwork.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent companies		1	2	3	4	5	6	7
CCBB LTD.		1	2	3	4	5	6	7

10. Employees in telecommunications companies will tell customers exactly when the services will be performed.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent companies		1	2	3	4	5	6	7
CCBB LTD.		1	2	3	4	5	6	7

11. Employees in telecommunications companies will give prompt service to customers.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent companies		1	2	3	4	5	6	7
CCBB LTD.		1	2	3	4	5	6	7

12. Employees in telecommunications companies will always be willing to help customers.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent companies		1	2	3	4	5	6	7
CCBB LTD.		1	2	3	4	5	6	7

13. Employees in telecommunications companies will never be too busy to respond to customers requests.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent companies		1	2	3	4	5	6	7
CCBB LTD.		1	2	3	4	5	6	7

14. The behaviour of employees in telecommunications companies will instil confidence in customers.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent companies		1	2	3	4	5	6	7
CCBB LTD.		1	2	3	4	5	6	7

15. Customers of telecommunications companies will feel safe in their dealings.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent companies		1	2	3	4	5	6	7
CCBB LTD.		1	2	3	4	5	6	7

16. Employees in telecommunications companies will be constantly courteous with customers.

	<i>Strongly Disagree</i>		<i>Strongly Agree</i>
Excellent companies		1 2 3 4 5 6 7	
CCBB LTD.		1 2 3 4 5 6 7	

17. Employees in telecommunications companies will have the knowledge to answer customers queries.

	<i>Strongly Disagree</i>		<i>Strongly Agree</i>
Excellent companies		1 2 3 4 5 6 7	
CCBB LTD.		1 2 3 4 5 6 7	

18. Telecommunications companies will give customers individual attention.

	<i>Strongly Disagree</i>		<i>Strongly Agree</i>
Excellent companies		1 2 3 4 5 6 7	
CCBB LTD.		1 2 3 4 5 6 7	

19. Telecommunications companies will have operating hours convenient to all their customers.

	<i>Strongly Disagree</i>		<i>Strongly Agree</i>
Excellent companies		1 2 3 4 5 6 7	
CCBB LTD.		1 2 3 4 5 6 7	

20. Telecommunications companies will have employees who give customers personal attention.

	<i>Strongly Disagree</i>		<i>Strongly Agree</i>
Excellent companies		1 2 3 4 5 6 7	
		1 2 3 4 5 6 7	

21. Telecommunications companies will have the customers best interests at heart.

	<i>Strongly Disagree</i>		<i>Strongly Agree</i>
Excellent companies		1 2 3 4 5 6 7	
CCBB LTD.		1 2 3 4 5 6 7	

22. The employees of telecommunications companies will understand the specific needs of their customers.

	<i>Strongly Disagree</i>		<i>Strongly Agree</i>
Excellent companies		1 2 3 4 5 6 7	
CCBB LTD.		1 2 3 4 5 6 7	

Listed below are five features relating to telecommunications companies. How important is each feature to you when you evaluate the quality of service that you receive? Please allocate a total of 100 points among the five features to indicate how important you think that they are. The more important, the more points. Please ensure that the total allocated adds to 100.

The appearance of telecommunications companies physical facilities, equipment, personnel and communication materials.

Points =

The telecommunications companies ability to perform the promised service dependably and accurately,

Points =

The telecommunications companies willingness to help customers and provide prompt service.

Points =

The knowledge and courtesy of the telecommunications companies employees and their ability to convey trust and confidence.

Points =

The caring individualised attention that the telecommunications company provides its customers

Points =

Total points = 100

Please rate overall CCBB LTD.'s service:

Terrible Poor Fair Good Outstanding

Would you recommend CCBB LTD. to a friend: Yes/No

Have you ever complained to CCBB LTD.: Yes/No

Appendix 2 Structured Questionnaire to determine and verify service dimensions

Name of employee:

Title of employee:

Interaction type:

Internal customer supplier cell:

Interaction number: PD__

Customer of internal supplier cell:

Verbal Proof
dimension

Implied dimension

Verified

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

11.

12.

13.

14.

Other relevant comments.

Appendix 3 - Activity analysis sheets

These sheets were passed to the employees to determine the level of effect of customer satisfaction by job and associated competence.

Name:
Title:
Internal customer group:

No. Task	Effect on Customer satisfaction
Skills (4 = Major effect)	Competency (4 = Unskilled)

Appendix 4 - Group Interviews

In addition to verification interviews occasional meetings were called within the company. The following guide was used.

Date of meeting:
Where:
Chairman:
Team:

Item	Service related words used	Service response from team
------	----------------------------	----------------------------

Appendix 5 - Weekly improvement meeting

Date of meeting:
Where:
Chairman:
Managers present:

Item	Service related words manager/cell & KPI	Service response from
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Appendix 6. Company overview

6.1 Company organisation

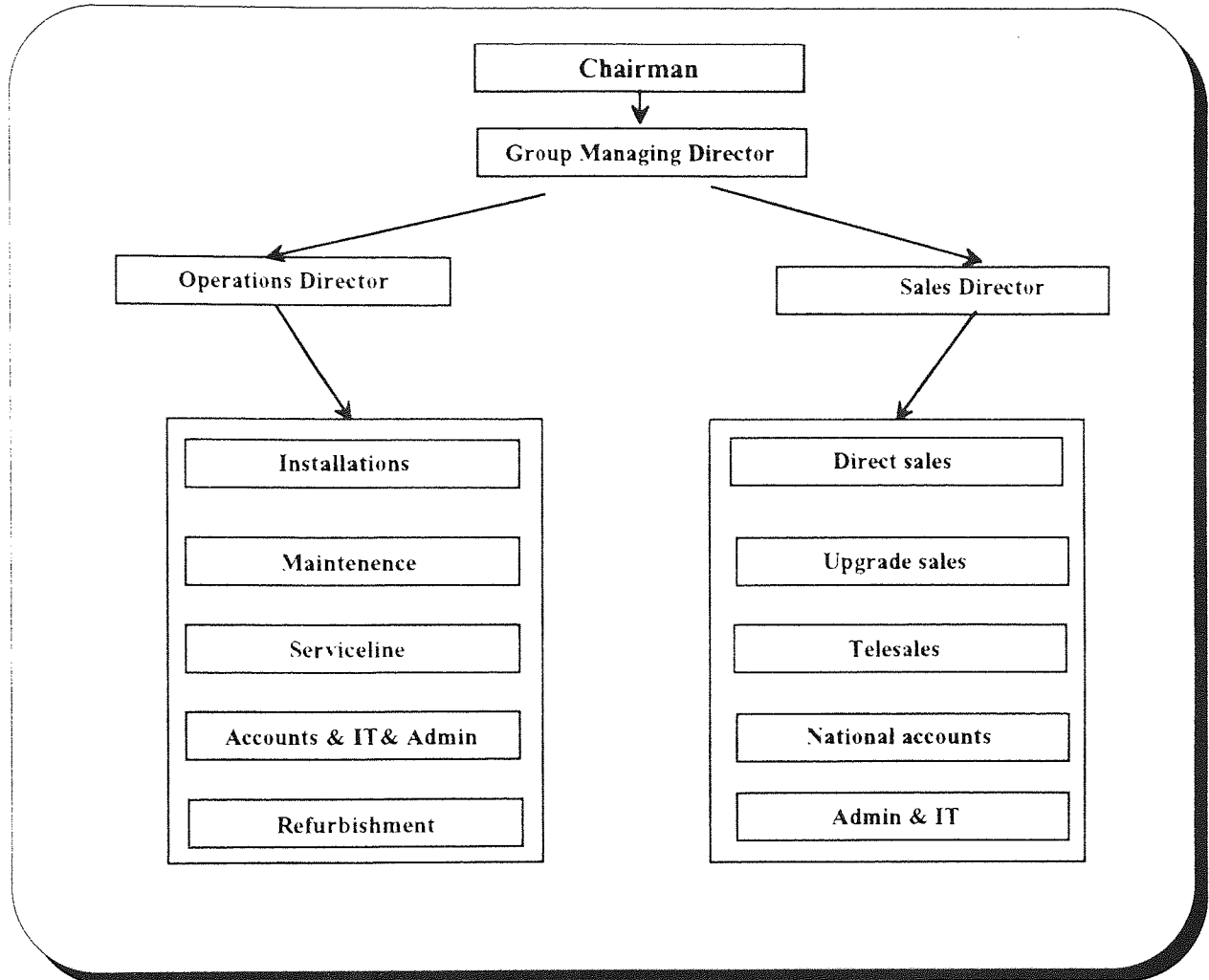


Figure 6.1 - Organisation chart for the company. (Source: Archives)

Total staff = 120.

6.2 Directors Value Statements

These are subdivided according to the Directors wishes and do not follow any scientific models.

(i) Service Levels

The company wants to distinguish itself from its competitors by offering a higher level of quality service.

(ii) Productivity

The company wants to maximise efficiency and minimise delivery time from point of sale to customer use.

(iii) Employee relations

The company wants to provide for its employees an open environment where new ideas and developments are constructively grown for the benefit of the individual and company alike.

(iv) Image

The company aims to provide customer confidence through caring about quality service.

(v) Earnings

The company and its employees will only profit from the quality of service provided to their customers.

(vi) Innovation

The company will remain innovative in its thinking and in the goods and services it offers and will continually address the total communication needs of its served market.

(vii) Growth

The company will grow through a business partnership with its customers providing a total communications solution.

Value Statements	Now	1 Yrs Time	Scope for improvement	Weighting	Objective Priority
Innovation	2	8	-6	25	-150
Service	5	9	-4	25	-100
Productivity	4	9	-5	15	-75
Growth	3	9	-6	10	-60
Emp. Rel.	4	9	-5	10	-50
Image	6	8	-2	5	-10
Earnings	6	7	-1	10	-10

Table 6.1 - Ranking of statements by degree of need and difficulty of implementation (Source: Group interview with Board). (Source: Interviews)

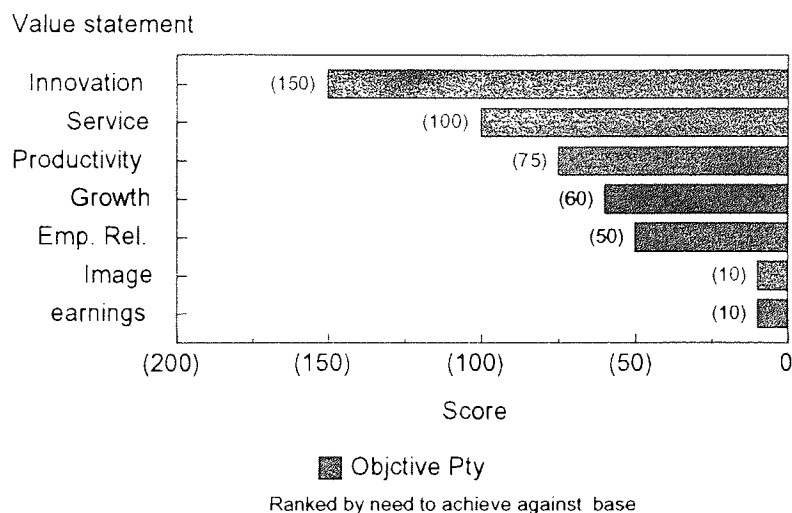


Figure 6.2 - Ranked value statements by degree of need and difficulty of implementation. (Source: Interviews)

Appendix 7.0 Market Audit (Wilson(1993))

7.1 Market Audit Overview

The telecommunications industry (Market Assessments) is made up of two main sectors - telecommunications services and telecommunications equipment. These serve overlapping industrial and consumer markets. The UK user's expenditure is estimated to total around £16 bn in the telecommunications services market and some £2.5 bn in the telecommunications equipment market. This includes expenditure by operators and service providers as well as expenditure directly by consumers. UK telecommunications services make up one of the most rapidly growing sectors of the UK economy. During the current recession, the industry has been one of the few to show significant positive growth.

7.2 Industry Structure

7.2.1 Overview

The UK telecommunications services industry experienced major changes in the 1980s. These changes included the privatisation of British Telecom (BT), once a part of the Post Office and the breaking of that company's monopoly of the provision of 'fixed link' telecommunications services.

As a result the UK market for telecommunications services is dominated by a few large companies. Most fixed-link telecommunications services in the UK are provided by a duopoly made up of BT and newcomer Mercury.

7.2.2 Regulation

In the UK, following the separation of telecommunications from the Post Office to form British Telecom. British Telecom was privatised. Government control therefore has been lost. In order to regulate this monopoly an indirect method of regulation, OFTEL was formed to safeguard consumer interests. However, despite these measures passed since 1984 and the liberalisation into other sectors such as mobile communications, public pay-phones and satellite communications and the licensing of other operators in the provision of public networks BT has retained a significant degree of monopoly power. This is represented in Figure 7.1.

Share of Sales

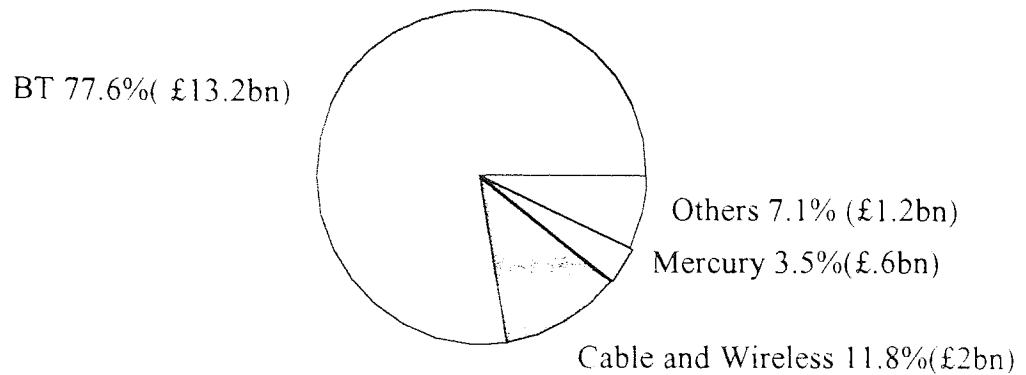


Figure 7.1 Annual sales performance in Telecommunications market (1991). (Source: Market assessments 1991)

7.2.3 Advertising

Main media spending reached an early peak in 1988 and then fluctuated. The year 1992 brought several outstanding launch campaigns which propelled expenditure to a new record.

The main 1992 campaigns were for Rabbit telepoint, by Hutchison, and for the Vodafone and Cellnet cellular services aimed at consumers rather than businesses. For the year 91/92, no main media support was recorded for telephone exchange equipment.

7.3 Market definition

There are six different segments related to the communications systems. These are facsimiles, modems & multiplexors, paging systems, private telephone exchange equipment, telephone answering machines and telephones and mobile telephones. These can be defined as:

7.3.1 Facsimiles

The market for facsimile machines, which involve the transmission of documents along conventional telephone lines through the digital translations of written and graphic images.

7.3.2 Modems and Multiplexors

The market for modems & multiplexors used for transmitting and receiving data over telephone lines. Modem is a shorthand term for a modulator/demodulator device which converts digital data (from computers) into analogue data that can be transmitted along conventional lines and vice versa. Multiplexors aggregate from more than one computer into a data stream that the modem can modulate and transmit and vice versa.

7.3.3 Paging systems

The market for paging systems which fall into two basic categories - on-site and wide-area systems. On-site uses a low-power aerial system within for example, a hospital or building site. Wide-area paging covers cities, regions and increasingly can have national coverage through co-ordination of regional networks.

7.3.4 Private telephone exchange equipment

The market for the main types of telephone exchange system available to private subscribers range from single line key systems to PBX and PABX. The simplest is the single-line system which allows several extensions from the one line for very small businesses. Key systems are also for small organisations but offer computerised call processing through intelligent handsets.

PBX (private branch exchanges) are larger call exchange systems which are wholly internal to the organisation using them. PABX (private automatic branch exchanges) are connected to a public network but controlled internally.

7.3.5 Telephone answering machines

The market for telephone answering machines (TAMs) for both business and residential use including those which incorporate a telephone handset (combis).

7.3.6 Telephones and mobile telephones

The market for fixed-line telephones and for all forms of mobile telephony product. Fixed-line telephones (handsets) include one-piece, two-piece, decorative and feature phones but conventionally this market also includes expenditure on cordless telephones (CT1) used with fixed lines.

Mobile telephony includes cellular systems (car-phones and portables) and the newer or forthcoming technologies including telepoint (CT2), digital cellular (GSM, formerly

Groupe Special Mobile now General Standard for Mobile) and PCN (Personal Communications Networks).

The market structure is as given in Figure 7.2.

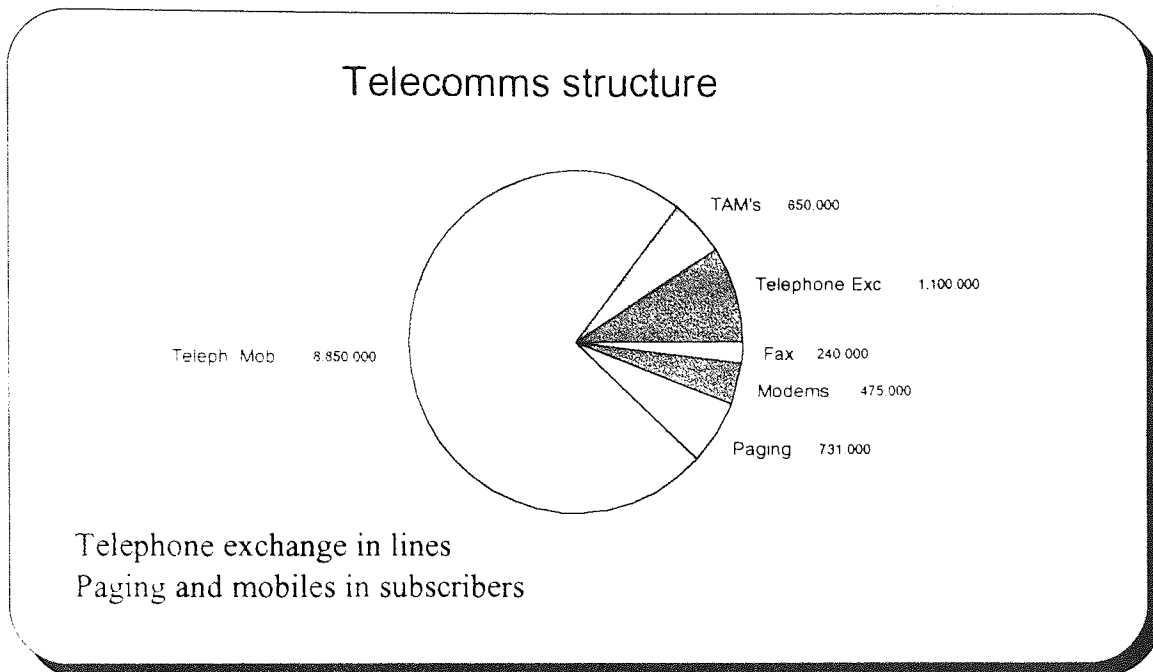


Figure 7.2 Telecommunications sector - market size (Source: Market Assessments 1991).

While telephones account for 75% of market volume, their share is declining. Exchange equipment measured in terms of new lines provided, forms the second largest market in the sector.

Over the last 5 years TAMs and modems/multiplexors have gained share but while TAM volumes continued to rise in 1992, the modems/multiplexors market has stagnated. Facsimile sales have increased but without changing their 2% share prices have fallen steeply over the review period. For telephone exchange equipment which is the core market in which the company deal, there is a declining market. This is shown in Figure 7.3.

The market's growth was 3.1% between 1988 and 1991 in terms of lines.

Mobile telephones showed considerable growth at an annual rate of 38%. Although saturation in the business market for cellular was looming during 1992, the main operators had successfully launched consumer versions (at lower price level) by the end of the year and the total subscriber base was again growing fast.

The telephones market is likely to increase its volume share again during the 1990s as new technologies move communications towards 'cordless personal' methods of telephony (cordless PABX in the office, national digital cellular networks, PCN, telepoint and paging systems offering added-value features).

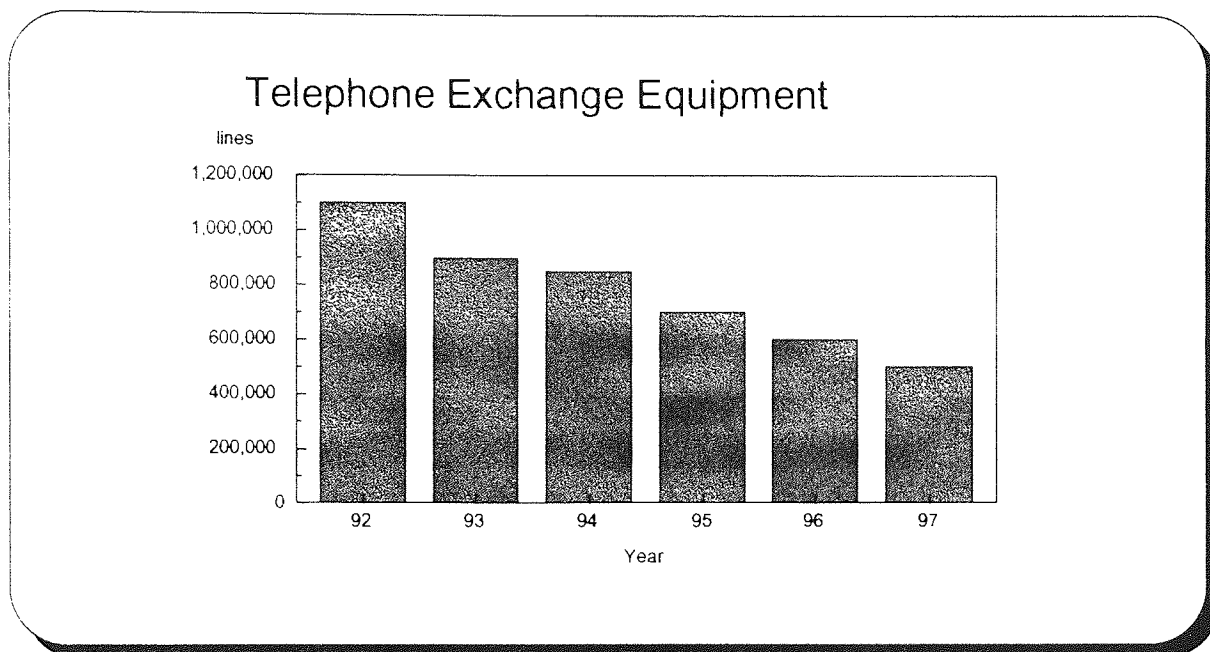


Figure 7.3 Market for telephone exchange equipment (Source:Market Assessments 1991).

Private mobile radio shows a slight increase from 750000 subscribers to 850000 subscribers in the year 2000. Paging drops from 850000 to 600000 subscribers to the year 2000. The most dramatic increases are in the PCN market and cellular and micro cellular markets. These are represented in Figures 7.4 and 7.5 respectively.

One issue to consider in the penetration of particularly the telephone exchange market is the effect of technology and the competitive reaction as a result. This is best represented by ISDN in terms of how it will be sold.

ISDN is the network which is evolving from existing digital telephone networks. Although ISDN promises to be one of the most important developments in telecommunications during the next decade, few potential customers are aware of its full potential. In a recent National Computing Centre Survey 11.3% of telecommunication managers claimed to never have heard of ISDN, while a further 27.6% admitted to not knowing how exactly it would help or affect their business.

The short-term benefits from the ISDN will not be able to justify the expenditures in ISDN-PABX system, especially during the recession. In period of crisis where the

competition becomes increasingly harsher the ISDN must demonstrate its ability to give to the companies a competitive advantage.

In order to give to the companies a competitive advantage the telecommunications companies have a great interest to work in partnership with the computers and software enterprises. These know how to process the data and how to adapt the hardware and the software for optimising the office communication systems.

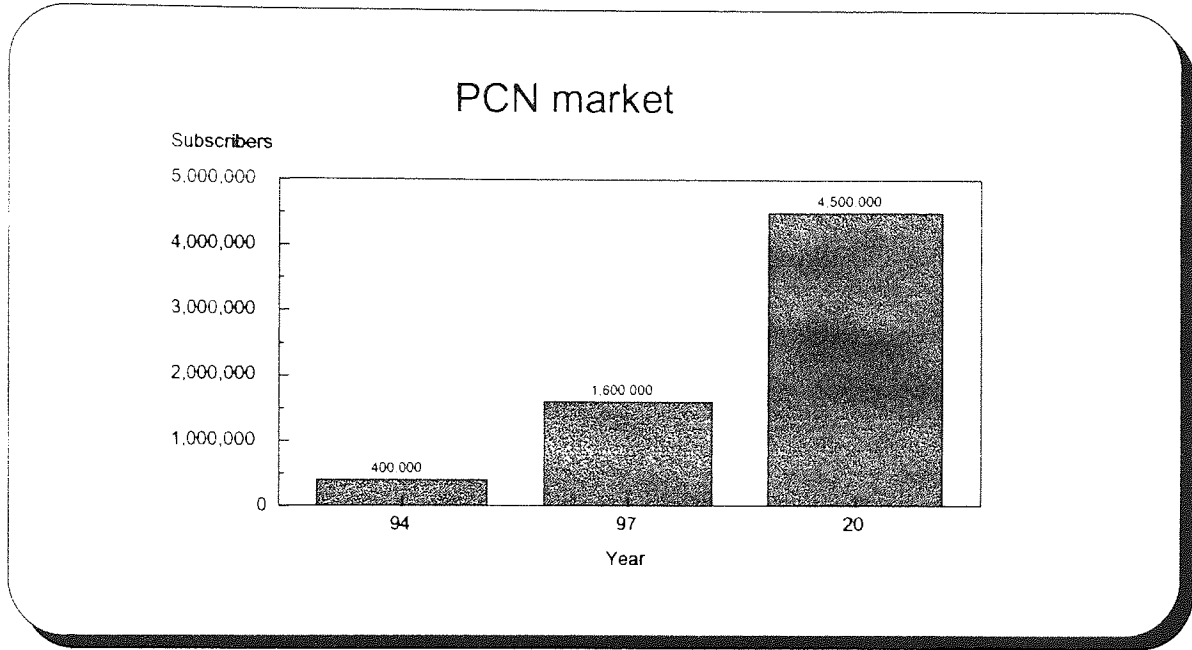


Figure 7.4 PCN Market to year 2000 (Source: Market Assessments 1991)

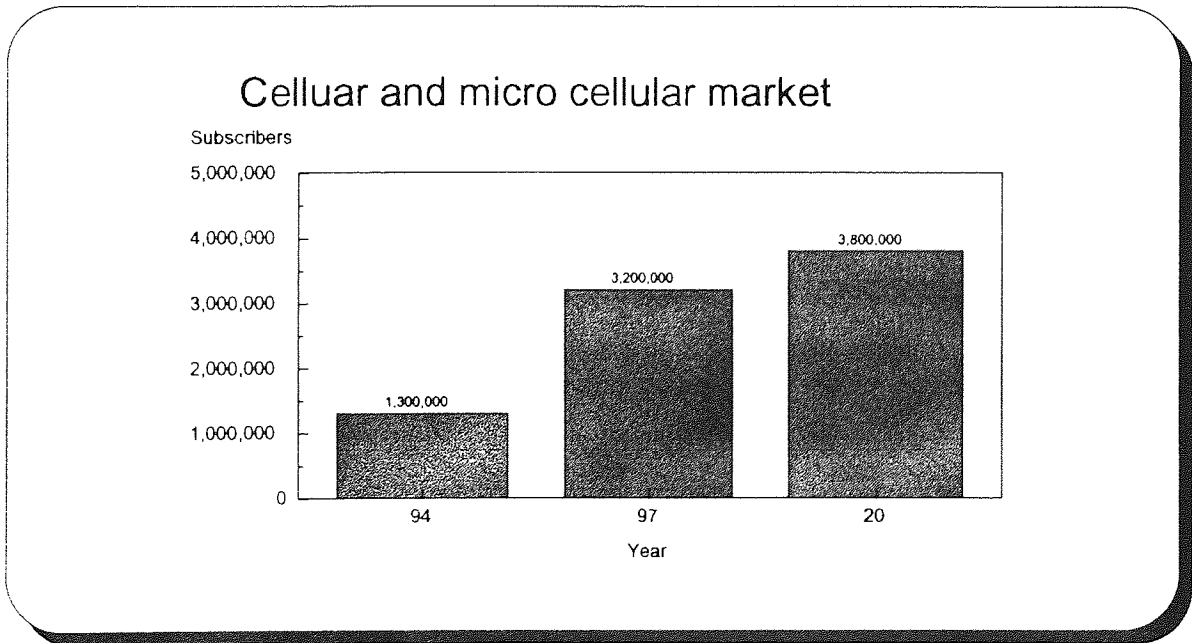


Figure 7.5 Cellular and micro cellular market to the year 2000 (Source: Market Assessments 1991)

The big companies are competing and there is a race for leadership of the office communication systems markets. In 1992, GPT and IBM (UK) agreed to work jointly on computer telephony products in the field of voice-switching technology. The research partnership is based on the mutual feeling that the market for large exchanges (PABX variety) is likely to show 'zero growth' for the next five years.

With respect to small and medium size enterprises Microsoft's vision will have a direct effect.

"Microsoft's contribution will be a new office equipment 'operating system' that will let users control this equipment by merely pointing at pictorial representations of their functions on a built-in computer screen. The company has been working on this technology for more than four years and it similar to the company's existing windows software. December 1993 is the planned launch date.

The software operating these new devices will however include the ability to be controlled by Microsoft Windows when connected to a personal computer. It will also be 'multi-tasking' so that it can allow the office equipment in question to handle more than one job at once. Whilst the larger companies are likely to adopt this first, the rate of adoption of Microsoft Windows within small to medium size enterprise has been rapid. Additionally, this technology is likely to be taken up more rapidly by growing medium sized companies.

Many small to medium sized companies which are growing will need to expand it IT budget and so investment in new equipment that can be driven by the Windows solution are likely to be purchased. In many cases as the larger companies who are ahead of the smaller to mediums in terms of IT knowledge have already invested heavily in IT equipment (ie. this Windows solution - 1). Thus the larger companies will not be looking to upgrade until the return on the original equipment has been achieved. The best example of this is in the UK and US. The US who are around 1 year in advance of the UK counterparts in terms of IT are using 386 PC machines. One year later, 486 machines have dropped in price, the UK has bought 486 instead making UK IT power ahead of the US.

7.4 Competitive structure

Over 50 companies, both UK-based and foreign have responded positively to the deregulatory moves by applying for licenses to provide public services either fixed or mobile.

The government has also cleared the path for existing operators of mobile networks to offer fixed-link services.

BT is active in all markets, whether as the main PTO (public telecom operator) or as the equipment supplier - as a service provider and also as a manufacturer with its own brands (actually made under contract, e.g. by Panasonic).

Hutchison is another prominent operator in numerous telecom markets (mobile, PCN, telepoint, paging etc.). Hutchison Telecommunications UK is 65% controlled by Hutchison Whampoa of Hong Kong, a conglomerate with wide interests in telecom's and media, retailing and property.

Mercury Communications, a subsidiary of Cable & Wireless, is the only other PTO currently operating, although PTO licenses have been issued to other companies. The BT/Mercury duopoly on fixed public networks has been mirrored in mobile (cellular) telephony by Vodafone Group and Cellnet. Vodafone was floated as an independent quoted company from Racal Electronics in 1991. Cellnet is jointly owned by BT and Securicor.

In most modern telecom markets, equipment manufacturing is closely allied to service provision. Hardware manufacturing is now largely a global business due to the levels of R&D expenditure involved. The world's largest manufacturers are all involved in the UK.

Specifically, the top six manufacturers globally are Alcatel (France), AT&T (USA), Siemens (Germany), Northern Telecom (Canada), NEC (Japan) and Ericsson (Sweden). Each of these had a turnover in telecom products of more than \$ 5.5 billion in 1991. Following its merger with GPT, Siemens is listed below under the name of the new company GPT Communications Systems. UK manufacturing is extremely limited, probably led by Amstrad at the economy end of the market. Panasonic is among the best known consumer brands, also used by Matsushita for key systems.

Since the BT monopoly has been broken the applicants have included the following companies, some of which have received 'draft' licences from the DTI:

Ionica, a new company based in Cambridge which plans to develop a national radio-based network. Over the next ten years Ionica expects to have captured 5% of the UK residential market.

Telecom Electric, a consortia of the twelve privatised electricity companies of England and Wales.

Scottish Power and Scottish Hydro-electric.

Millicom, a major USA telecommunications company.

City of London Telecommunications, a new company planning to provide a restricted but sophisticated service to the financial heart of London.

Four mobile-phone companies have applied to provide 'line' services, in line with deregulation. They are:

Vodafone group, one of the cellular duopolists

Hutchison Microtel, one of the two licensees for PCN, the latest generation of cordless phones. Hutchison Telecom is also the only remaining Telepoint operator (the Rabbit service).

Hutchison Paging (UK)

Unitel

Other applicants for new national fixed-link licences have included British Rail (as BR Telecommunications), Sprint International part of a major USA firm formerly known as United Telecommunications, National Networks (founded 1990), National Transcommunications (founded 1991), WorldCom International, an established player in international line leasing and ACC Long Distance UK, part of the major American corporation of the same name founded in 1981.

Licences for local provision have also been made available under legislation on cable TV. By 1992, 50 cable licences had been issued by the DTI, but a much smaller number of companies were making the running in terms of offering alternative telephone services to BT or Mercury. These are:

Cable Telecom (areas of Berkshire and Middlesex).

United Artists (areas of Surrey, Bristol, Bath).

Birmingham Cable.

Cable London (formerly Cable Camden), covering north and north-east London.

Eastside Telecommunications (east London and parts of Essex).

Videotron Corporation (Southampton area).

Nynex Cable (Portsmouth area).

The duopoly on mobile (cellular) telephony between Cellnet and Vodafone proved to be highly competitive and generally successful in serving the business market. In contrast Telepoint or CT2 aimed predominantly at consumers has generally been a failure. Three of the consortia issued with

Telepoint licences including those led by BT and Mercury were forced to terminate their services because of insufficient demand. This has cleared the way for a single operator-Hutchison Telecom with its Rabbit brand-to dominate the CT2 segment. Telepoint failed to take off for a number of reasons, including its restriction to one-way calls. Ultimately the most important reason may have been the publicity generated for the next generation of cordless telephony which was already in the pipeline when the Telepoint services were launched.

MARKETS IN WHICH ACTIVE

COMPANY NAME (Parent)	F	M	P	PT	T	TE	TM
Air Call Paging Ltd			P				
Alcatel	F			PT			
Amstrad plc	F	M			T	TE	
Audioline Ltd					T	TE	
Betacom plc (Amstrad)					T	TE	
Binatone International					T	TE	
British Telecommunications plc	F	M	P	PT	T	TE	TM
Canon UK Ltd	F						
Cellnet Mobile Communications (BT/Securiror)							TM
Dowty Case		M	P				
Ericsson Ltd				PT			TM
Fujitsu	F			PT			
GPT Communications Systems Ltd (General Electric Co. plc)				PT		TE	
Hutchison Telecommunications (UK) Ltd (Hutchison Whampoa)			P		T	TE	TM
IBM UK Ltd				PT			
Ionica			P			TE	
Mercury Communications Ltd (Cable & Wireless)			P				TM
Mitel Telecom Ltd				PT			
Motorola Ltd		M	P			TE	TM
Nec Technologies (UK) Ltd	F	M	P	PT			TM
Nokia Telecommunications Ltd						TE	TM
Northern Telecom UK Ltd				PT			
Panasonic UK Ltd (Matsushita)	F		P	PT	T	TE	TM
Philips Telecom			P	PT		TE	TM
Racal Electronics plc		M	P				TM
Sharp Electronics (UK) Ltd	F					TE	
Sony (UK) Ltd						TE	TM
Timeplex Ltd		M					
Toshiba	F	M		PT			
Vodafone Group plc			P			TE	TM

Key: F=Facsimile M=Modems & Multiplexors P=Paging
 PT=Private Telephone Exchange Equipment
 T=Telephone Answering Machines TE=Telephones
 TM=Mobile Telephones

Table 7.1 Competitive structure (Source: External customer interviews)

7.4.1 Distribution of telecommunications equipment.

The distribution varies from market to market involving substantial inputs from the direct (manufacturer-customer), OEM (original equipment manufacturer), wholesaler, specialist dealer and mail order, as well as retail channels.

Distribution patterns are still strongly influenced by original legislation making BT and Mercury the primary distributors (i.e. customer interface companies) in the telecom's market.

On the retail side, electrical multiples (Dixons and Comet) as well as generalists such as Argos and department stores are important in selling phones and TAMs. BT has been building up a retail chain of BT shops for many years reaching over 60 outlets in 1992 with an accelerated rate of openings recently.

7.4.2 Forecast

The recession had a pronounced but temporary effect producing much slower growth or even decline in the majority of markets during 1991. In late 1992, however, there was a resurgence of enthusiasm for telecom products and services right across the board. In almost all market segments important new technologies are breaking through and in most cases entry-point prices are falling rapidly for these new technologies.

Among the many breakthrough products that should ensure strong sector growth in the mid-1990s are PCNs, GSM (General Standard for Mobile) digital cellular, plain-paper facsimile and cordless PABX, these are an extrapolation from Figures 7.2 to 7.4. Underlying these is a trend towards fixed systems offering far more added-value services (broad band cable fibre optics) and the promise of freedom from all forms of secondary wiring for personal communications.

This new generation offering two-way telephony has been dubbed PCN (personal communications networks). The first PCN service is planned for launch in the summer of 1993 by Mercury Communications. The other PCN licensee (of three issued) is Microtel, originally based on a consortium but now owned by Hutchison Telecom.

The DTI decided to treat the provision of mobile data services separately from voice telephony. Five licenses have been issued for mobile data, Paknet - a joint venture between Mercury and Vodafone, Hutchison Mobile Data - another branch of Hutchison Telecom, Cognito - a former Dowty subsidiary, now an independent provider of two-way

paging, Meteor Communications - a radio specialist aiming to provide a European data service and RAM Mobile Data.

In paging and the closely connected technology, mobile radio, there are currently 22 PMR licensees and 20 radio-paging licenses in issue.

Wireless radio telephony is closer to paging than to cellular or PCN because radio-based communications have to date been used almost exclusively for internal corporate purposes (i.e. the police, minicabs, etc.).

Finally, there is also a shift to European standards which will be necessary for achieving the goals of multi-media telecommunications and the entirely 'personal' phone systems of the future. The European Standards Institute (ETSI) is delineating Common Technical Regulations for telecommunications networks and equipment. The EC Directive on Open Network Provision will also be crucial in developing Continental compatibility.

To date European development has been piecemeal for two reasons. Firstly, manufacturers and controlling authorities are in disagreement on which telecom technologies should be developed for national and international public services (e.g. cellular, cable, paging, radio).

Secondly, progress towards liberalising the telecom industries of many EC countries has been very slow. State monopolies are very much still in place in 1993 in Germany (DBT), France (France Telecom), Italy (STET) and other EC states. The Dutch state company will be privatised in 1994 but the German constitution will have to be changed to allow privatisation of national PTT (post and telecommunications).

The UK is still in the forefront of deregulating or privatising its telecommunications industry, although France Telecom while retaining its state-monopoly role has led the way in some services - Minitel, the extremely successful public viewdata system and Numeris the ISDN standard network already available to all French businesses.

Late in 1992, an important domestic deal was announced by Cable & Wireless (owner of Mercury Communications) and BCE of Canada (owner of Northern Telecom and Bell Canada). BCE bought a 20% stake in Mercury for £480m. As part of the same deal, Mercury is investing £30m in BCE's cable TV business in the UK which involves 14 franchises. One third of Mercury's residential lines are now being connected via cable TV lines, rather than BT lines.

Mercury plans to launch the first PCN system during 1993 exercising the PCN licenses gained by two consortia which originally included Motorola and US West (Unitel) as well as

Cable & Wireless. Mercury's PCN will initially be tested in London and within the M25 motorway area.

The second licensed PCN service will have national coverage and is planned for launch in 1994. This will be launched by Microtel another original PCN consortium in which some members lost interest and which was eventually taken over by Hutchison Telecom. Analysts of the parent company Hutchison Whampoa of Hong Kong estimate that the national PCN will cost around £1 billion in total to reach start up.

Increasingly, joint ventures and partnerships or shared funding are common practice in the telecommunications initiatives of developed countries involving both state utilities and private companies. For example, the German and French state utilities, DBT and France Telecom are working together in Eunetcom, while virtually all of the big names connected with manufacturing - GPT, Siemens, Ericsson, IBM, Northern Telecom etc-are currently involved in joint ventures.

The communications sector, therefore has a bright future although technological innovation is proceeding much faster than most business or consumers can cope with. The world's largest companies, including the now 'illegal' state monopolies in the EC are collaborating to an unprecedented degree. This is vital if the new technologies are to be made accessible both to end-users and to the providers of services that end-users actually want including crossing national borders.

Appendix 8. Marketing Audit/Internal Service Culture.
(Wilson (1993), Berry (1991), Zeithaml (1990))

8.1 Introduction.

This data was extracted by observation and personal analysis, one to one open ended interviewing and group interviews with the Directors. All data was verified by representing the findings for verification to employees. Formal auditing tools were applied for the internal marketing and service culture orientation. The personal analysis of data given to the researcher is presented first.

8.1.1 Stores

The percentage of returns (stock issued to the installation engineers/returned back to stores because of faults) is not very well known in the company but it is estimated to be at a level of 160 items per week. The percentage of returns per line of products is not available but Philips returns are estimated at 75% of the total returns. As Panasonic and Toshiba are the other two third party supplied product lines this infers that Panasonic and Toshiba are more reliable than Phillips.

The warehouse is the same location for both outbound and inbound logistics. The new stock is managed but is hampered by cash on delivery. Because of the recession, payment on delivery is now required by suppliers of large orders of stock. This payment at the start of the business cycle and not towards the end, as would occur if 30 Days delivery was to be negotiated can produce negative cash flow problems. This in turn places pressure upon the sales order system to quickly progress orders and then aggressively pursue cash.

8.1.2 Operations

The installation plan enables forecasting of the workload. Ideally, sales orders should generate a Job Pack which is then planned by the installation co-ordinator which is then installed by the engineers. In practice this does not occur. Sales orders produce job packs and these job packs contain many errors:

- (i) The order as translated to the computer is not the order that the customer expects or wants.
- (ii) Some items are completely missing from the order.
- (iii) There are data entry faults at the job pack production stage.

These errors are then passed to the installation manager who effectively cleans the orders as far as obvious mistakes are concerned. The jobs are planned and the engineer goes to install the equipment. At this stage, equipment specification which is different to that required is then highlighted and the customer is unhappy. In addition to the potential ripping out of equipment which is rework, site revisits have to be planned and the correct stock ordered. The effect of poor quality orders to the lost profit to the company is dramatic.

The Installation department produces errors which make the problem worse. In some cases engineers do not turn up to site at all and the customer is unhappy or the stock does not arrive in time for the installation date. The co-ordinator does not contact the customers to inform them of any changes.

Installation also uses third party installers. This is fraught with problems. The quality of the third party installation work is often shoddy which reduces the speed of the engineering in their installation.

Once the engineers complete the installation, wiring diagrams are not left for the maintenance department to use at a later date. This not only generates much rework months down the line but is in contravention of BSI requirements. Loss of the BSI accreditation will result in the immediate closure of the company as an installation and maintenance company. Equally maintenance, does not capacity plan so when there is a dearth of problems engineers cannot cover and so the call out times cannot be guaranteed.

The poor installation performance leaves a sour taste in the mouth of the customer which affects the upgrade performance of the sales team further down the line. Therefore not only are telecommunications Europe losing profitability due to large amounts of potentially company threatening rework but also losing potential revenue. It has additional consequences for cash flow. There are many cases where the customer refuses to sign the satisfaction note. Equally the note is awaiting signature because the correct stock due to incorrect job pack specification is awaiting delivery and installation.

8.2 Marketing performance

8.2.1 Customers analysis

The marketing control systems are not suitable for the business in which the company is in. The analysis has proved difficult and ranking by turnover has been near impossible.

No results are presented for customer share of the company business. The cause of this is the fragmented customer database which is present within the company. Several customer databases exist which have different customers on them. In addition the databases do not have a full customer history on them. So to extract turnover or product type by customer is extremely difficult.

The company does not have a formal customer complaints procedure and the analysis of faults required for continual service improvement therefore cannot exist. To get immediate visibility of the complaints a simple customer complaint form was installed. The results prior to the research commencing is given in Figures 8.1, 8.2 and 8.3. The issues that are determined from the customer complaints are where the source of complaints are coming from, what the general impression of the companies service was and ultimately how this translates to overall satisfaction in that would they recommend the company to another colleague within or without the client organisation.

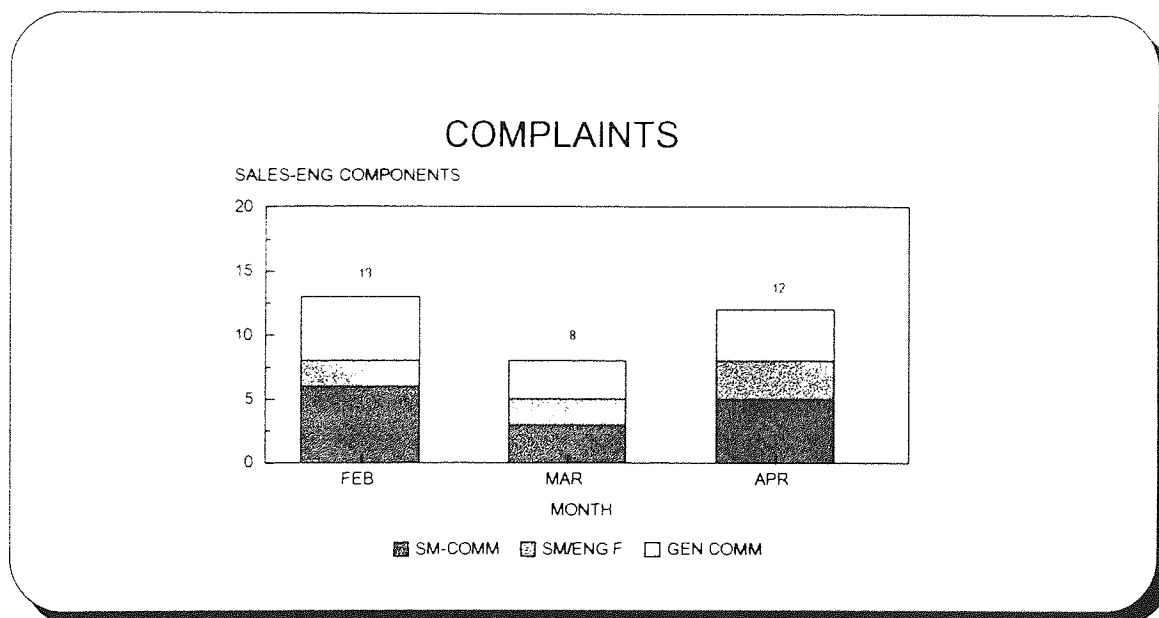


Figure 8.1 Source and number of customer complaints within one qtr. (Source: Company complaints register)

8.3 Product analysis

The exchanges represent the the company's major business. This situation must be discussed because of the foreseen decline or static position of the number of lines to install in the foreseeable future. Consequently the BOSTON matrix indicates that the exchanges are rather a 'cash cow' than a star as given in Figure 8.4. The properties of this matrix are important for product strategy. Stars require money to invest in but eventually become profitable revenue earners. Cash cows are the revenue earners that were stars. Problem children represent areas that require cash to move them to

stars and doggies should be divested as they are a drain on finance. the company has to find a star for it's long term survival.

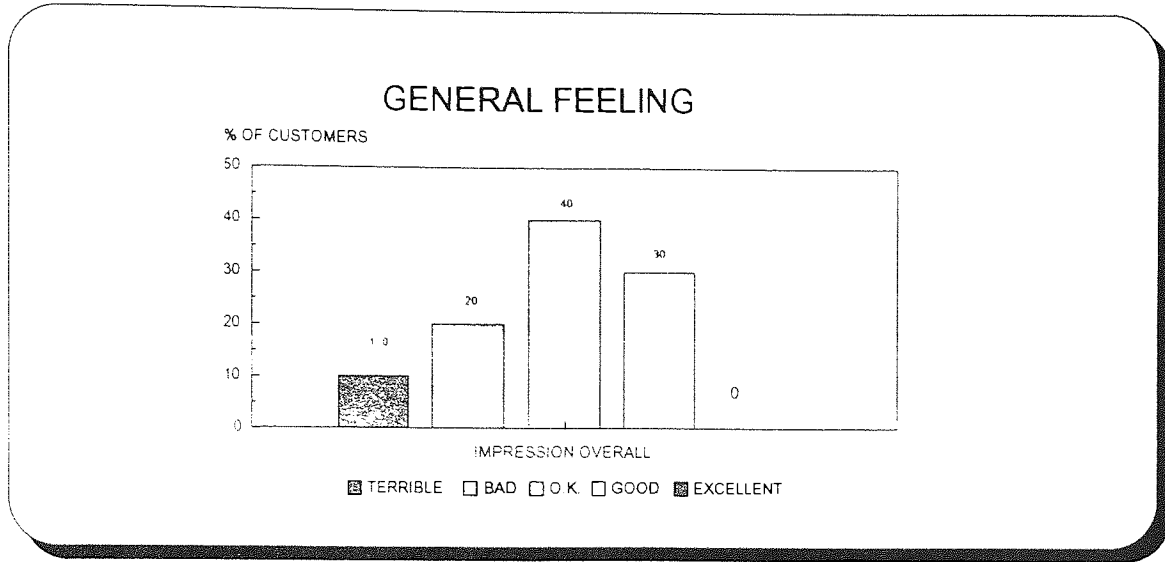


Figure 8.2 Overall impression of service performance of the company. (Source: Telephone administered questionnaire).

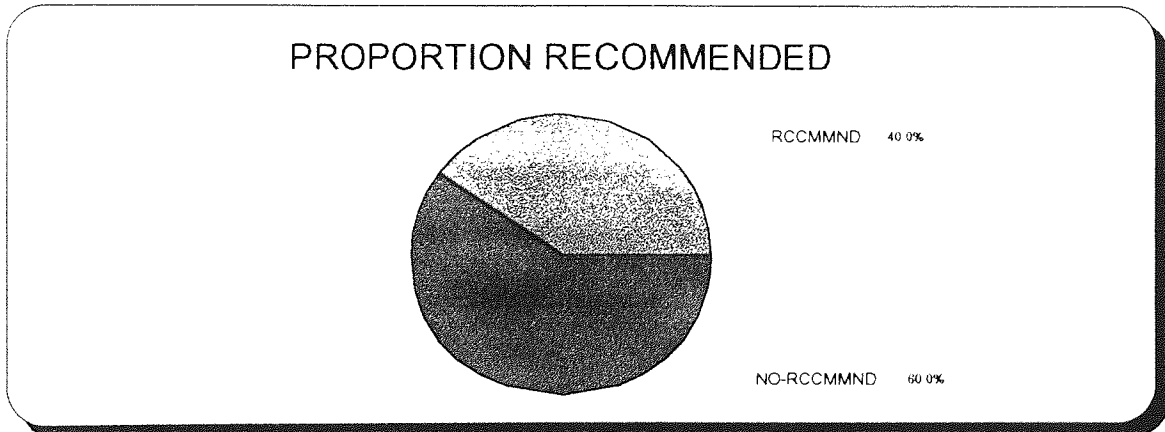


Figure 8.3 Ultimate measure of customer satisfaction - the referral. (Source: Telephone administered questionnaire).

The fax machines are a 'problem children' because the business is quite low whereas the market should increase in the next few years. Payphones are a bonus in terms of offer to customers but are a 'dog' as a product.

If we look at the average business which the company deals with - it is firmly set in the 3 line market. There is a long tail up to 15 lines the average is strongly 3.5 lines. If we apply a simple mathematical formula (+3 standard deviations (2.71) as in statistical process control) the company becomes limited at 11 lines. This has been confirmed operationally.

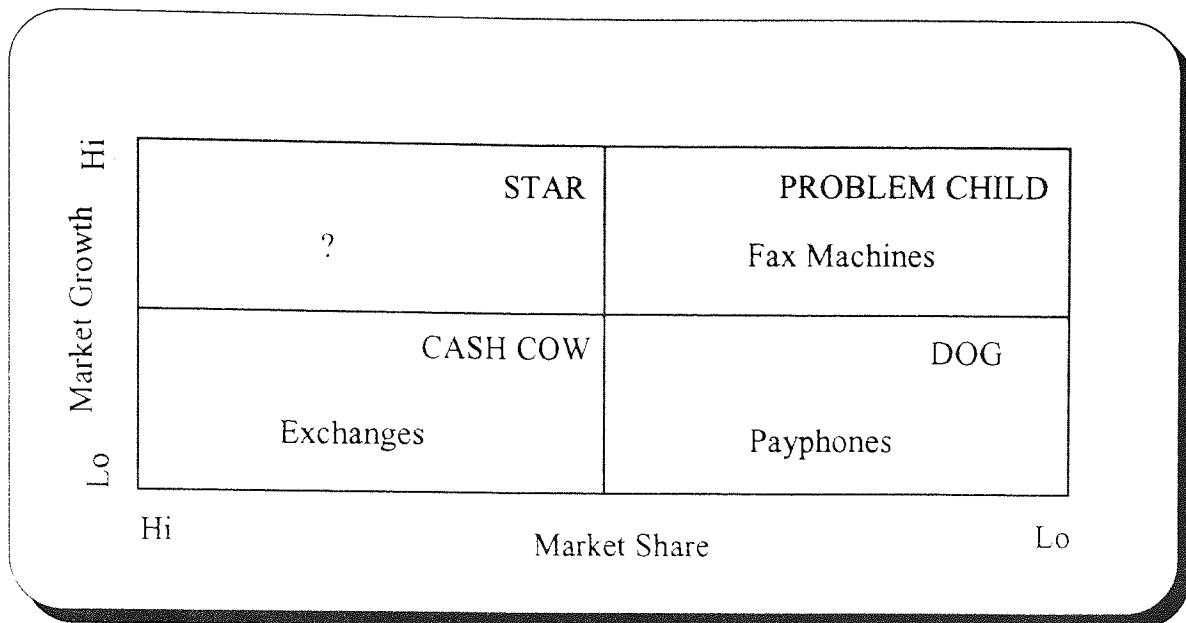


Figure 8.4 - Rough cut BCG Matrix (Source: Internal records).

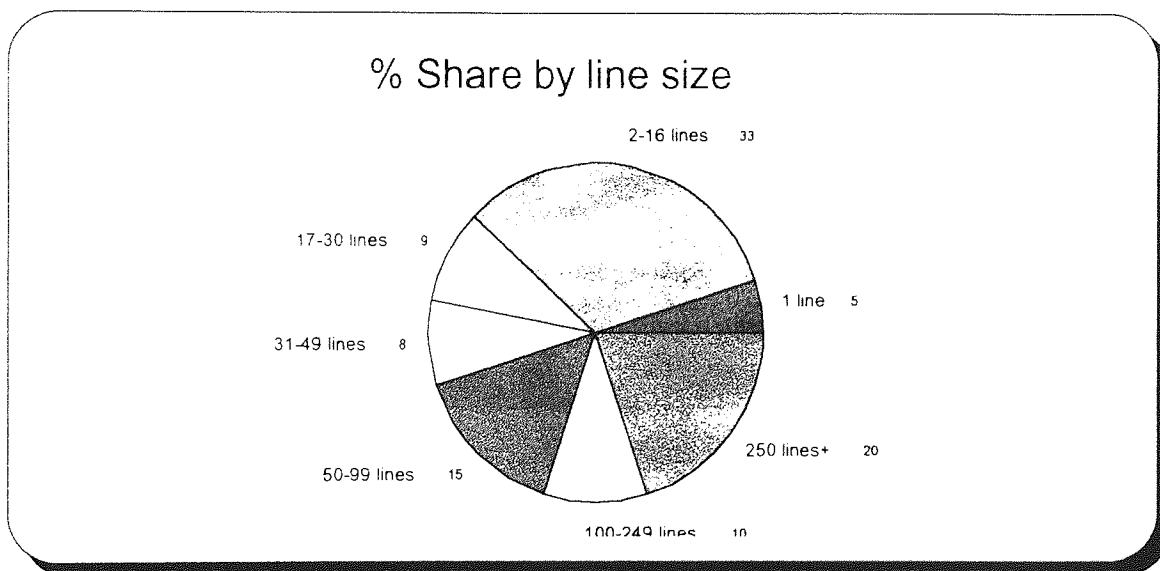


Figure 8.5 - % Share by line size (Source: Market Assessments 1991)

We can compare this result with the segmentation of the market which we see in figure 8.5. Thus the company's position is in the segment of 1 to 16 lines. the company does business on only 38% of the market. A simple up market move to beneath 30 lines opens up almost 50% of the market place. This direction is confirmed with discussions with the Directors of the company. Among 1250 companies with which the company has dealt, 16 regions (postcodes) represent 70% of the total volume of the business:

Birmingham	163
Leicester	62
Stoke/trent	61

Derby	53
Coventry	51
Sheffield	46
Nottingham	42
Winchester	42
Dudley	36
Manchester	34
Walsall	32
Gloucester	30
Northampton	26
Wolverhampton	25
Milton Keynes	24
Telford	21

These regions are mainly situated in the Midlands. Scotland is not targeted as is the south of England.

In the following areas the company did not achieve any business:

EXETER, TORQUAY, DORCHESTER, SOUTHAMPTON, PORTSMOUTH, READING, GUI
LDFORD, SLOUGH, KINGSTON/THAMES, HARROW, SOUTHALL, DATFORD, MEDWAY
, ST ALBANS, CHELMSFORD, CAMBRIDGE, COLCHESTER, IPSWICH, NORWICH.

There is no information which relates to service performance which explains this. Clearly as the company is based in the Midlands the geography in terms of coverage by the maintenance department is an issue and is likely to be more logistically driven than by the poor service performance of the company.

8.4 Direct competitors.

The data concerns the the company's 60 major competitors in installation and maintenance of telephone exchange equipment.

The following ratios were considered against the competition.

- by number of contracts
- by average contract size
- by turnover
- by number of contracts/employee

The number of contracts/employee indicates the effectiveness of the administration, the average contract size measures the sales department policy and the turnover/employee measures the global effectiveness. Rather than present all of the ratios we can comment that:

(i) The company has a good position as far as the number of contracts is concerned which means its base is potentially larger than the competitions

(ii) The company is focused on small business. That confirms the 3 lines orientated sales.

(iii) Consequently the company achieves a medium turnover with more employees than its competitors, although this assumes that there is no rework within the company.

(iv) The administration of the contracts is quite effective (88 contracts/employee).

(v) The global effectiveness is not so good because of the the company's small businesses.

(vi) The equipment sold by the company could permit to enter the segments from 17 to 100 lines. The the company's competitors are positioned on these segments with the same type of equipment's as the company.

8.5 Internal marketing audit.

Three types of marketing audit were carried out. The external market audit is prescribed using market research and discussions with external bodies such as Mercury. The internal market audit obtains more closely the employees perceptions and orientation to service quality. It was necessary to use more than one service quality marketing audit because multiple sources were required to meet the holistic approach necessary for action research. Additionally it was identified from the literature that no fully comprehensive auditing tool existed for internal marketing. The following audit tools were used and these collected data in the areas of market strategy, operations and internal service culture. Each area is extracted and presented in chapitre 4 under the relevant headings defined by Figure 17. The auditing tools used were Wilson (1993), special services marketing audit by Parasuraman et al (1991 b) known as ISME, and Webster's service marketing audit (1992). These questions were asked in a single interview session. Gaps 1 to 4 of SERVQUAL were applied in addition to primarily support ISME but as a natural extension of Gap 5 SERVQUAL i.e. the external service performance score. Gaps 1 to 4 apply only to the internal service culture. This multiple source of evidence should identify any factors which may skew any improvements made from installing the internal service quality models. The framework of these audits and the responses are below.

8.5.1 Wilson's Marketing Audit.

Chairman who
and to give

The basic elements of this audit are:

- (i) MARKETING ENVIRONMENT AUDIT (as covered by market research)
- (ii) MARKETING STRATEGY AUDIT
- (iii) MARKETING ORGANISATION AUDIT
- (iv) MARKETING SYSTEMS AUDIT
- (v) MARKETING PRODUCTIVITY AUDIT
- (vi) MARKETING FUNCTIONS AUDIT

These issues were discussed with the Directors of the company in a group interview. The response extracted from them was the agreed response of that team of Directors.

8.5.1.1 Marketing Environment Audit

(i) External environment

Q1 What external factors, other than marketing, have a significant impact on your organisation? How does the company react?

Economic climate, government, competition between BT, Mercury and the cable companies.

Q2 What are the main technological changes and 'drivers' facing your customers? Which of those will affect your own organisation's products/services and processes?

The technology based around computers, the rising of the teleworkers and the ISDN.

Q3 What regulation and legislation critically controls your organisation's activities? How is it likely to change?

OFTEL is the regulator. For 2 lines and over a law obliges people to have a maintenance contract. BSI must approve companies in the maintenance area.

Q4 To what publics & stakeholders is the company generally answerable? What are their needs?

The company is generally answerable to the Chairman who wants the company to become more profitable and to grow.

Q5 What 'scanning' does the company systematically undertake? If the answer is none-why not?

Very little: trade magazines and speaking to manufacturers.

(ii) Task Environment

Q6 Who are your customers?

The business users.

Q7 Who are the five most important customers of your organisation? What proportion of your business do they account for?

Lord chancellors, Cattle's holdings = 5% of the turnover. the company has many little companies as customers.

Q8 What special steps does the company take to reflect the importance of these customers?

The provision of more personal service via managing their accounts (national accounts department).

Q9 What decision-making processes does your organisation assume that your customer go through?

Good product, BSI standard right price.

Q10 What factors most influence your customers decisions? Are these factors product-oriented?

Price then product and application.

Q11 Which of these 'predictors (geography, size or type of business) applies to your organisation's customers?

Size and geography.

Q12 How important is customer loyalty to your marketing efforts?

Important.

Q13 Identify a small segment of the market which your organisation has not yet exploited?

The company had tried to exploit the retail shops market, but without success mainly because of the difficulties of control.

Q14 What market is the company in?

It is the installation and maintenance telecommunications market.

Q15 What are the benefits of the products or services that your organisation provides for its customers?

Reliable products, Mercury access, flexibility (upgrading, price) and good service.

Q16 What are the main dimensions against which your organization's products or services are positioned? Do they include price and quality? Do they cover more sophisticated, more complex factors (such as image)?

Price & Quality.

Q17 Does the company "brand" any of its products or services? If so how does it achieve this (e.g. advertising)?

No.

Q18 Who are your organization's main competitors? position in the market (segment, market share), performance, products, strengths, weaknesses?

350 private, companies: BT+Mercury, Shiptowns+GEC+Philips, Maintenance companies (BSI approved) such as the company, Non BSI approved companies (only for installation).

8.5.1.2 Marketing Strategy Audit

Q19 What are the published objectives of your organisation? How well do they reflect the real objectives of the management and staff?

To become the Number one maintainer in the segment of 2 to 50 lines.

Q20 What is the company's corporate mission?

See Q19.

Q21 Does the company have a formal marketing plan? - If not why not?

If so what is the process leading to the marketing plan?
No, because of a poor marketing department.

Q22 Has the company developed a sound positioning and marketing mix for each target segment? Are marketing resources allocated optimally to the major elements of the marketing mix-i.e., product quality, service, sales force, advertising, promotion?

The positioning is clearly the segment from 2 to 50 lines. No money is allocated for advertising and promotion.

Q23 What procedure does your organisation employ to ensure that its own marketing plan is put into practice? How effective are these procedures?

There is no marketing plan.

Q24 What competitive strategy does your organisation follow? Does it use price, differentiation or focus?

Price and differentiation (install, maintain and commission).

8.5.1.3 Marketing Organisation Audit

Q25 Who in your organisation is responsible for the marketing activities?

Nobody.

Q26 Does the marketing officer have adequate authority over and responsibility for company activities that affect the customer's satisfaction?

Not relevant.

Q27 Are the marketing activities optimally structured along functional, product, end-user and territorial lines?

The sales organisation is divided in geographical areas.

Q28 Are there any groups in marketing that need more training, motivation, supervision or evaluation?

Not relevant.

Q29 Are there any problems between marketing and purchasing, finance, accounting and maintenance that need attention?

Not relevant.

8.5.1.4 Marketing Systems Audit

Q30 Are sales personnel required to submit reports? What type of reports?

Sales activities reports every day (where they are, whom they see etc...).

Q31 What are the main source of informal information within your organisation? How useful are they?

The main source of informal information comes from sales people discussing about competition.

Q32 What type of meetings are there within your organisation?

The company sales meeting weekly.

Q33 What are the main sources of external information available to you and to your organisation?

Mercury communications and trade magazines.

Q34 What type of forecast does exist in the company? (budget, target)

Do the employees have the knowledge of these forecasts?

Forecasts exist, as far as the sales and accounts are concerned. Only the salesmen have the knowledge of these forecasts.

Q35 How successful are the short-term forecasts in terms of meeting the objectives set for them?

Fairly successful.

Q36 Does your organisation monitor its forecasts? If so how and with what results? If not, why not?

Monitoring are performed every week and sometimes every month. These pushes the installation department to hurry installation and the salesmen to improve their performances.

8.5.1.5 Marketing Productivity Audit

Q37 What performance reports are regularly produced in your organisation?

-Sales volume & profit by product?

-Sales volume & profit by region?

-Sales volume & profit by customer?

-Sales volume & profit by supplier?
What other reports do you think should be produced and why?

No, but there are reports on sales volume and invoice volume in general.

Q38 What is the proportion of new customers to repeat business?

50%-50%

Q39 What is the maximum and average order size?

£1,800 to 2,500 average
£60,000 maximum

Q40 Do any marketing activities seem to have excessive costs?

There are minimal marketing activities.

8.5.1.6 Marketing Functions Audit

(i) Product/service decisions

Q41 Prepare a short description of the important features of your organization's main products or services, together with the technology that lies behind them.

Choice of products with individual service according to customer needs, providing individual solutions to requirement along with cost benefit, through offering more competitive options through advance technology.

Q42 Using the Ansoff matrix, plot what product (or service) and market strategies your organisation is following.

What strategies do you think is ideally ought to follow?

Current situation: market penetration with the objective of becoming the No 1 maintainer in the UK.

Q43 Can you identify the life-cycles for your organization's products/services and markets?

Does the company take account of these?

Change of telephone every 4 years==>the company revisits the customers.

The company takes account of the new features and aesthetics and is also very focused on future compatibility.

Q44 How does the company plan its marketing mix strategies to take account of the positions of its products or services in their life-cycle?

The company keeps its existing customers through good service and at a same time acquires new customers.

Q45 Can you identify one "star, problem children, cash cow and dog" from among your organization's product (or service) range?

STAR=Panasonic telephone system

PROBLEM CHILDREN=voice mail

CASH COW= maintenance

DOG= Ferranti + Paging.

Q46 Do you consider that there is a gap on your organization's ranges of products or services?
What do you think to be done to rectify this gap?

Mobile Phones.

Sales service approval.

Q47 What product or service modifications has your organisation undertaken recently?
How were these planned and developed?

BSI for connection (2 years ago).The approval was developed by appointing specialists on these special tasks.

Q48 How does the company search out ideas for new products or services?

By reacting to the market place and by employing the services of a consultant.

Q49 Having found an idea, how does your organisation assess the viability of the new product (s) or service (s)?

By testing with a financial model.

(ii) Pricing decisions

Q50 How does the company set its prices?

By using the Recommended Retail Price (RRP) available in the market place.

Q51 Does the company have any idea of what the supply and demand curves for its products or services are like?

No, not really. There are only feedback from sales people.

Q52 What are the most important factors which influence the prices that the company can obtain?

The complex applications.

Q53 To what extent is the company in control of its prices?

What type of technique does the company use?

The company checks the exchange rate (prices of suppliers) and reviews the competitiveness of the products by discount levels.

Q54 What are the major benefits which the company's customers balance against price?

Service, BSI approval, credibility (The company is the No 1 Mercury dealer)

Q55 What is the perceived value of the company's products/services? Is this significantly higher than the actual price? and if so, why?

It depends on the customer. However it is mainly the service at the right price.

Q56 Are the markets of your organisation price-competitive?

Yes

Q57 What actions has your organisation taken to manage such competitive price activity?

What legislation affects its prices? What future regulations might apply?

Building up, BSI, credibility. The law stating the obligation to have a contract of maintenance when having over 2 lines.

Q58 Which of these pragmatic approaches to pricing (cost plus, historical pricing, competitive pricing and market based pricing) does your organisation use?

For each of these approaches which has been used:

How successful has it proved to be?

How easy is it to set prices by this rule of thumb?

How acceptable to consumers are the resulting prices?

What profits does it generate?

Does it match the specific needs and culture of the company?

The Recommended Retail Price(RRP)+5% is used by the company.

This approach is fairly successful and easy to apply. The resulting prices are acceptable but don't generate enough profits. Nevertheless it seems that this approach to pricing doesn't match the specific needs of the company. An investigation for buying equipment directly to Japan (or to other countries) should be better in terms of profit.

Q59 List all the various types of discount that the company operates. What is the purpose of each? How effective is each in achieving that objective?

There are no discount levels made available to the salesmen.

Discount levels are used only in case of competitive situation and are quite successful.

Q60 State what the overall policies should be for the existing and new products or services. Say how the policy will develop in the future?

The overall policies must enable the company to become more profitable. The policy will develop by marketing new products in the future.

(iii) Advertising

Q61 Which of the following forms of promotion does your organisation use?

*direct contact-personal selling?

*indirect contact-advertising?

*complementary support-sales promotion?

The company uses the direct contact-personal selling.

Q62 Take a representative sample of your organization's promotional material. What do you think it achieves in each of the areas of awareness, interest, understanding, attitudes and the buying decisions?

We can take the brochures of the company. These brochures achieve an attitude of credibility in the leading technology.

Q63 To what extent does the company communicate by conviction marketing? If there were to be at the heart of

your marketing, what would it be? What would the message be?

With regard to the promotional material, can you detect any signs of 'coarse marketing'?

See answer Q54. There are some signs of 'coarse marketing' when reviewing the the company's brochure.

Q64 Which of these media does the company use and why? (Press, posters, radio)

None, the company only uses the yellow pages.

Q65 How does the company set its advertising budgets?

There is no budget for that.

Q66 Does the company measure the effectiveness of its advertising and, if so, how?

Links to yellow pages.

(iv) Other forms of promotion

Q67 What direct mailing does the company undertake? What are the objectives? and how well does it succeed?

The company undertakes very little direct mailing. The company sends information about new products and services to existing customers. This methodology is moderate successful.

Q68 What 'sales promotion' does the company undertake? What are they intended to achieve? Do they succeed?

The company undertakes incentives (free installation or free telephone offer) in order to obtain sales. This approach is fairly successful.

Q69 Does the company use Public relations? Who undertakes this?

No.

Q70 What exhibitions does your organisation attend?

None; the company did tried to attend exhibitions in the past, but this methodology was not successful.

(v) Selling and Sales Management

Q71 How does your organisation arrange its sales territories?

The sales territories are arranged by postcode.

Q72 How many calls should be made in a year and how many are actually made?

3 calls a day should be made and 4 calls a day are actually made.

Q73 What performance targets are set for the sales personnel of your organisation? How is actual performance against these targets measured?

There are different targets set for each salesman:
e.g. £22,000-£27,000-£32,000. The differences are due to the fact that certain persons cannot sell highly and sophisticated technical products.

Q74 What philosophy does your organisation adopt in terms of its dealings with its customers? Could it be described as "win-win"? If not, what changes would a "win-win" approach require and what would the outcome be?

Some salespeople are customer-orientated while other are not. Training in terms of product and quality would be necessary for the latter ones.

Q75 What procedures does the company adopt in recruiting its sales personnel? How in your opinion, could they be improved?

The company is very sensitive to the 'energy and the intelligence (to a certain level) of its future salesmen. The procedures could be improved by effective interviews.

Q76 Which forms of motivation does your organisation use?

- *Commission payments
- *Sales competitions
- *Leadership

The company uses all three types of motivation.

Q77 What is the image of the company's salesforce?

- 1-customer-orientated people.
- 2-task oriented people.

Q78 Is there a reporting-back system to individuals in the salesforce on best and total sales performance?

Yes, every day.

Q79 Are sales personnel technically qualified?

Not all.

Q80 What proportion of total calls are committed to existing customers? How many calls are for new business?

20% are committed to existing customers and 80% of total calls are committed to new customers.

Q81 What is the average order value for new business? What is the average order value for repeat business?

New business: £2,500

Repeat business: £1,500

Q82 Does the company have a mechanism for identifying lost business?

Negligible.

Q83 What reasons are given for the loss of customer orders or enquiries? Do those reasons align with the choice eventually made of product/service or suppliers?

Competition is a main reason. Yes, the reasons given for the loss of customer orders align with product, service or suppliers.

Q84 In case of lost business, what were the buying motives? What were the buying objections? Did the benefits the company offered meet the objections?

In the past, service was not very good. But now it is not the case and there are less buying objections.

8.5.1.7 Conclusions (Wilson's Audit)

(i) The company understands qualitatively the environment in which it sits but this appears to be reactive. There is no evidence that a systematic environmental scan is carried out. There is no market strategy.

(ii) There is no segmentation of the market place or how the competitors compete in these segments. Indeed some competitors are not identified by the company.

(iii) Due to the absence of a marketing department there is no budget for marketing and no marketing plan. This is myopic and reflects the poor mission statement which is a sales objective not a mission.

(iv) The lack of marketing knowledge within the company (the company is sales driven) is reflected in the control

systems. These are sales targets and nothing else. Equally there is an absence of forecasting caused from this lack of marketing orientation.

(v) Product and pricing decisions are made in effect by other organisations. These are the third party suppliers who provide equipment for the company and set the book price. As there is no screening of product types, all products are sold.

(vi) The lack of marketing also reflects the lack of advertising by the company. Yellow pages is used and this is more Yellow pages telesales push than identified market need.

(vii) The lack of control systems has ramifications for the feedback loop in marketing performance. Sales targets are monitored vigorously but that is all. This means that progress towards marketing targets (had they been set) could not be monitored and so action plans be put in place. These marketing targets could involve external service quality standards. From the audit, no service targets are set.

(viii) Apart from the sales targets there are no quantitative marketing objectives set within the organisation.

8.5.2 ISME (International Service Marketing Excellence) Service Marketing Audit

This audit is based upon the following elements:

- (i) SERVICE QUALITY
- (ii) INTERNAL MARKETING
- (iii) MARKETING ORIENTATION
- (iv) EXISTING CUSTOMER MARKETING
- (v) NEW CUSTOMER MARKETING

8.5.2.1 Service Quality

Q85 How do you report to customers on order status?

Via order recognition letter. (sales manager's answer)
Via telephone. (service line responsibilities answer)

Q86 Is there a single point of contact for customers in your company?

No. Before installation there are three contacts: salesmen, installation co-ordinator and the credit controller. After the installation there is the service line. Yes, everyone seems to ring service line.

Q87 Is any attempt made to estimate the cost of customer service failures?

No

Q88 Is any attempt made to provide the customers with repair parts?

Can't answer.

Q89 What is your average order cycle time?

20 days.

2 weeks.

Q90 Do you monitor actual order-to-delivery lead-time performance?

Yes.

Q91 Do you use quality control concept in managing customer service?

Yes, from the order date to the invoice date.

Q92 Do you provide customers with a customer service manual?

No, there is only a contact telephone number.

Q93 Does your customer service organisation effectively manage the client relationship from order to delivery and beyond?

No. There is no feedback from installations if there are problems with stock or doing work on the date arranged.

Q94 Does the company inform the customers of problems or do they contact the company?

The customers contact the company. The customers contact the company because of the reason explained above.

Q95 How do you monitor and respond to complaints?

With a complaint form (see a sample). Contact department involved, get response and inform customer.

Q96 How responsive are you to claims from customers?

Very (serviceline are but let down by rest of company)

8.5.2.2 Marketing Orientation.

Q97 Do you have a written customer service policy?

No, it would be welcoming to have one.

Q98 Is this given a wide circulation within the company?

Not relevant.

Q99 Is customer service included in the marketing plan?

There is no marketing plan.

Q100 What elements of customer service do you regularly monitor?

The responses to call outs to complaints.

Q101 Do you know the true costs of providing customer service?

No.

Q102 Do you have internal and external service measures ?

No.

Q103 Does the managing director regularly receive a report on customer service performance?

Yes, the MD receives a working progress report.

Q104 Do you consciously seek to hire individuals with a positive attitude towards customer service?

Yes. I do. But as far as the positive attitude towards customer service is concerned, there are always peaks and troughs.

Q105 Do you differentiate service levels by product?

No, but there is a problem of availability of repair parts concerning certain products.

Q106 Do you differentiate customer service levels by customer type?

No.

Q107 Do you monitor the internal customer service 'climate' on a regular basis? Do you internally market?

No.

8.5.2.3 New and Existing Customer Marketing

Q108 Are formal strategies in place in the company to attract new customers?

No.

Q109 Are these strategies based on a good understanding of potential market segments and their needs?

Can't answer.

Q110 Are sufficient resources being devoted to new customer marketing?

No.

Q111 Are employees prepared and motivated to sell to prospective customers?

Yes (i.e. the company).

Q112 Is the company capable of delivering on the promises (advertising claims) made to attract new customers?

Sometimes yes, sometimes no.

Q113 Do you market to existing customers?

Yes, through the upgrade team but the service can be bad sometimes reducing the chance of a further sale.

8.5.2.4 Conclusions (ISME)

(i) There seems to be little if any external service performance orientation within the company. This is reflected by multiple contacts with the customer, no feedback from the installations department and no service quality costing system. Complaints are handled by the department which receives them and this causes an un-coordinated paper chase through the company.

(ii) The lack of service orientation is confirmed by no customer policy or plan. Customer complaints are monitored only in the number of call outs made by the maintenance engineers and not the type of complaint.

(iii) The company does not understand the difference between internal and external marketing. No internal marketing exists within the company and so no external or internal service measures exist.

(iv) The directors whilst recognising that innovation and customer service are important in the company moving forward seem to accept that customer service can be inconsistent. This tends to indicate that a service system should be in place but that it is acceptable for it not to produce consistent results indicating potential lip service by the directors to service quality.

(v) This lack of service orientation extends to the treatment of new and existing customers. There is no service differentiation between the two.

(vi) The absence of any internal or external marketing coupled with the absence of service performance measurement either internally or externally provides a good platform to move the research forward. Absence will remove any potential clash between the research and other systems. This will remove by default any additional measurement to notice the research effect. For example if service performance was measured within the organisation then this would have to be monitored in addition to the research service performance measurement.

8.5.3 Webster's Service Culture Audit

These contain the elements of:

- (i) SERVICE QUALITY
- (ii) INTERNAL COMMUNICATIONS
- (iii) INNOVATIVENESS
- (iv) ORGANISATION
- (v) INTER-PERSONAL RELATIONSHIPS
- (vi) SELLING TASK

8.5.3.1 Conclusions (Webster's Audit)

The questions were asked during the Wilsons marketing audit. This is because the time taken to interview the board of directors was extending to four hours. In order to avoid questionnaire fatigue and retain the access to the company this decision was taken. It is possible to conclude:

(i) As the other audits there is no mechanism for service performance within the company. It is recognised that there should be one.

(ii) The communications from the directors to the workforce is poor. This communication problem is exacerbated by different departments residing in different geographical areas. This leads to conflict and distrust between departments. Service performance is not discussed in meetings.

(iii) The organisation structure is designed to sell and install. Service is not designed in to the company.

(iv) Innovation does not have a vehicle to develop itself upon. There are no improvement meetings.

8.5.4 Internal Service Gaps (Gaps 1 to 4 of SERVQUAL)

The internal service quality gaps of Parasuraman et al's SERVQUAL as described in literature survey was applied to the company. These are gaps 1 to 4. To place these in context of external service performance Gap 5 was applied. The analysis and discussion of the results are given below.

8.5.4.1 External Service Performance

The Gap 5 service performance score is given in Figure 8.6. This was taken at the conception of the research and before any interviewing had taken place within the organisation. This then will overcome any service communication leakage and will provide the control for the research. It highlights the poor performance in the areas of reliability and responsiveness. This is consistent with the findings from the customer complaint procedure detailed in Figures 8.1, 8.2 and 8.3..

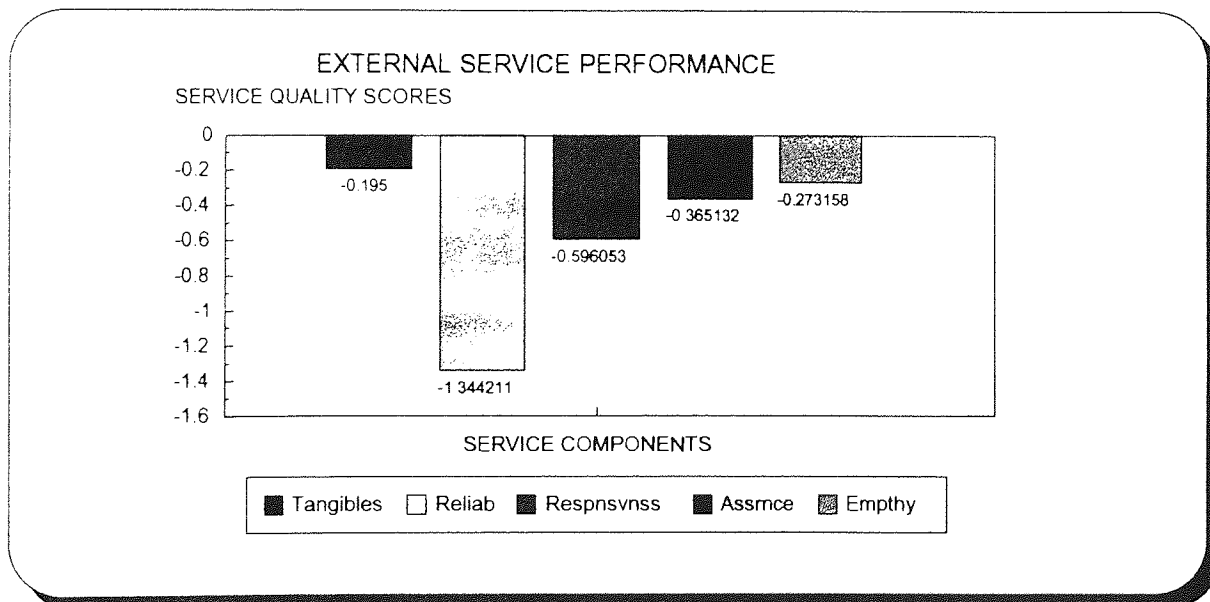


Figure 8.6 - External service performance scores SERVQUAL Gap 5. (Source: Questionnaire)

8.5.4.2 Gap 1 Managers understanding of customer expectations

The managers understanding of customer expectations is given in Figures 8.7 and 8.8. Relative expectations has been produced by determining the managers expectations of external service performance and comparing it against the actual

external service performance. Figure 8.8 is produced by taking the weightings only that are applied to the service dimensions. As relative expectations, these compare the weightings found externally and compares them against the weightings the managers perceive. Figure 8.8 was used to determine the priority on service performance dimensions.

A central issue that emerges from the analysis is that the Managers understand most of the dimensions that contribute to poor service performance with the exception of responsiveness. This is greatly underestimated. Unsurprisingly there is an over expectation on the tangible aspects of service delivery. Additionally the Managers believe empathy is a very important factor, not confirmed by the gap 5 analysis and that the empathy performance score is low. The need to be reliable is well understood.

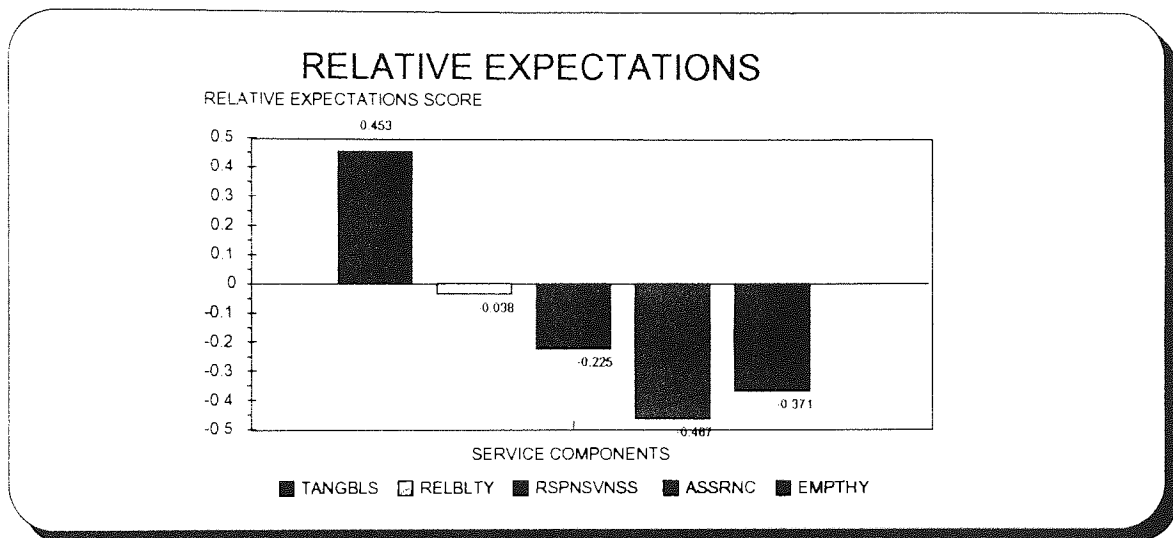


Figure 8.7 - Managers Expectations (Source: Internal questionnaire)

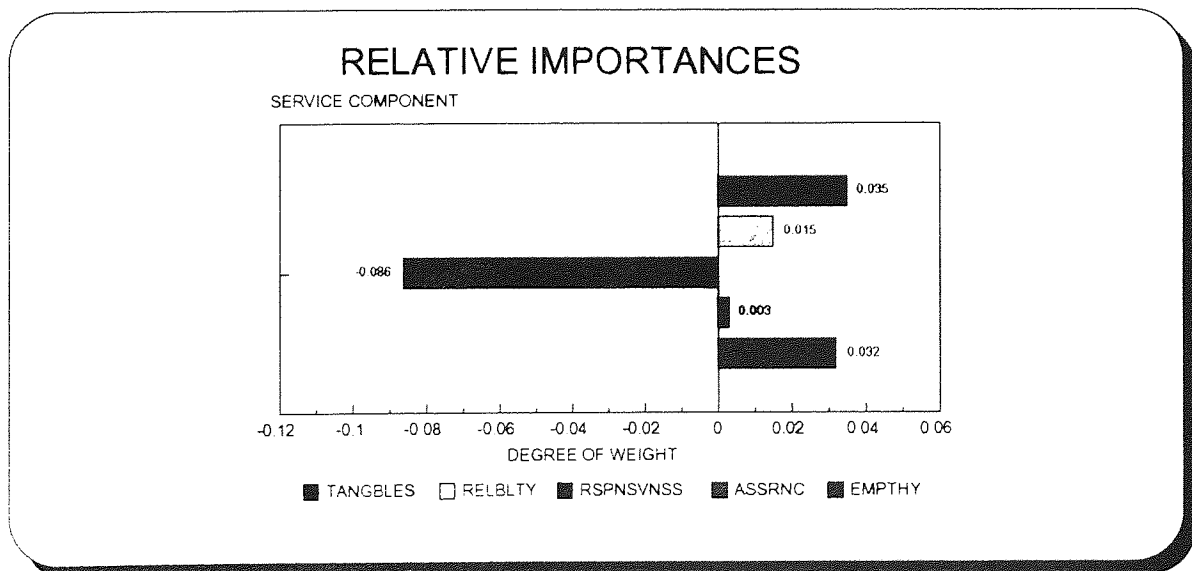


Figure 8.8 - Importance's on service performance placed by Managers. (Source: Internal questionnaire)

The main cause for the mis perception of customer requirements given in Figure 8.9 (derived by asking managers about the antecedents to gap 1 and comparing the score of 1 to 7 against the average score of 4 for each antecedent to give positive or negative numbers and so strong or weak orientation respectively). This confirms the link between the absence of a marketing department acquired from other service audits and the performance shown in Gap 1. Additionally, it appears that the managers are not talking to the directors of the company. Passive observations confirm this. Often the Directors have no real idea of what the Managers are doing in their day to day activities. This has ramifications for control systems within the company. What is encouraging is the organisation structure appears to be ideal for service quality development. This is confirmed by only two tiers within the company.

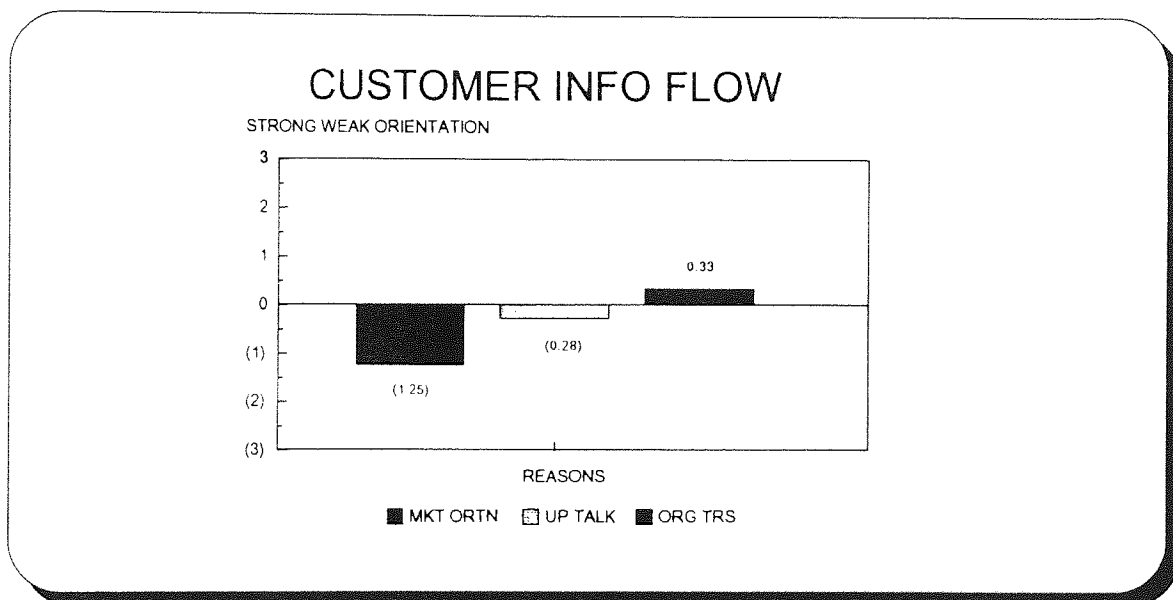


Figure 8.9 - Antecedents for Gap 1. (Source: Internal questionnaire)

8.5.4.3 Gap 2 Standards as derived from Managers expectations.

The setting of formal standards (Figure 8.10 derived in the same fashion as Figure 8.8.) are clearly contribute to the poor service performance. There are no formal standards in the organisation for service performance. This is confirmed by searching and observation. The absence of a customer service manual contributes particularly to the softer areas such as empathy and suggests the lack of process formalisation in the company. Observations did confirm the absence of any sort of customer service blueprint.

Operational key indicators also confirmed this. There was a lack of any targets for the operations department and

statistical process control which is used to control those targets were also missing. If we consider the antecedents (Figure 8.11 derived in the same fashion as figure 8.8.) for the cause of the lack of standards, the picture becomes very clear. Managers are not committed to service quality and there must be a question over the calibre of the managers. Not only does the commitment to service performance bode poorly, a surprise in a service company, but Managers are not even discussing it with the Directors. Managers clearly have not standardised tasks for service performance and have neither set goals for their employees. This is a basic management by objectives requirement for employees.

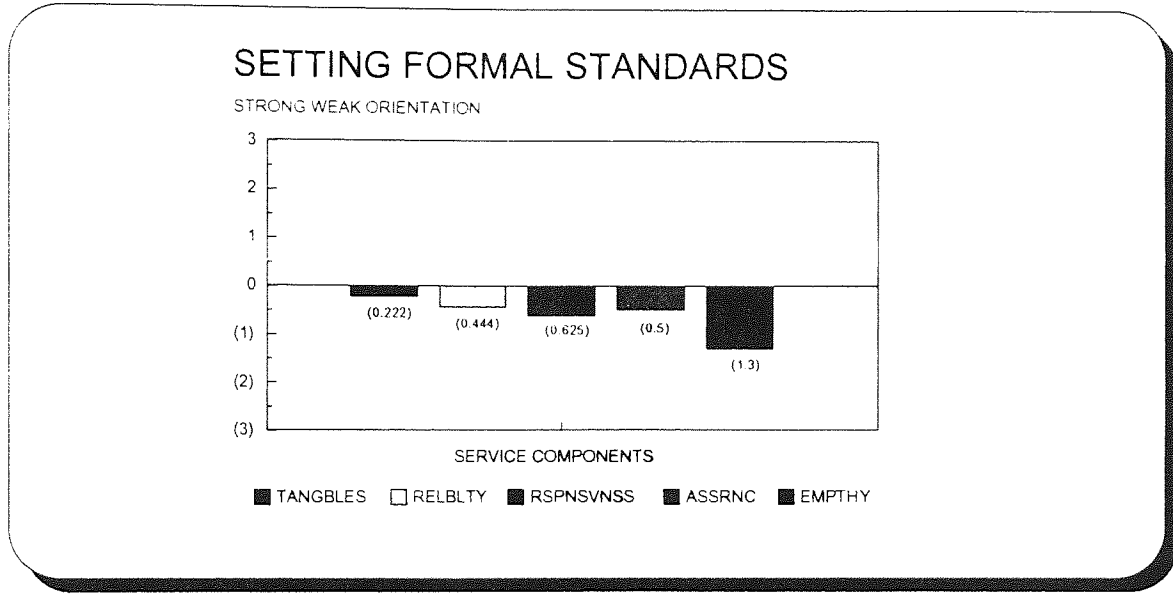


Figure 8.10 - Setting of service standards (Source: Internal questionnaire)

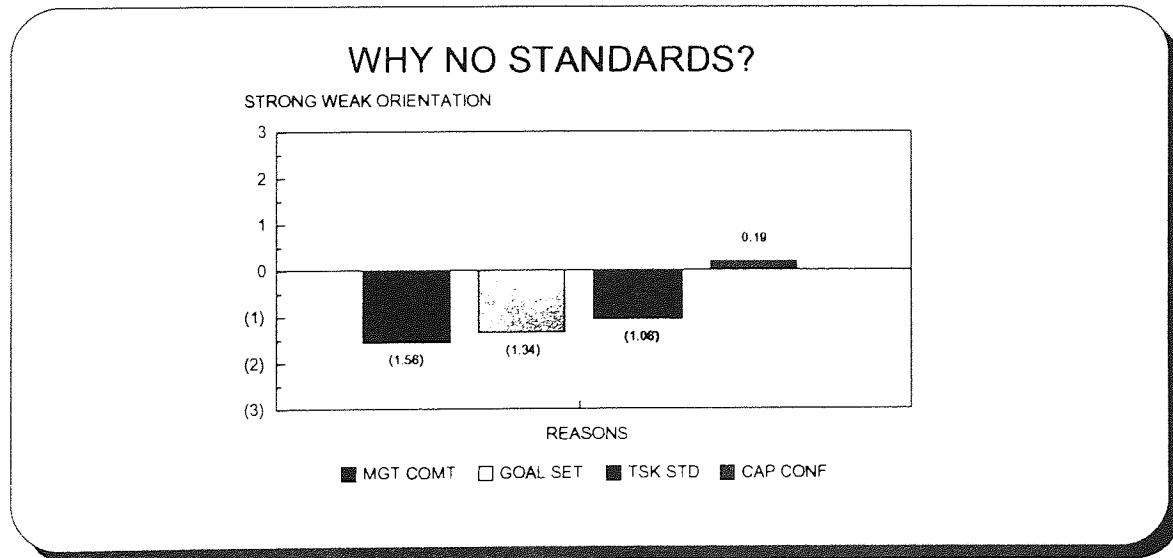


Figure 8.11 - Antecedents for Gap 2 (Source: Internal questionnaire)

8.5.4.4 Gap 3 Delivery against standards

To provide a higher degree of focus, the internal gaps analysis was applied to both the administration department and the engineering department. This was because both areas are involved in the delivery of service performance. From Figure 8.12 (derived as in Figure 8.8), it is clear that the administration function can deliver service against the standards (if any has been set).

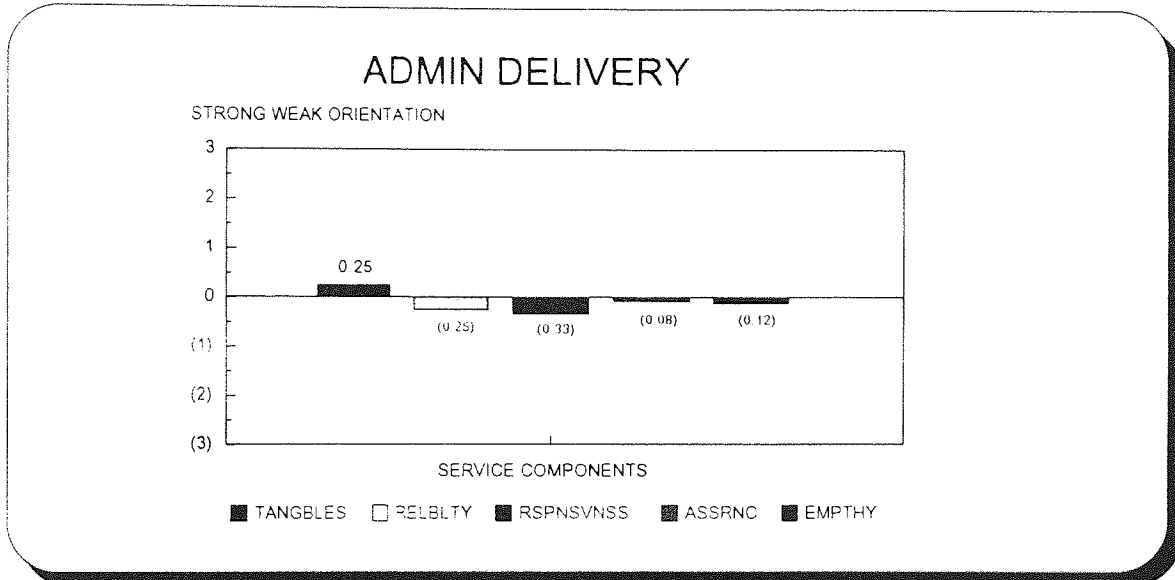


Figure 8.12 Administrations delivery to standards (Source: Internal questionnaire)

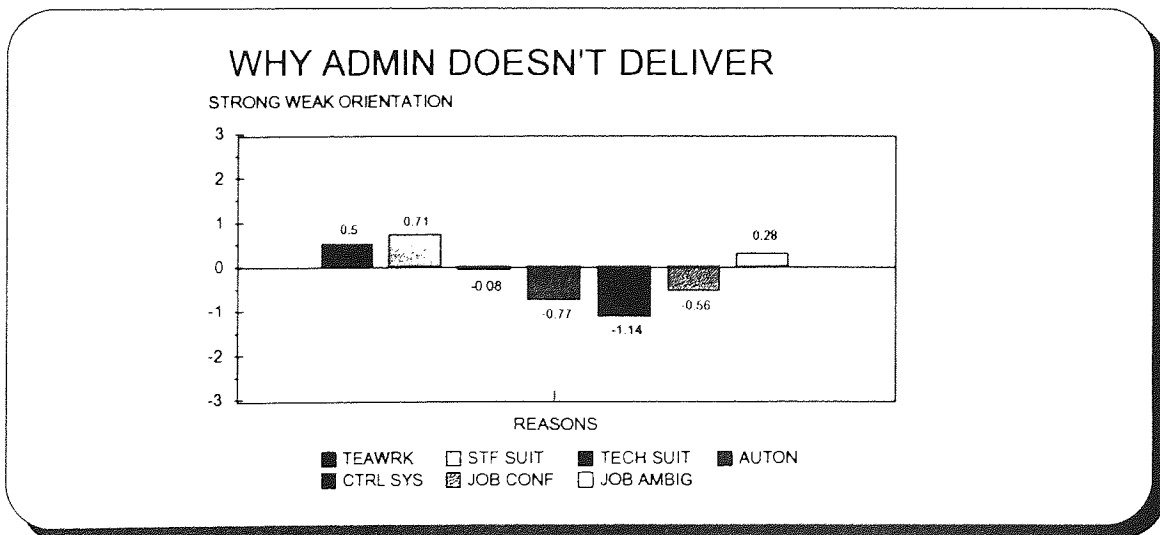


Figure 8.13 Administrations antecedents to delivery (Source: Internal questionnaire)

Figure 8.13 shows that whilst the administration department feels that they can deliver and act as a team, the lack of

control systems (targets and information) and not having the autonomy to take decisions is contributing to poor service performance. This again was confirmed in practice. The database for the company is fragmented and extracting the customer information that is available is difficult. If we consider Gaps 1 and 2 we can see that if the Managers are not setting standards and targets or talking to the directors then for the Managers to manage their employees, they must have a very tight reign to respond to information given to them. Keeping close to the employees will be needed to ensure that they are performing to the standards if any which are in their heads but not in the heads of the employees.

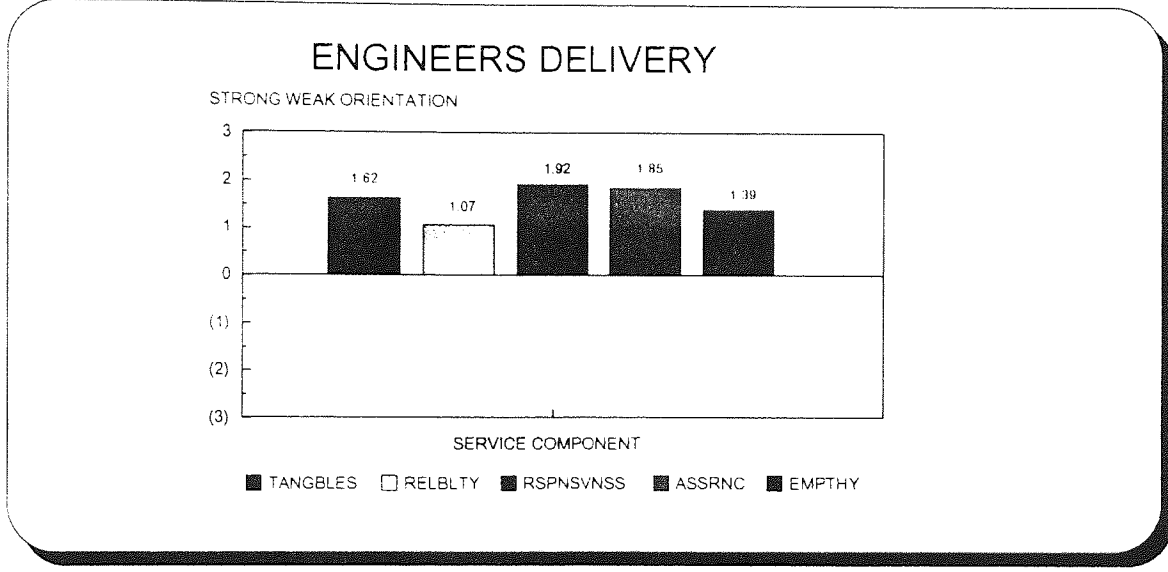


Figure 8.14 - Engineers delivery to standards (Source: Internal questionnaire)

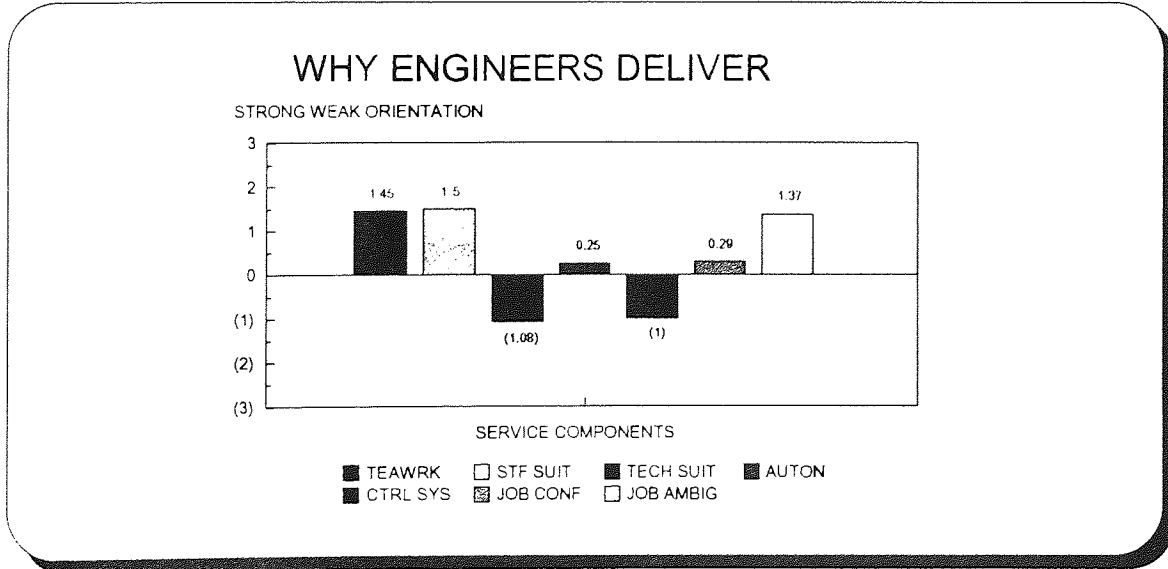


Figure 8.15 - Antecedents to engineers delivery (Source: Internal questionnaire)

The scene is different for the engineers who deliver the majority of the service to the customer (Figure 8.14). The engineers are confident that they can deliver the service performance required within the standards set for them. Any issue that may restrain the delivery is given by the antecedents in Figure 8.15. The engineers feel confident as a team and feel capable of doing the job. It is also clear that there job is also clear. Two issue are outstanding, the control systems and the technological suitability. These are explained by other audits and observations. The control system issue is answered by the fragmented database and the lack of standards and lack of management by objectives. The technological suitability is answered by the tools which the engineers have. Some engineers require oscilloscopes for them to provide a detailed analysis of faults and in many cases engineers did not possess them.

8.5.4.5 Gap 4 Delivery against promises

As in Gap 3 the engineers and administration function has been separated for focus. Figure 8.16 shows us that the administration function is in tune with what has been promised to the customer except in the areas of responsiveness and reliability. The main causes for this are given in Figure 8.17. The salesmen do not talk to administration and the over promising cause s conflict against administration's understanding of what the customer wants. This has been confirmed by observation. The salesmen will close a deal with a customer and tell the customer that the administration (who confirm the order) will talk to them the next day. The salesmen does not communicate with the administration of the promise that has been made and so the customer is not called when the salesmen had promised.

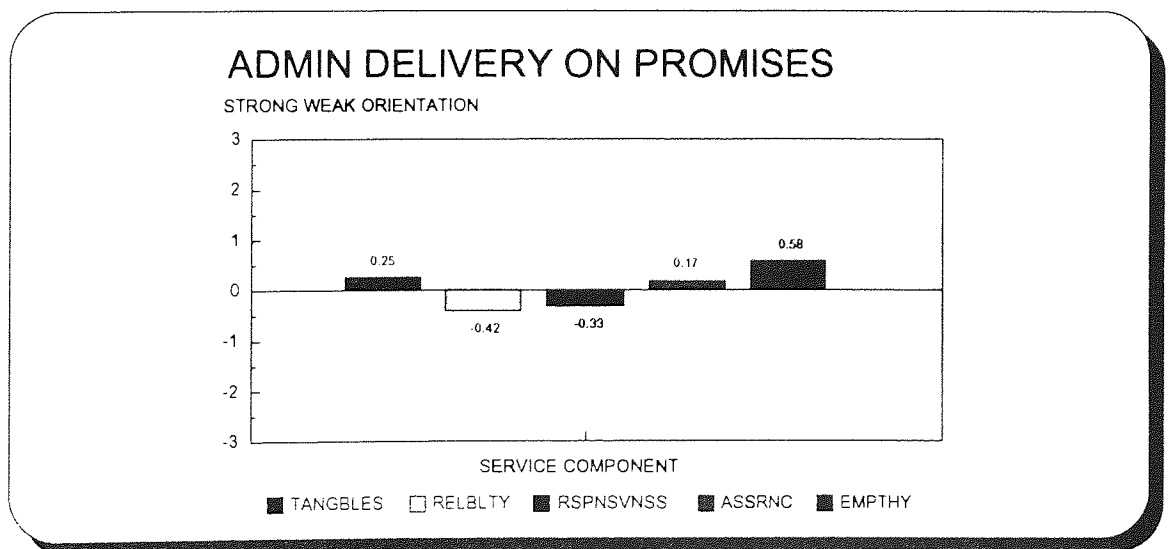


Figure 8.16 - Administrations delivery to promises (Source: Internal questionnaire)

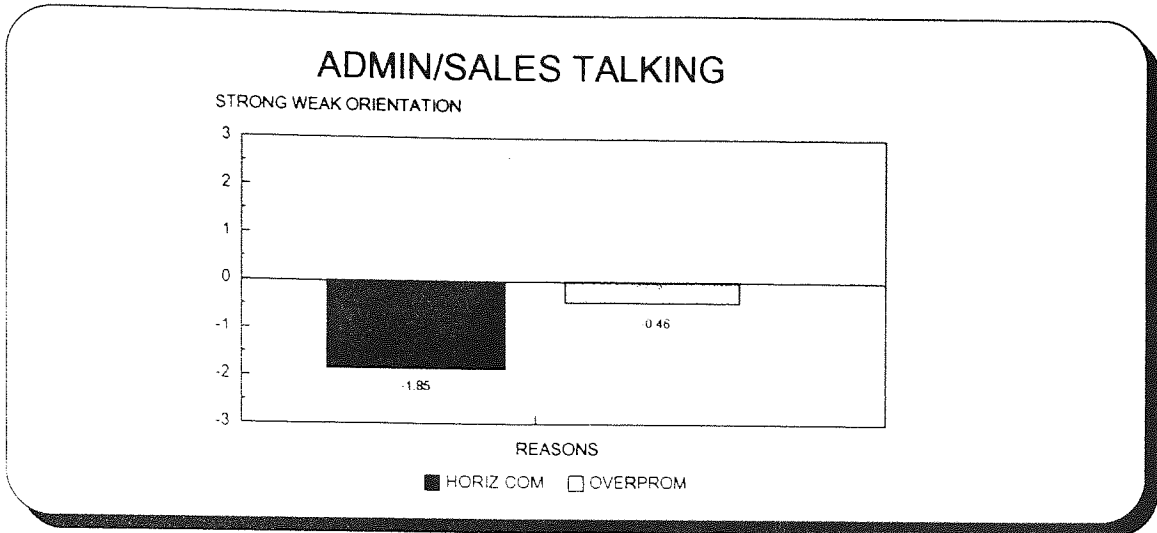


Figure 8.17 Antecedents for administrations delivery to promises (Source: Internal questionnaire)

The engineers are consistent across their performance in the other gaps. They believe they can deliver to the service requirements and can exceed them (by the positive service performance scores in Figure 8.18). They do believe that they are let down by the salesmen. This has again been confirmed. Shadowing the engineers and salesmen proved these issues. When on a call the salesmen complete the order including the technical information which is required by the engineers to make the installation. In many cases the salesmen agree that they are not as technically competent as the engineers to make these detailed inclusions to the order. The installations then get planned and the engineer turns up on site to deliver against specifications. Some specifications are actually missing which can halt the installation. Due to the salesmen's timetable, access to the salesmen is difficult and so communication breaks down.

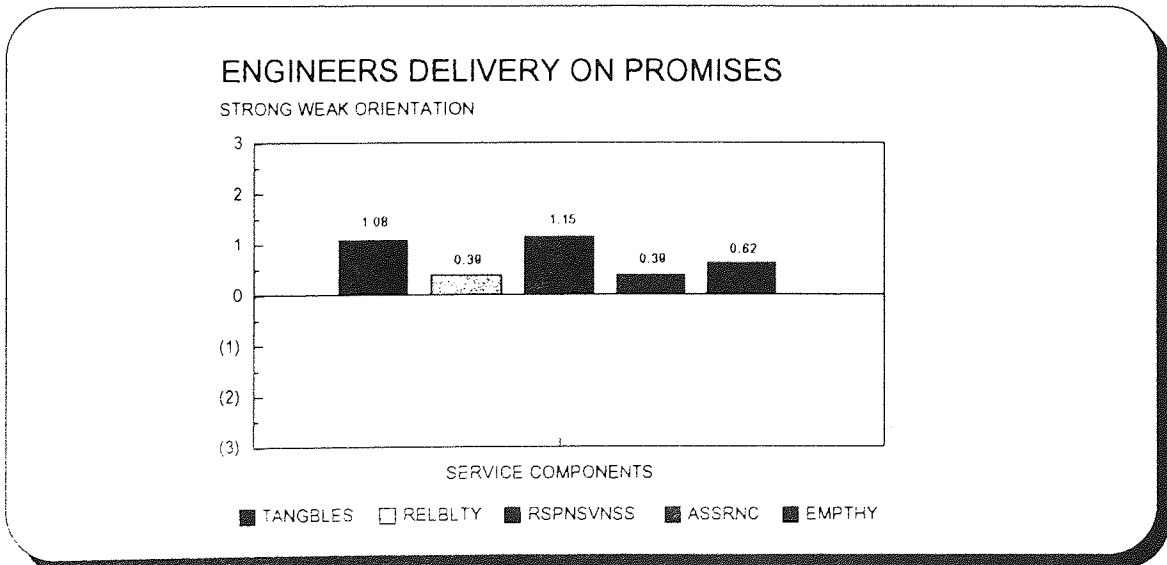


Figure 8.18 - Engineers delivery against promises. (Source: Internal questionnaire)

ENGINEERS SALES TALKING

STRONG WEAK ORIENTATION

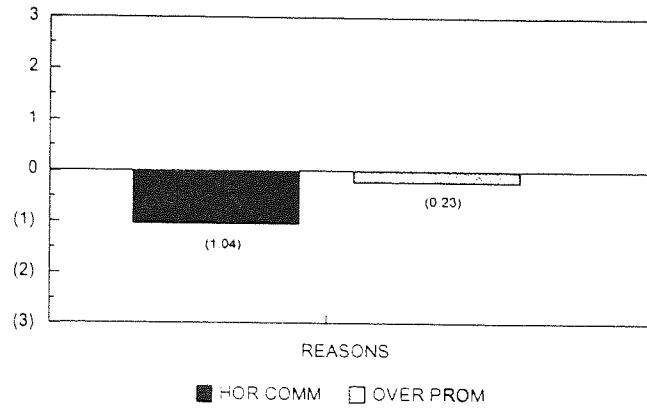


Figure 8.19 - Antecedents of engineers delivery to promises. (Source: Internal questionnaire)

8.5.4.6 Conclusions (SERVQUAL all gaps)

(i) Reliability and responsiveness are the main weaknesses of the companies external service performance. A significant contributor to this is the managers perceptions of what they perceive the customers service requirements to be. Reliability and particularly responsiveness are underestimated. This arises from the poor understanding of the market place which confirms other audit findings. Equally the level of communication with the directors of the company does not seem to be satisfactory again confirmed by other audits.

(ii) The setting of formal service standards within the organisation was also seen to be weak confirmed by other audits. This was explained by lack of management commitment and the ability to set goals. These goals are within the responsibility of the managers and tends to reinforce the commitment of the management to service performance.

(iii) The ability of the workforce to deliver service quality was also seen to be restricted. This was mainly by the lack of control systems within the company which the workforce could use. That coupled with the lack of autonomy to take service decisions contributed to the low service performance.

(iv) A major contributing factor to the poor service performance was the poor communications between the operations and sales departments. This led to service specifications being unclear and in some cases over promising occurred.

(v) Most of the findings of the internal gaps analysis supports that found by the other audits. These can be summarised in to the following issues:

- (a) Poor communications in all directions
- (b) No external or internal marketing (at all)
- (c) No control systems
- (d) No standards
- (e) Questionable middle management commitment to service quality.
- (f) No set policy on service performance (internal or external).
- (g) Lack of implementation skills by the directors (recognised need in value statements and yet no actions).

Appendix 9 - Skills Audit

9.1 Introduction

The skills audit was conducted to determine the level of skills of the employees and how these affected customer satisfaction directly. A scoring system was used which asked the employees to rate the importance of their skill on customer satisfaction. The most important skill would score a 4 (1 being the skill with the least effect upon customer satisfaction). Additionally the employees would rate their level of incompetence in that skill. The highest level of incompetence would be a 4. High levels of incompetence in the skill which had a high level of customer satisfaction would score highly. This produces a list of skills per employee where the higher the score the greater the need for training. The results for the employees were then combined to give an organisational view of customer satisfaction driven skill deficiencies.

Figure 9.1 shows the ranking for all departments except the sales department. The sales department has been separated from the analysis because the internal gaps analysis showed that poor communications between the engineering and admin and the sales department was present. The sales department needed separate analysis therefore to determine any skill deficiencies which may be contributing to this.

It clearly shows that the need for training in communications skills both internally and externally is the highest. The software skills highlight the fragmented database and the lack of specific knowledge for pieces of software such as spreadsheets like Lotus 123. For this research this is not as important as the third highest ranking need - that of supervisory skills. This confirms the internal gap analysis results in weakness of management and vertical and horizontal communication. The Managers are stating quite clearly that they do not feel that they have the training to do their job and to increase customer satisfaction.

If we now consider the same audit but particularly looking at the sales department, we will be able to see the contribution to the size of Gap 4. This is given in Figure 9.2.

The outstanding skill deficiency which the salesmen believe that they have is in the area of product knowledge. This confirms the amount of rework which the salesforce generate at the front end of the value chain. As they do not fully understand what they are selling, so the technical detail for the engineers to work against is not present and this contributes to external customer dissatisfaction in rework

and unclear specifications. The second highest is the time management skill. This will contribute to the poor communication within the administration and engineering department. As the salesmen appear to be disorganised so they will perceive that they have less time to talk to the deliverers of the service quality. The lack of information then affects directly how these deliverers can produce customer satisfaction. If the planning and the time management skill types are merged so the problem appears to be more acute.

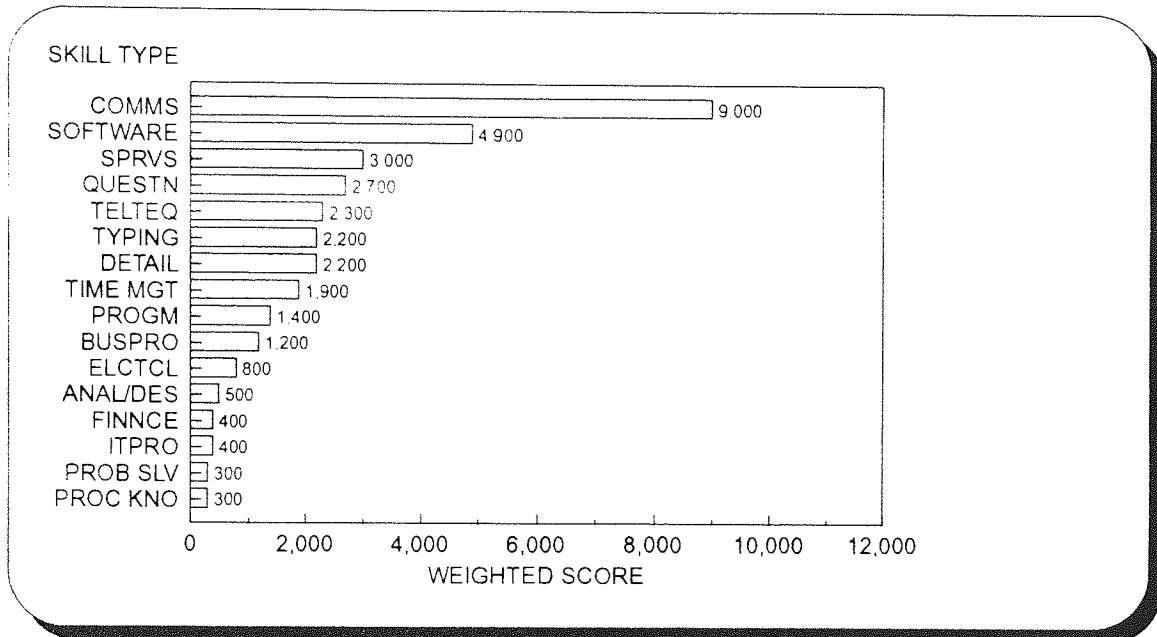


Figure 9.1 - Skill deficiency/customer dissatisfaction ranking for all departments except sales. (Source: Internal questionnaire)

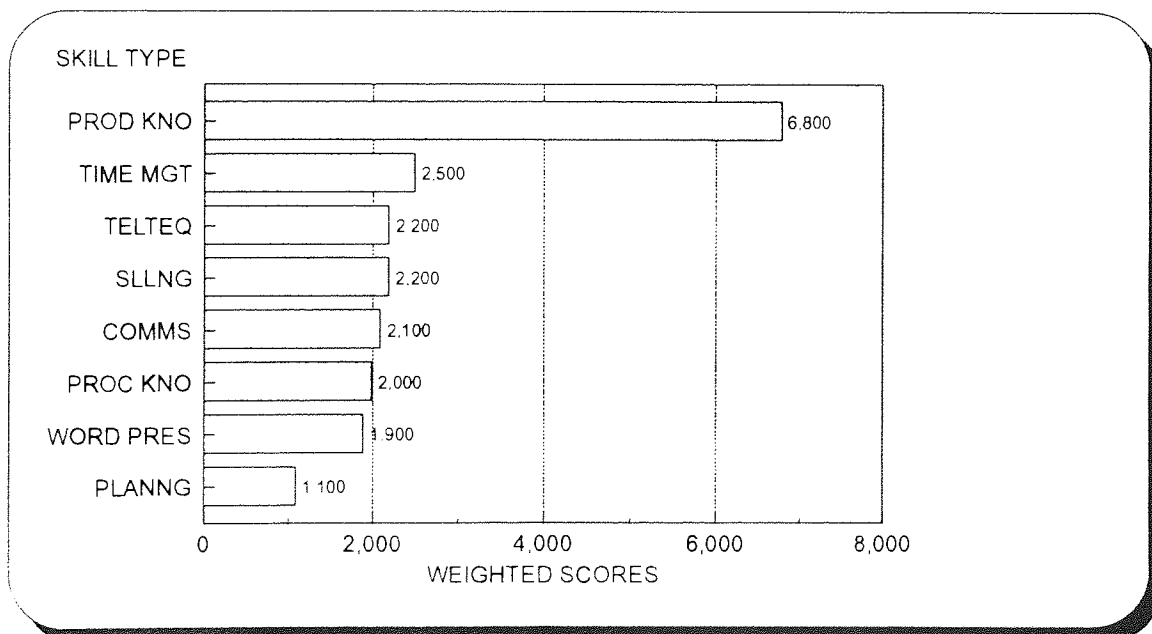


Figure 9.2 - Skill deficiency/customer dissatisfaction ranking for the sales department. (Source: Internal questionnaire)

Appendix 10 - SWOT summary

no indicator of

10.1 Introduction

This appendix will summarise the context in which the research will be conducted. It will perform a SWOT analysis (strengths, weaknesses, opportunities and threats) in a tabular format based upon the information analysed in appendices 1 to 9.

By understanding the environment in which the company is placed will make the interpretation of the research findings easier (i.e. determine if there are any factors within the company which may be contributing to research results).

10.2 SWOT table

STRENGTHS	WEAKNESSES
INFORMATION TECHNOLOGY (IS-IT)	The IS-IT is task orientated, not management orientated. There are no indicators from the computer except the balance sheet and the profit & loss account.
FINANCIAL ROCE= 44.8% very good	The liquidity is not good. the debtors conversion period for maintenance ledgers is too high: 115 days
AFTER SALES SERVICE The training provided by Philips and Panasonic is obviously a positive point for CCBB Ltd.	Absence of indicator such as percentage of returns. There is no regulation as far as the faulty stock is concerned. Shortage of stock (Panasonic).
PRICE Low price compared with BT. The pricing is easy and successful.	Price is set by 3rd party and salesmen not company controlled
PROMOTION The message and the design of the promotional material are quite good.	Poor promotion: A brochure is provided to customers only after the sales. No advertising budget.
PLACE Good implantation in the midlands.	CCBB Ltd is not present in London and in the south of England.

	There is no indicator of profit on sales by region or by customer.
PRODUCT/SERVICE Exchanges=cash cow (low growth in a market place where CCBB dominates the Midlands, The main source of profit for CCBB Ltd.	Fax machines=problem children Payphones=dog CCBB is focused on the segment for 1 to 16 lines which represents 38% of the UK market. No indicators of sales(profit) by product. No indicator by supplier.
SALES MANAGEMENT Respect of the targets,efficiency of the salesmen. Many contracts. The energy and a certain level of intelligence are good criteria for recruiting salespeople. CCBB uses different methods to motivate its salesmen: LEADERSHIP COMMISSION PAYMENTS SALES COMPETITION	Average contract size is low. Too many small businesses. Not all the salesmen are technically qualified and customer-orientated. The targets are only cash orientated and do not relate to a marketing strategy. There is no analysis of the lost business. Other criteria must be taken into account for recruiting salespeople: Education, experience, age. Character traits,motivation,maturity.
COMPETITION The administration of the contracts is quite effective.	Turnover/employee is very low compared with its competitors. All the competitors are more active in the segments over 16 lines.
ORGANIZATION	Skills set of employees is low. There are neither marketing plan nor marketing department nor marketing officer. There is a difference between the objective of becoming the No 1 maintainer in the UK for the segment for 1 to 50 lines, and the real sales focused on the '3 lines'business.
INFORMATION SYSTEMS The consultant in CCBB is a means for it to get more	The salesmen do have too much power as far as the

objective information and to improve its performances.	information about competition and market is concerned. This information should be issued from a marketing department. A very little scanning is made by the management team.
HUMAN RESOURCES	Formal meetings should be arranged in CCBB in order to improve the internal communications and to solve problems linked to daily work and to customers. e.g. meeting between the salesmen and the engineers.
SERVICE QUALITY There is no complaint form to monitor and to respond to complaints. The service line is very responsive to customer's claims.	Shortage on stocks of telephone sets and repair parts. The rest of the company is less responsive to customer's claims. CCBB can not response to customer's problems so quickly as BT(3 hours against 30 minutes). Philips' reliability is not very good.
MARKETING ORIENTATION No TQM in progress in CCBB	There is no written customer service policy. There are neither internal nor external service measures. The employees do not associate enough value to customer service. There are no formal strategies to attract new customers except TQM.
MARKETING CULTURE CCBB 's employees are not fully aware of the importance of service quality to customers.	The employees regard the organization and internal communications as even less important.

OPPORTUNITIES	THREATS
PCN is a very high potential market in terms of sales but also of maintenance.	Decrease of the number of lines to be installed in the private telephone exchange equipment segment.

<p>VIDEOPHONE & ISDN are becoming crucial for controlling the office communication systems market</p>	<p>CCBB 's competitors are positioned in technical segments.</p>
<p>There are no many competitors in the areas of tyne.</p>	<p>In the future there will be only cordless equipment: PCN, mobile phones, cordless PABX.</p>
	<p>The small customers are tending to become more specialized and more expensive to service</p>

Key issues facing the firm:

1. Poor control at operational level within the company which means that exploitation of identified opportunities are not likely to be efficient.
2. High volume low profit type business which CCBB operates is ideal for automation by computer. This will need to be considered if profitability needs to be maintained.
3. Poor national coverage combined with poor promotion in a declining market will need attention to.

Appendix 11 - Service blueprint and internal customer mapping

Figure 11.1 details the customer service blueprint for the company. This is redrawn in terms of process flow in Figure 11.2. Whilst it is apparent that there are no processes for after sales service which is confirmed in other service audits, there are clearly many separate encounters which the customer has with many different employees. Thus the process element of service quality is likely to be confusing and so an result in reduced service quality. It is possible however to cluster these processes into customer/supplier cells and these are detailed in Figure 11.3. There are 24 separate interfaces within the organisation and these are detailed from PD1 to PD24 in Figure 11.4. These interfaces were confirmed by questionnaire within the organisation as the primary interfaces within the company. The secondary interactions are not considered as they are essentially back flows of information which confirms to the supplier that the customer has performed his task. From 11.4 we can see that there are three main customer/supplier group types.

The first group of customer supplier cells are those cells which are directly connected to the value chain. These cells start from the salesman and finish at the engineers. Any service quality interfaces which fail here will have an immediate and direct effect upon the external service quality. These cells contain direct employees.

The second group of cells are the support function. These cells provide support to the direct cells in terms of IT, refurbishment, stock etc. but they do not have a direct effect upon the external service performance. Their effect is also less immediate as the direct customer supplier cells can function for a limited while without this support function.

The third group of cells are the managerial cells. These have little or no direct impact upon the service performance which the external customer receives. This distance from the value chain also means that any changes which might occur will be less immediate than the support function.

We can categorise these customer supplier cells into the matrix given in Figure 11.5 and Table 11.1. This is consistent with the matrix identified in Chapter 3. It should be noted that in most cases there were more than one employee within each customer supplier cell.

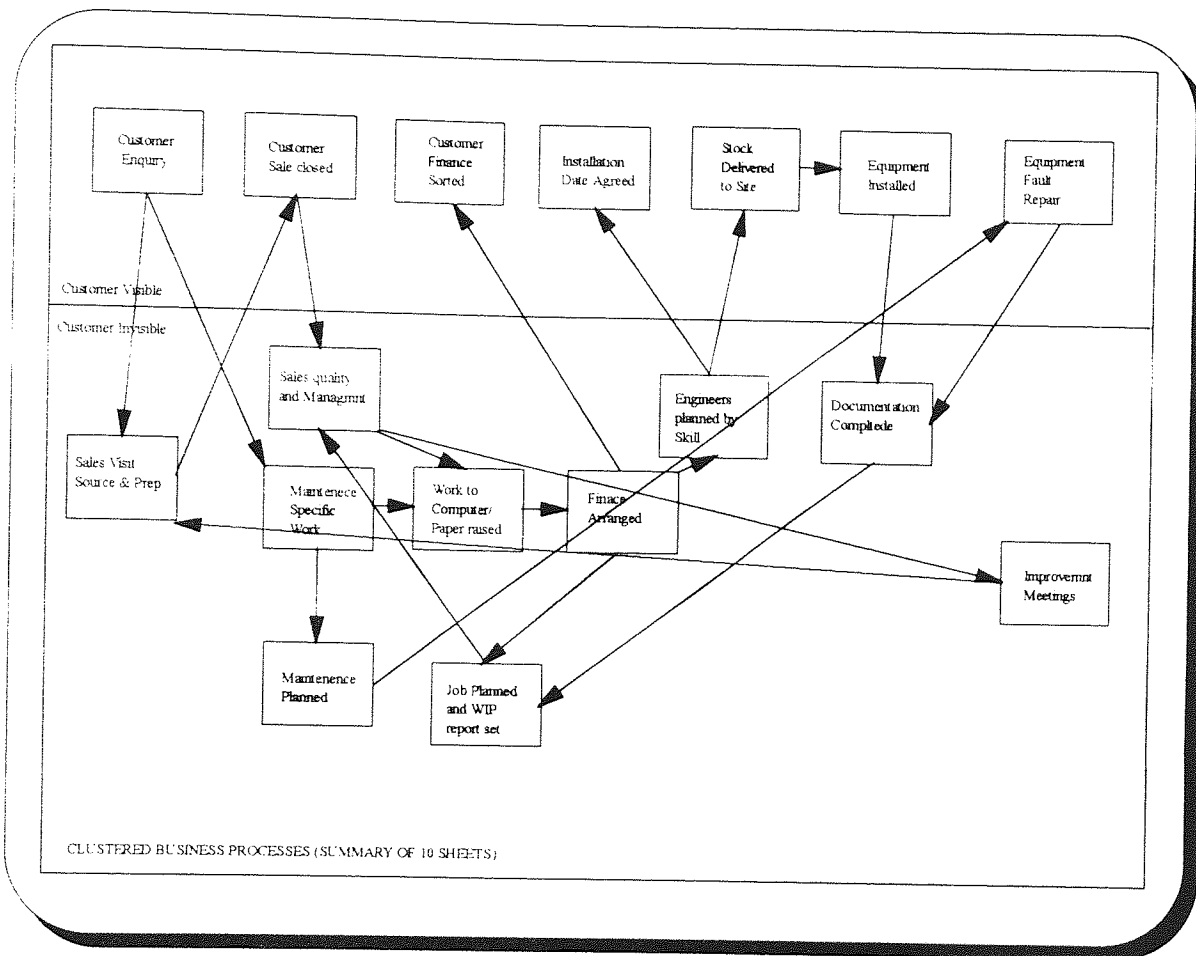


Figure 11.1 - Customer Service Blueprint (Source: Internal interviews)

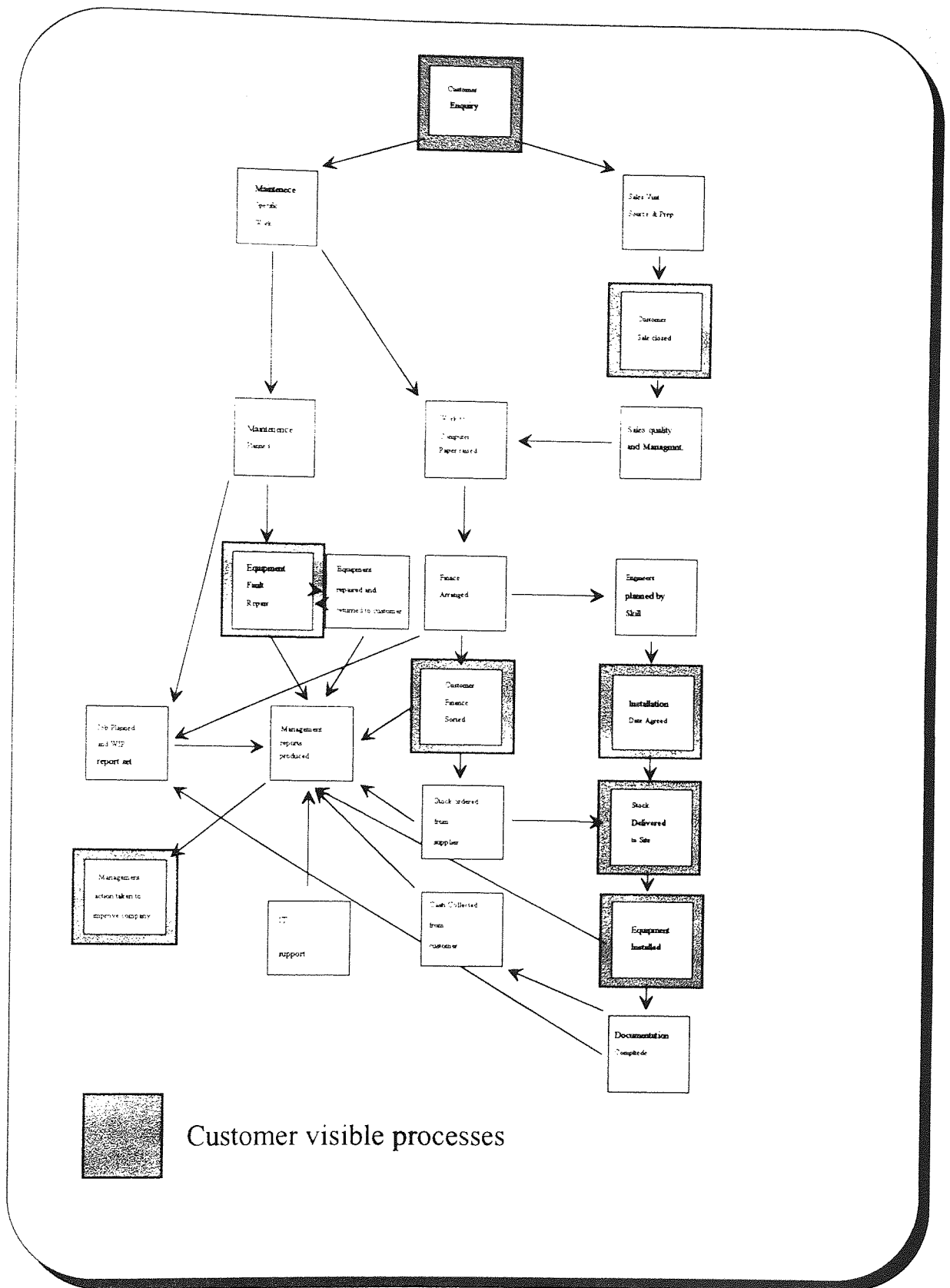


Figure 11.2 - Internal customer supplier map redrawn to process flow. (Source: Developed from customer service blue print)

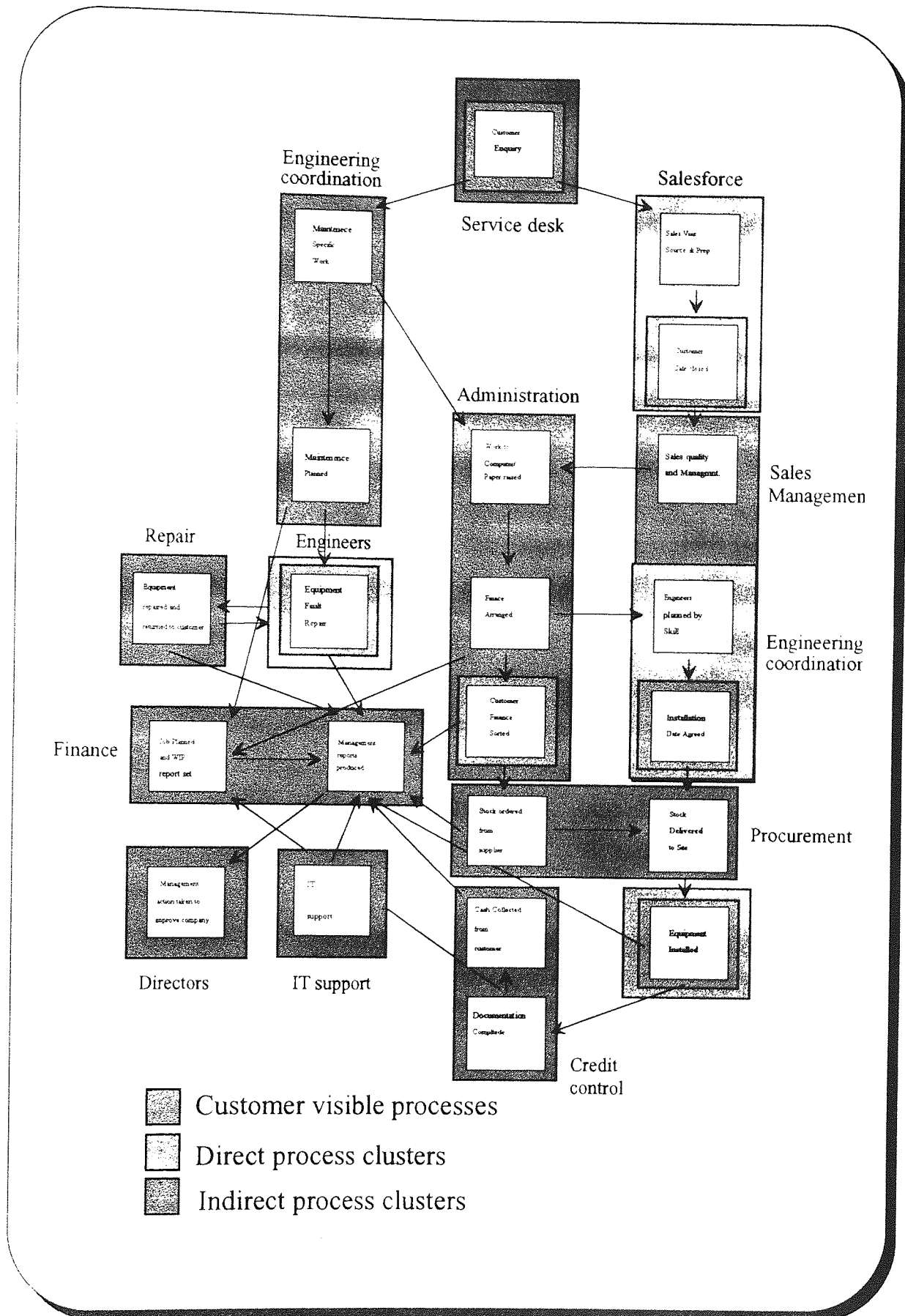


Figure 11.3 - Internal customer supplier map with main identified cells. (Source: Developed from customer service blue print)

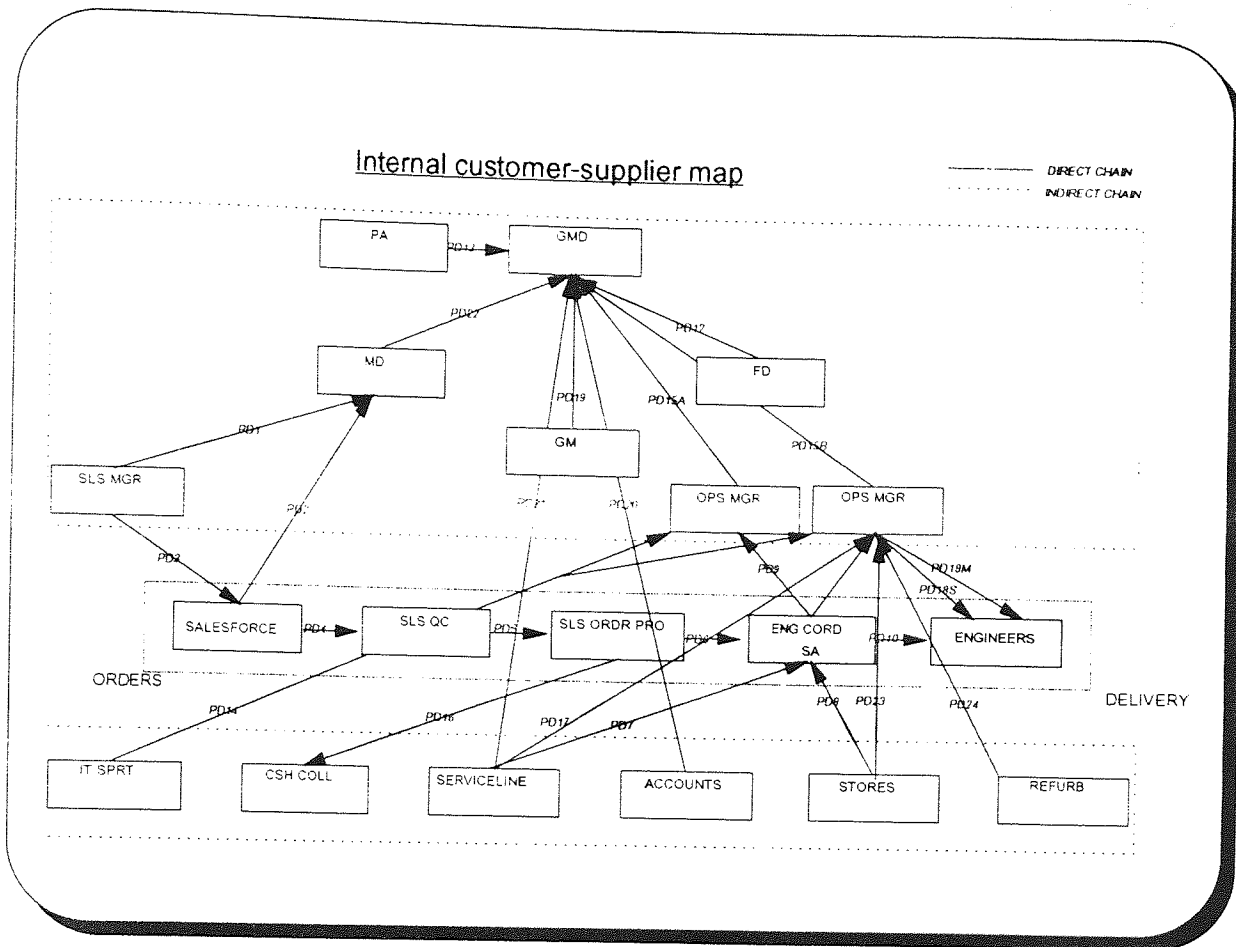


Figure 11.4 - Internal customer supplier map with all cells and interaction types. (Source: Developed from customer service blue print)

		CUSTOMER	
		DIRECT	INDIRECT
SUPPLIER	DIRECT	PD 4,5,6,7,10,16	PD 2,9,17
	INDIRECT	PD 3,8,18	PD 1,11,12,13,14,15,19 20,21,22,23,24.

Figure 11.5 - Service quality interaction matrix

Interaction code	Suppliers	Customers	Intrctn Type
PD 1	Sales Managers	Sales Director	II
PD 2	National Sales	Sales Director	DI
PD 3	Sales Managers	Salesforce	ID
PD 4	Salesforce	Sales QC	DD
PD 5	Sales QC	Sales order Processing	DD
PD 6	Sales order Processing	Co-ordinator	DD
PD 7	Serviceline	Co-ordinator	DD
PD 8	Stores	Co-ordinator	ID
PD 9	Co-ordinator	Install Managers	DI
PD 10	Co-ordinator	Engineers	DD
PD 11	Install Managers	Finance Department	II
PD 12	Finance Department	Group MD	II
PD 13	PA	Group MD	II
PD 14	IT	Install Managers	II
PD 15	Install Managers	Group MD	II
PD 16	Sales Order Processing	Cash Collection	DD
PD 17	Serviceline	Install Managers	DI
PD 18	Install Managers	Engineers	ID
PD 19	General Managers	Group MD	II
PD 20	Finance Manager	Group MD	II
PD 21	Servicelline Manager	Group MD	II
PD 22	Sales Director	Group MD	II
PD 23	Stores Manager	Install Managers	II
PD 24	Refurbishment	Install Managers	II

Table 11.1 - Customer supplier cells and interaction types. (Source: Developed from Customer service blueprint)

Appendix 12 - Internal Service Dimension Acquisition.

12.1 Indirect - Direct Questionnaire

1. When my internal supplier promises to do something by a certain time, he/she will do so.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>		
Excellent internal supplier	1	2	3	4	5	6	7			
My supplier	1	2	3	4	5	6	7			

2. When I have a problem, my internal supplier will show a sincere interest in solving it.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>		
Excellent internal supplier	1	2	3	4	5	6	7			
My supplier	1	2	3	4	5	6	7			

3. My internal supplier performs the service right first time.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>		
Excellent internal supplier	1	2	3	4	5	6	7			
My supplier	1	2	3	4	5	6	7			

4. My internal supplier provides services at the time he/she promises to do so.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>		
Excellent internal supplier	1	2	3	4	5	6	7			
My supplier	1	2	3	4	5	6	7			

5. My internal supplier will insist upon error free paperwork.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>		
Excellent internal supplier	1	2	3	4	5	6	7			
My supplier	1	2	3	4	5	6	7			

6. My internal supplier will tell me exactly when the services will be performed.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>		
Excellent internal supplier	1	2	3	4	5	6	7			
My supplier	1	2	3	4	5	6	7			

7. My internal supplier will give me prompt service.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>		
Excellent internal supplier	1	2	3	4	5	6	7			
My supplier	1	2	3	4	5	6	7			

8. My internal supplier will always be willing to help me.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>		
Excellent internal supplier	1	2	3	4	5	6	7			
My supplier	1	2	3	4	5	6	7			

9. My internal supplier will never be too busy to respond to my requests.
- | | | | |
|-----------------------------|--------------------------|---------------|-----------------------|
| | <i>Strongly Disagree</i> | | <i>Strongly Agree</i> |
| Excellent internal supplier | | 1 2 3 4 5 6 7 | |
| My supplier | | 1 2 3 4 5 6 7 | |
10. The behaviour of my internal supplier will instil confidence in me.
- | | | | |
|-----------------------------|--------------------------|---------------|-----------------------|
| | <i>Strongly Disagree</i> | | <i>Strongly Agree</i> |
| Excellent internal supplier | | 1 2 3 4 5 6 7 | |
| My supplier | | 1 2 3 4 5 6 7 | |
11. My internal supplier will be constantly courteous to me.
- | | | | |
|-----------------------------|--------------------------|---------------|-----------------------|
| | <i>Strongly Disagree</i> | | <i>Strongly Agree</i> |
| Excellent internal supplier | | 1 2 3 4 5 6 7 | |
| My supplier | | 1 2 3 4 5 6 7 | |
12. My internal supplier will have the knowledge to answer my queries.
- | | | | |
|-----------------------------|--------------------------|---------------|-----------------------|
| | <i>Strongly Disagree</i> | | <i>Strongly Agree</i> |
| Excellent internal supplier | | 1 2 3 4 5 6 7 | |
| My supplier | | 1 2 3 4 5 6 7 | |
13. My internal supplier will give me individual attention.
- | | | | |
|-----------------------------|--------------------------|---------------|-----------------------|
| | <i>Strongly Disagree</i> | | <i>Strongly Agree</i> |
| Excellent internal supplier | | 1 2 3 4 5 6 7 | |
| My supplier | | 1 2 3 4 5 6 7 | |
14. My internal supplier will arrange to work at times convenient to me.
- | | | | |
|-----------------------------|--------------------------|---------------|-----------------------|
| | <i>Strongly Disagree</i> | | <i>Strongly Agree</i> |
| Excellent internal supplier | | 1 2 3 4 5 6 7 | |
| My supplier | | 1 2 3 4 5 6 7 | |
15. My internal supplier will give me personal attention.
- | | | | |
|-----------------------------|--------------------------|---------------|-----------------------|
| | <i>Strongly Disagree</i> | | <i>Strongly Agree</i> |
| Excellent internal supplier | | 1 2 3 4 5 6 7 | |
| My supplier | | 1 2 3 4 5 6 7 | |
16. My internal supplier has my best interests at heart.
- | | | | |
|-----------------------------|--------------------------|---------------|-----------------------|
| | <i>Strongly Disagree</i> | | <i>Strongly Agree</i> |
| Excellent internal supplier | | 1 2 3 4 5 6 7 | |
| My supplier | | 1 2 3 4 5 6 7 | |
17. My internal supplier will understand my specific needs.
- | | | | |
|-----------------------------|--------------------------|---------------|-----------------------|
| | <i>Strongly Disagree</i> | | <i>Strongly Agree</i> |
| Excellent internal supplier | | 1 2 3 4 5 6 7 | |
| My supplier | | 1 2 3 4 5 6 7 | |

18. My internal supplier thinks about and satisfies my needs before I have the opportunity to ask him/her.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>	
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

19. My internal supplier shows attention to detail that satisfies my needs.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>	
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

20. My internal supplier shows leadership skills that provide me with direction when I am sometimes unclear how to move forward.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>	
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

Listed below are four features relating to your internal supplier. How important is each feature to you when you evaluate the quality of service that you receive? Please allocate a total of 100 points among the four features to indicate how important you think that they are. The more important, the more points. Please ensure that the total allocated adds to 100.

My internal suppliers ability to perform the promised service dependably and accurately,
Points =

My internal suppliers willingness to help customers and provide prompt service.
Points =

The knowledge, competence and courtesy of the my internal supplier and his/hers ability to convey trust and confidence.
Points =

The caring individualised attention that my internal supplier provides to me
Points =

Total points = 100

Please rate overall your internal suppliers service:

Terrible Poor Fair Good Outstanding

12.2 Direct - Direct Questionnaire.

1. When my internal supplier promises to do something by a certain time, he/she will do so.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>
Excellent internal supplier	1	2	3	4	5	6	7
My supplier	1	2	3	4	5	6	7

2. When I have a problem, my internal supplier will show a sincere interest in solving it.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>
Excellent internal supplier	1	2	3	4	5	6	7
My supplier	1	2	3	4	5	6	7

3. My internal supplier performs the service right first time.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>
Excellent internal supplier	1	2	3	4	5	6	7
My supplier	1	2	3	4	5	6	7

4. My internal supplier provides services at the time he/she promises to do so.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>
Excellent internal supplier	1	2	3	4	5	6	7
My supplier	1	2	3	4	5	6	7

5. My internal supplier will insist upon error free paperwork.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>
Excellent internal supplier	1	2	3	4	5	6	7
My supplier	1	2	3	4	5	6	7

6. My internal supplier will tell me exactly when the services will be performed.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>
Excellent internal supplier	1	2	3	4	5	6	7
My supplier	1	2	3	4	5	6	7

7. My internal supplier will give me prompt service.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>
Excellent internal supplier	1	2	3	4	5	6	7
My supplier	1	2	3	4	5	6	7

8. My internal supplier will always be willing to help me.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>
Excellent internal supplier	1	2	3	4	5	6	7
My supplier	1	2	3	4	5	6	7

9. My internal supplier will never be too busy to respond to my requests.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>
Excellent internal supplier	1	2	3	4	5	6	7
My supplier	1	2	3	4	5	6	7

10. The behaviour of my internal supplier will instil confidence in me.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

11. My internal supplier will be constantly courteous to me.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

12. My internal supplier will have the knowledge to answer my queries.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

13. My internal supplier will give me individual attention.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

14. My internal supplier will arrange to work at times convenient to me.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

15. My internal supplier will give me personal attention.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

16. My internal supplier has my best interests at heart.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

17. My internal supplier will understand my specific needs.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

18. My internal supplier thinks about and satisfies my needs before I have the opportunity to ask him/her.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

19. My internal supplier shows attention to detail that satisfies my needs.

Strongly Disagree

Strongly Agree

Excellent internal supplier

1 2 3 4 5 6 7

My supplier

1 2 3 4 5 6 7

Listed below are four features relating to your internal supplier. How important is each feature to you when you evaluate the quality of service that you receive? Please allocate a total of 100 points among the four features to indicate how important you think that they are. The more important, the more points. Please ensure that the total allocated adds to 100.

My internal suppliers ability to perform the promised service dependably and accurately,

Points =

My internal suppliers willingness to help customers and provide prompt service.

Points =

The knowledge, competence and courtesy of the my internal supplier and his/hers ability to convey trust and confidence.

Points =

The caring individualised attention that my internal supplier provides to me

Points =

Total points = 100

Please rate overall your internal suppliers service:

Terrible

Poor

Fair

Good

Outstanding

12.3 Direct - Indirect Questionnaire

1. When my internal supplier promises to do something by a certain time, he/she will do so.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

2. When I have a problem, my internal supplier will show a sincere interest in solving it.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

3. My internal supplier performs the service right first time.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

4. My internal supplier provides services at the time he/she promises to do so.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

5. My internal supplier will insist upon error free paperwork.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

6. My internal supplier will tell me exactly when the services will be performed.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

7. My internal supplier will give me prompt service.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

8. My internal supplier will always be willing to help me.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

9. My internal supplier will never be too busy to respond to my requests.

	<i>Strongly Disagree</i>							<i>Strongly Agree</i>
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

10. The behaviour of my internal supplier will instil confidence in me.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>	
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

11. My internal supplier will be constantly courteous to me.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>	
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

12. My internal supplier will have the knowledge to answer my queries.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>	
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

13. My internal supplier will give me individual attention.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>	
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

14. My internal supplier will arrange to work at times convenient to me.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>	
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

15. My internal supplier will give me personal attention.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>	
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

16. My internal supplier has my best interests at heart.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>	
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

17. My internal supplier will understand my specific needs.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>	
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

18. My internal supplier thinks about and satisfies my needs before I have the opportunity to ask him/her.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>	
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

19. My internal supplier shows attention to detail that satisfies my needs.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>	
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

Listed below are four features relating to your internal supplier. How important is each feature to you when you evaluate the quality of service that you receive? Please allocate a total of 100 points among the four features to indicate how important you think that they are. The more important, the more points. Please ensure that the total allocated adds to 100.

My internal suppliers ability to perform the promised service dependably and accurately,
Points =

My internal suppliers willingness to help customers and provide prompt service.
Points =

The knowledge, competence and courtesy of the my internal supplier and his/hers ability to convey trust and confidence.
Points =

The caring individualised attention that my internal supplier provides to me
Points =

Total points = 100

Please rate overall your internal suppliers service:

Terrible Poor Fair Good Outstanding

12.4 Indirect - Indirect Questionnaire

1. When my internal supplier promises to do something by a certain time, he/she will do so.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>
Excellent internal supplier	1	2	3	4	5	6	7
My supplier	1	2	3	4	5	6	7

2. When I have a problem, my internal supplier will show a sincere interest in solving it.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>
Excellent internal supplier	1	2	3	4	5	6	7
My supplier	1	2	3	4	5	6	7

3. My internal supplier performs the service right first time.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>
Excellent internal supplier	1	2	3	4	5	6	7
My supplier	1	2	3	4	5	6	7

4. My internal supplier provides services at the time he/she promises to do so.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>
Excellent internal supplier	1	2	3	4	5	6	7
My supplier	1	2	3	4	5	6	7

5. My internal supplier will insist upon error free paperwork.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>
Excellent internal supplier	1	2	3	4	5	6	7
My supplier	1	2	3	4	5	6	7

6. My internal supplier will tell me exactly when the services will be performed.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>
Excellent internal supplier	1	2	3	4	5	6	7
My supplier	1	2	3	4	5	6	7

7. My internal supplier will give me prompt service.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>
Excellent internal supplier	1	2	3	4	5	6	7
My supplier	1	2	3	4	5	6	7

8. My internal supplier will always be willing to help me.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>
Excellent internal supplier	1	2	3	4	5	6	7
My supplier	1	2	3	4	5	6	7

9. My internal supplier will never be too busy to respond to my requests.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>
Excellent internal supplier	1	2	3	4	5	6	7
My supplier	1	2	3	4	5	6	7

10. The behaviour of my internal supplier will instil confidence in me.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>	
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

11. My internal supplier will be constantly courteous to me.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>	
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

12. My internal supplier will have the knowledge to answer my queries.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>	
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

13. My internal supplier will give me individual attention.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>	
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

14. My internal supplier will arrange to work at times convenient to me.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>	
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

15. My internal supplier will give me personal attention.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>	
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

16. My internal supplier has my best interests at heart.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>	
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

17. My internal supplier will understand my specific needs.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>	
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

18. My internal supplier thinks about and satisfies my needs before I have the opportunity to ask him/her.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>	
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

19. My internal supplier shows leadership skills that provide me with direction when I am sometimes unclear how to move forward.

	<i>Strongly Disagree</i>						<i>Strongly Agree</i>	
Excellent internal supplier		1	2	3	4	5	6	7
My supplier		1	2	3	4	5	6	7

Listed below are four features relating to your internal supplier. How important is each feature to you when you evaluate the quality of service that you receive? Please allocate a total of 100 points among the four features to indicate how important you think that they are. The more important, the more points. Please ensure that the total allocated adds to 100.

My internal suppliers ability to perform the promised service dependably and accurately,
Points =

My internal suppliers willingness to help customers and provide prompt service.
Points =

The knowledge, competence and courtesy of the my internal supplier and his/hers ability to convey trust and confidence.
Points =

The caring individualised attention that my internal supplier provides to me
Points =

Total points = 100

Please rate overall your internal suppliers service:

Terrible Poor Fair Good Outstanding

12.5 Dimension clustering

The three dimensions that were derived from the interviews are essentially competence dimensions. These dimensions sit therefore in the assurance dimension cluster as defined by SERVQUAL. For each of the questionnaires as refined by the researcher and the employees within each of the internal customer supplier cells the dimension clusters have been assigned as given in Table 12.1. The tangibles dimension cluster has been removed as has the security dimension from the questionnaires. Again these questionnaires were reviewed with employees within the internal customer supplier cell.

Dimension Clstr	Indirect-Direct	Direct-Direct	Direct-Indirect	Indirect-Indirect
Reliability	Qu 1 to 5	Qu 1 to 5	Qu 1 to 5	Qu 1 to 5
Responsiveness	Qu 6 to 9	Qu 6 to 9	Qu 6 to 9	Qu 6 to 9
Assurance	Qu 10 to 12, 18 to 20	Qu 10 to 12, 18 & 19	Qu 10 to 12, 18 & 19	Qu 10 to 12, 18 & 19
Empathy	Qu 13-17	Qu 13-17	Qu 13-17	Qu 13-17

Table 12.1 - Dimension clustering for the four interaction type questionnaires. (Source: Developed from interviews and SERVQUAL questionnaire.)

Appendix 13 - Implementation Methodology

Each of the identified internal customer supplier cells rated the internal service performance of their suppliers according to the Map in Appendix 11. The service performance was then given to each of the cells and given 2 Months to make improvements. They were told what the dimensions meant and the top three and bottom three service performance scores given to them as a fundamental SWOT analysis of the service performance for the cells. An example service performance sheet is given in Figure 12.1. At the end of the 2 Months, the internal service performance questionnaires were administered again and the changes in internal service performance noted. At the same time as the internal performance improvement was measured so the external service performance was measured. Gap 5 of SERVQUAL was used to measure external service performance and could be translated easily with the exception of the tangibles element using the same clustered dimensions of reliability, responsiveness, assurance and empathy. During the test internal customer supplier cells realised that external customer satisfaction was an overriding goal and that internal service performance would contribute to this. The internal customer supplier cells were in the opinion of this researcher, motivated to contribute to the experiment.

Internal service - SD to AMcD - PD 1

- Strength 1 - Highly Courteous
- Strength 2 - Personal attention given
- Strength 3 - Willing to help
- Weakness 1 - Leadership skills
- Weakness 2 - Error free paperwork
- Weakness 3 - Delivery to promise

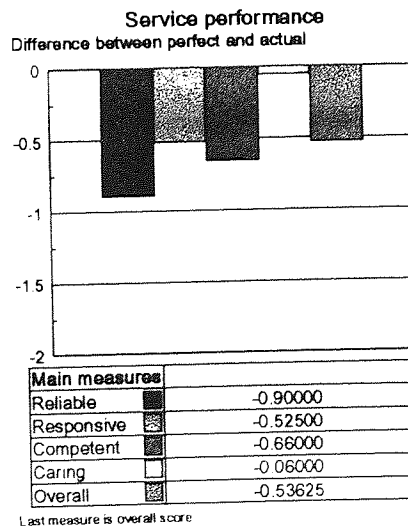


Figure 13.1 - Example of service performance sheet given to each of the internal customer supplier cells. (Source: Developed from internal service quality questionnaires)

Appendix 14. T-Test raw data

Variable	Number of Cases	Mean	SD	SE of Mean	

TANG1					
GROUPVAR 1	64	-.1439	.238	.030	
GROUPVAR 0	58	-.0766	.214	.028	

Mean Difference = -.0673					
Levene's Test for Equality of Variances: F= 1.626 P= .205					
t-test for Equality of Means 95%					
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff

Equal	-1.64	120	.105	.041	(-.149, .014)
Unequal	-1.64	119.99	.103	.041	(-.148, .014)

Table 14.1 - T-Test on Tangibles, pre and post installation. (Source: Developed from internal service quality questionnaire)

Variable	Number of Cases	Mean	SD	SE of Mean	

REL1					
GROUPVAR 1	64	-.7842	.951	.119	
GROUPVAR 0	58	-.3145	.781	.103	

Mean Difference = -.4697					
Levene's Test for Equality of Variances: F= 6.866 P= .010					
t-test for Equality of Means 95%					
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff

Equal	-2.96	120	.004	.159	(-.784, -.156)
Unequal	-2.99	118.89	.003	.157	(-.781, -.159)

Table 14.2 - T-Test on Reliability, pre and post installation. (Source: Developed from internal service quality questionnaire)

Variable	Number of Cases	Mean	SD	SE of Mean
RESP1				
GROUPVAR 1	64	-.3576	.429	.054
GROUPVAR 0	58	-.1703	.357	.047

Mean Difference = -.1873

Levene's Test for Equality of Variances: F= 5.086 P= .026

t-test for Equality of Means 95%

Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.60	120	.010	.072	(-.330, -.045)
Unequal	-2.63	119.14	.010	.071	(-.328, -.046)

Table 14.3 - T-Test on Response, pre and post installation.
(Source: Developed from internal service quality questionnaire)

Variable	Number of Cases	Mean	SD	SE of Mean
ASS1				
GROUPVAR 1	64	-.2509	.336	.042
GROUPVAR 0	58	-.1060	.263	.035

Mean Difference = -.1449

Levene's Test for Equality of Variances: F= 9.484 P= .003

t-test for Equality of Means 95%

Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.64	120	.009	.055	(-.254, -.036)
Unequal	-2.67	117.59	.009	.054	(-.252, -.037)

Table 14.4 - T-Test on Assurance, pre and post installation.
(Source: Developed from internal service quality questionnaire)

Variable	Number of Cases	Mean	SD	SE of Mean

EMP1				
GROUPVAR 1	64	-.1939	.343	.043
GROUPVAR 0	58	-.0655	.155	.020

Mean Difference = -.1285

Levene's Test for Equality of Variances: F= 11.103 P= .001

t-test for Equality of Means 95%

Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff

Equal	-2.62	120	.010	.049	(-.226, -.031)
Unequal	-2.71	89.51	.008	.047	(-.223, -.034)

Table 14.5 - T-Test on Empathy, pre and post installation.
(Source: Developed from internal service quality questionnaire)

Variable	Number of Cases	Mean	SD	SE of Mean

OVR1				
GROUPVAR 1	64	-.3461	.356	.044
GROUPVAR 0	58	.0090	1.016	.133

Mean Difference = -.3551

Levene's Test for Equality of Variances: F= .263 P= .609

t-test for Equality of Means 95%

Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff

Equal	-2.63	120	.010	.135	(-.623, -.087)
Unequal	-2.53	69.59	.014	.141	(-.636, -.075)

Table 14.6 - T-Test on Overall score, pre and post installation.
(Source: Developed from internal service quality questionnaire)

Variable	Number of Cases	Mean	SD	SE of Mean
IMPRVMEN				
GROUPDVA 1	5	-.6820	35.797	16.009
GROUPDVA 2	6	-25.0817	105.101	42.907

Mean Difference = 24.3997

Levene's Test for Equality of Variances: F= 1.747 P= .219

t-test for Equality of Means 95%

Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.49	9	.634	49.588	(-87.807, 136.606)
Unequal	.53	6.34	.612	45.797	(-87.694, 136.494)

Table 14.7 - T-Test on Improvement interactions ID and DD
(Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
IMPRVMEN				
GROUPDVA 1	5	-.6820	35.797	16.009
GROUPDVA 3	3	21.3500	35.487	20.488

Mean Difference = -22.0320

Levene's Test for Equality of Variances: F= .006 P= .943

t-test for Equality of Means 95%

Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.85	6	.430	26.067	(-85.835, 41.771)
Unequal	-.85	4.37	.441	26.001	(-94.248, 50.184)

Table 14.8 - T-Test on Improvement interactions ID and DI
(Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean

IMPRVMEN				
GROUPDVA 1	5	-.6820	35.797	16.009
GROUPDVA 4	11	10.2764	12.254	3.695

Mean Difference = -10.9584

Levene's Test for Equality of Variances: F= 5.222 P= .038

t-test for Equality of Means 95%

Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff

Equal	-.93	14	.366	11.735	(-36.134, 14.217)
Unequal	-.67	4.43	.538	16.430	(-56.591, 34.674)

Table 14.9 - T-Test on Improvement interactions ID and II
(Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean

IMPRVMEN				
GROUPDVA 2	6	-25.0817	105.101	42.907
GROUPDVA 3	3	21.3500	35.487	20.488

Mean Difference = -46.4317

Levene's Test for Equality of Variances: F= 1.003 P= .350

t-test for Equality of Means 95%

Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff

Equal	-.72	7	.493	64.226	(-198.346, 105.483)
Unequal	-.98	6.67	.363	47.548	(-158.897, 66.034)

Table 14.10 - T-Test on Improvement interactions DD and DI
(Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean

IMPRVMEN				
GROUPDVA 2	6	-25.0817	105.101	42.907
GROUPDVA 3	3	21.3500	35.487	20.488

Mean Difference = -46.4317

Levene's Test for Equality of Variances: F= 1.003 P= .350

t-test for Equality of Means 95%

Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff

Equal	-.72	7	.493	64.226	(-198.346, 105.483)
Unequal	-.98	6.67	.363	47.548	(-158.897, 66.034)

Table 14.11 - T-Test on Improvement interactions DD and DI
 (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean

IMPRVMEN				
GROUPDVA 2	6	-25.0817	105.101	42.907
GROUPDVA 4	11	10.2764	12.254	3.695

Mean Difference = -35.3580

Levene's Test for Equality of Variances: F= 8.279 P= .012

t-test for Equality of Means 95%

Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff

Equal	-1.13	15	.275	31.212	(-101.902, 31.186)
Unequal	-.82	5.07	.448	43.066	(-146.099, 75.383)

Table 14.12 - T-Test on Improvement interactions DD and II
 (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
IMPRVMEN				
GROUPDVA 3	3	21.3500	35.487	20.488
GROUPDVA 4	11	10.2764	12.254	3.695

Mean Difference = 11.0736

Levene's Test for Equality of Variances: F= 7.829 P= .016

t-test for Equality of Means 95%

Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.93	12	.371	11.922	(-14.908, 37.056)
Unequal	.53	2.13	.645	20.819	(-78.502, 100.649)

Table 14.13 - T-Test on Improvement interactions DI and II (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
G5REL1				
GROUPVR1 1	64	-.7842	.951	.119
GROUPVR1 2	28	-.9774	.626	.118

Mean Difference = .1932

Levene's Test for Equality of Variances: F= 5.807 P= .018

t-test for Equality of Means 95%

Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.98	90	.328	.196	(-.197, .583)
Unequal	1.15	75.87	.253	.168	(-.141, .527)

Table 14.14 - T0 T-Test on Internal/External Reliability (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
G5RESP1				
GROUPVR1 1	64	-.3576	.429	.054
GROUPVR1 2	28	-.4984	.323	.061

Mean Difference = .1409

Levene's Test for Equality of Variances: F= 4.876 P= .030

t-test for Equality of Means 95%

Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	1.55	90	.124	.091	(-.039, .321)
Unequal	1.73	67.50	.088	.081	(-.022, .303)

Table 14.15 - T0 T-Test on Internal/External Responsiveness
 (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
G5ASS1				
GROUPVR1 1	64	-.2509	.336	.042
GROUPVR1 2	28	-.2076	.284	.054

Mean Difference = -.0433

Levene's Test for Equality of Variances: F= 6.526 P= .012

t-test for Equality of Means 95%

Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.60	90	.553	.073	(-.188, .101)
Unequal	-.64	60.47	.527	.068	(-.179, .093)

Table 14.16 - T0 T-Test on Internal/External Assurance
 (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
G5EMP1				
GROUPVR1 1	64	-.1939	.343	.043
GROUPVR1 2	28	-.1910	.151	.029

Mean Difference = -.0030

Levene's Test for Equality of Variances: F= 5.115 P= .026
 t-test for Equality of Means 95%

Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.04	90	.965	.068	(-.137, .131)
Unequal	-.06	89.98	.954	.051	(-.105, .099)

Table 14.17 - T0 T-Test on Internal/External Empathy
 (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
G5OVR1				
GROUPVR1 1	64	-.3461	.356	.044
GROUPVR1 2	28	-.4796	.179	.034

Mean Difference = .1335

Levene's Test for Equality of Variances: F= 20.504 P= .000
 t-test for Equality of Means 95%

Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	1.88	90	.063	.071	(-.008, .275)
Unequal	2.39	88.09	.019	.056	(.022, .245)

Table 14.18 - T0 T-Test on Internal/External Overall
 (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
G5REL2				
GROUPV2 1	58	-.3145	.781	.103
GROUPV2 2	27	-.7859	.502	.097

Mean Difference = .4714

Levene's Test for Equality of Variances: F = .204 P = .653

t-test for Equality of Means 95%

Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	2.87	83	.005	.164	(.144, .799)
Unequal	3.34	74.45	.001	.141	(.190, .752)

Table 14.19 - T1 T-Test on Internal/External Reliability
(Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
G5RESP2				
GROUPV2 1	58	-.1703	.357	.047
GROUPV2 2	27	-.4610	.255	.049

Mean Difference = .2907

Levene's Test for Equality of Variances: F = .644 P = .425

t-test for Equality of Means 95%

Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	3.80	83	.000	.077	(.138, .443)
Unequal	4.28	68.86	.000	.068	(.155, .426)

Table 14.20 - T1 T-Test on Internal/External Responsiveness
(Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
G5ASS2				
GROUPVR2 1	58	-.1060	.263	.035
GROUPVR2 2	27	-.2383	.165	.032

Mean Difference = .1323

Levene's Test for Equality of Variances: F= 1.085 P= .301

t-test for Equality of Means 95%

Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	2.40	83	.019	.055	(.023, .242)
Unequal	2.82	75.69	.006	.047	(.039, .226)

Table 14.21 - T1 T-Test on Internal/External Assurance
 (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
G5EMP2				
GROUPVR2 1	58	-.0655	.155	.020
GROUPVR2 2	27	-.2032	.160	.031

Mean Difference = .1377

Levene's Test for Equality of Variances: F= 1.357 P= .247

t-test for Equality of Means 95%

Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	3.78	83	.000	.036	(.065, .210)
Unequal	3.74	49.44	.000	.037	(.064, .212)

Table 14.22 - T1 T-Test on Internal/External Empathy
 (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
G5OVR2				
GROUPVVR2 1	58	-.0243	.981	.129
GROUPVVR2 2	27	-.4245	.152	.029

Mean Difference = .4002

Levene's Test for Equality of Variances: F= 1.217 P= .273

t-test for Equality of Means 95%

Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	2.10	83	.039	.190	(.022, .779)
Unequal	3.03	62.67	.004	.132	(.136, .664)

Table 14.23 - T1 T-Test on Internal/External Overall
(Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
RELIAB				
GROUPVAR 1	27	-.9774	.638	.123
GROUPVAR 2	27	-.7859	.502	.097

Mean Difference = -.1915

Levene's Test for Equality of Variances: F= .540 P= .466

t-test for Equality of Means 95%

Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-1.22	52	.226	.156	(-.505, .122)
Unequal	-1.22	49.28	.227	.156	(-.506, .123)

Table 14.24- T-Test-Co Internal Reliability improvement at
T0-T1 (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
RESP				
GROUPVAR 1	27	-.4984	.330	.063
GROUPVAR 2	27	-.4610	.255	.049

Mean Difference = -.0374

Levene's Test for Equality of Variances: F= .444 P= .508

t-test for Equality of Means 95%

Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.47	52	.643	.080	(-.198, .124)
Unequal	-.47	48.94	.643	.080	(-.199, .124)

Table 14.25- T-Test-Co Internal Responsiveness improvement at T0-T1 (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
ASS				
GROUPVAR 1	27	-.2518	.159	.031
GROUPVAR 2	27	-.2383	.165	.032

Mean Difference = -.0135

Levene's Test for Equality of Variances: F= .005 P= .942

t-test for Equality of Means 95%

Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.31	52	.761	.044	(-.102, .075)
Unequal	-.31	51.95	.761	.044	(-.102, .075)

Table 14.26 - T-Test-Co Internal Assurance improvement at T0-T1 (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
EMP				
GROUPVAR 1	27	-.1910	.154	.030
GROUPVAR 2	27	-.2032	.160	.031

Mean Difference = .0122

Levene's Test for Equality of Variances: F= .406 P= .527

t-test for Equality of Means 95%

	Variations	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.29	52	.776	.043	(-.073, .098)	
Unequal	.29	51.93	.776	.043	(-.073, .098)	

Table 14.27 - T-Test-Co Internal Empathy (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00021				
VAR00020 1	45	5.8901	1.098	.164
VAR00020 2	45	5.9754	1.155	.172

Mean Difference = -.0854

Levene's Test for Equality of Variances: F= .245 P= .622

	t-test for Equality of Means		95%		
Variations	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.36	88	.720	.238	(-.558, .387)
Unequal	-.36	87.78	.720	.238	(-.558, .387)

Table 14.28 Change in expectations T0-T1 for whole company. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean

VAR00021				
VAR00022 1	17	5.7802	.600	.145
VAR00022 5	17	6.1084	.837	.203

Mean Difference = -.3282

Levene's Test for Equality of Variances: F= 3.279 P= .080

t-test for Equality of Means					95%	
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff	

Equal	-1.31	32	.198	.250	(-.837, .181)	
Unequal	-1.31	29.00	.199	.250	(-.839, .183)	

Table 14.29 Change in expectations T0-T1 for All ID types. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean

VAR00021				
VAR00022 2	13	5.9150	.656	.182
VAR00022 6	13	5.7328	.599	.166

Mean Difference = .1822

Levene's Test for Equality of Variances: F= .450 P= .509

t-test for Equality of Means					95%	
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff	

Equal	.74	24	.467	.246	(-.326, .691)	
Unequal	.74	23.80	.467	.246	(-.326, .691)	

Table 14.30 Change in expectations T0-T1 for All DD types. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00021				
VAR00022	3	6.0702	.809	.467
VAR00022	7	6.1228	.804	.464

Mean Difference = -.0526

Levene's Test for Equality of Variances: F= .017 P= .901

t-test for Equality of Means				95%	
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.08	4	.940	.659	(-1.882, 1.776)
Unequal	-.08	4.00	.940	.659	(-1.882, 1.776)

Table 14.31 Change in expectations T0-T1 for DI types. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00021				
VAR00022	4	5.9737	1.918	.554
VAR00022	8	6.0132	1.925	.556

Mean Difference = -.0395

Levene's Test for Equality of Variances: F= .002 P= .968

t-test for Equality of Means				95%	
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.05	22	.960	.784	(-1.667, 1.588)
Unequal	-.05	22.00	.960	.784	(-1.667, 1.588)

Table 14.32 Change in expectations T0-T1 for II types. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00001				
GPVAR 1	45	6.4889	1.199	.179
GPVAR 2	45	6.4000	1.214	.181

Mean Difference = .0889

Levene's Test for Equality of Variances: F = .055 P = .815

t-test for Equality of Means			95%		
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.35	88	.728	.254	(-.417, .594)
Unequal	.35	87.99	.728	.254	(-.417, .594)

Table 14.33 Change in expectations by promise dimension T0 - T1. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00003				
GPVAR 1	45	6.2444	1.209	.180
GPVAR 2	45	6.3778	1.248	.186

Mean Difference = -.1333

Levene's Test for Equality of Variances: F = .026 P = .873

t-test for Equality of Means			95%		
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.51	88	.608	.259	(-.648, .382)
Unequal	-.51	87.91	.608	.259	(-.648, .382)

Table 14.34 Change in expectations T0-T1 for problem solving dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00005				
GPVAR 1	45	6.4000	1.232	.184
GPVAR 2	45	6.4667	1.179	.176

Mean Difference = -.0667

Levene's Test for Equality of Variances: F= .112 P= .738

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.26	88	.794	.254	(-.572, .439)
Unequal	-.26	87.83	.794	.254	(-.572, .439)

Table 14.35 Change in expectations T0-T1 for right first time dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00007				
GPVAR 1	45	6.4000	1.268	.189
GPVAR 2	45	6.5111	1.180	.176

Mean Difference = -.1111

Levene's Test for Equality of Variances: F= .483 P= .489

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.43	88	.668	.258	(-.624, .402)
Unequal	-.43	87.54	.668	.258	(-.624, .402)

Table 14.36 Change in expectations T0-T1 for promised time dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00009				
GPVAR 1	45	6.0000	1.462	.218
GPVAR 2	45	6.2667	1.286	.192

Mean Difference = -.2667

Levene's Test for Equality of Variances: F= .854 P= .358

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.92	88	.361	.290	(-.844, .310)
Unequal	-.92	86.60	.361	.290	(-.844, .310)

Table 14.37 Change in expectations T0-T1 for paperwork dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00011				
GPVAR 1	45	6.2000	1.408	.210
GPVAR 2	45	6.2000	1.325	.197

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .267 P= .606

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.00	88	1.000	.288	(-.573, .573)
Unequal	.00	87.68	1.000	.288	(-.573, .573)

Table 14.38 Change in expectations T0-T1 for feeling when performed dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00013				
GPVAR 1	45	6.3778	1.230	.183
GPVAR 2	45	6.3111	1.294	.193

Mean Difference = .0667

Levene's Test for Equality of Variances: F= .077 P= .781

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.25	88	.803	.266	(-.462, .596)
Unequal	.25	87.78	.803	.266	(-.462, .596)

Table 14.39 Change in expectations T0-T1 for prompt service dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00015				
GPVAR 1	45	6.1778	1.211	.181
GPVAR 2	45	6.3111	1.184	.176

Mean Difference = -.1333

Levene's Test for Equality of Variances: F= .000 P= .992

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.53	88	.599	.252	(-.635, .369)
Unequal	-.53	87.95	.599	.252	(-.635, .369)

Table 14.40 Change in expectations T0-T1 for willing to help dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00017				
GPVAR 1	45	5.8444	1.278	.191
GPVAR 2	45	5.9778	1.469	.219

Mean Difference = -.1333

Levene's Test for Equality of Variances: F= .504 P= .480

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.46	88	.647	.290	(-.710, .444)
Unequal	-.46	86.35	.647	.290	(-.711, .444)

Table 14.41 Change in expectations T0-T1 for respond to requests dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00019				
GPVAR 1	45	5.8222	1.466	.219
GPVAR 2	45	5.7778	1.550	.231

Mean Difference = .0444

Levene's Test for Equality of Variances: F= .043 P= .837

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.14	88	.889	.318	(-.588, .677)
Unequal	.14	87.73	.889	.318	(-.588, .677)

Table 14.42 Change in expectations T0-T1 for instil confidence dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00021				
GPVAR 1	45	4.8444	1.595	.238
GPVAR 2	45	5.1778	1.696	.253

Mean Difference = -.3333

Levene's Test for Equality of Variances: F= 1.318 P= .254

t-test for Equality of Means			95%		
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.96	88	.339	.347	(-1.023, .357)
Unequal	-.96	87.67	.339	.347	(-1.023, .357)

Table 14.43 Change in expectations T0-T1 for courtesy dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00023				
GPVAR 1	45	6.3333	1.187	.177
GPVAR 2	45	6.2444	1.282	.191

Mean Difference = .0889

Levene's Test for Equality of Variances: F= .125 P= .725

t-test for Equality of Means			95%		
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.34	88	.734	.260	(-.429, .607)
Unequal	.34	87.48	.734	.260	(-.429, .607)

Table 14.44 Change in expectations T0-T1 for answer queries dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00025				
GPVAR 1	45	5.3333	1.679	.250
GPVAR 2	45	5.6889	1.607	.240

Mean Difference = -.3556

Levene's Test for Equality of Variances: F= .047 P= .828

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-1.03	88	.308	.346	(-1.044, .333)
Unequal	-1.03	87.83	.308	.346	(-1.044, .333)

Table 14.45 Change in expectations T0-T1 for individual attention dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00027				
GPVAR 1	45	5.1333	1.660	.247
GPVAR 2	45	5.2444	1.640	.244

Mean Difference = -.1111

Levene's Test for Equality of Variances: F= .072 P= .789

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.32	88	.750	.348	(-.802, .580)
Unequal	-.32	87.99	.750	.348	(-.802, .580)

Table 14.46 Change in expectations T0-T1 for working conveniently dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00029				
GPVAR 1	45	5.2667	1.558	.232
GPVAR 2	45	5.4889	1.618	.241

Mean Difference = -.2222

Levene's Test for Equality of Variances: F= .256 P= .614

t-test for Equality of Means			95%		
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.66	88	.509	.335	(-.888, .443)
Unequal	-.66	87.87	.509	.335	(-.888, .443)

Table 14.47 Change in expectations T0-T1 for personal attention. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00031				
GPVAR 1	45	5.5333	1.375	.205
GPVAR 2	45	5.4889	1.532	.228

Mean Difference = .0444

Levene's Test for Equality of Variances: F= 1.275 P= .262

t-test for Equality of Means			95%		
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.14	88	.885	.307	(-.566, .654)
Unequal	.14	86.99	.885	.307	(-.566, .655)

Table 14.48 Change in expectations T0-T1 for best interests dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00033				
GPVAR 1	45	5.9778	1.406	.210
GPVAR 2	45	6.1556	1.242	.185

Mean Difference = -.1778

Levene's Test for Equality of Variances: F= .063 P= .802

t-test for Equality of Means			95%		
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.64	88	.527	.280	(-.734, .378)
Unequal	-.64	86.69	.527	.280	(-.734, .378)

Table 14.49 Change in expectations T0-T1 for understanding needs dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00035				
GPVAR 1	45	5.4000	1.572	.234
GPVAR 2	45	5.5111	1.590	.237

Mean Difference = -.1111

Levene's Test for Equality of Variances: F= .123 P= .727

t-test for Equality of Means			95%		
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.33	88	.740	.333	(-.774, .552)
Unequal	-.33	87.99	.740	.333	(-.774, .552)

Table 14.50 Change in expectations T0-T1 for satisfying needs dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00037				
GPVAR 1	45	6.1333	1.325	.197
GPVAR 2	45	5.9333	1.498	.223

Mean Difference = .2000

Levene's Test for Equality of Variances: F= .776 P= .381

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.67	88	.504	.298	(-.393, .793)
Unequal	.67	86.69	.504	.298	(-.393, .793)

Table 14.51 Change in expectations T0-T1 for attention to detail dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00001				
VAR00005 1	45	40.2667	19.097	2.847
VAR00005 2	45	34.9111	15.192	2.265

Mean Difference = 5.3556

Levene's Test for Equality of Variances: F= 1.728 P= .192

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	1.47	88	.145	3.638	(-1.875, 12.587)
Unequal	1.47	83.77	.145	3.638	(-1.880, 12.591)

Table 14.52 Change in expectations weighting T0-T1 for whole company for reliability. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00002				
VAR00005 1	45	25.9111	14.076	2.098
VAR00005 2	45	27.1111	12.036	1.794

Mean Difference = -1.2000

Levene's Test for Equality of Variances: F= 1.150 P= .286

t-test for Equality of Means				95%	
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.43	88	.665	2.761	(-6.688, 4.288)
Unequal	-.43	85.93	.665	2.761	(-6.690, 4.290)

Table 14.53 Change in expectations weighting T0-T1 for whole company for responsiveness. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00003				
VAR00005 1	45	17.4889	9.132	1.361
VAR00005 2	45	18.4222	8.297	1.237

Mean Difference = -.9333

Levene's Test for Equality of Variances: F= .830 P= .365

t-test for Equality of Means				95%	
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.51	88	.613	1.839	(-4.589, 2.723)
Unequal	-.51	87.20	.613	1.839	(-4.590, 2.723)

Table 14.54 Change in expectations weighting T0-T1 for whole company for assurance. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00004				
VAR00005 1	45	14.1111	9.391	1.400
VAR00005 2	45	16.8889	10.731	1.600

Mean Difference = -2.7778

Levene's Test for Equality of Variances: F= .013 P= .908

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-1.31	88	.195	2.126	(-7.003, 1.448)
Unequal	-1.31	86.48	.195	2.126	(-7.004, 1.449)

Table 14.55 Change in expectations weighting T0-T1 for whole company for empathy. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00001				
VAR00006 1	17	42.2353	19.857	4.816
VAR00006 5	17	28.8824	11.911	2.889

Mean Difference = 13.3529

Levene's Test for Equality of Variances: F= 4.481 P= .042

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	2.38	32	.024	5.616	(1.911, 24.795)
Unequal	2.38	26.19	.025	5.616	(1.806, 24.900)

Table 14.56 Change in expectations weighting T0-T1 for ID reliability dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00002				
VAR00006 1	17	24.5882	12.620	3.061
VAR00006 5	17	27.6471	7.929	1.923

Mean Difference = -3.0588

Levene's Test for Equality of Variances: F= 2.475 P= .125

t-test for Equality of Means				95%	
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.85	32	.404	3.615	(-10.423, 4.306)
Unequal	-.85	26.93	.405	3.615	(-10.477, 4.360)

Table 14.57 Change in expectations weighting T0-T1 for ID responsiveness dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00003				
VAR00006 1	17	18.8824	7.132	1.730
VAR00006 5	17	22.6471	6.642	1.611

Mean Difference = -3.7647

Levene's Test for Equality of Variances: F= .152 P= .699

t-test for Equality of Means				95%	
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-1.59	32	.121	2.364	(-8.580, 1.051)
Unequal	-1.59	31.84	.121	2.364	(-8.580, 1.051)

Table 14.58 Change in expectations weighting T0-T1 for ID assurance dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean

VAR00004				
VAR00006 1	17	14.2941	9.238	2.241
VAR00006 5	17	20.8235	12.131	2.942

Mean Difference = -6.5294

Levene's Test for Equality of Variances: F = .043 P = .836

t-test for Equality of Means				95%	
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff

Equal	-1.77	32	.087	3.698	(-14.064, 1.005)
Unequal	-1.77	29.89	.088	3.698	(-14.084, 1.025)

Table 14.59 Change in expectations weighting T0-T1 for ID empathy dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean

VAR00001				
VAR00006 2	13	35.6923	14.476	4.015
VAR00006 6	13	36.5385	12.142	3.368

Mean Difference = -.8462

Levene's Test for Equality of Variances: F = .512 P = .481

t-test for Equality of Means				95%	
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff

Equal	-.16	24	.873	5.240	(-11.664, 9.972)
Unequal	-.16	23.29	.873	5.240	(-11.689, 9.997)

Table 14.60 Change in expectations weighting T0-T1 for DD reliability dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00002				
VAR00006 2	13	24.0769	5.722	1.587
VAR00006 6	13	23.8462	4.634	1.285

Mean Difference = .2308

Levene's Test for Equality of Variances: F= .031 P= .861

t-test for Equality of Means				95%	
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.11	24	.911	2.042	(-3.985, 4.447)
Unequal	.11	23.01	.911	2.042	(-3.995, 4.456)

Table 14.61 Change in expectations weighting T0-T1 for DD Responsiveness Dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00003				
VAR00006 2	13	19.7692	10.670	2.959
VAR00006 6	13	16.9231	7.228	2.005

Mean Difference = 2.8462

Levene's Test for Equality of Variances: F= 1.268 P= .271

t-test for Equality of Means				95%	
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.80	24	.434	3.575	(-4.533, 10.225)
Unequal	.80	21.10	.435	3.575	(-4.589, 10.282)

Table 14.62 Change in expectations weighting T0-T1 for DD Assurance Dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00004				
VAR00006 2	13	20.4615	8.333	2.311
VAR00006 6	13	21.1538	6.504	1.804

Mean Difference = -.6923

Levene's Test for Equality of Variances: F= .522 P= .477

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.24	24	.815	2.932	(-6.745, 5.360)
Unequal	-.24	22.66	.815	2.932	(-6.759, 5.374)

Table 14.63 Change in expectations weighting T0-T1 for DD Empathy Dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00001				
VAR00006 3	3	36.6667	11.547	6.667
VAR00006 7	3	41.6667	10.408	6.009

Mean Difference = -5.0000

Levene's Test for Equality of Variances: F= .114 P= .752

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.56	4	.607	8.975	(-29.928, 19.928)
Unequal	-.56	3.96	.607	8.975	(-29.928, 19.928)

Table 14.64 Change in expectations weighting T0-T1 for DI Reliability Dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean

VAR00002				
VAR00006 3	3	36.6667	11.547	6.667
VAR00006 7	3	31.6667	7.638	4.410

Mean Difference = 5.0000

Levene's Test for Equality of Variances: F= 1.241 P= .328

t-test for Equality of Means			95%		
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff

Equal	.63	4	.566	7.993	(-17.200, 27.200)
Unequal	.63	3.47	.570	7.993	(-20.437, 30.437)

Table 14.65 Change in expectations weighting T0-T1 for DI Responsiveness Dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean

VAR00003				
VAR00006 3	3	19.6667	10.017	5.783
VAR00006 7	3	21.3333	10.263	5.925

Mean Difference = -1.6667

Levene's Test for Equality of Variances: F= .027 P= .877

t-test for Equality of Means			95%		
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff

Equal	-.20	4	.850	8.280	(-24.663, 21.330)
Unequal	-.20	4.00	.850	8.280	(-24.663, 21.330)

Table 14.66 Change in expectations weighting T0-T1 for DI Assurance Dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean

VAR00004				
VAR00006 3	3	7.0000	5.196	3.000
VAR00006 7	3	5.3333	4.509	2.603

Mean Difference = 1.6667

Levene's Test for Equality of Variances: F= .269 P= .631

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff

Equal	.42	4	.696	3.972	(-9.366, 12.699)
Unequal	.42	3.92	.697	3.972	(-9.366, 12.699)

Table 14.67 Change in expectations weighting T0-T1 for DI Empathy Dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean

VAR00001				
VAR00006 4	12	43.3333	24.246	6.999
VAR00006 8	12	40.0000	20.889	6.030

Mean Difference = 3.3333

Levene's Test for Equality of Variances: F= .466 P= .502

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff

Equal	.36	22	.722	9.239	(-15.831, 22.498)
Unequal	.36	21.53	.722	9.239	(-15.831, 22.498)

Table 14.68 Change in expectations weighting T0-T1 for II Reliability Dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00002				
VAR00006 4	12	27.0833	21.475	6.199
VAR00006 8	12	28.7500	20.794	6.003

Mean Difference = -1.6667

Levene's Test for Equality of Variances: F= .083 P= .776

t-test for Equality of Means				95%	
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.19	22	.849	8.629	(-19.567, 16.234)
Unequal	-.19	21.98	.849	8.629	(-19.567, 16.234)

Table 14.69 Change in expectations weighting T0-T1 for II Responsiveness Dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00003				
VAR00006 4	12	12.5000	8.919	2.575
VAR00006 8	12	13.3333	8.616	2.487

Mean Difference = -.8333

Levene's Test for Equality of Variances: F= .003 P= .955

t-test for Equality of Means				95%	
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.23	22	.818	3.580	(-8.259, 6.593)
Unequal	-.23	21.97	.818	3.580	(-8.259, 6.593)

Table 14.70 Change in expectations weighting T0-T1 for II Assurance Dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00004				
VAR00006 4	12	8.7500	7.424	2.143
VAR00006 8	12	9.5833	7.525	2.172

Mean Difference = -.8333

Levene's Test for Equality of Variances: F= .001 P= .977

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.27	22	.787	3.052	(-7.163, 5.497)
Unequal	-.27	22.00	.787	3.052	(-7.163, 5.497)

Table 14.71 Change in expectations weighting T0-T1 for II Empathy Dimension. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00001				
VAR00051 1	19	6.2105	1.084	.249
VAR00051 2	19	6.9474	.229	.053

Mean Difference = -.7368

Levene's Test for Equality of Variances: F= 37.559 P= .000

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.90	36	.006	.254	(-1.253, -.221)
Unequal	-2.90	19.61	.009	.254	(-1.267, -.206)

Table 14.72 Change in expectations T0-T1 for individual cell PD 18. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00002				
VAR00051 1	19	5.8421	1.068	.245
VAR00051 2	19	6.1579	.602	.138

Mean Difference = -.3158

Levene's Test for Equality of Variances: F= 2.756 P= .106

t-test for Equality of Means				95%	
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-1.12	36	.269	.281	(-.886, .255)
Unequal	-1.12	28.40	.271	.281	(-.892, .260)

Table 14.73 Change in expectations T0-T1 for individual cell PD18. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00003				
VAR00051 1	19	5.5263	.513	.118
VAR00051 2	19	7.0000	.000	.000

Mean Difference = -1.4737

Levene's Test for Equality of Variances: F=6480.00 P= .000

t-test for Equality of Means				95%	
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-12.52	36	.000	.118	(-1.712, -1.235)
Unequal	-12.52	18.00	.000	.118	(-1.721, -1.226)

Table 14.74 Change in expectations T0-T1 for individual cell PD 18 company. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00004				
VAR00051 1	19	6.3684	.597	.137
VAR00051 2	19	5.2105	.855	.196

Mean Difference = 1.1579

Levene's Test for Equality of Variances: F= 4.465 P= .042

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	4.84	36	.000	.239	(.673, 1.643)
Unequal	4.84	32.19	.000	.239	(.670, 1.645)

Table 14.75 Change in expectations T0-T1 for individual cell PD 18. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00005				
VAR00051 1	19	6.1579	1.015	.233
VAR00051 2	19	5.3684	1.461	.335

Mean Difference = .7895

Levene's Test for Equality of Variances: F= 3.031 P= .090

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	1.93	36	.061	.408	(-.038, 1.617)
Unequal	1.93	32.08	.062	.408	(-.042, 1.621)

Table 14.76 Change in expectations T0-T1 for individual cell PD 14. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
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VAR00006

VAR00051 1	19	5.6842	.946	.217
VAR00051 2	19	6.5789	.607	.139

Mean Difference = -.8947

Levene's Test for Equality of Variances: F= 6.678 P= .014

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-3.47	36	.001	.258	(-1.418, -.372)
Unequal	-3.47	30.67	.002	.258	(-1.421, -.369)

Table 14.77 Change in expectations T0-T1 for individual cell PD 14. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
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VAR00007

VAR00051 1	19	5.7368	1.284	.295
VAR00051 2	19	5.5789	1.427	.327

Mean Difference = .1579

Levene's Test for Equality of Variances: F= 2.584 P= .117

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.36	36	.722	.440	(-.735, 1.051)
Unequal	.36	35.61	.722	.440	(-.735, 1.051)

Table 14.78 Change in expectations T0-T1 for individual cell PD 8. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00008				
VAR00051 1	19	4.7895	2.637	.605
VAR00051 2	19	5.7368	.991	.227

Mean Difference = -.9474

Levene's Test for Equality of Variances: F= 24.719 P= .000

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-1.47	36	.151	.646	(-2.258, .364)
Unequal	-1.47	22.99	.156	.646	(-2.285, .390)

Table 14.79 Change in expectations T0-T1 for individual cell PD 3. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00009				
VAR00051 1	19	6.3158	.820	.188
VAR00051 2	19	4.6842	1.376	.316

Mean Difference = 1.6316

Levene's Test for Equality of Variances: F= 2.716 P= .108

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	4.44	36	.000	.368	(.886, 2.377)
Unequal	4.44	29.35	.000	.368	(.880, 2.384)

Table 14.80 Change in expectations T0-T1 for individual cell PD 3. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00010				
VAR00051 1	19	4.5789	1.305	.299
VAR00051 2	19	4.3684	1.640	.376

Mean Difference = .2105

Levene's Test for Equality of Variances: F= 1.848 P= .183

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.44	36	.664	.481	(-.765, 1.186)
Unequal	.44	34.26	.664	.481	(-.767, 1.188)

Table 14.81 Change in expectations T0-T1 for individual cell PD 3. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00011				
VAR00051 1	19	5.7895	1.032	.237
VAR00051 2	19	6.6842	.946	.217

Mean Difference = -.8947

Levene's Test for Equality of Variances: F= 1.579 P= .217

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.79	36	.008	.321	(-1.546, -.243)
Unequal	-2.79	35.73	.008	.321	(-1.546, -.243)

Table 14.82 Change in expectations T0-T1 for individual cell PD 3. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
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VAR00012

VAR00051 1	19	5.3684	1.342	.308
VAR00051 2	19	5.8421	1.214	.279

Mean Difference = -.4737

Levene's Test for Equality of Variances: F= .145 P= .705

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-1.14	36	.261	.415	(-1.316, .369)
Unequal	-1.14	35.64	.261	.415	(-1.316, .369)

Table 14.83 Change in expectations T0-T1 for individual cell PD 3. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
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VAR00013

VAR00051 1	19	5.2632	.991	.227
VAR00051 2	19	7.0000	.000	.000

Mean Difference = -1.7368

Levene's Test for Equality of Variances: F= 23.467 P= .000

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-7.64	36	.000	.227	(-2.198, -1.276)
Unequal	-7.64	18.00	.000	.227	(-2.215, -1.259)

Table 14.84 Change in expectations T0-T1 for individual cell PD 3. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00014				
VAR00051 1	19	5.4211	.692	.159
VAR00051 2	19	6.7368	.653	.150

Mean Difference = -1.3158

Levene's Test for Equality of Variances: F= 1.709 P= .199

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-6.02	36	.000	.218	(-1.759, -.873)
Unequal	-6.02	35.88	.000	.218	(-1.759, -.873)

Table 14.85 Change in expectations T0-T1 for individual cell PD 18. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00015				
VAR00051 1	19	6.3684	.831	.191
VAR00051 2	19	7.0000	.000	.000

Mean Difference = -.6316

Levene's Test for Equality of Variances: F= 37.571 P= .000

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-3.31	36	.002	.191	(-1.018, -.245)
Unequal	-3.31	18.00	.004	.191	(-1.032, -.231)

Table 14.86 Change in expectations T0-T1 for individual cell PD 18. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean

VAR00016				
VAR00051 1	19	5.8947	1.410	.323
VAR00051 2	19	6.4737	1.073	.246

Mean Difference = -.5789

Levene's Test for Equality of Variances: F= 2.823 P= .102

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff

Equal	-1.42	36	.163	.407	(-1.404, .246)
Unequal	-1.42	33.62	.164	.407	(-1.405, .247)

Table 14.87 Change in expectations T0-T1 for individual cell PD 4 .(Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean

VAR00017				
VAR00051 1	19	6.9474	.229	.053
VAR00051 2	19	6.4737	.964	.221

Mean Difference = .4737

Levene's Test for Equality of Variances: F= 25.761 P= .000

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff

Equal	2.08	36	.044	.227	(.012, .935)
Unequal	2.08	20.03	.050	.227	(-.001, .948)

Table 14.88 Change in expectations T0-T1 for individual cell PD 4.(Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00019				
VAR00051 1	19	5.6842	1.057	.242
VAR00051 2	19	5.7368	1.098	.252

Mean Difference = -.0526

Levene's Test for Equality of Variances: F= .029 P= .866

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.15	36	.881	.350	(-.762, .656)
Unequal	-.15	35.95	.881	.350	(-.762, .656)

Table 14.89 Change in expectations T0-T1 for individual cell PD 5. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00020				
VAR00051 1	19	5.6842	1.057	.242
VAR00051 2	19	5.7368	1.098	.252

Mean Difference = -.0526

Levene's Test for Equality of Variances: F= .029 P= .866

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.15	36	.881	.350	(-.762, .656)
Unequal	-.15	35.95	.881	.350	(-.762, .656)

Table 14.90 Change in expectations T0-T1 for individual cell PD 6. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00021				
VAR00051 1	19	5.6842	1.057	.242
VAR00051 2	19	5.6316	1.012	.232

Mean Difference = .0526

Levene's Test for Equality of Variances: F= .032 P= .860

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.16	36	.876	.336	(-.628, .733)
Unequal	.16	35.93	.876	.336	(-.628, .733)

Table 14.91 Change in expectations T0-T1 for individual cell PD 10. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00022				
VAR00051 1	19	6.3684	1.257	.288
VAR00051 2	19	6.6842	.946	.217

Mean Difference = -.3158

Levene's Test for Equality of Variances: F= 3.264 P= .079

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.88	36	.387	.361	(-1.048, .416)
Unequal	-.88	33.44	.388	.361	(-1.050, .418)

Table 14.92 Change in expectations T0-T1 for individual cell PD 10. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00023				
VAR00051 1	19	5.7368	1.368	.314
VAR00051 2	19	5.4737	1.264	.290

Mean Difference = .2632

Levene's Test for Equality of Variances: F= .056 P= .814

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.62	36	.542	.427	(-.603, 1.130)
Unequal	.62	35.78	.542	.427	(-.603, 1.130)

Table 14.93 Change in expectations T0-T1 for individual cell PD 10. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00024				
VAR00051 1	19	6.3158	.946	.217
VAR00051 2	19	6.0526	.229	.053

Mean Difference = .2632

Levene's Test for Equality of Variances: F= 74.829 P= .000

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	1.18	36	.246	.223	(-.190, .716)
Unequal	1.18	20.11	.252	.223	(-.203, .729)

Table 14.94 Change in expectations T0-T1 for individual cell PD 10. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00025				
VAR00051 1	19	4.4211	.838	.192
VAR00051 2	19	5.7368	.452	.104

Mean Difference = -1.3158

Levene's Test for Equality of Variances: F= 9.735 P= .004

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-6.02	36	.000	.218	(-1.759, -.873)
Unequal	-6.02	27.68	.000	.218	(-1.763, -.868)

Table 14.95 Change in expectations T0-T1 for individual cell PD 10. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00026				
VAR00051 1	19	7.0000	.000	.000
VAR00051 2	19	4.2632	1.046	.240

Mean Difference = 2.7368

Levene's Test for Equality of Variances: F= 44.452 P= .000

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	11.41	36	.000	.240	(2.250, 3.224)
Unequal	11.41	18.00	.000	.240	(2.233, 3.241)

Table 14.96 Change in expectations T0-T1 for individual cell PD 10. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean

VAR00027				
VAR00051 1	19	6.6316	.597	.137
VAR00051 2	19	5.5789	1.071	.246

Mean Difference = 1.0526

Levene's Test for Equality of Variances: F= 5.522 P= .024

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff

Equal	3.74	36	.001	.281	(.482, 1.623)
Unequal	3.74	28.21	.001	.281	(.476, 1.629)

Table 14.97 Change in expectations T0-T1 for individual cell PD 7. (Source: From Internal service quality questionnaires)

Variable	of Cases	Mean	SD	SE of Mean

VAR00028				
VAR00051 1	19	5.4737	1.307	.300
VAR00051 2	19	6.2105	.419	.096

Mean Difference = -.7368

Levene's Test for Equality of Variances: F= 19.887 P= .000

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff

Equal	-2.34	36	.025	.315	(-1.375, -.098)
Unequal	-2.34	21.66	.028	.315	(-1.390, -.084)

Table 14.98 Change in expectations T0-T1 for individual cell PD 16. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00029				
VAR00051 1	19	5.7368	1.327	.304
VAR00051 2	19	5.3684	1.012	.232

Mean Difference = .3684

Levene's Test for Equality of Variances: F= .604 P= .442

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.96	36	.342	.383	(-.408, 1.145)
Unequal	.96	33.64	.343	.383	(-.410, 1.146)

Table 14.99 Change in expectations T0-T1 for individual cell PD 2. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00030				
VAR00051 1	19	5.6316	.895	.205
VAR00051 2	19	5.5263	.697	.160

Mean Difference = .1053

Levene's Test for Equality of Variances: F= 1.826 P= .185

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.40	36	.688	.260	(-.423, .633)
Unequal	.40	33.95	.688	.260	(-.424, .634)

Table 14.100 Change in expectations T0-T1 for individual cell PD 17. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00031				
VAR00051 1	19	6.5263	.612	.140
VAR00051 2	19	6.5263	.612	.140

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .000 P= 1.000

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.00	36	1.000	.198	(-.403, .403)
Unequal	.00	36.00	1.000	.198	(-.403, .403)

Table 14.101 Change in expectations T0-T1 for individual cell PD 9. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00035				
VAR00051 1	19	5.6842	.946	.217
VAR00051 2	19	5.9474	1.353	.310

Mean Difference = -.2632

Levene's Test for Equality of Variances: F= 7.139 P= .011

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.69	36	.492	.379	(-1.031, .505)
Unequal	-.69	32.20	.492	.379	(-1.035, .508)

Table 14.102 Change in expectations T0-T1 for individual cell PD 1. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00036				
VAR00051 1	19	5.5263	.905	.208
VAR00051 2	19	5.4211	1.502	.345

Mean Difference = .1053

Levene's Test for Equality of Variances: F= 4.227 P= .047

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.26	36	.795	.402	(-.711, .921)
Unequal	.26	29.54	.795	.402	(-.717, .927)

Table 14.103 Change in expectations T0-T1 for individual cell PD 11. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00041				
VAR00051 1	19	6.7368	.806	.185
VAR00051 2	19	6.7368	.806	.185

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .000 P= 1.000

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.00	36	1.000	.261	(-.530, .530)
Unequal	.00	36.00	1.000	.261	(-.530, .530)

Table 14.104 Change in expectations T0-T1 for individual cell PD 12. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean

VAR00042				
VAR00051 1	19	6.8947	.459	.105
VAR00051 2	19	6.8947	.459	.105

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .000 P= 1.000

t-test for Equality of Means				95%	
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff

Equal	.00	36	1.000	.149	(-.302, .302)
Unequal	.00	36.00	1.000	.149	(-.302, .302)

Table 14.105 Change in expectations T0-T1 for individual cell PD 13. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean

VAR00043				
VAR00051 1	19	6.6842	.946	.217
VAR00051 2	19	6.6842	.946	.217

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .000 P= 1.000

t-test for Equality of Means				95%	
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff

Equal	.00	36	1.000	.307	(-.623, .623)
Unequal	.00	36.00	1.000	.307	(-.623, .623)

Table 14.106 Change in expectations T0-T1 for individual cell PD 15. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00044				
VAR00051 1	19	6.4737	1.073	.246
VAR00051 2	19	6.4737	1.073	.246

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .000 P= 1.000

t-test for Equality of Means			95%		
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.00	36	1.000	.348	(-.706, .706)
Unequal	.00	36.00	1.000	.348	(-.706, .706)

Table 14.107 Change in expectations T0-T1 for individual cell PD 19. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00045				
VAR00051 1	19	6.7368	.653	.150
VAR00051 2	19	6.7368	.653	.150

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .000 P= 1.000

t-test for Equality of Means			95%		
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.00	36	1.000	.212	(-.430, .430)
Unequal	.00	36.00	1.000	.212	(-.430, .430)

Table 14.108 Change in expectations T0-T1 for individual cell PD 20. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00046				
VAR00051 1	19	6.0526	1.177	.270
VAR00051 2	19	6.0526	1.177	.270

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .000 P= 1.000

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.00	36	1.000	.382	(-.775, .775)
Unequal	.00	36.00	1.000	.382	(-.775, .775)

Table 14.109 Change in expectations T0-T1 for individual cell PD 21. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00047				
VAR00051 1	19	6.4211	1.017	.233
VAR00051 2	19	6.4211	1.017	.233

Mean Difference = .0000

Levene's Test for Equality of Variances: F= .000 P= 1.000

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.00	36	1.000	.330	(-.670, .670)
Unequal	.00	36.00	1.000	.330	(-.670, .670)

Table 14.110 Change in expectations T0-T1 for individual cell PD 22. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean

VAR00048				
VAR00051 1	19	5.8947	.737	.169
VAR00051 2	19	5.7895	1.357	.311

Mean Difference = .1053

Levene's Test for Equality of Variances: F= 7.439 P= .010

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff

Equal	.30	36	.768	.354	(-.614, .824)
Unequal	.30	27.78	.769	.354	(-.621, .831)

Table 14.111 Change in expectations T0-T1 for individual cell PD 23. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean

VAR00049				
VAR00051 1	19	6.8421	.688	.158
VAR00051 2	19	6.7368	.733	.168

Mean Difference = .1053

Levene's Test for Equality of Variances: F= .555 P= .461

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff

Equal	.46	36	.651	.231	(-.363, .573)
Unequal	.46	35.86	.651	.231	(-.363, .573)

Table 14.112 Change in expectations T0-T1 for individual cell PD 15. (Source: From Internal service quality questionnaires)

Variable	Number of Cases	Mean	SD	SE of Mean
VAR00050				
VAR00051 1	19	5.9474	.780	.179
VAR00051 2	19	6.6316	.496	.114

Mean Difference = -.6842

Levene's Test for Equality of Variances: F= 1.358 P= .251

t-test for Equality of Means				95%	
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-3.23	36	.003	.212	(-1.114, -.254)
Unequal	-3.23	30.50	.003	.212	(-1.117, -.251)

Table 14.113 Change in expectations T0-T1 for individual cell PD 24. (Source: From Internal service quality questionnaires)