

THE IMPACT OF COMPETITIVE FEE TENDERING ON CONSTRUCTION PROFESSIONAL SERVICE QUALITY

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DECLARATION

The writer completed an MPhil at this institution (Hoxley, 1993) and the research question under investigation here, sprang from this earlier study into the service quality and client referral systems of UK building surveying practices.

Although the two studies share none of the same hypotheses the earlier study has in some respects (mainly in terms of data collection and analysis) served as a "pilot study" for the current research.

Some of the literature review and methodological development work have been written up and presented as conference papers as the work has progressed (see Hoxley, 1996a and b).

ABSTRACT

It is less than fifteen years since the associations representing construction professionals in the UK surrendered to Government pressure, and abolished mandatory fee scales, predicting as they did so that abolition would inevitably lead to a decline in the standard of service provided to clients. Competitive fee tendering is now the principal route for the appointment of construction professionals in the UK and during the recent recession, fee levels fell to unprecedented low levels. The main aim of this research project is to ascertain whether fee tendering has led to a decline in service quality.

The research commences with a literature review of professional services in a construction industry context. The framework for the review is the three stage consumer behaviour model and the variables identified by the literature search are then developed into a process model. The model is underpinned by the important variables to be investigated - the method of appointment and clients' perceptions of service quality. A literature review of these subjects leads to the development of one main hypothesis (that clients' perceptions of service quality are lower for fee tendered appointments) and four sub-hypotheses.

The hypotheses are tested by the analysis of data arising from the assessment of 244 professional consultants by their clients. The main research instrument is a measurement scale developed by comparing four previous studies, with the much used SERVQUAL scale (Parasuraman, Zeithaml and Berry, 1991), providing the main foundation of the scale.

The data do not support the main hypothesis - either for the entire client sample or for public sector clients only. However the hypotheses that service quality is higher when care is taken with the pre-selection of tenderers and when adequate weighting has been given to ability, are supported. The thesis concludes with implications for the professions and for clients, and with recommendations for further research.

SECTION I : A MODEL OF PROFESSIONAL SERVICES

CHAPTER 1 : INTRODUCTION

SECTION I - A MODEL OF PROFESSIONAL SERVICES

CHAPTER 1

INTRODUCTION

1.1 Background

One of the original Apollo lunar astronauts is reputed to have been asked what was going through his mind at the moment immediately before his rocket blasted off into space. He replied that all he could think of was, that everything around him, everything upon which his life would depend for the next few days, had been provided by firms who had quoted in competition for the work, and thus had carried out the work for the least possible price (Hollis, 1995). Malcolm Hollis recounts this tale in the context of the carrying out of Building Surveys - the surveyor should be aware that everything in the building to be inspected has, more likely than not, been provided at the least possible price.

All economic activity involves a trade off between cost and quality. The unstated assumption behind Hollis' warning is that low price means low quality. Is this correct? If indeed this assumption does apply to building work, does it also apply to the professional services provided in connection with this work? The aim of this research project is to find an answer to this fundamental question which lies at the very heart of "professionalism" as we approach the millennium.

Less than fifteen years ago an important aspect of “professionalism” meant not undercutting one’s competitors, indeed most professionals could have been disciplined, even struck off, for competing on the basis of fees. The professional institutions, in response to various Monopolies and Mergers Commission reports have all now abolished mandatory fee scales.

As we will see later in this thesis the majority of commissions for professional services in the construction and property industries in the UK are now let on a competitive fee tendered basis. This is not to say that this method of appointment is popular with the professions. Many times throughout this document the wide ranging review of the construction industry by Sir Michael Latham is referred to (Latham, 1994). This is what Latham has said recently about one aspect of fee tendering - compulsion to tender for Local Authorities :

I do not like compulsory competitive fee bidding as a route for selecting consultants. I agree with a very large and experienced private sector retail client, with an annual spend of umpteen million pounds, who told me that he would never dream of selecting a consultant on such a basis, and always used negotiation. He did not pay what the contractor asked for, still less contemplate a scale fee, but he did not believe in a sacrificial fee either. He wanted the best service, and expected to pay for it. If he did not get it, he looked elsewhere next time.

(Latham, 1997, p58)

The recently elected Labour Government in the UK has announced that it intends to eventually abandon Compulsory Competitive Tendering for Local Authorities but consumerism has gone too far down the track for the private sector market place to follow the lead of Sir Michael Latham's enlightened client. Fee tendering is here to stay and fee levels will, for the foreseeable future, be determined by market forces. Whether this situation will lead, or indeed already has led, to a decline in the standard of professional service (as most professional institutions predicted when they abolished mandatory fee scales) is the main research question of this work.

1.2 Thesis Framework

This Thesis is divided into four main sections. In this first section (Chapters 1-5) a literature review of professional services is presented. The review follows the three stage consumer behaviour framework presented by several service marketing researchers (for example Bateson, 1995, pp24-25) and identifies the important variables at each stage. These variables are then developed into a process model of professional services. The model is used to identify the area for the focal study presented in Section II (Chapters 6-9), in which the hypotheses of the research are developed and then considered in the light of two topical practice management issues - professional indemnity insurance and quality assurance. The third section (Chapters 10-13) is concerned with the methodology of the research and in particular development of the main research instrument and with the data collection and analysis techniques employed. In the final section (Chapters 14-16) the

results of the study are presented, conclusions drawn and recommendations made.

1.3 Summary

In this introductory chapter the importance of fee tendering to construction professional services has been considered briefly, and the main research question - whether fee tendering has or will lead to a reduction in service quality has been stated. The framework of this document has been outlined. In the following chapter the literature review of professional services commences.

CHAPTER 2 : PROFESSIONAL SERVICES

CHAPTER 2

PROFESSIONAL SERVICES

2.1 The Services Revolution

The latter part of this century has seen what many commentators describe as a "service revolution" - following on the heels of the "agriculture revolution" and the "industrial revolution," (Toffler, 1985, p20). Manufacturing has declined in its importance to all leading economies. For example in the United States manufacturing accounted for 26% of gross domestic product (GDP) in 1970 but by 1991 this had fallen to 21%. In the former West Germany manufacturing as a proportion of GDP fell from 41% in 1970 to 28% in 1991 and in Japan from 36% to 29% (Bateson, 1995, p5).

Here in the UK manufacturing fell from 32% of GDP in 1973 to 22% in 1995 (Central Statistical Office, 1985 and 1997) and 73% of all employees were employed in services in 1993 compared with 48% in 1964 (Griffiths and Wall, 1995, p9).

So in the UK and throughout the developed World, services have become increasingly important, but how do services differ from manufactured goods?

2.2 Services are Different

Traditionally services have been defined not in isolation, but in terms of how they differ from manufactured goods. Christian Gronroos (1984), one of the

Nordic School of services marketing, summarises the main differences as :

- intangibility
- simultaneous production and consumption
- heterogeneous delivery

Each of these differences is examined below.

2.3 Intangibility

A manufactured good may be inspected at the point of purchase. It is possible to demonstrate a personal computer or a new car to a potential customer. This is not the case with a service, which cannot be touched, smelt or tasted. There are of course physical elements to all services. Take for example eating out at a restaurant. The physical element is the food consumed but the service will not only be judged on this aspect but also on the environment in which the meal is eaten and on the promptness and politeness of the waiter, all of which are far less tangible.

2.4 Simultaneous Production and Consumption

A product is manufactured in a factory and purchased perhaps many months later by the consumer. All services, however, involve an element of simultaneous production and consumption. Our meal in the restaurant is consumed at the same time (or very soon after) it has been served by the waiter. The politeness or otherwise of the waiter makes an immediate impression upon us. If the music in the restaurant is too loud it may spoil our

enjoyment of the eating out experience. This difference between products and services means that a service cannot be fully assessed until it has been consumed.

2.5 Heterogeneous Delivery

Manufactured goods are subject to strict quality control to ensure that a homogeneous product is provided to customers. The new personal computer or car should be identical to all other similar models produced in the factory. Services are obviously very people dependant and the politeness or otherwise of our waiter will probably depend upon his mood or how busy he is. The demeanour of the waiter may also be affected by how well he relates to the customer. Heterogeneous delivery of services therefore results from the impossibility of predicting how the people offering and receiving the service will relate to one another.

Intangibility, simultaneous production and consumption and being heterogeneous are then, the principal differences between services and products. We have seen above that these differences result in service consumers' evaluation procedures which are significantly different from those of product consumers. In order to explain consumers' behaviour, services marketing researchers have developed a three stage model (see for example, Bateson, 1995, pp24-25). The three stages are *prepurchase*, *consumption* and *postpurchase*. These stages have been used as the framework for the current literature review. The remainder of this chapter is concerned with

important variables during the prepurchase stage, while the other two phases are considered in Chapters 3 and 4. We will commence our examination of professional services by first defining a "Professional."

2.6 The Professions

The unifying factor for all occupations classified as professions is that they conduct their work within a self imposed ethical framework. Wilson, A (1984, p19) draws attention to the conditioning factors of training and education upon practice development and describes the three stages of professional development as :

- achievement of legal recognition
- adherence to a self imposed code of ethics and
- recognition by society as a whole

Carr-Saunders and Wilson, (1964, p3) identify nearly 30 vocations which could be classified as being professions; (there are probably several more that could be added to this list to update it, for example "software consultant"). They also suggest that professions are collections of technical experts with formal association and that the development of all professions can be seen as an inevitable result of a historical process : the meeting of like-minded people in social situations, the discussion of common problems, attempts to resolve the problems ending with the formalisation of these attempts and discussions into an organisational framework. Root (1997, p11) suggests that we would normally consider such behaviour as a precursor to

forming cartels but that with professions the situation seems to be different. Both sides, he suggests, benefit from the professions' existence : the practitioner or practice gains status while the client gains protection through the control exercised by the professional associations and the professional values inherent in the associations' members.

Wittreich (1966) states that there are two critical aspects of professionalism - the professional must be able to demonstrate a knowledge and skill in his claimed area of competence and must be able to recognise the limits of his skills and the boundaries of his competence.

The skills and knowledge of the professional are acquired through his education, training and experience in practising his or her profession. As the professional moves through Maister's (1982) three career stages of "grinder, minder and finder" his or her skills and knowledge will increase. Root (1997, p12) states that all construction, land and property professions are identified, but not determined by two primary characteristics :

- a prolonged period of training/education to acquire a specific body of knowledge
- a methodology to apply this knowledge to the ordinary business of life.

Root suggests that the knowledge passed on during education and training will be innately conservative with an emphasis on traditional skills and techniques. Some observers of the construction professions have argued

that this has resulted in a confrontational stance being taken by one profession against another (or even by sub-divisions of the same profession). Latham (1994, p74) suggests that in general there is an acceptance that a greater inter disciplinary approach is necessary, without losing the expertise of individual professions.

Walker (1989, p269) believes that the establishment of the construction professions has led to the protection of their positions and created patterns of working that inhibited innovation. He believes however that :

There is evidence that the barriers between the professions are being broken down as they seek to survive in an increasingly complex and competitive society.

2.7 Professional Services

Just as services have been defined by describing their differences to manufactured goods, so professional services have traditionally been defined in relation to how they differ from other services. Of course it would be perfectly legitimate to simply say that a professional service is any service performed by a member of a profession. However Warren Wittreich (1966) was the first to attempt to describe the characteristics of a professional service. He suggested that any purchaser of such a service will have :

- a high degree of uncertainty
- a need for the professional to demonstrate an understanding of the client's problem

- a requirement for total and unwavering professionalism

The third of these requirements is implicit in the discussion in 2.6 above and the second is discussed in Chapter 3 but the first of these requirements is discussed below.

2.8 Uncertainty

When we visit our mythical restaurant we have some uncertainty, particularly if we have never eaten there before. When using professional services the degree of uncertainty is likely to be very much higher. This is because such services are high in what Zeithaml (1981, pp186-190) terms "credence qualities" - attributes which the consumer may find impossible to evaluate, because they lack the skills to do so. Thus as Sibson (1971) says : "The customer of a professional service enterprise is buying confidence."

Wilson, A (1984, pp80-84) identifies nine potential sources of uncertainty, which are :

1. *Is a professional, or indeed any service needed?*

Very often it is not until an initial consultation with the professional that the client becomes aware of whether he actually requires the services of the professional.

2. *New situation for the client*

Any anticipation of an intimidating atmosphere is likely to be a function of the client's level of previous experience of using similar services (see 2.12)

3. *Lack of confidence in the service concerned*

Some professions have a poor image and the client is likely to have preconceived ideas before visiting a member of such a profession.

4. *Which practice or professional to choose?*

Much research (for example Wheeler, 1987) suggests that potential clients attempt to reduce this aspect of uncertainty by relying on personal recommendations. However when the potential client has no-one to recommend a practice or professional, then uncertainty is considerably increased.

5. *Ignorance of alternatives*

This uncertainty applies when there is more than one professional able to offer the service. For example the Architect, Building Surveyor or Architectural Technician may all be viable alternatives for certain building design work.

6. *Unspecified or open-ended cost commitment*

Few customers would agree to purchase a manufactured good without knowing exactly what it is likely to cost them. Yet for the more complex professional services, clients are often required to commence using the service without knowing what the ultimate fee is likely to be.

7. *Lack of objectivity by the professional*

This aspect of uncertainty stems from the poor image that some professionals have as a result of a few defaulting members, the actions of whom receive high profile media attention.

8. *Inability to assess value for money*

Much of the service provided for a client is "invisible" and it is impossible for the client to know whether they have received value for money.

9. *Rejection of liability*

The high cost of professional indemnity insurance for many professionals and their attempts to avoid litigation at any cost means that much advice is given in a guarded fashion. Hence the comment of one experienced practitioner : "Be totally professional in all your dealings with your client but always keep one eye over your shoulder lest they attempt to stab you in the back."

So far we have considered two factors which the professional brings to the service - his skills and knowledge and his professionalism. However what is also of crucial importance to the professional is his need to survive or remain in business.

2.9 Need to Survive

This research project commenced at or very near the bottom of the worst economic recession witnessed in the UK for 50 years. At that time many construction professionals were struggling to survive and indeed some failed to do so. As this work is being written up more healthy economic times have returned and most professionals are once again achieving good profit levels. However there will always be a need for professionals to earn sufficient fee income in order to survive.

Root (1997, p10) asks :

But are the construction professions different from other occupations?

At the most basic level the primary purpose of any professional, indeed of any practice, is to make money. In this way they are no different from any occupation and this fact ultimately underpins all behaviour.

Coxe et al (1987, p23) writing about the management of construction professional firms in the United States, say :

What is becoming evident is that many architecture and engineering firms are "practices" first and "businesses" second, and therein lies a whole new perspective about what goes on in such organisations. The contrast can be expressed as a continuum with business-centred professional firms at one end and practice-centred firms at the other. Although every professional design firm on the continuum combines aspects of both business and practice, there is an enormous difference depending on which value dominates.

Obviously if a firm is too near the business centred end there could be a danger of "professionalism" suffering but never-the-less firms must make a profit if they are to survive.

2.10 Strategic Considerations

The construction professional firms which failed to survive the recent recession are likely to be those who failed to react swiftly enough to their

changing environment or in other words those that lacked a strategic vision of the future. Maister (1993, pp223-224) points out that "... strategy development is the search for ways to build a competitive advantage through distinctive capabilities." He emphasises that this implies new methods of operating, new skill development and new accountabilities, and that, not to change, is rarely an option. Schneider, in his work for the strategic study of the British architectural profession (RIBA, 1992), recommends that architectural practices need to develop a higher level of strategic thinking in the way they locate, distinguish and generally develop and extend their practices. Schneider acknowledges the significant contribution made to the study by Graham Winch and their ideas, which are further refined and articulated in Winch and Schneider, 1993a and 1993b, are summarised below.

Coxe et al's (1987) "super-positioning" matrix shown in Figure 1 below is criticised mainly because the dimensions upon which it is based do not measure market characteristics. Instead the researchers suggest that a more useful approach would be to focus on the actual process of architect selection. The two stages of the process are illustrated in Figures 2 and 3. In Figure 2 practices are positioned according to their perceived experience and design orientation, although Schneider (RIBA, 1992, p128) points out that the exact nature of the dimensions may vary depending upon the market. The first matrix represents the short-listing process and the final selection is

based upon the overall pack attractiveness (which includes price) and which is represented by the third dimension of the matrix in Figure 3.

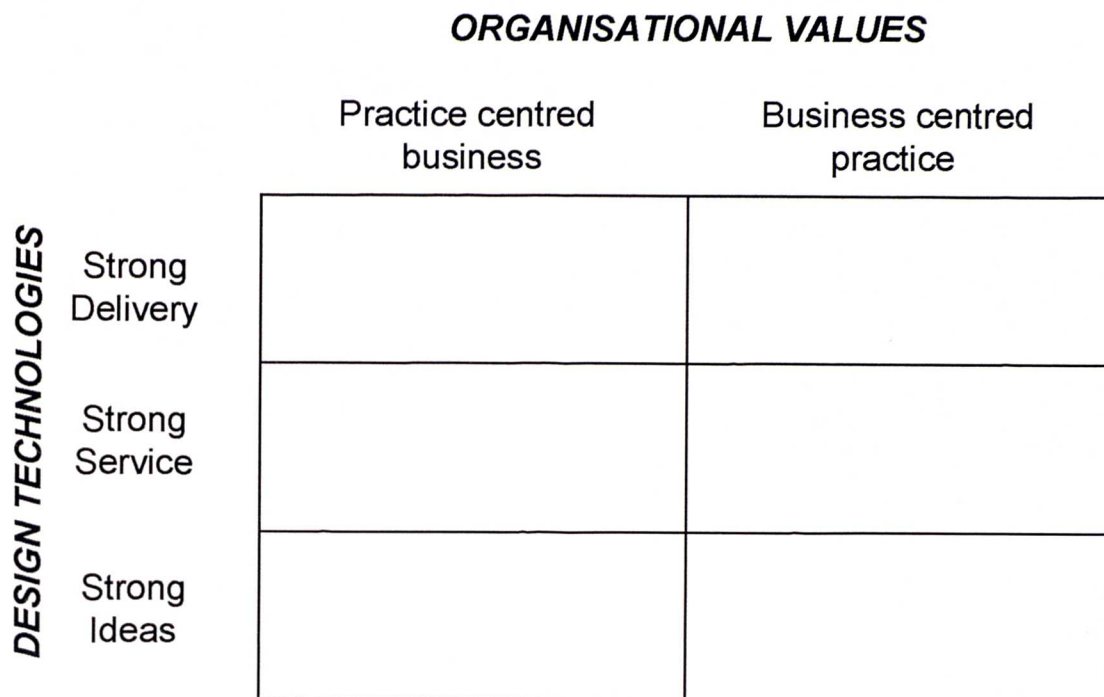


Figure 1 : Coxe et al's (1987) Super-Positioning Matrix

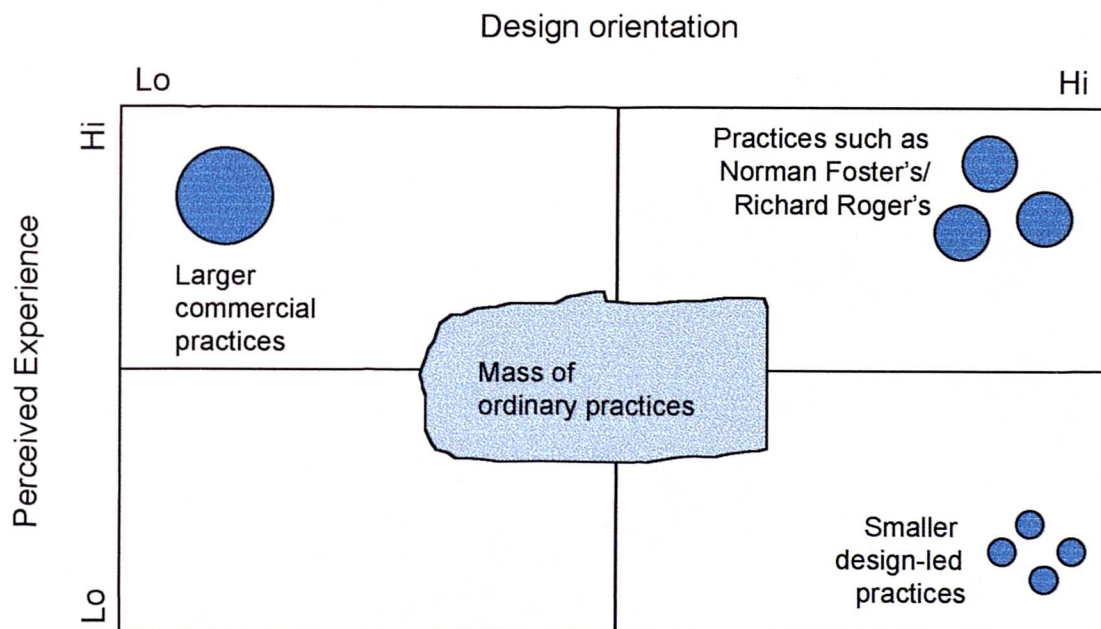


Figure 2 : Drawing up the Short-list (RIBA, 1992)

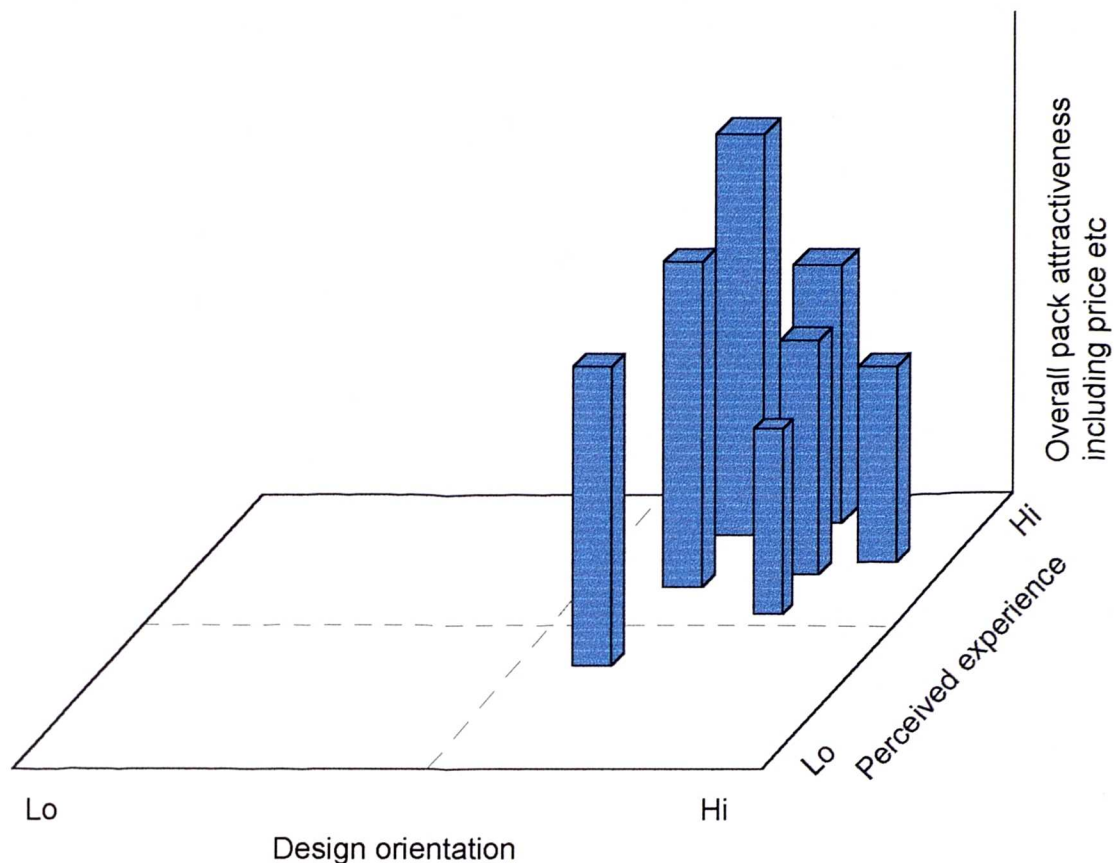
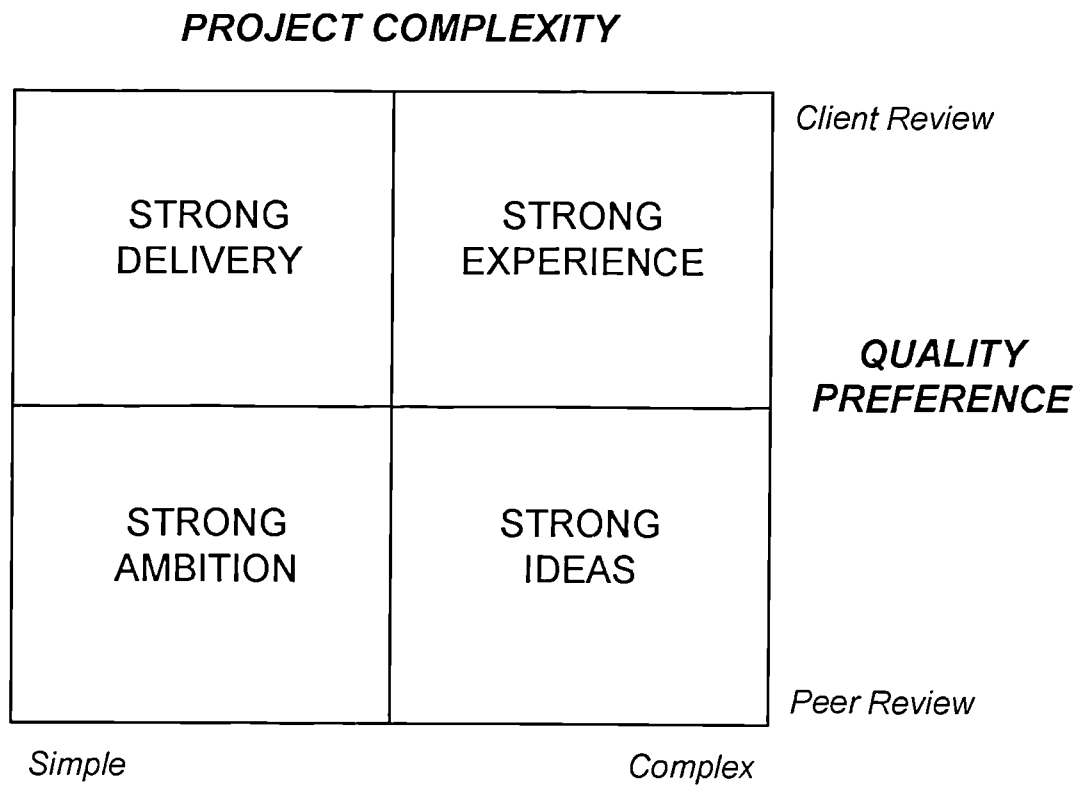


Figure 3 : Making the Final Selection (RIBA, 1992)

In their later works Winch and Schneider (1993a and 1993b) refine the first matrix by using the dimensions of “project complexity” and “quality preference”. The former dimension is self explanatory and the two extremes of the latter are represented by whether the client chooses to emphasise conception or realisation, in determining quality. If conception is more important then peer review is likely to be the measure of quality. If project performance in terms of quality, time and cost, is more important, then the client is more likely to be the assessor. The resulting four strategies, which articulate particular distinctive competencies are *strong delivery*, *strong experience*, *strong ideas* and *strong ambition* (see Figure 4). In Winch and

Schneider 1993b case studies are presented of the first three practice strategies.



**Figure 4 : Generic Strategies for Architectural Practice
(Winch and Schneider, 1993a)**

As suggested by Figure 2 the vast majority of architectural firms are stuck in the middle with little ability to distinguish themselves from their competitors. Winch and Schneider suggest that their model can be used to indicate the ways in which practices change and mature and that successful practices are able to successfully articulate a clear competence to potential clients. Although Winch and Schneider's research is directly applicable to architects, it is clearly important that all construction professionals have a clear view of the particular market segment that they serve - or perhaps more importantly,

which segment they wish to serve in the future. Indeed Jennings and Betts (1996) build upon this work in suggesting that quantity surveying practices can competitively differentiate themselves by the use of information technology.

2.11 Client Needs

Just as the need to exist is the over-riding factor as far as the professional is concerned so the actual *need for the service* by the client is the most important aspect he or she brings to the service. Why do clients employ the services of a professional? The obvious answer to this question is given by Barrett (1993, pp138-139) :

Clients want their professional advisers to do something they cannot, or do not want to, do themselves. The relationship is founded on the adviser giving the client something the client lacks.

The extent to which this "something" is lacking will depend largely on two things - the type of client and the client's level of previous experience of the particular service.

2.12 Client Types

Higgin and Jessop (1965) categorise clients into two groups, sophisticated and naive, while Newman et al (1981) identified four client types :

- once in a life time/inexperienced
- regular/repeat

- expert
- special

These are similar to Barrett's typology :

"Help me through it"

Often the naive private individual involved in construction for the first and possibly only time in relation to a very personal project. A lot of knowledge and support required from the adviser.

"Do it so that I can check it"

This client is often a representative in a large organisation which has a lot of its own procedures and requirements, for example many local authorities. The representative has to "cover his back" and demands support for this despite a high level of relevant knowledge.

"Give me the extra space"

Clients in this category have little interest in construction *per se*. It is a means to an end, for example a factory extension required for increased production. Little support is needed, but a lot of knowledge must be supplied.

"Get on with it"

This client is knowledgeable and confident, say a developer client. He does not need support and can articulate his requirements clearly. That done, the onus is on the adviser.

(Barrett, 1993, p139)

Pottinger (1997) has coined the term *intelligent client* in her research into the procurement of property consultancy services by central government in the UK. Her *intelligent client* is a million miles away from Higgin and Jessop's (1965) *naive client* in terms of the level of previous experience. There is another significant difference between these two types of client, which stems from their experience, and this is what they expect from the service. This aspect is considered below.

2.13 Clients' Expectations

The intelligent or sophisticated client has previous experience of purchasing professional services and enters into each new service encounter with pre-conceived ideas of what to expect. The naive or inexperienced client must also have some expectation of the service but this is likely to be much less clearly defined.

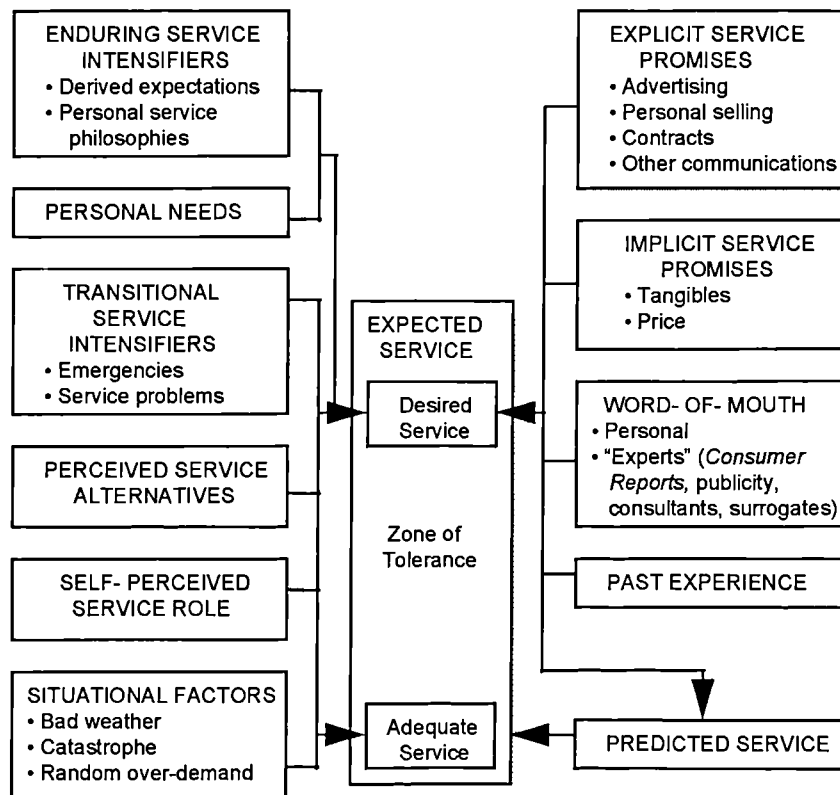
One of the founders of the "Nordic School" of service marketing academics Christian Gronroos (1984, p37) states three fundamental "service quality concepts" and the first of these is that the client's perceived service quality is compared with their prior expectation. Thus to use the example of a restaurant meal, if our impression of the meal compares favourably with our original expectation upon entering the restaurant, then we will be satisfied. If however our expectations are not realised then we will be disappointed.

Much research into the nature and source of expectations has been carried out by marketing researchers in recent years. This work is summarised by Bateson (1995, p26) who draws the distinction between *will expectations* and *should expectations*. *Will expectations* correspond with what consumers believe will happen during subsequent contacts with the service provider. *Should expectations* represent a normative standard that corresponds to "what ought to happen" in service encounters. Both of these expectations are based on past experience, word of mouth communications, and explicit and implicit service promises made by the organisation. Additionally, *should* (or desired) expectations are also based on enduring service requirements and personal needs. *Will* (or predicted) expectations are subject to updating after each service encounter. Each time the consumer is involved in a particular service encounter, the consumer updates his or her prediction of what the next service encounter will be like. *Should* expectations are more stable and change only when they have been exceeded during service delivery. (Bateson, 1995, pp26-27).

Zeithaml, Berry and Parasuraman (1993) propose a conceptual model which specifies three different types of service expectations : desired service, adequate service and predicted service. The full model is presented in Figure 5 below.

It will be seen that the predicted service is based partly upon information provided by the service provider and thus the professional can greatly

influence the expectations of the client. This suggests that the professional should not "promise the earth" before the service is entered into, but should make realistic promises which they know they can deliver. The model identifies a "zone of tolerance" between the desired service and adequate service. Zeithaml et al's research found considerable variation in consumers' tolerance zones. Clearly the professional needs to get to know the client so that he or she can make an assessment of their likely tolerance level.



**Figure 5 : Nature and Determinants of Customer Expectations of Service
(from Zeithamal, Berry, & Parasuraman, 1993)**

2.14 Summary

In this chapter we have examined the importance of service industries to the economies of all developed nations. The differences between services and

products (intangibility, simultaneous production and consumption and heterogeneous delivery) have been considered before discussing what differentiates a professional service from other services. The important pre-purchase factors to clients (needs, uncertainty, level of previous experience and expectation of service) and professionals (need to survive, skills and knowledge, professionalism and market segment position) have been considered. In the following chapter we take the service on a stage further and consider what clients and professionals need to do during service delivery.

CHAPTER 3 : CONSUMPTION STAGE

CHAPTER 3

CONSUMPTION STAGE

3.1 Introduction

The service delivery stage is of course critical to the successful outcome of a professional service. We will first look at those aspects of the service in which client and professional must participate together before looking at what each individual party must do. All professional services involve an element of agreeing in the early stages not only *what* is going to be provided but also *how* this is going to be delivered. In a construction project this briefing stage is likely to be extended over a significant period.

3.2 Briefing

Traditionally the briefing process is carried out through Stages A (Inception) to D (Sketch Design) of the RIBA Plan of Work (RIBA, 1967). After Stage D the Plan of Work states that the "brief should not be modified after this point." Tavistock (1966, p45) criticised the Plan of Work for its "sequential finality." Tavistock also suggests that there is a need :

to be very much more aware and responsible in developing the brief through a more conscious understanding of the whole field of social forces they must work with. (p40)

Bejder (1991) suggests the use of the Johari Window concept to the briefing process. This assists with understanding where the relevant knowledge is

located. Barrett's (1993, p138) adapted model is indicated in Figure 6 below. Through feedback and disclosure the "unknown" box is revealed as far as possible.

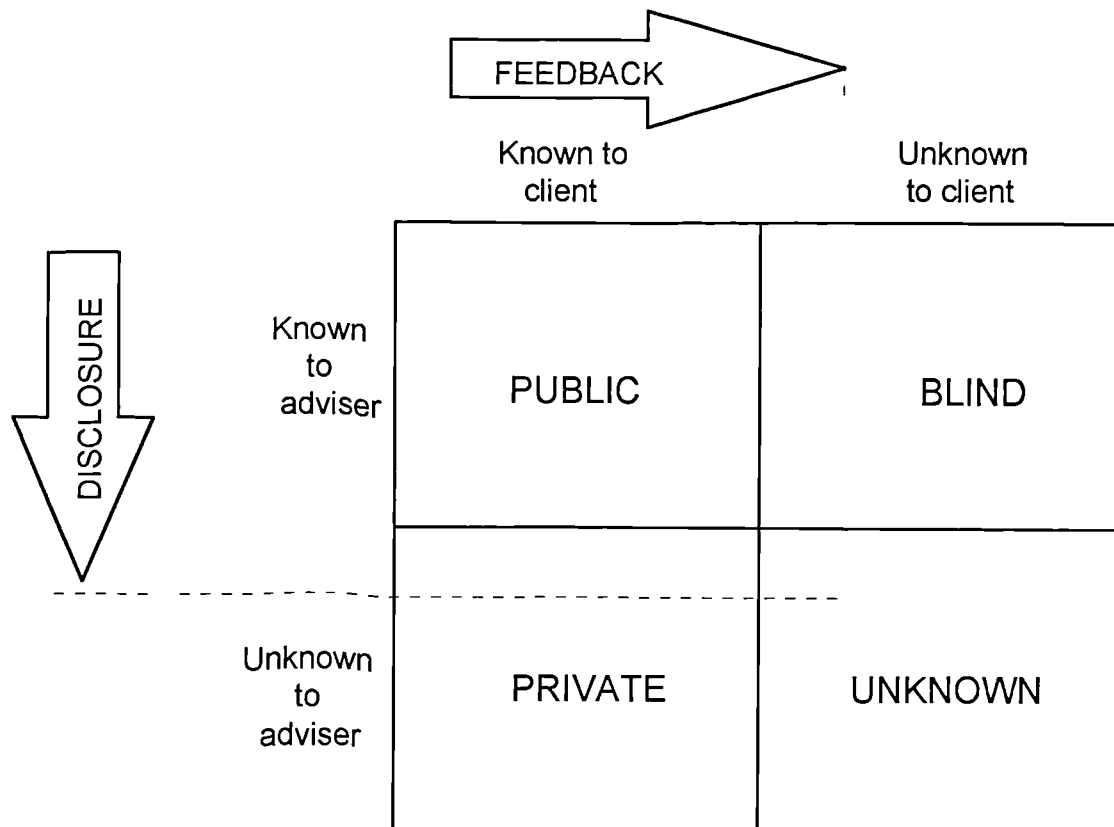


Figure 6 : Johari Window View of Briefing (from Barrett, 1993, p138)

Research by Gameson (1991) has also investigated communication within the briefing process. The briefing meetings between clients and architects were recorded and the contents of the discussions categorised. The predominant types of interaction were "giving orientation" (information) and "giving opinions" with, to a lesser extent, "agreeing." One aspect of the study

findings relates to the client's level of previous experience (see 2.12 above). With an experienced client the architect only spoke for 36% of the time (the client for 64%) but the naive or inexperienced client spoke for only 24% of the time (architect 72%).

3.3 Who is the Client?

When dealing with organisational clients the professional sometimes has difficulty in recognising just who the client actually is. Cherns and Bryant (1984) carried out research into the client's role in construction management and as a result of a pilot study formulated 20 propositions. Among these were the following :

- the complexity of the client system and the way this is handled is critical to the performance of the project.
- many architects and other advisers seem to be impatient of this complexity, sometimes even embarrassed by it and insist on dealing with a single client representative within whom all the internal policies of the client system can be contained.

Garrett (1981) presents three different consulting styles which are illustrated in Figure 7 below. It will be seen that the expertise style is the traditional client-consultant approach. In the process style the client is by-passed which may upset him or her. Garrett favours the contingency style where the consultant draws out a solution from the client system by involving both the client and the problem owner. A simple example to demonstrate Garrett's

approach would be to consider the problem of condensation in a local authority owned dwelling. Clearly the client is the local authority but the main problem owner is the tenant. It is only by involving both the client (who holds the purse strings and will need to give approval to any improvement works) and the tenant (who will be able to provide information on their heating and ventilation habits) that the problem can be resolved by the consultant.

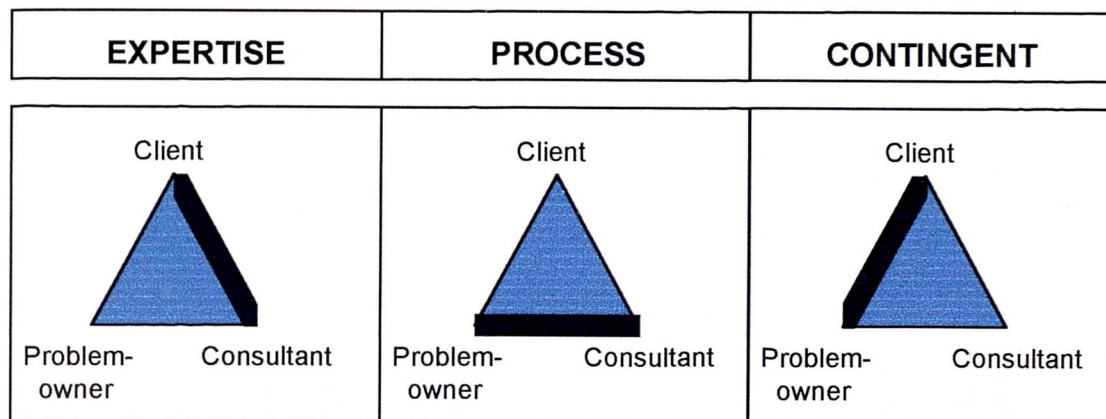


Figure 7 : Garrett's (1981) Alternative Consulting Styles

Bejder's (1991) research into briefing for University building projects in Denmark, confirms the importance of involving in the briefing process all parties likely to be end users of the building - students, academic staff administrative staff, cleaners, maintenance workers and others. Where two different phases of the project were compared, that where greater end user involvement had taken place was perceived to have higher quality.

Barrett (1993, p143) suggests that a holistic view of the briefing process should be taken. Initially the professional and client should consider how extensive a view to take of the client and construction systems and where the pertinent knowledge and experience resides. Contingent upon the outcomes of these two questions a view can be taken of how to satisfy the client's needs.

3.4 Personality Match

If the client and professional cannot find ways of working together during the service delivery stage then problems are likely to develop. Another of the "Nordic School" of service marketers, Evert Gummesson (1981, p111) has considered this aspect and comments :

Many clients do not care about the professional service firm, they buy the individual. Assignments are usually carried out in close co-operation with the client. This means that the professional and the client must match each other, not only professionally but also in personality. Therefore what the service firm sells is often individuals or teams rather than an assortment of services.

This view corresponds with Webb's (1982, p56) model of the professional firm as merely a facilitator of individual client-professional relationships, presented in Figure 8 below. The firm exists to collect fees and to distribute these as wages to professionals.

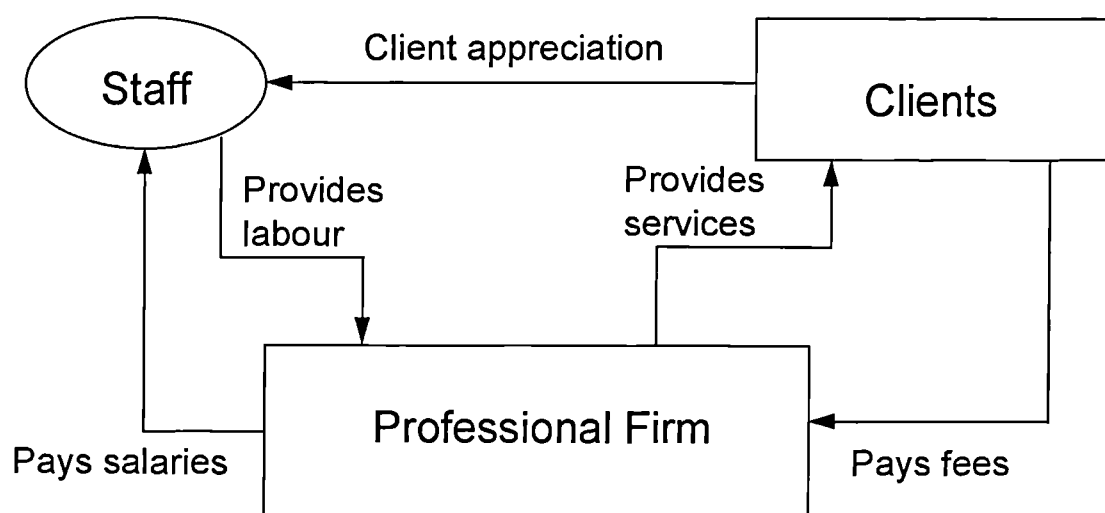


Figure 8 : The Firm as Facilitator (Webb, 1982, p56)

Powell (1991) considers the personality match further and suggests that clients should select a design team that reflects their view of the world. He reviews Kolb's (1976) preferred learning styles, shown in Figure 9. He extends Kolb's styles into four different types of building designers : *dynamics, focused, rigorous* and *contemplatives*. He suggests that clients should decide which of these 4 learning/action styles, matches their own method of working and then select a design team leader with the same style. Thus dynamic clients should select a dynamic design team leader and so on.

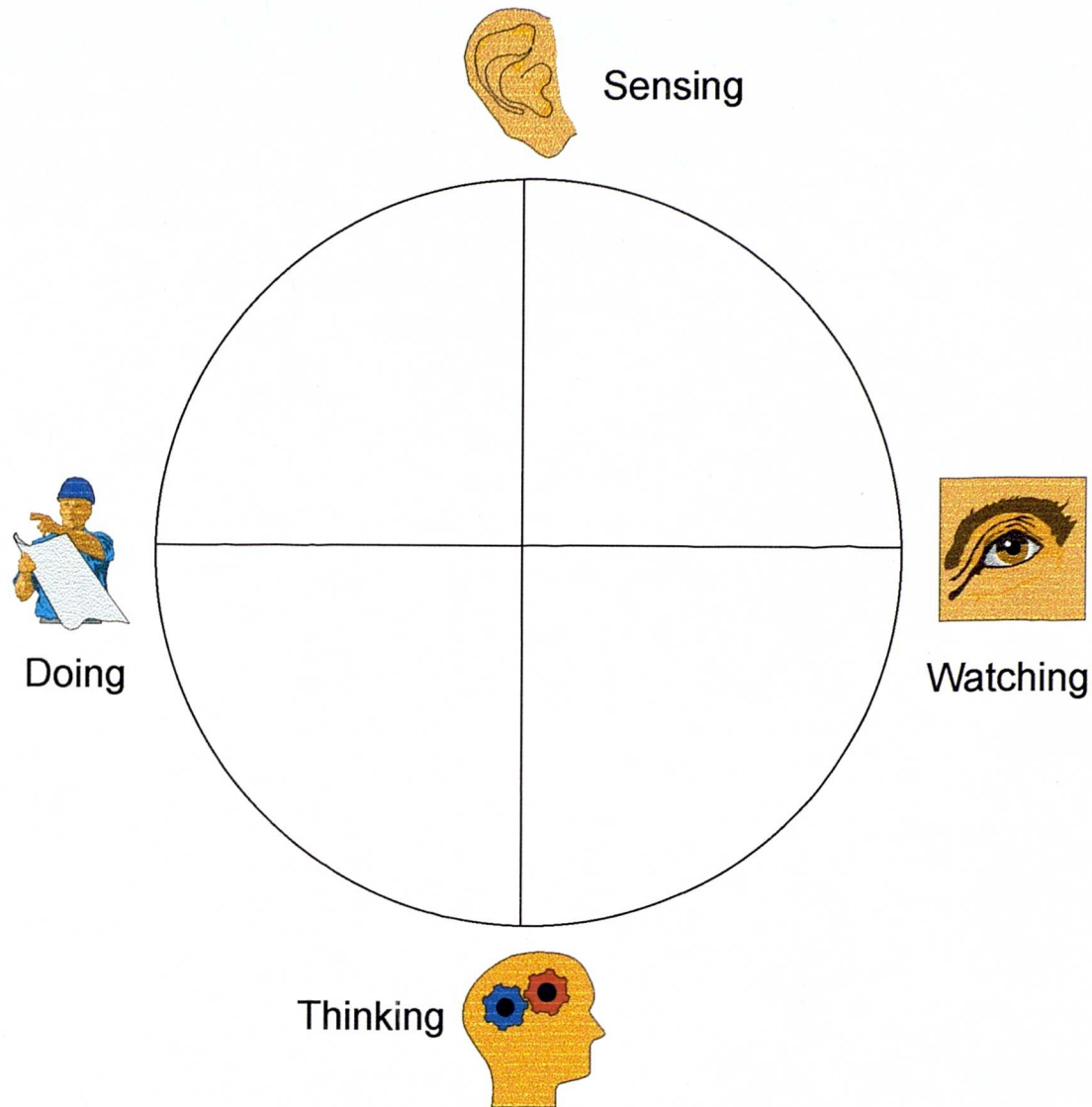


Figure 9 : The Learning Cycle (Kolb, 1976)

3.5 Communications

Of course the other thing that both parties involved in the professional service have to do during service delivery is talk to one another. Handy (1985, pp355-356) identifies eleven reasons why communications problems can develop. These include perceptual bias by the receiver, lack of trust, relative status and immediacy - the more immediate form of communication drives out

the less. Perhaps one of the most interesting of Handy's reasons, however is "distance." Many professionals would probably admit to experiencing the effects of the research reported by Handy that indicates an inverse relationship between physical distance and the likelihood of communication. In this age of instant communication, by Fax or E-Mail, there really is no excuse for not communicating with clients, no matter how far away they are located. Indeed successful professionals, who recognise the value of regular communications throughout the consumption stage will use these instant means of communicating to their advantage.

It is perhaps ironic, considering how much of the training of construction professionals is concerned with communication - written, graphical and verbal, that many clients perceive that it is in the area of keeping them informed of a project's progress that some professionals are less than successful. Shapero (1985) suggests that 80% of a professional's time is taken up with information communication activity and recommends that professional organisations should employ what he calls "high communicators".

So far in this Chapter we have considered the aspects of the service delivery stage in which both client and professional must participate - briefing, establishing a personality match and communicating. We will next look at what is required of the client during this crucial stage of the professional service.

3.6 Integration of Client into Project Team

Walker (1989) applies a systems approach to project management and introduces the concept of differentiation first identified by Lawrence and Lorsch (1967). Inter-dependency and integration are considered and the need to integrate the client into the project team is emphasised. Walker suggests that a key function of the project manager is to identify the way in which the client is integrated into the project. He suggests (p136) that :

It is important that the project manager persuade the client that he has to design his organisation to mesh with the project team. Having achieved that, the project manager must ensure that the client responds to the need to integrate with the project team. This will take place at a formal level through meetings but the project manager should seek to ensure that discussions, decisions and the need for those decisions are passed through the appropriate channels of the client's organisation.

3.7 Client Involvement in Project

Close involvement of the client in the project was recommended by one of the Government reports into the construction industry of the 1970's. Graves (N.E.D.O., 1978) pointed out that "the standard of service given by the building industry relates closely to the amount of effort expended by the client in establishing a good brief" and that "satisfaction at the construction stage is closely linked to the degree of control and supervision by the client himself." Cherns and Bryant (1984) note however that client involvement is high in the

3.9 Understanding Problems

Of course before the professional can perform, he or she needs to have a clear understanding of the particular problem that the client requires solving. In the previous chapter (2.7) we saw that a need to demonstrate an understanding of the client's problem was one of Warren Wittreich's (1966) three characteristics of a professional service.

All professional services involve some element of problem solving. In the most straight forward services the problems may appear trivial to the professional and can be solved by the application of methods employed on numerous previous occasions (Maister's *procedure* projects). This is not to say that the client sees his or her problems as trivial and the professional must be aware that the client may be in an anxious state at the first meeting. For the more complex professional service, involving perhaps a new state of the art building, quite sophisticated project management skills (employing *grey hairs* or possibly *brains* project teams) may be required to understand the problem.

Wilson, A (1984, pp85-86) suggests that there are two approaches to the demonstration of understanding problems. The first he describes as the *extrinsic* approach (persuasion by method, persuasion by personnel or persuasion by success story). The *intrinsic* approach involves demonstrating capability by concentrating on obtaining an understanding in depth of the client's problem.

3.10 Understanding the Client's Organisation

Earlier in this chapter (3.3) we saw that sometimes, with large organisational clients, the professional has difficulty in recognising just who the client actually is. This fact is commented upon by Walker (1989) :

the construction industry and its professions need to understand how their clients' organisations operate (p12) the members of the project team need to have the ability to understand the structure of their client's organisation and in particular they should understand the decision making mechanism of the client's organisation and where authority for decision lies (p63).

3.11 Summary

In this chapter we have considered the important professional service variables during the service delivery stage. Both parties have to establish a brief, a personality match and communicate with one another. The client needs to be involved in the project and be integrated into the project team while the professional needs to understand both the client's organisation and problem and of course to actually perform the service. In Chapter 4 we examine the post-purchase stage of the service.

CHAPTER 4 : POST- PURCHASE STAGE

CHAPTER 4

POST- PURCHASE STAGE

4.1 Introduction

After the professional service has been delivered, the client has the outcome of the service - which may be a new, extended or altered building or perhaps only a report into the state of repair of his or her building; and the professional has presumably been paid for his or her services. In addition to these obvious factors there are other variables which have a considerable significance to both parties. The client has legal protection and the professional has therefore incurred a legal liability, for which he or she has no doubt insured. The client has formed a perception of the standard of service received while the professional hopes to have a satisfied client and to have an enhanced image as a result. These subjects are discussed below.

4.2 Corporate Image

In Chapter 2 the service quality concepts of Christian Gronroos (1984) were introduced. Another of these is that the image of a firm is the result of how the customers perceive the firm. Gronroos comments :

The most important part of a firm, which its customers see and perceive, is its service. Of course other factors may also influence the image, but they are normally less important. It is possible to differentiate between two kinds of factors : (1) external factors, such

as traditions, ideology, and word of mouth, and (2) traditional marketing activities, such as pricing, advertising, and public relations. (p40)

Wilson A. (1984, p144) considers that other more tangible aspects, such as the firm's infrastructure and systems, also convey an image to clients, and his model is presented below.

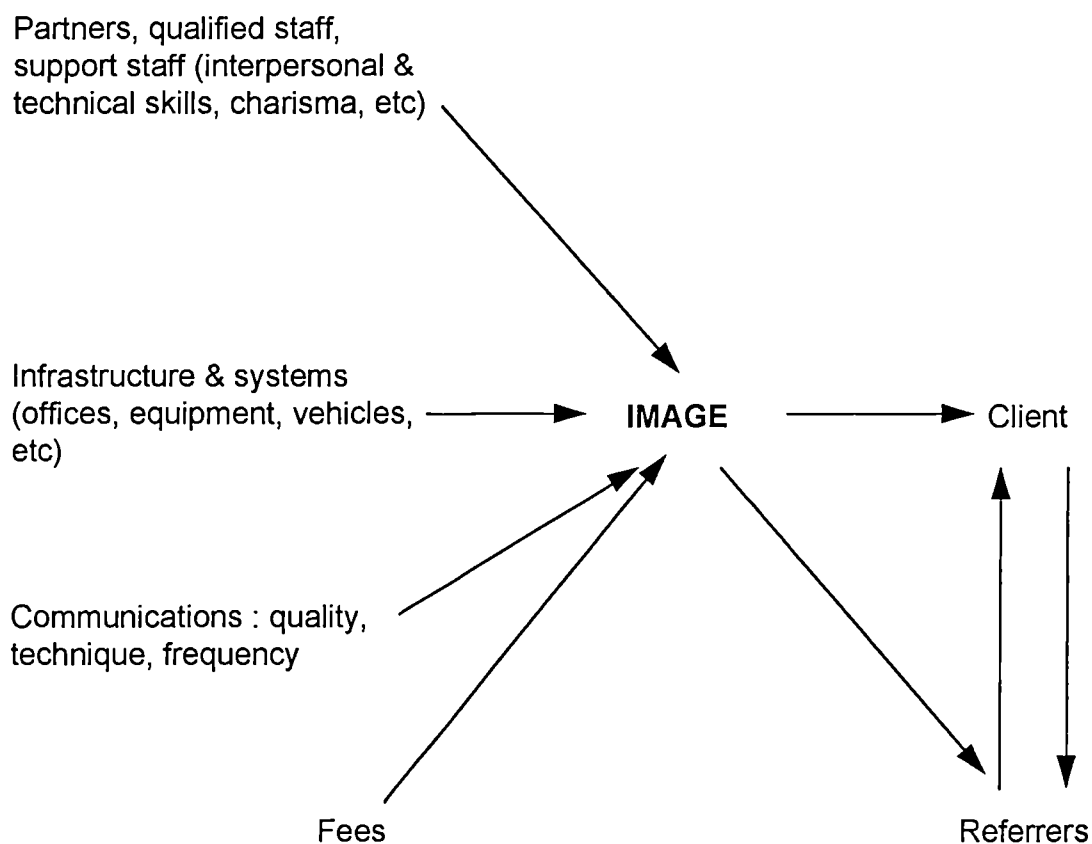


Figure 10 : Image Formation (Wilson, 1984, p144)

4.3 Referrers

As will be seen, Figure 10 indicates that the image is conveyed not only to clients but also to referrers. These are third parties, who may have been

previous clients of the firm and who refer or recommend other clients to the firm. Wilson, A (1984, p159) estimates that between 80% and 100% of all new business for professional firms comes as a result of referral. Previous research by the writer has confirmed the importance of recommendation and referral to Building Surveyors (Hoxley, 1995a). Although the proportion of new business acquired through this route by the profession studied was not as high as Wilson predicts, it was never the less over 60%. Previous clients and other professionals were responsible for over 80% of these recommendations or referrals.

Wilson A. (1984, pp163-166) recommends taking the following positive steps to identify and analyse referral sources :

1. Identify sources of referrals - enquiries should be made of each new client or prospective client about who recommended him. This information should then be tabulated and circulated throughout the firm.
2. Acknowledge recommendations to the referrer (with client's permission). Acknowledgement gives pleasure to the referrer and is likely to encourage them to repeat the action.
3. Offer reciprocation where possible. This is likely to encourage further referrals. A dossier on important referrers should be compiled and again circulated within the firm.
4. Keep referrers (with client's permission) informed of progress. This ongoing communication and contact will keep the professional's profile high in the mind of the referrer.

5. Establish reasons for referral. This will identify the strengths and weaknesses of the practice which its professionals may be too close to see clearly.

The use of referrals and in particular the question of reciprocation, presents an interesting ethical dimension to this aspect of professional development. Solicitors in England and Wales have recently voted to keep the Law Society rule which prevents them paying third parties for referrals (Rose, 1997). Thus it seems that an informal arrangement to send the referrer reciprocal business would be acceptable but to actually pay for referrals is considered unprofessional.

Since the service quality provided by professionals is so important to the image and thus future workload of such firms, it is this variable which is clearly of great significance, but how do clients perceive service quality?

4.4 Perceptions of Quality

We have seen previously (2.13) that clients' perceptions are conditioned by their prior expectations and therefore if the professional is to manage his or her client's perceptions of service quality, they will obviously have to be aware of just what the client was expecting from the service. Gronroos' (1984, p38-39) final service quality concept, is that there are two aspects to service quality :

- **Technical quality**, which is concerned with *what* the client receives, and

- **Functional quality**, which is concerned with *how* the service is delivered.

Thus technical quality is concerned with the correctness of solutions, drawings, specifications, etc., while functional quality involves such things as the accessibility and politeness of staff.

Now that all three of Gronroos' concepts have been discussed, it is possible to present his full model in Figure 11 below.

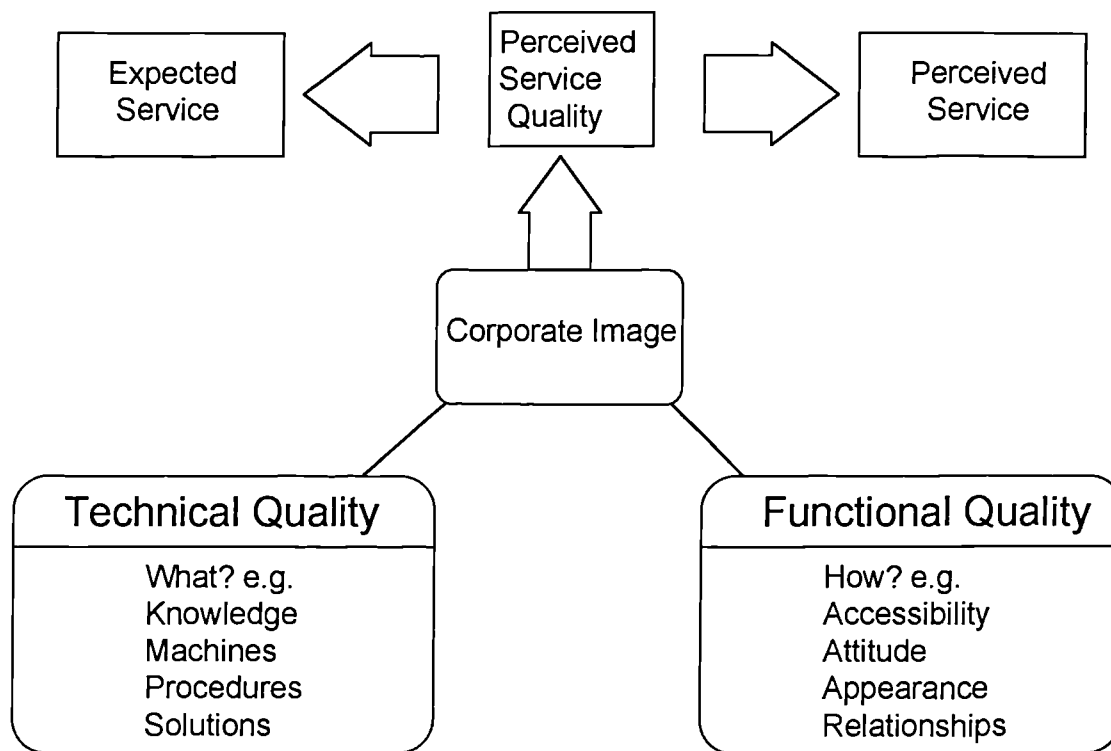


Figure 11 : Gronroos' Service Quality Model

Gronroos' research findings suggest that :

functional quality is more important to the perception of the service than technical quality, at least as long as the latter quality dimension is

on a satisfactory level. Moreover, functional quality should be especially important for the many service industries in which the technical quality is very similar among firms in the market.

(Gronroos, 1984, pp 43-44)

There have been a number of studies to test whether this finding is relevant to professional services. Baker and Lamb (1993) concluded that for architectural design service quality both functional and technical factors were important but that when dissatisfaction occurs, it is more frequently due to process factors rather than outcome factors. An earlier study of the writer's (Hoxley, 1994) found that for services provided by building surveyors it is technical factors which are considered to be more important by clients. The study identified 22 variables considered to be important to service quality (see Figure 18, Chapter 12, for a full list) and these variables were divided into functional and technical factors. Clients and firms were asked to rate these on a Likert type scale and the overall means for technical and functional variables were computed. The results are shown in Table 1.

TABLE 1 : Means of Technical and Functional Factors.

Factors	Respondents	Mean
Technical	Clients	3.85
	Firms	3.56
Functional	Clients	3.24
	Firms	3.24

(From Hoxley, 1994. Sample sizes : Firms - 169, Clients -126)

Thus while clients and firms gave exactly the same weighting to functional factors, both considered technical quality to be more important and clients gave a much higher weighting to technical factors. Perhaps it is not surprising that technical quality is so important to clients of these particular construction professionals, bearing in mind how much the outcome of the service (that is, usually a building, built, altered or extended) depends upon the technical capabilities of the professional.

4.5 Fees

The subjects of fee scales and methods of appointment are considered in greater detail in Chapter 7 but the main trend, since the professional institutions abolished fee scales in the 1980's, is for fee levels to decline. Fees are of course, now entirely market led and during the recent recession, fell to unprecedented low levels. This scenario was foreseen by the Government at the time of the abolition of architectural fee scales. The report which contained the recommendation to allow competition said ;

We do not ... exclude the possibility that fee-cutting in a recession might be deep and widespread...

(Monopolies and Mergers Commission, 1978, para. 231)

In the recession there were instances of surveying firms charging less than half the former scale fees quoted by the Royal Institution of Chartered Surveyors. Valuation work has been particularly susceptible to fee cutting. The following example is taken from the Chartered Surveyors' weekly journal:

Four parties were asked to give quotes for the valuation of three properties in three different areas - a job which in the past, would have cost around £11,500. The highest bid was £6,500 and the lowest £3,200

(Morgan, 1993, pp28-29)

In the RIBA Strategic Study - Phase 1 (RIBA, 1992, p114) an example of the impact of fee tendering on architectural services is presented. The study gives the results of a tendering process to appoint a consultant for the architectural, mechanical and electrical and structural engineering design services for an £8 million hospital project. The fee tenders ranged from £445,000 to £181,700. This level of intense competition and the lack of work during the recession inevitably led to redundancies and it is estimated that over 12,000 architectural staff lost their jobs during 1990-91 (RIBA, 1992, p114). The same report calls for the RIBA to issue "strong and compelling advice" to members on fee competition. Interestingly, however, there is no further mention of this recommendation in the later phases of the study (RIBA, 1993 and 1995).

This is what one senior member of the consulting engineering profession has said recently about the large variation in fee levels :

We have all heard of bids which vary by a factor of 3 or 4 for the same work from similar firms. Clients who accept the lowest price in this situation are deluding themselves, as they cannot get either the same

quality of service, or the same amount of work, from the lowest bidder as from the highest.

(Innes, 1997, p221)

Now that more healthy economic conditions have returned it is likely that the general level of fees will recover.

4.6 Legal Liability

The legal liability that any professional incurs in carrying out a professional service for a client stems from common law and in particular the tort of negligence. The professional's primary responsibility is to perform the service with reasonable skill, care and diligence. Failure to meet this standard, by omission or act, is likely to be deemed professional negligence. For a claim to succeed in negligence there must be a breach of a duty of care and injury must result from the breach (Harris, 1993, pp188-198).

Very often the only defence a professional has against a claim for negligence is that the subject dealt with is very uncommon and beyond the competence of the average member of the profession.

In the last twenty years, fuelled by a more litigious and consumer driven society, negligence claims against all professionals have risen dramatically. For example claims made to RICS Insurance Services rose from £2.5m in 1980 to £26m in 1990; and there has been a similar proportionate rise in professional indemnity insurance premiums payable by surveyors. Many

construction professionals find the cost of insurance to be prohibitively expensive and because the uninsured excesses for certain types of work are so high, a successful claim by a client can severely affect the financial standing of a professional.

The professional institutions are anxious that its members' clients are not disadvantaged by the negligent acts of its members and many have a system of compulsory professional indemnity insurance. Some (for example the Law Society) act as the insurer of last resort for its members. The Royal Institution of Chartered Surveyors (RICS) have regulations which stipulate minimum levels of cover and maximum levels of excesses (RICS, 1986b). Chartered Surveyors who cannot obtain insurance which complies with the requirements of these regulations are effectively prohibited from practising their profession.

In the interests of members' clients, some professional organisations are prepared to legislate in areas beyond which even the courts are prepared to act. The RICS have proposed, and members have recently voted in favour of, increased disciplinary powers which enable the Institution to impose financial penalties of up to £5,000, upon defaulting members. The RICS will impose a requirement upon chartered surveying firms to establish a complaints handling procedure. In addition lay representation is to be included on disciplinary boards. (Chartered Surveyor Monthly, 1998, p6)

4.7 Summary

In this final chapter of the literature review of professional services the post-purchase variables have been considered. After the professional service has been delivered, the client has the outcome of the service and the professional has been paid for his or her services. The client has legal protection and the professional has incurred a legal liability. The client has formed a perception of the standard of service received while the professional hopefully has a satisfied client and an enhanced image. In the following chapter the variables identified by the literature review are developed into a model.

CHAPTER 5 : A PROCESS MODEL OF PROFESSIONAL SERVICES

CHAPTER 5

A PROCESS MODEL OF PROFESSIONAL SERVICES

5.1 Development of Model

The important variables in the professional service which have been identified by the literature review in Chapters 2 - 4 are summarised in Table 2 below.

Table 2 : Variables in Professional Service

	Pre-consumption	Consumption	Post-consumption
Client	<ul style="list-style-type: none">• Needs.• Uncertainty.• Level of previous experience.• Expectation of service.	<ul style="list-style-type: none">• Integration into project team.• Involvement in project.	<ul style="list-style-type: none">• Outcome.• Perceived quality of service.• Legal protection.
Both Parties		<ul style="list-style-type: none">• Establish brief.• Personality match.• Communications	
Professional	<ul style="list-style-type: none">• Need to survive.• Skills and knowledge.• Professionalism.• Market segment position.	<ul style="list-style-type: none">• Understanding problem.• Understanding client's organisation.• Performance.	<ul style="list-style-type: none">• Fees.• Satisfied client?• Image enhancement?• Legal liability.

The writer perceived a need to place these factors into a conceptual framework or model which would allow an overall view of the professional service to be taken and would aid identification of the areas to be investigated further. Wilson B.(1984, p22) discusses the concepts of "input-transformation-output" and these process concepts were considered to be appropriate to the development of the model. Initially these concepts were seen as a need to relate the factors identified by the review to time. Inputs were equivalent to the pre-consumption phase variables, transformation (or process) to the consumption stage and outputs to the post-consumption stage.

The writer's final model is presented in Figure 12 below.

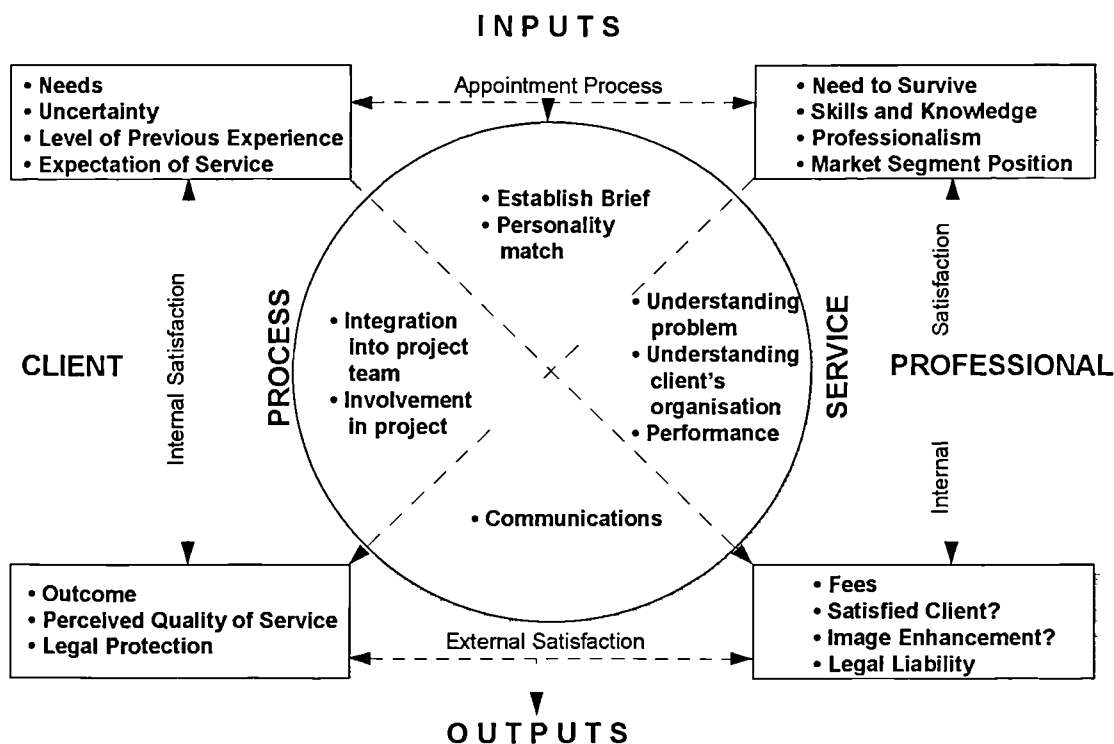


Figure 12 : A Process Model of Construction Professional Services

Once the basic framework had been developed the horizontal and vertical links were superimposed. The vertical links represent each party's internal satisfaction, that is, satisfaction depends upon outputs equalling or exceeding inputs. Dissatisfaction results when outputs do not match inputs. The horizontal links represent the appointment process and external satisfaction, that is principally the client's satisfaction with the service.

5.2 Similar Models

Gummesson (1978, p 91) presents a process model of the "Professional Firm" in which eight components are identified and classified as follows :-

Inputs:

1. Specialist know-how, experience etc.
2. Individual professionals.
3. Other resources and attributes.

Process Components:

4. Diagnosis, problem and goal formulation.
5. Way of operating an assignment

Outputs:

6. Solution to the problem
7. Implementation of a solution.
8. The result of the implemented solution.

It is suggested that 1, 2, 4 and 6 are necessary and prominence is given to the "individual professionals".

Stiff and Gleason (1981, pp 78-81) discuss the development of quality evaluation of professional services models by USA Health Care researchers. Such models consist of three inter related components : input or structure, process and outcome. They suggest that such models are appropriate for all professional services. Input or structure refers to the professional staff, facilities and equipment and the management structure within which they are utilised. Process includes any activities involved in the actual delivery of services. Outcome is a measure of the resulting status of the client and includes consumer satisfaction or dissatisfaction and consumer complaining behaviour. The model developed by this study thus fits in fairly well with the basic framework of these earlier models.

Stiff and Gleason suggest that the development of a complete integrative model is difficult since it is not always obvious which component should be measured. Professional associations have previously stressed the development of input criteria, that is, by examining and assessing candidates for admission to the professions. The evaluation of process by for example, monitoring a quality assurance scheme has found favour more recently. B.S.I., 1991 offers the latest advice on the management of quality systems for services. The need to adapt professional methods to the specific characteristics of the individual client mean that evaluation of the process stage is, however, not always practical. Stiff and Gleason conclude that evaluation at the output stage (by obtaining the views of the receiver of the service) is a more desirable measure.

Raymond Fisk (1981 pp 191-195) reviews existing consumer consumption / evaluation models for mainly physical goods and then develops a three stage model for services. The three stages: pre-consumption, consumption and post consumption are equivalent to input, process and output stages. The model is shown below in Figure 13.

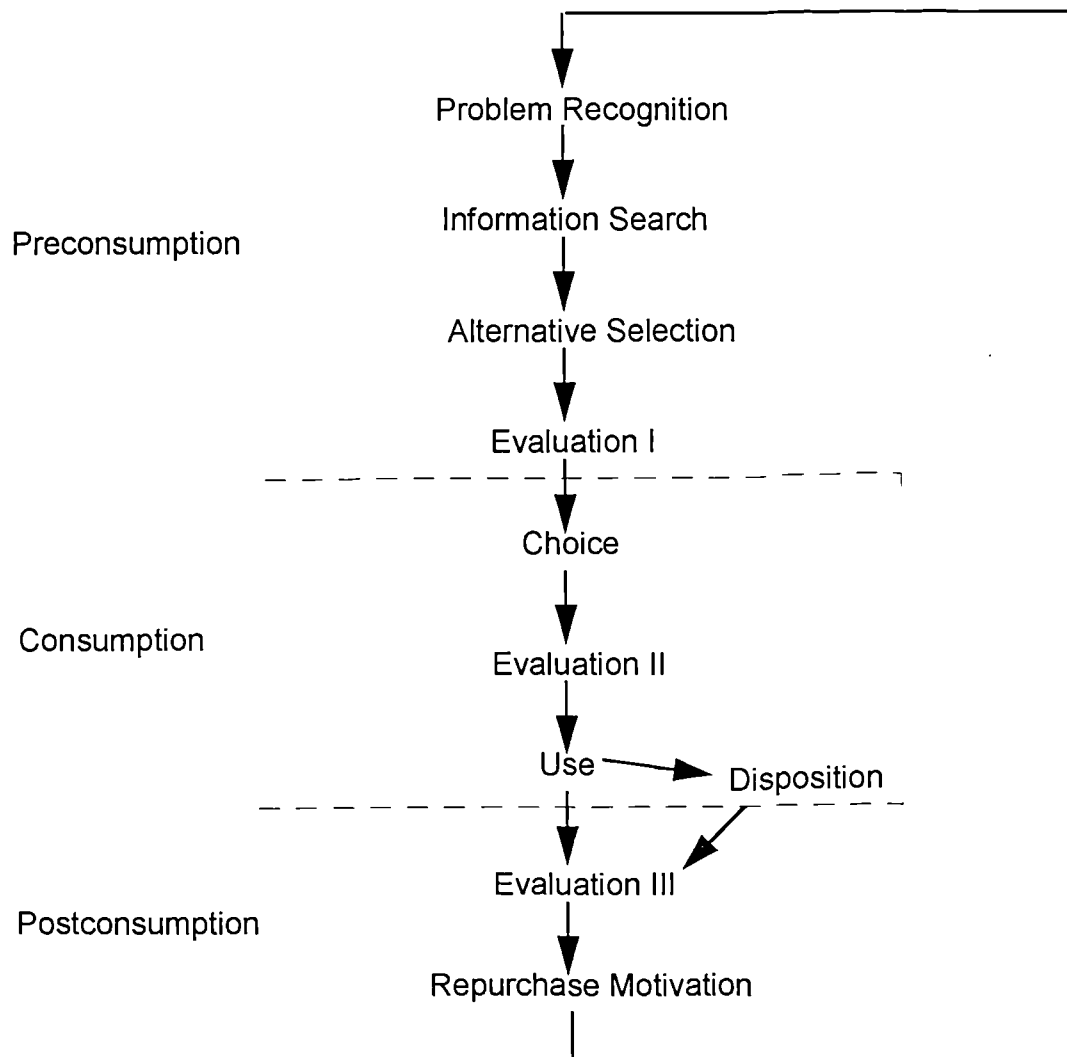


Figure 13 : Fisk's Consumption / Evaluation Model.

It will be seen that the client's evaluation of the service is made at all three stages and that evaluation is a continuous process. The mindful professional should therefore be aware that his service is being scrutinised before, during and after delivery.

Fisk reminds us that models such as these cannot hope to fully reflect reality but merely attempt a coarse representation.

In general such models serve four functions:

- Providing a broader context for the placement of findings.
- Identifying relationships between their component variables.
- Providing a common perspective.
- Identifying gaps in knowledge.

(Zaltman and Wallendorf, 1979)

The model developed during this study has to some extent served each of the functions but its principal use has been to identify the areas which will be investigated further. The initial and final horizontal links are seen as critical in holding the service together. Without new instructions and a reasonable level of client satisfaction no professional practice will survive. In particular this research will attempt to ascertain whether there is any relationship between the method of appointment and the client's assessment of service quality.

5.3 Summary

The factors identified as being important to professional services have been developed into a process model. The model has been compared with earlier models and has been found to have a similar framework to these. The use of such models has been discussed and the particular use to which this model has been put - to identify the areas to be investigated further - has been described. These areas - quality of service and the appointment process and whether there is any relationship between these two factors, and the development of hypotheses are the subjects of the next 3 chapters. In the following chapter the origins of the main research question are outlined.

SECTION II - DEVELOPMENT OF HYPOTHESES

CHAPTER 6 : RESEARCH QUESTION

SECTION II - DEVELOPMENT OF HYPOTHESES

CHAPTER 6

RESEARCH QUESTION

6.1 Background

The main research question under investigation in this study has its origins in an earlier study undertaken by the writer into service quality and the client referral systems of UK Building Surveyors (Hoxley, 1993). This earlier research could in fact be viewed as a “pilot study” for the present work and involved a questionnaire survey of 169 firms and 126 clients. The part of the work investigating the appointment process confirmed the overwhelming importance of recommendation and referral (see 4.3) but also recorded the attitudes of clients and firms to 14 appointment process factors, which had been identified as being important. The results are illustrated in the profile analysis in Figure 14 below.

As will be seen, although the attitude of clients and firms are approximately parallel there are some interesting differences of emphasis given to several variables. The largest difference was recorded for the variable *recommendation and referral* and in fact the difference in emphasis exactly mirrored the results of the part of the study looking at the sources of new work. However it was another variable, the importance of which clients and firms appear to be agreed upon, which provoked most comment when the results of the research were published. Both clients and firms placed *level of*

fees only 8th out of the 14 factors and this caused one commentator to remark that this finding made “..... a mockery of the Government’s continued insistence on fee competition for all public sector work” (Middelboe, 1993, p14). Yet this result has been replicated elsewhere, a survey of clients of consulting engineers placed “price” 5th out of 7 factors (Association of Consulting Engineers, 1995, p31).

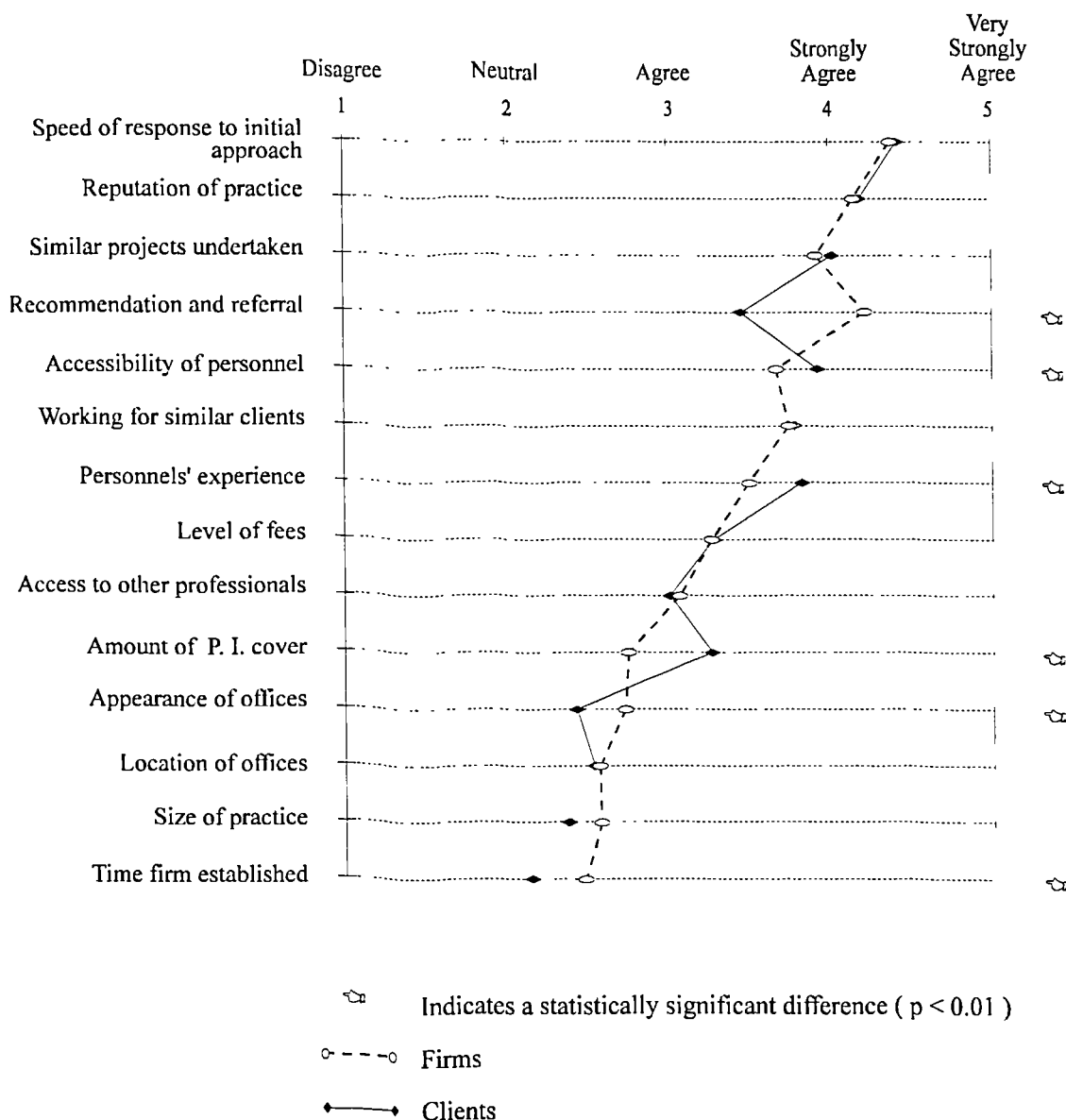


Figure 14 : Appointment Process Factors

At the time that the results of this study were published there was much disquiet being expressed about the low level of fees quoted by property and construction professionals. The British economy was at the bottom of the worst recession for 50 years and competition was extremely high. The then President of the Royal Institution of Chartered Surveyors, Clive Lewis said, "I get worried when competition leads to fees being cut to levels that cannot produce the level of service required by the client. If this became widespread it would bring the profession into disrepute." (Morgan, 1993, p 29).

Was there any substance to these fears of the RICS President? The writer determined that he would try to find an answer to this question, and after a successful application to the RICS Education Trust for funding, the research project commenced.

This research is therefore concerned with possible effects upon service quality (the final link of the model presented in Figure 12), of different types of appointment, (the initial link of the model). Thus while the earlier work (Hoxley, 1993) largely looked at these subjects in isolation to one another, this project attempts to investigate the impact of one upon the other. The following chapter chronicles the significant shift in the UK construction professions from a position of mandatory fee scales in the early 1980s to the intense fee competition which exists today.

CHAPTER 7 : COMPETITIVE FEE TENDERING

CHAPTER 7

COMPETITIVE FEE TENDERING

7.1 Historical Perspective

The current economic climate in which construction professionals operate is highly competitive with commissions of any size rarely being awarded without some form of fee tendering exercise. Yet it is only 14 years since the abolition of mandatory fee scales which prohibited competition. This rapid change in emphasis has been described elsewhere (e.g. Mansfield, Rowden & Dunn, 1988) but the main “stepping stones” on the path to the present situation are set out below.

The Restrictive Trade Practices Act 1956 made collective restrictive practices in the supply of goods illegal and the Monopoly and Mergers Act of 1965 extended this principle to the supply of services. The Monopolies Commission Report on the General Effect on the Public Interest of Certain Restrictive Practices so far as they Prevail in Relation to the Supply of Professional Services laid the foundations for the removal of compulsory fee scales of all professions. The report found “...a collective obligation not to compete in price or a restriction collectively imposed which discourages such competition as being one of the most effective restraints on competition” and suggested that the introduction of price competition “... is likely to be the most effective single stimulant to greater efficiency and to innovation and variety of service and price ..” (Monopolies Commission, 1970, paragraph 314, p78).

The 1970 report concluded by recommending that each profession operating mandatory fee scales be the subject of a reference to the Monopolies & Mergers Commission (MMC) and surveyors' services came under scrutiny in a Commission report seven years later. This report recommended that the rules of surveyors' associations should be amended to permit members to quote a fee in competition and that most existing fee scales should be abolished (Monopoly and Mergers Commission, 1977, paragraph 366, p91). After much procrastination the Royal Institution of Chartered Surveyors (RICS) amended its rules to comply with these recommendations in 1983.

Bye-Law 24 was altered from :

No member shall with the object of securing instructions or supplanting another member of the surveying profession, knowingly attempt to compete on the basis of fees and commissions.

to

... no Member shall ... quote a fee for professional services without having received information to enable the Member to assess the nature and scope of the services required. (RICS, 1990, p4)

The other construction professions also surrendered to the inevitable pressure for competitive forces to prevail which so typified the Thatcher years. The Royal Institute of British Architects (RIBA) amended its rules in 1982 and the Association of Consulting Engineers followed suit in 1984.

The RIBA and the Building Surveyors Division of the RICS still produce *recommended* fee scales but the Office of Fair Trading is insisting that these also be abolished (Mole, 1998b).

7.2 Compulsory Competitive Fee Tendering

Buoyed on by their success at introducing fee competition for professional services in the 1980s it was a natural progression for the Conservative Government to extend these policies in the 1990s by introducing *compulsory* competitive fee tendering to the provision of professional services in the public sector. This up-beat message was communicated in a White Paper in 1991 :

Competition is the best guarantee of quality and value for money. In the 1980s, the Government's policy of increasing competition gave a new dynamism to the British economy. We mean to extend these policies in the 1990s. We will expand the frontiers of competition outwards, bringing new benefits to all those who use or work in public services .

(HM Treasury, 1991, p1)

The White Paper, entitled *Competing for Quality* proposed legislation (under the Local Government Act 1988) to expand competition in the provision of services by Central Government Departments, the National Health Service and Local Authorities. In 1992 the Secretary of State for the Environment announced that compulsory competitive tendering (CCT) was to be extended

to a range of local authority professional and corporate services. In February 1994 proposals for the implementation of CCT for professional construction-related and property services were announced (DOE, 1994). The timetable for metropolitan districts and London boroughs was to implement CCT for 35% of these services on 1 October 1995 rising to 65% from 1 April 1996. Shire Counties and districts subject to possible unitary authority re-organisation were exempt from these requirements until after the re-organisation review has been completed.

The UK stood alone in Europe as the only country to introduce compulsion to tender (Pottinger, 1995, p25). Such has been the pace of change however, that in 14 years a position of *mandatory* fee scales, preventing fee competition, has been completely reversed so that now a construction professional providing services for a local authority may have been appointed as a result of *compulsory* competitive fee tendering.

The link between CCT and quality was considered during the introduction of the regime. In an early Department of the Environment Consultation Paper the question of quality was reviewed and it was stated that :

In order to address any particular concerns about the quality of tenderers for professional services, such as architectural work ... the government is prepared to consider the use of modified tendering procedures which would provide that tenderers would have to cross an

initial quality threshold and that the choice between tenders that had crossed the threshold would be made solely on the basis of price.

(DOE, 1991, p21)

During its short life CCT has had many critics, both in the public and private sectors. The principal concern in the public sector is of course over the possible loss of jobs and the extensive reorganisation necessary to separate client and supply functions. There was a mixed response from the private sector :

Many private sector firms were reluctant to become involved because of the complexity of the CCT process and often adversarial nature.

Some firms had a policy of not bidding if there was an in-house bid.

(RICS, 1997)

7.3 Duty of Best Value

The recently elected Labour Government has announced that it will abandon CCT and will instead insist on the *Best Value* commission (DOE, 1997) for each project. The new Government set out 12 principles for the duty to be placed on Local Authorities instead of CCT, in a press release issued within one month of their election. These principles are as follows :

1. The duty of Best value is one that local authorities will owe to local people, both as taxpayers and the customers of local authority services. Performance plans should support the process of local accountability to the electorate.

2. Achieving Best Value is not just about economy and efficiency, but also about effectiveness and the quality of local services - the setting of targets and performance against these should therefore underpin the new regime.
3. The duty should apply to a wider range of services than those now covered by CCT. Details will be worked up jointly with Departments, the Audit Commission and the Local Government Association.
4. There is no presumption that services must be privatised, and once the regime is in place there will be no general requirements for councils to put their services out to tender, but there is no reason why services should be delivered directly if other more efficient means are available. What matters is what works.
5. Competition will continue to be an important management tool, a test of Best Value and an important feature in performance plans. But it will not be the only management tool and is not in itself enough to demonstrate that Best Value is being achieved.
6. Central government will continue to set the basic framework for service provision, which will in some areas as now include national standards.
7. Detailed local targets should have regard to any national targets, and to performance indicators and targets set by the Audit Commission in order to support comparative competition between authorities and groups of authorities.
8. Both national and local targets should be built on the performance information that is in any case needed by good managers.

9. Auditors should confirm the integrity and compatibility of performance information.
10. Auditors will report publicly on whether Best Value has been achieved, and should contribute constructively to plans for remedial action. This will include agreeing measurable targets for improvement and reporting on progress against an agreed plan.
11. There should be provision for intervention at the direction of the Secretary of State on the advice of the Audit Commission when an authority has failed to take remedial action, or has failed to achieve realistic targets for improvement.
12. The form of intervention should be appropriate to the nature of failure. Where an authority has made limited use of competition, and as an exception to the usual rule, intervention may include a requirement that a service or services should be put to competition. Intervention might also take the form of a requirement that an authority should accept external management support, and may relate either to specific services, or to the core management of the council.

(DOE, 1997)

Thus it seems (from 12 above) that CCT will be used as a penalty to be imposed on authorities which are not providing Best Value, rather than being imposed on all authorities. There are to be transition arrangements under which CCT remains in force, until such time as pilot studies into the Best Value regime are carried out and evaluated.

Many Local Authorities have completely reorganised their property and construction departments in anticipation of the introduction of CCT and may well decide, in the short term at least, to operate with a greater proportion of work let to the private sector, even though they will be under no legal obligation to do so.

7.4 How Widespread is Competitive Fee Tendering?

In his far reaching, joint government and industry review of procurement and contractual arrangements in the UK construction industry Sir Michael Latham refers to a survey published in "New Builder", (25 March 1994), of 327 professional services firms. 39% of these firms earned more than 70% of their commissions on a competitive fee basis. This compared with a figure of 14% in 1991. Conversely the proportion of firms negotiating more than 70% of their commissions fell from 55% in 1991 to 29% in 1994 (Latham, 1994, p44).

The Department of the Environment sponsored Quality Liaison Group has recently carried out a questionnaire survey of a wide range of key individuals, organisations, firms, companies and industry bodies throughout the construction industry. One of the survey findings was that for the procurement of design services, 50% of the clients' sample appointed professionals by competitive tender and about 40% as a result of negotiation (DOE, 1995).

Clearly competitive tender has become the principal appointment method and this situation is unlikely to change significantly within the foreseeable future. Paradoxically, as discussed in the previous chapter, separate research by the writer and by the Association of Consulting Engineers suggests that clients do not place the cost of the service very high in their order of priorities when appointing consultants. In the first survey, 126 clients of Building Surveying firms, placed "level of fees" 8th out of 14 factors (Hoxley, 1993, p63) while in the ACE survey clients placed "price" 5th out of 7 factors (Association of Consulting Engineers, 1995, p31). Never-the-less as Latham says "It is now widely - if in some quarters reluctantly - accepted among consultants that competitive fees are a permanent feature of their work" (Latham, 1994, p43).

7.5 Current Best Practice for Fee Tendering

Several guides to good practice for fee tendering have been produced (e.g. RICS, 1986a, CIC, 1992 and CIRIA, 1994). An analysis of these documents suggests that each of the following factors is critical to achieving a successful outcome :

- adequate specification of the service required at the time of going out to tender;
- careful pre-selection of tenderers;
- adequate weighting to ability given in the final selection process.

The documents all indicate that the lowest tender should normally be accepted. Obviously if care has been taken in the pre-selection process then

all tenderers should be assumed to be equally capable of providing the service. The RICS Building Surveying Services Fee Tendering Guide states that where information comes to light during the tender period which disqualifies the lowest tenderer then they should be passed over in favour of the next lowest tenderer (RICS, 1986a, p6). Pottinger (1995, p26) considers this point in more detail in relation to tendering for public service work. She quotes surveying practices interviewed during her research : “public sector clients have got their eyes over their shoulders for the auditor and they tend to go for the lowest price”. However government managers interviewed later in her research expressed concern at the level of fee-cutting taking place in the market and said that they were prepared to justify why the lowest price should not be accepted if they felt quality could be compromised. Clearly clients do consider quality as well as price to be of great importance and are looking for the best *value* service of a minimum acceptable level of quality. This problem of balancing quality and price was considered by the Latham Review of the construction industry.

7.6 Balancing Quality and Price

The Construction Industry Board (CIB) was charged with a task “..... to choose and then endorse a specific quality and price assessment mechanism for the engagement of professional consultants”, which was part of Recommendation 13.5 of the Latham Report (Latham, 1994, p47). Working Group 4's Report, “Selecting Consultants for the Team : Balancing Quality

and Price", (CIB, 1996) contains detailed guidance for the adoption of such a mechanism.

The report suggests that the precise quality/price ratio should depend upon the complexity, innovation and flexibility likely to be required. The following examples are given in the report :

<i>Type of project</i>	<i>Indicative quality/price ratio</i>
Feasibility studies and investigations	85/15
Innovative projects	80/20
Complex projects	70/30
Straightforward projects	50/50
Repeat projects	20/80

The Working Group then suggests that quality criteria should be grouped under four main headings and then weighted as indicated in Table 3 below.

The emphasis that is placed upon the people involved will be noted. Consultants who achieve the minimum acceptable quality score (65 out of 100 is suggested) are then interviewed and their prices considered. The lowest bid scores 100 and the others score 100 minus the percentage figure above the lowest price (for example a bid 10% above the lowest scores 90). The final quality/price assessment is achieved by multiplying the quality and price scores by the respective weightings set by the quality/price ratio and adding them together to give a total score out of 100.

Table 3 : Project Specific Quality Criteria

Generic quality criterion	Key Aspects	Suggested weighting range
<i>Practice or company</i>	<ul style="list-style-type: none">• Organisation• Financial status• Professional Indemnity Insurance• Quality assurance or equivalent system• Commitment and enthusiasm• Workload and resources• Management systems• Relevant experience• Ability to innovate• References	20-30%
<i>Project organisation</i>	<ul style="list-style-type: none">• Organisation of project team• Authority levels of team members• Logistics related to site, client and other consultants• Planning and programming expertise	15-25%
<i>Key project personnel</i>	<ul style="list-style-type: none">• Qualifications and experience relevant to project• Understanding of project brief• Flair, commitment and enthusiasm• Compatibility with client and other team members• Communication skills• References	30-40%
<i>Project execution</i>	<ul style="list-style-type: none">• Programme, method and approach• Management and control procedures• Resources to be applied to the project• Environmental, health and safety matters	20-30%

(Based on Table 1, CIB, 1996, p14)

The report concludes that the highest scoring consultant should be awarded the contract (CIB, 1996).

7.7 Summary

It is only relatively recently that construction professionals have been permitted by their bodies to compete on the basis of fees. Competitive fee tendering is now the principal method of appointment and is likely to remain so even though CCT is to be replaced by a regime of *Best Value* by the new government. Before fee tendering was permitted, all professionals competed on the basis of quality and the latest advice offered by professional organisations and Government sponsored bodies is that there should be a carefully considered balance between quality and price. In the following Chapter the implications of fee tendering on service quality are considered further.

CHAPTER 8 : DECLINE IN SERVICE QUALITY

CHAPTER 8

DECLINE IN SERVICE QUALITY

8.1 Predictions of Decline in Service Quality

This research project is concerned with possible links between service quality and competitive fee tendering and it is therefore of interest to see what, if anything, was said about the possible effects on service quality of the removal of fee scales when abolition took place. The MMC report on professional services considered this briefly, remarking that :

Price Competition might create serious dangers in relation to quality of services of a particularly personal nature or of whose quality the public are generally incapable of judging. Some clients might accept incompetent service at a lower price without appreciating the risk involved.

(Monopolies & Mergers Commission, 1970, pp 78-79)

They concluded that such cases would be likely to be exceptional. However, many professional services are high in credence qualities (Zeithaml, 1981, pp 186-190), that is, clients find them difficult to assess because they do not possess the skills to do so. This suggests that the scenario described in the report may be more common than the MMC anticipated.

In their evidence to the 1977 MMC report the Institute of Quantity Surveyors said that if the abolition of fee scales led to price cutting then this would “go

hand in hand” with a general fall in standards. (Monopoly and Mergers Commission, 1977, paragraph 257, p 66).

The Association of Consulting Engineers were as vociferous as any of the construction and property professions in defending the status quo. In some respects consulting engineers had more to lose than any of the professions, working as many of them did directly for the government on the massive road building programme at that time. The Association expressed a belief that to allow fee competition might pave the way for a variety of evils : among them the loss of professional trust and public responsibility, and a greater incidence of penny-pinching, inadequate designs which might result in injury and even death (Mansfield, 1986).

In making these siren calls the professional associations were hardly impartial - they were defending the vested interests of their members. (Although this research project has been supported by the Education Trust of the RICS, the writer stresses that this fact has obviously not been allowed to affect the objectivity of the work). Have these professional bodies been proved correct in foreseeing a decline in standards and service quality however?

8.2 Evidence of a Decline in Service Quality

As Sir Michael Latham says “Few professional consultants are likely to admit openly that they have personally reduced their services because of

competitive fees" (Latham, 1994, p 44). There is however at least some anecdotal evidence of a decline in professional standards in the construction professions which could possibly be attributed to the lower level of fees resulting from intense competition.

The Property Services Agency (PSA) introduced competitive fee tendering for consultants working on government contracts in 1984. In a review of fee competition in 1987 they commented :

The disadvantages of competitive bidding which have been put to us include less optimisation of design, greater risk of faulty design, a likelihood of reduced value for money in works costs and of contractors' claims, greater consultants' claims for extra fee payments, and general lowering of the calibre of staff in the industry. At present there is no firm evidence of any increase in claims or reduction in standard of service.

(Property Services Agency, 1987, p 4)

However later in the review (p 6) they discussed evidence given by consultants that bids being made were lower than could be achieved by reducing profit or by achieving greater efficiencies and that these bids could only be made by reducing the service provided.

The Association of Consulting Engineers gave evidence to the Latham Review by presenting the results of a questionnaire survey of 53 of its

members. They presented several statistics about fee tendered services, which included the following :

73% give less consideration to design alternatives;

31% give less consideration to checking and reviewing designs;

40% consider that the risks of design errors occurring are higher;

74% admit that they are producing simpler designs to minimise the commitment of resources to a task;

84% assess the number of claims for additional fees to be higher;

69% see less trust between client and consulting engineer;

94% bid low to maintain the cash flow or (on occasion) to test the market;

35% bid low with the intention of doing less than in the enquiry;

61% bid low with the intention of making up fees with claims for variations.

(Latham, 1994, pp 44-45).

Latham also referred to a recent report by the Royal Incorporation of Architects in Scotland which contains the following quotation from one firm :

We look to limit our service in the fee tendered service and are prepared to claim for extra services. We only make the client aware when appropriate. We cut back on [stages] A to D, and severely limit service after [stage] G, and are ready to claim for any additional efforts. We cut down on meetings / site visits / number of drawings and manufacturer's drawings. We do not do site minutes, we design it only once, and alterations will be on (a) time (basis). (Latham, 1994, p 44).

In the main profession under investigation during this research, Chartered Surveyors, fears have been expressed for several years that fee levels have sunk too low. Initially the impact of abolition of fee scales was limited by the UK property boom of the mid to late 1980s. It was only during the subsequent recession that the issue returned to the forefront of most practitioners' minds. Less work for everyone in the recession inevitably meant that competition and therefore lower and lower fee levels became widespread. In 1993 in an article subtitled "Have surveyors gone too low?" in the profession's weekly journal, evidence of very low commissions was presented. The article states,

Few surveyors will own up to fee cutting but in reality they're all doing it, some even going beyond the bounds of healthy free-market competition into loss making territory. Most players in the market acknowledge that when fee levels get below a certain point there is a danger that the quality of work will suffer. (Morgan, 1993, p28).

The anecdotal evidence presented above has come, almost exclusively, from the professions and we have seen previously that they have a vested interest in arguing against competitive fee tendering. There is little evidence available from clients that they actually perceive a fall in standards. In the DOE Quality Liaison Group study clients and professionals were asked to identify the procurement route that they considered presents the most problems in relation to design. 75% of Clients replied "competitive fee tender" - as did 95% of the professionals (DOE, 1995). This evidence from

clients is however heavily outweighed by claims of falling standards made by professionals themselves.

8.3 Can Anything be Done to Combat Excessive Fee Undercutting?

Is it inevitable that professional fee levels must be left entirely to market forces? The obvious answer to this question is "yes" - particularly under the previous Conservative government or even under their successors, a Labour government which has moved significantly to the right in economic thinking. However the experience of other professions, in the UK and abroad suggests that this might not be the only answer.

The construction professions are not alone in being subject to highly competitive forces and falling fee levels in recent years. Another property function, conveyancing, has seen much reduced fee levels and throughout 1995 the Law Society's weekly journal was full of reports of ridiculously low levels of fees being quoted by some firms. In the edition of 13 September 1995 reference is made to firms of Solicitors quoting as little as £100.00 to provide conveyancing services. These reports have led the Law Society to give serious consideration to a proposal to the withdrawal of its role as "insurer of last resort" for firms offering to provide conveyancing services for less than some arbitrary figure to be set by the Society (Hilborne, 1995, p 1). As one would expect the Law Society sought Counsel's opinion upon the legality of such a move, which would certainly seem to be in conflict with current Government thinking. Eventually the Society stepped back from the

brink of confrontation with the Office of Fair Trading but the proposal had considerable support from the membership. (Hilborne, 1996, p1).

In 1993 the Institute of Chartered Accountants changed its ethical guidelines to discourage reckless discounting. (Institute of Chartered Accountants in England and Wales, 1993). The Institute have been involved more recently with the subject of fee competition having set up a working party to investigate "low-balling" for the provision of company account audits. The results of the working party were summarised in the Financial Times on 9 November 1995. The Llewellyn-Smith report found that the Big Six UK accountancy firms were not guilty of low-balling in their fee tendering for company audits. The report did however comment that there were signs that the value of auditing was being undermined by the lower level of fees being charged and that company directors were partly culpable for this situation. The working party concluded, "It is important for the future of the profession that the emphasis is shifted from price to quality" (Kelly, 1995, p 14).

The same newspaper article referred to measures taken by two other organisations, the Law Society of Northern Ireland and the State of Texas to deter excessive fee undercutting. The Law Society requires that a solicitor "shall not work for a fee or at a rate which" can "reasonably be regarded" as designed to attract clients rather than to make a profit. The society has apparently disciplined members for failing to adhere to this requirement. The Texas Public Accountancy Act of 1991 presumes that there will be a "loss of

independence” where auditing skills are offered for “compensation” which is “less than the direct labour cost reasonably expected” (Kelly, 1995, p 14).

Details of further US legislation in this area were presented by the Association of Consulting Engineers (ACE) in their evidence to the PSA Fee Competition Review Committee. ACE referred to the Brookes Law in the USA which requires that architects and engineers be appointed on the basis of quality of service and not price. Where the requirement was withdrawn for a time (in the state of Maryland) experience of design failures and undue increases in professional indemnity insurance premiums led to the requirement being reintroduced (Property Services Agency, 1987, p 14).

8.4 Research Hypotheses

Thus attempts have been made, by legislation in the US and by professional bodies in the UK to at least remove the worst excesses of “low-balling”. The imposition of such safeguard controls in the UK property and construction professions would be popular with many practitioners struggling to make profits in highly competitive markets. It is unlikely that government or even some of the professional organisations would take calls for the imposition of such controls seriously unless there was clear evidence that clients were perceiving a fall in standards (and were perhaps defecting to instruct other professions as a result). We have seen above, however, that there is little evidence to suggest that clients have perceived a decline in standards, or if they have, that this is due to a fall in fee levels. The writer therefore perceives

that a major objective of this research project should be to attempt to measure clients' perceptions of service quality and to see whether there is any significant link between service quality and the incidence of competitive fee tendering. It would seem that service quality is less likely to suffer when the guidelines outlined in 7.5 above are followed but that service quality may suffer when the fee bid is particularly competitive. The following hypotheses are suggested as the basis for further research :

Hypothesis 1: Clients' perceptions of service quality are lower for commissions let by competitive fee tendering than with other methods of appointment.

Hypothesis 2 : Clients' perceptions of service quality are increased when they have adequately specified the service required prior to tendering.

Hypothesis 3 : Clients' perceptions of service quality are increased when they have carefully pre-selected tenderers.

Hypothesis 4 : Clients' perceptions of service quality are increased when they have given adequate weighting to ability in the final selection process.

Hypothesis 5 : Clients' perceptions of service quality are lower when the fee bid is more competitive.

8.5 Summary

Competitive fee tendering is of critical importance to the construction and property professions; it is probably already the principal route for appointment

and this situation is unlikely to change in the foreseeable future. The professions, have predicted a decline in standards as they are forced to cut the level of service they provide. A study of other professions, here and abroad suggests that it may be possible to legislate for unreasonable undercutting of fees and thereby possibly influence a general rise in fee levels. The legislators, be they in government or in the associations representing the professionals are unlikely to act however unless they see that clients are perceiving a poorer quality service as a result of falling fee levels. The writer has stated some hypotheses which could provide such evidence.

Two topical practice management issues which could impact on this research topic are rising professional indemnity insurance claims and the increasing number of practices seeking formal quality assurance registration. Both of these issues are considered in the following chapter.

CHAPTER 9 : PROFESSIONAL INDEMNITY INSURANCE AND QUALITY ASSURANCE

CHAPTER 9

PROFESSIONAL INDEMNITY INSURANCE AND QUALITY ASSURANCE

9.1 Introduction

If clients are very dissatisfied with the quality of service received from their professional, it is possible that they will resort to the threat of litigation. Thus the level of professional indemnity insurance (PII) claims since fee scales were abolished may be an indicator which will be useful when considering the main hypothesis of the study. Another management issue which has been suggested as a method of reducing PII claims is quality assurance and this subject is considered later in the chapter.

9.2 Professional Indemnity Insurance - Impact of Falling Fee Levels

During Phase 1 of the RIBA Strategic Study a claims lawyer was interviewed about the impact of falling fee levels on indemnity insurance. She pointed out that an architectural practice can expect to pay between 3% and 5% of their gross turnover in premiums for indemnity cover, and questioned the ability of some firms to continue to afford cover in the face of ever decreasing fees (RIBA, 1992, p115). The study went on to question whether the Institute should impose a requirement for mandatory insurance upon its members, although no such recommendation appears in the later phases of the review (RIBA, 1993 and 1995).

9.3 Claims Record Since Abolition of Fee Scales

Professional indemnity insurance (PII) claims have increased significantly since the early 1980's (see 4.6). In order to investigate whether the advent of competitive fee tendering has had any impact upon claims, the writer attempted to obtain claim settlement statistics from insurers but discovered that the availability of PII statistics is very limited. In the architectural and engineering professions there are several different insurers, none of whom was willing to divulge any confidential information. The construction professional institutions and the Association of British Insurers were also approached but none of these organisations collate any central statistics. However Surveyors Insurance Brokers Ltd, who insure the majority of Chartered Surveyors, were willing to provide some summary statistics and these are presented in Figure 15 below (see also Appendix F).

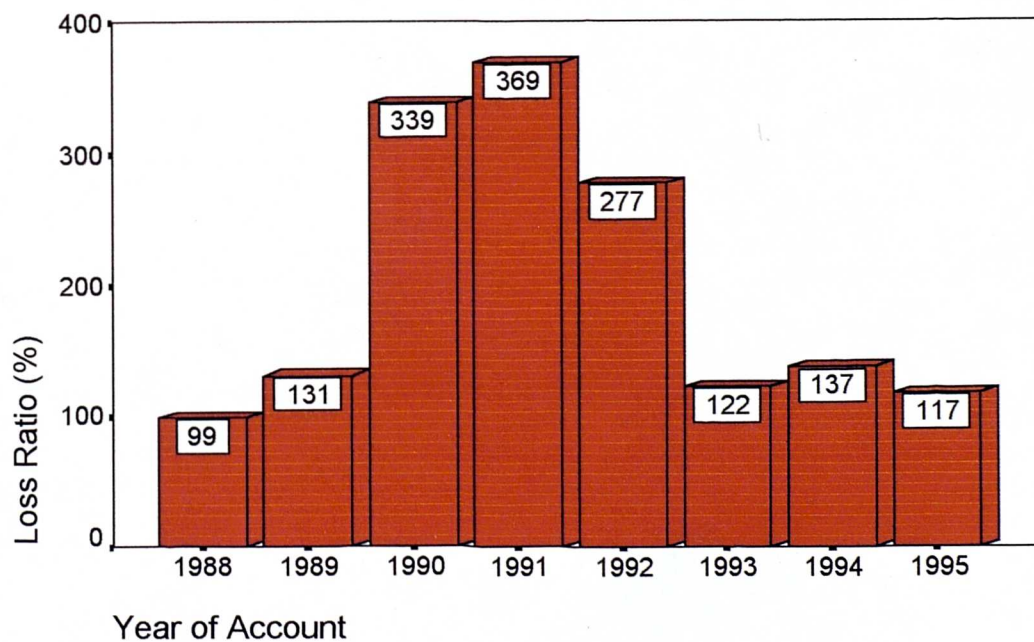


Figure 15 : Surveyors' Professional Indemnity Insurance Claims Record 1988 - 1995

The bar chart illustrates the "loss ratio" (claims paid out divided by premiums received, as a percentage) for the account years 1988 - 1995. It should be appreciated that the figures do not reflect claims made in any one twelve month period as the years of account shown follow the insurer's cover years and the statistics on any one year of account cover two calendar years. Thus the statistics reflect the position up to and including 31 December 1997.

It will be noted that professional indemnity insurance of surveyors is not a profitable undertaking since in the last decade claims have significantly exceeded premiums. In the account years of 1990 - 1992 the situation was significantly worse and this would tend to support the main hypothesis, since this period is at the very depth of the recession. However the insurer has indicated to the writer that these abnormally high claim years are almost entirely explained by the rapid fall in property values and the subsequent claims made by owners and lending institutions upon those surveyors valuing property during this turbulent period.

Given the fact that loss ratios have returned to similar levels to those which existed before the period of declining property values, there is no evidence of any clear trend to suggest that fee tendering has led to a rise in the level of PII claims - for this particular profession. The writer believes that the rise in the incidence of claims (which pre-dated the abolition of fee scales) is due to an increasingly litigious society which has been fed a rich diet of

consumerism by the media, and in particular television, in the last twenty years or so.

9.4 Quality Assurance

Quality assurance (QA) is defined in ISO 8402 as :

All those planned and systematic actions necessary to provide adequate confidence that a product or service will satisfy given requirements for quality. (ISO, 1989)

In this context “quality” does not imply any level of superiority or luxury but merely “fitness for purpose”. In other words a quality product or service is one that meets the expectations and needs of the consumer (RICS, 1996b). According to Smee (1994) an organisation wishing to achieve QA certification needs to :

Plan what you do - establish a quality management system

Do what you plan - monitor the system

Prove that you did it - demonstrate the system to external assessors.

There are three options for the assessment stage :

First party assessment - by the firm itself,

Second party assessment - by individual clients, or

Third party assessment - by an outside agency (Dew, 1992).

Initially the interest by construction professional practices in QA was very low (Chartered Surveyor Weekly, 1991). It was not until 1991 that a standard was specifically introduced for services (BSI, 1991) - up until that time the standard was one which had been designed for manufacturing and many professional firms could not see the relevance of applying this standard to their work. In 1990 there were only 40 QA registered construction firms throughout the UK (CIRIA, 1990). A study by Barrett (1994a) suggested that in 1993 this figure had risen to 285 (out of an estimated 10,000 firms). A Delphi study by the same researcher (Barrett, 1994b) estimated that the proportion of professional construction firms who would register by 1999 would be just under 40% and that this figure would rise to about 50% by the year 2004. The professional institutions plan to collect data on QA from their members in the near future, but none is available at present to ascertain the accuracy of Barrett's predictions.

9.5 The Motivation for QA Registration

If the predictions given above are proved correct what will have been the motivation for about half of all construction firms to have become registered? In it's advice about QA to Chartered Surveyors the RICS (1996b) gives these four reasons why firms should seek registration :

- Competitiveness
- Risk management
- Compliance with professional standards
- Client demand

The writer believes that it is the first of these factors which is the prime motivation. In the early days of QA a few (mainly large) firms made use of generous government grants to achieve registered status. Other firms perceive that this first tranche have achieved a competitive advantage by becoming QA registered and are striving to "catch up." The final factor "client demand" is also a very important one. Those practices working for public bodies and other large organisations fear losing work if clients suddenly announce that all their consultants must be QA registered. The Halifax Building Society became the first big mortgage lender to announce that all panel valuers must have applied for ISO 9000 registration by 1 April 1997 (Harland, 1996).

The RICS (1996b) suggest that PII premiums will reduce for QA registered firms but so far there is little firm evidence of this happening. Although the suggested compliance with professional standards does have a link with quality there is no specific mention of QA actually improving quality in the RICS document under discussion!

Some research suggests that QA may actually have an adverse impact upon quality. A questionnaire study of 61 consultants and contractors by Hughes, Williams and Ryall (1997) suggests that the larger the physical size of the quality manual, the less motivated staff are to comply with it. Barrett (1994b, p12) considers that QA is appropriate where the service involves a clear brief, a known technical solution, stable work load, standardised procedures,

low maturity staff and sub-divided projects. Where these features are missing he advocates alternative methods which involve a professional orientation, high maturity staff, the encouragement of self control, cohesive/flexible groups, social technology and training programmes. He recommends the use of what he calls "supple systems" which are client orientated, minimalist/holistic, symbiotic with social systems, loose-jointed and evolutionary as an alternative to rigid formal QA systems (Barrett, 1996b, p9).

9.6 Summary

Although PII claims have increased since fee scales were abolished there is no direct evidence that this is due to a fall in the level of fees. Although many professional practices are seeking QA registration, their motivation for doing so appears to have more to do with looking for a competitive edge than with actually improving the quality of service. In the following chapter the *measurement* of service quality is considered.

SECTION III - METHODOLOGY

CHAPTER 10 : MEASURING SERVICE QUALITY

SECTION III - METHODOLOGY

CHAPTER 10

MEASURING SERVICE QUALITY

10.1 Measuring Quality

Testing the hypotheses stated in Chapter 8 will involve measuring clients' perceptions of service quality but is this as easy as it might at first seem? Measuring the quality of a product or consumer good is relatively straight forward. As discussed in Chapter 2 products have tangible characteristics which can be physically measured, tasted or smelt. Services are intangible and as Shostack (1981, p221) says :

Products are tangible objects that exist in both time and space; services consist solely of acts or processes and exist in time only. The basic distinction between "things" and "processes" is the starting point for a focused investigation of services. Services are rendered, products are possessed. Services cannot be possessed; they can only be experienced, created or participated in.

As we saw in Chapter 2, one of Gronroos' (1984) three main characteristics of a services is that it is consumed at same time as it is produced. This characteristic is very important to professional services. Any client attending a consultation or meeting with a professional advisor is consuming the service at the same time as it is being produced. This overlap in the

production and consumption phases led Barrett (1993, p46) to describe the professional services firm as being *transparent*. By this he means that it is quite possible that a client will come into contact with the majority of the members of staff of the professional firm. Therefore, Gronroos (1981) suggests that the firm should engage in *internal marketing*, that is all members of staff should have a marketing focus. The firm should “sell” the firm’s services to all staff members so that they can effectively “sell” them to existing and new clients.

Booms and Bitner (1981, pp 47-51) agree with Shostack and Gronroos that services are intangible and also point out that, they cannot be easily standardised since each service experience will be unique, depending on the individual customer's expectations and interactions with the service organisation. Thus there is general agreement in the services marketing literature with the three Gronroos characteristics described in Chapter 2.

10.2 Consumer Evaluation of Services

Zeithaml (1981, pp 186-190) develops a framework for isolating the differences in evaluation processes between goods and services. She distinguishes between :-

- | | | |
|-----------------------------|---|---|
| <i>Search qualities</i> | - | attributes which a consumer can determine prior to purchase or consumption. |
| <i>Experience qualities</i> | - | attributes which can only be discerned after purchase or consumption. |

Credence qualities - attributes which the consumer may find impossible to evaluate, because they lack the skills to do so.

Using the characteristics which distinguish services from products she goes on to discuss the evaluation qualities. Because services are intangible they possess few search characteristics and many experience qualities. Non-standardisation results in high experience qualities, for consumers cannot be certain about performance on any given day. Consumption at the same time as production means that the consumer's participation in the service is higher and the way in which he or she acts will affect the quality of the service.

Professional services are also high in credence qualities since the client may not possess the skills or knowledge to evaluate the service or as Rueschemeyer, (1987, p 40) says: *"The recipients of expert services are not themselves adequately knowledgeable to solve the problems or to assess the service received"*.

Zeithaml (1981, pp 186-190) presents 11 specific hypotheses about the differences in consumer evaluation processes between services and goods.

Of these the following are relevant to the present discussion :

- Consumers engage in greater post-purchase evaluation and information seeking with services than with products.

- Consumers engage in more post-purchase evaluation than pre-purchase evaluation when selecting and consuming services.
- Consumers may complain less frequently about services than products due to their belief that they themselves are partly responsible for their dissatisfaction.

Thus a client's evaluation of a professional service takes place before, during and after delivery. This correlates well with other models of the evaluation of services, (for example those described in Chapter 5) . But what is quality and how do clients measure it ?

10.3 What is Quality?

"*Quality is an elusive concept*" (Gummesson, 1981, p111) and cannot usually be measured objectively. As we saw in Chapter 4 another of the "Nordic School" of service marketing Christian Gronroos (1984) has developed a theory of service quality which has been a major influence on the development of services marketing as a distinct academic discipline over the last decade (see for example "the development and emergence of services marketing thought" by Brown, Fisk and Bitner, 1994).

As we have seen in Chapter 4, Gronroos' theory distinguishes between the client's perception of the service compared with his initial expectation of what the service will be. He describes two quality dimensions that are quite different in nature:- technical quality which is concerned with *what* the client

gets and functional quality which is concerned with *how* the client gets it. His full model is presented in Figure 11.

While the Nordic School of marketing academics have been very influential in their conceptualisation of the differences between products and services it is a group of academics in the United States that have made most progress in their attempts to measure service quality. Churchill (1979) presents a paradigm for developing better measures of marketing constructs and describes the measures with which marketers then worked as being “woefully inadequate”. He discusses the steps needed to ensure adequate validity, reliability and sensitivity of measurement scales and recommends the use of multi-item measures, since :

1. the specificity of items can be averaged out when they are combined,
2. by combining items, one can make relatively fine distinctions among people, and
3. the reliability tends to increase and measurement error decreases as the number of items in a combination increases.

Churchill recommends the procedure illustrated in Figure 16 below.

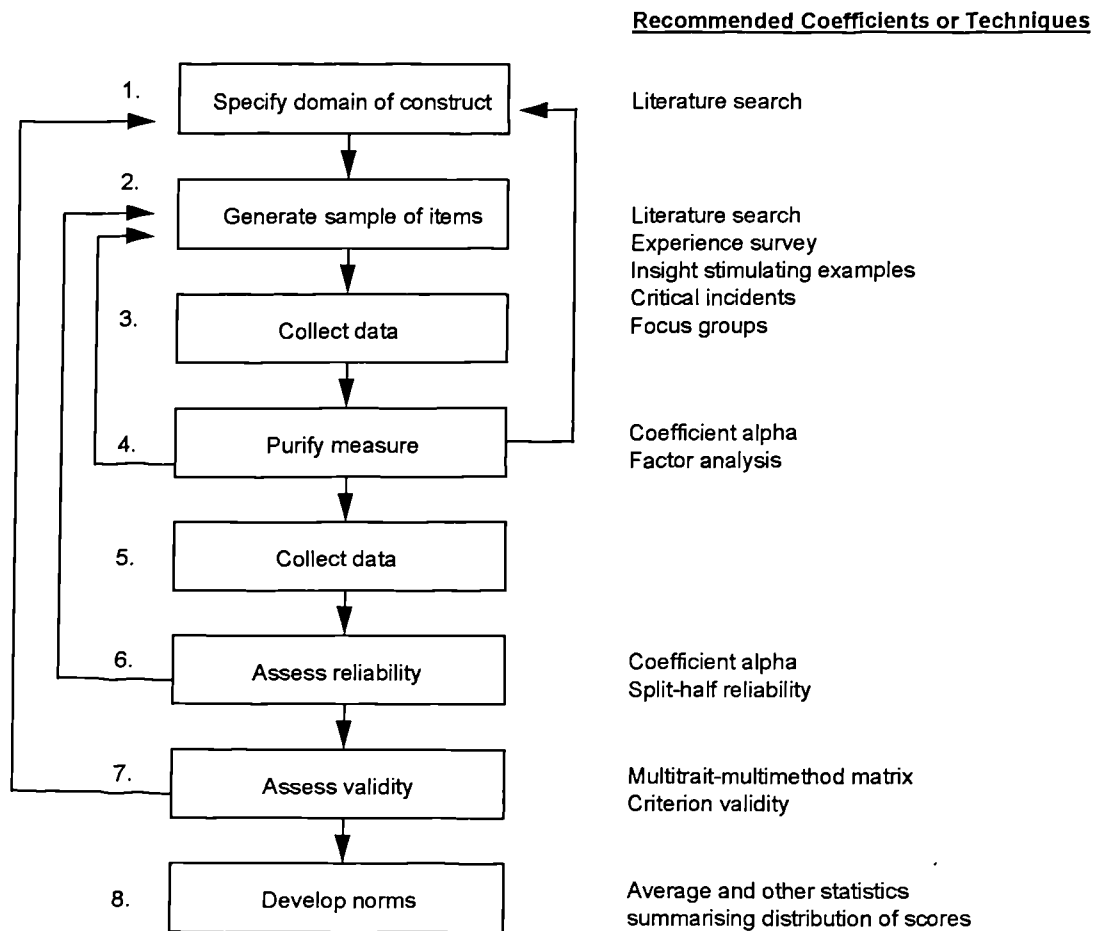


Figure 16 : Suggested Procedure for Developing Better Marketing Measures (Churchill, 1979)

Over a period of some six years Parasuraman, Zeithaml and Berry (1985, 1988 and 1991) followed this procedure in order to develop a generic service quality assessment scale which has been used extensively in industry and academe in recent years. Their initial work reported in the 1985 paper was an exploratory qualitative study which developed a conceptual model of service quality. The study involved focus group interviews with consumers and in-depth interviews with executives of companies across four service

industries - banking, credit card, securities brokerage and product repair and maintenance.

The executive interviews revealed commonalties among the service industries studied, which led the researchers to hypothesise that a generic model of service quality could be developed. The focus group work revealed ten "service quality determinants," which it was suggested consumers use to evaluate service quality. The determinants were called : reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding/knowing the customer and tangibles. It was suggested that the determinants may well overlap, but that evidence of this would need to await future empirical investigation.

Parasuraman, Zeithaml and Berry's research, reported in the 1985 paper, had performed the first two stages recommended by Churchill (1979). In the following chapter, the empirical work - to develop the much used SERVQUAL scale - is described and evaluated.

CHAPTER 11 : SERVQUAL

CHAPTER 11

SERVQUAL

11.1 The Original Scale

The development of the SERVQUAL scale presented in Parasuraman, Zeithaml and Berry, 1988, firstly involved the generation of 97 items across the 10 “dimensions” (as the original “determinants” were renamed). Each item was then recast into two statements - one to measure expectations about firms in general within the particular service under investigation, and the other to measure perceptions about the particular firm whose service quality was being assessed. In comparing perceptions with expectations the researchers were building on the work, of amongst others, Gronroos (see Figure 11). Some of the statements were negatively worded, in accordance with detailed procedures recommended by Churchill, (1979, p 68). A seven point, Likert type attitude scale with responses ranging from “strongly agree” to “strongly disagree” accompanied each statement.

Initially, data were collected across five different service categories, the four referred to in the previous chapter together with long distance telephone. A sample of 200 customers (40 for each service industry) completed the 97 item expectations part followed by a 97 statement perceptions part. For the first part respondents were instructed to indicate the level of service that should be offered by firms within the service category in question. For the second part they were asked to name a firm (within the service category) that they

had used and with which they were most familiar. Respondents were then instructed to express their perceptions about the firm. Purification of the instrument began with the computation of coefficient alpha (Cronbach, 1951) for the difference scores (perceptions minus expectations), for each of the 10 dimensions. Items were then deleted in an iterative process until the remaining 54 items had alpha values ranging from 0.72 to 0.83 across the 10 dimensions. Factor analysis was then carried out and this suggested that there should be a smaller number of dimensions. Further items were deleted and after the first stage of scale purification, 34 items across 7 dimensions resulted.

For the second stage of scale purification, data were collected, to measure the service quality of four nationally known firms : a bank, a credit card company, a firm providing appliance repair and maintenance services, and a long distance telephone company. Again a sample of 200 was used and the resultant data were analysed in a similar manner to that discussed above. This procedure resulted in a scale which the researchers named SERVQUAL and which had 22 items, across five dimensions, which were as follows:

- | | | |
|----------------|---|--|
| Tangibles | : | Physical facilities, equipment, and
appearance of personnel |
| Reliability | : | Ability to perform the promised service
dependably and accurately |
| Responsiveness | : | Willingness to help customers and provide
prompt service |

Assurance	:	Knowledge and courtesy of employees and their ability to inspire trust and confidence
Empathy	:	Caring, individualised attention the firm provides its customers

The research then proceeded to test the scale's reliability and validity and Parasuraman, Zeithaml and Berry (1988), concluded that the scale was both reliable and valid. Another of their conclusions (pp 24-28) was that while SERVQUAL can be used to assess and compare quality across a wide variety of services, appropriate adaptation of the instrument may be desirable when only a single service is investigated.

11.2 Reassessment and Refinement of SERVQUAL

The publication of the research discussed above provoked considerable comment and attempts at replication of the results of the study. In response to these studies Parasuraman, Zeithaml and Berry (1991) published the results of a follow up study. Collecting much more data, across three sectors (telephone repair, retail banking, and insurance), than their previous study, they concluded :

In summary, the collective findings from the various replications by and large provide consistent support for the reliability, face validity and predictive/concurrent validity for the SERVQUAL scores on the five dimensions (p 441).

The researchers did however refine the scale to take account of some previous criticisms and the final SERVQUAL instrument may be examined at Appendix A. Of the original 22 items, 6 had been negatively worded and in the revised scale all statements are positively worded. Two items (one under the *tangibles* dimension and the other under *assurance*) were changed, but only slightly. Perhaps the most significant alteration was the replacement of *normative* expectations with statements focusing upon *excellent* service. Thus one expectation statement was altered from "Telephone companies should keep their records accurately" to "Excellent telephone companies will insist on error free records." The principal argument for this alteration was that the expectation statements were producing exceptionally high mean values. In fact it is the use of expectation statements and the recording of gap scores which has provoked most criticism about the scale and this matter is discussed further below.

11.3 Criticisms of SERVQUAL

The writer considered that, in view of the academic rigor expended in the development of SERVQUAL, this scale would be a useful starting point for the measurement of service quality in order to test the hypotheses of his research. SERVQUAL has been developed using the procedures recommended by Churchill which are illustrated in Figure 16, and there is now a significant body of knowledge about the use of this instrument and its ability to measure service quality. Although many studies have lent support to the use of SERVQUAL, not all reviews have been entirely favourable. A

thorough critique of problems raised by other researchers is given by Buttle, (1994) who comments : "Without question, SERVQUAL has been widely applied and is highly valued. Any critique of SERVQUAL therefore must be seen within this broader context of strong endorsement." Buttle (who has used SERVQUAL many times) lists 12 criticisms made by other researchers and discusses these in detail. There follows a discussion of the attitude taken by this writer, in the development of his measurement scale, to each of Buttle's criticisms.

11.3.1 THEORETICAL

1. Paradigmatic objections

SERVQUAL is based on a disconfirmation paradigm rather than an attitudinal paradigm.

Cronin and Taylor (1992 and 1994) have claimed that the scale is flawed because "perceived quality is best conceptualised as an attitude," and that Parasuraman, Zeithaml and Berry have based the scale on the disconfirmation model used in the customer satisfaction literature. Cronin and Taylor's objections are therefore based on the premise that *service quality* is not the same as *customer satisfaction*. The SERVQUAL researchers have vigorously defended their position and suggest that Cronin and Taylor's work does not justify their claim that the disconfirmation paradigm is flawed. As discussed in (2) below the writer has not attempted to measure gaps and so this criticism is not entirely relevant to his scale.

2. Gaps model

There is little evidence that customers assess service quality in terms of Perception - Expectation gaps.

We have seen that the gap concept is in keeping with much conceptual thinking on services marketing, for example Gronroos (1984), but it is the use of gap scores which has been the subject of the most heated debate about SERVQUAL in recent years. A number of researchers have suggested that perceptions only should be used to assess service quality (see for example, Cronin and Taylor, 1994 and Teas, 1994). Certainly the need to apply the scale twice for each assessment makes its application less than user friendly. One of the SERVQUAL developers (Valerie Zeithaml) was among a group of researchers (Boulding et al, 1993) who rejected the gap based model. The writer decided to word the statements of his scale so that expectations and perceptions were measured in the same statement. Brown, Churchill and Peter (1993) suggest that such a scale out performs a scale based on the gaps model.

3. Process orientation

SERVQUAL focuses on the process of service delivery, not the outcomes of the service encounter.

Critics have argued that outcome quality is missing from Parasuraman, Zeithaml and Berry's formulation of service quality (Mangold and Babakus, 1992, Cronin and Taylor, 1992 and Richard and Allaway, 1993). Certainly the writer's previous research (Hoxley, 1994) has suggested that technical

quality (as defined by Gronroos, 1984), is very important to the assessment of service quality by clients of UK Building Surveyors. The outcomes of a construction professional's service usually involve a very tangible thing - a building. Very often the professional only has a limited control over the quality of the finished product and it is the building contractor who has a greater influence on this outcome. This is one reason why outcomes were not included in the writer's scale but another is that some researchers, (for example, Higgins et al, 1991), have argued that outcome quality is already contained in several of the dimensions of SERVQUAL.

4. Dimensionality

4.1 *SERVQUAL's dimensions are unstable. The number of dimensions comprising service quality is contextualised.*

4.2 *Items do not always load on to the factors which one would a priori expect.*

Since the writer wishes to use the scale purely to test his hypotheses, the dimensionality of the scale is not critical. As discussed in the following chapter, great efforts have been made to ensure that the scale was adapted to fit the context (the construction professions) and therefore the criticism contained in 4.1 above is not completely relevant.

11.3.2 OPERATIONAL

5. Expectations

5.1 *The term "expectation" is polysemic.*

5.2 Measuring expectations is unnecessary.

Even though the word “expectations” has many meanings, as discussed in (2) above this criticism is not relevant because the writer decided to word the statements of his scale so that expectations and perceptions were measured in the same statement

6. Item composition

The 4 or 5 items do not capture the variability within each SQ dimension.

Many of the SERVQUAL replication studies have been context specific and have included more than the original 22 items (the writer’s final scale has 26 items).

7. Item order

SERVQUAL measurements may be subject to systematic order effect.

Since the dimensionality of the scale is not critical this should not present a problem. It could be argued that by placing similar questions together the scale is easier to complete and therefore more reliable results will be obtained.

8. Moments-of-truth (MOT)

Customers’ assessments of SQ may vary from MOT to MOT.

This criticism is more relevant to services delivered over a short time span. The services provided by construction professionals are usually delivered over a relatively long period.

9. Polarity

The reversed polarity of items in the scale causes respondent error.

As discussed previously this criticism led Parasuraman, Zeithaml and Berry (1991) to amend the scale and the writer has used only positively worded statements in his scale.

10. Scale points

The 7-point Likert scale is flawed.

The main objection is that only the initial and final scale points are labelled in the SERVQUAL scale. The writer has followed Lewis's (1993) suggestion and has labelled every point.

11. Two administrations

Two administrations of the instrument causes boredom and confusion.

By not separately measuring expectations this problem has been avoided.

12. Variance extracted

The overall SERVQUAL score accounts for a disappointing proportion of item variances.

As might be expected, modified and context specific scales, generally outperform SERVQUAL in explaining a greater percentage of variance. The greater proportion of variance extracted, the greater the validity of the scale. This was another reason why the writer determined to adapt SERVQUAL to suit the services provided by construction professionals.

11.4 Is SERVQUAL Still Relevant?

It is seven years since the final version of SERVQUAL was published by PZB. As we have seen above (11.3) the scale is and has been used extensively to record customer's perceptions of service quality, but is it still relevant and is it the most suitable method of recording clients' perceptions of service quality in the context of the current research project?

A recently published study of service practice and performance in the United States (Roth, Chase and Voss, 1997) resulted in a service management model which is reproduced in Figure 17 below. Each of the twelve practice drivers and six results indicated in the model resulted from the statistical groupings of the 80 survey items, following face to face interviews with 181 US service firms. The practice driver "Using a balanced score card" includes *customer satisfaction measurement, use of quality data, performance measurement and quality measurement systems*. The correlation between this driver and all the results (only one of which was *service quality*) was 0.52. Roth, Chase and Voss consider this to be a strong correlation. Thus the use

of a measurement instrument such as SERVQUAL would appear to be relevant to the management of services in the late 1990's.

The main methodological advantage to the writer is that by using a SERVQUAL type scale it is possible to collect data by employing a postal questionnaire. As we have seen above the SERVQUAL scale has been rigorously scrutinised during its original development and revision. The writer is therefore building upon a proven methodological approach in basing his scale on SERVQUAL.

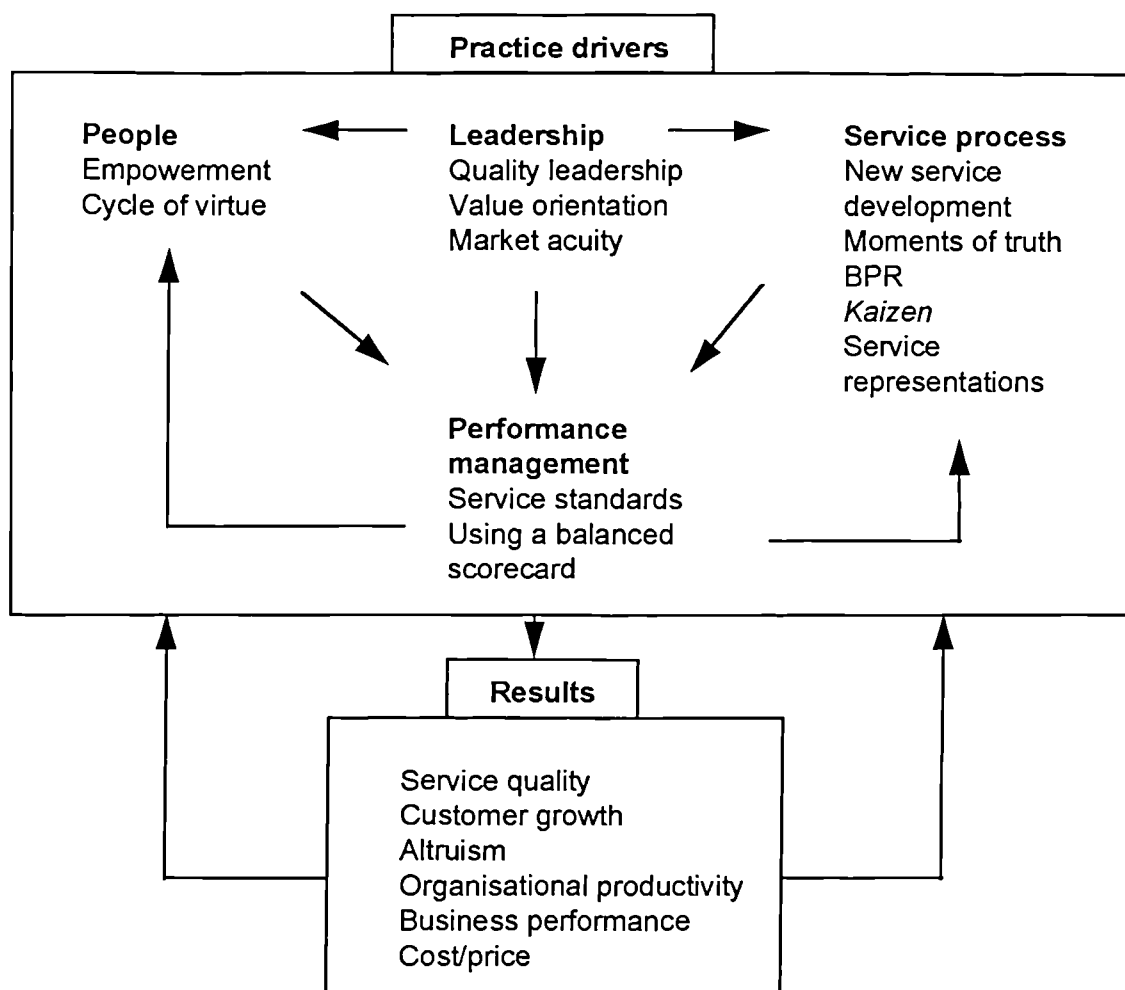


Figure 17 : The Roth, Chase and Voss (1997) Service Quality Model

11.5 Summary

SERVQUAL was developed with data collected across five different service industries, is a widely used service quality measurement scale used in industry and by researchers, and recent research suggests that its use remains relevant to services management. The writer has indicated his approach to criticisms of the scale by other researchers. One of these criticisms suggests that it is necessary to adapt the scale to each specific context. This part of the research is the subject of the following chapter.

CHAPTER 12 : OTHER MEASUREMENT SCALES

CHAPTER 12

OTHER MEASUREMENT SCALES

12.1 A Context Specific Scale

Most of the SERVQUAL studies have recommended the customising of items to suit each service setting. Carman (1990, p41), states :

In sum, our replication of the PZB analysis found most of the dimensions they recommend. This was the case even in professional service settings. Validity checks suggest, however, that these dimensions are not so generic that users of these scales should not add items on new factors they believe are important in the quality equation.

In his search for these service specific items the writer looked at previous studies of service quality in the architectural, real estate and building surveying professions.

12.2 Architectural Service Quality

Cravins, Dielman and Harrington's (1985) research was carried out at about the time that Parasuraman, Zeithaml and Berry (PZB) were carrying out their original conceptual work and indeed Cravins et al, do make reference to PZB in their paper. The study sought to evaluate the quality of architectural services and sampled 80 building developers in a large metropolitan area of the United States. Pre-test interviews identified 21 items and although attempts were made to identify other items during the main interviews, no

further items were found. A “reasonably close correspondence was found between service specific criteria and the ten generic quality dimensions developed by PZB.” (Cravens et al, 1985, p297). The research went on to rank the 21 items in order of importance to clients. The results are presented in Table 4 below :

**TABLE 4 : Architectural Quality Assessment Criteria
(Cravens et al, 1985)**

	Criteria	Average Ranking
1.	Responsiveness	9.2
2.	Competent Staff	9.2
3.	Experience with projects like mine	9.1
4.	Meets deadlines	9.1
5.	Working relationship	9.0
6.	Understands my needs	9.0
7.	Quality of design documents	8.8
8.	Stays within budget	8.7
9.	Design creativity / capabilities	8.4
10.	Ongoing participation of principals	8.1
11.	Economic feasibility know-how	7.6
12.	Engineering know-how	7.4
13.	Personal references	7.2
14.	Construction supervision	6.9
15.	Used architect before	6.8
16.	Competitive fees	6.7
17.	Proximity of architect to project	6.7
18.	Presentations by architects	6.6
19.	Post construction follow up	6.2
20.	National prestige of firm	5.5
21.	Full range of services	5.3

The relatively low ranking of "Competitive fees" (16th out of 21) coincides with the findings of other research described in Chapter 6 and is particularly interesting in the context of this research project.

12.3 Real Estate Service Quality

Nelson and Nelson (1995) applied the SERVQUAL development procedures to devise an instrument to measure real estate brokerage service quality in the United States. They called their scale RESERV and this has 31 items and seven dimensions consisting of the five SERVQUAL dimensions and two new dimensions - *professionalism* and *availability*. The researchers followed almost identical procedures to Parasuraman, Zeithaml and Berry, including recording clients' expectations and perceptions, in the development of the scale but their sample size (of 62) is much lower. The items may be seen in the third column of Appendix B.

12.4 UK Building Surveying Service Quality

This was the writer's earlier study (Hoxley, 1994) which compared the attitudes of 169 firms and 126 clients to 22 items which were considered important to the overall quality of service provided by Building Surveying firms. A number of the items came from an investigation of general practice surveying service quality (Banks and Barrett, 1992), others came from the writer's own literature search and professional experience and the remaining factors resulted from a pilot study. Respondents were also invited to suggest other factors, which they considered to be important to service quality and

clients were, additionally, asked to indicate their general level of satisfaction with the service quality factors. The 22 items and those factors suggested by 2 or more clients are included in the fourth column of Appendix B.

A similar exercise to that undertaken by Cravens et al (1985) was carried out in that the 22 factors were ranked in order of overall importance (to the combined sample - clients and firms) and a profile analysis was prepared. This is reproduced in Figure 18 below and it will be seen that there are many items common to Figure 18 and to Table 4.

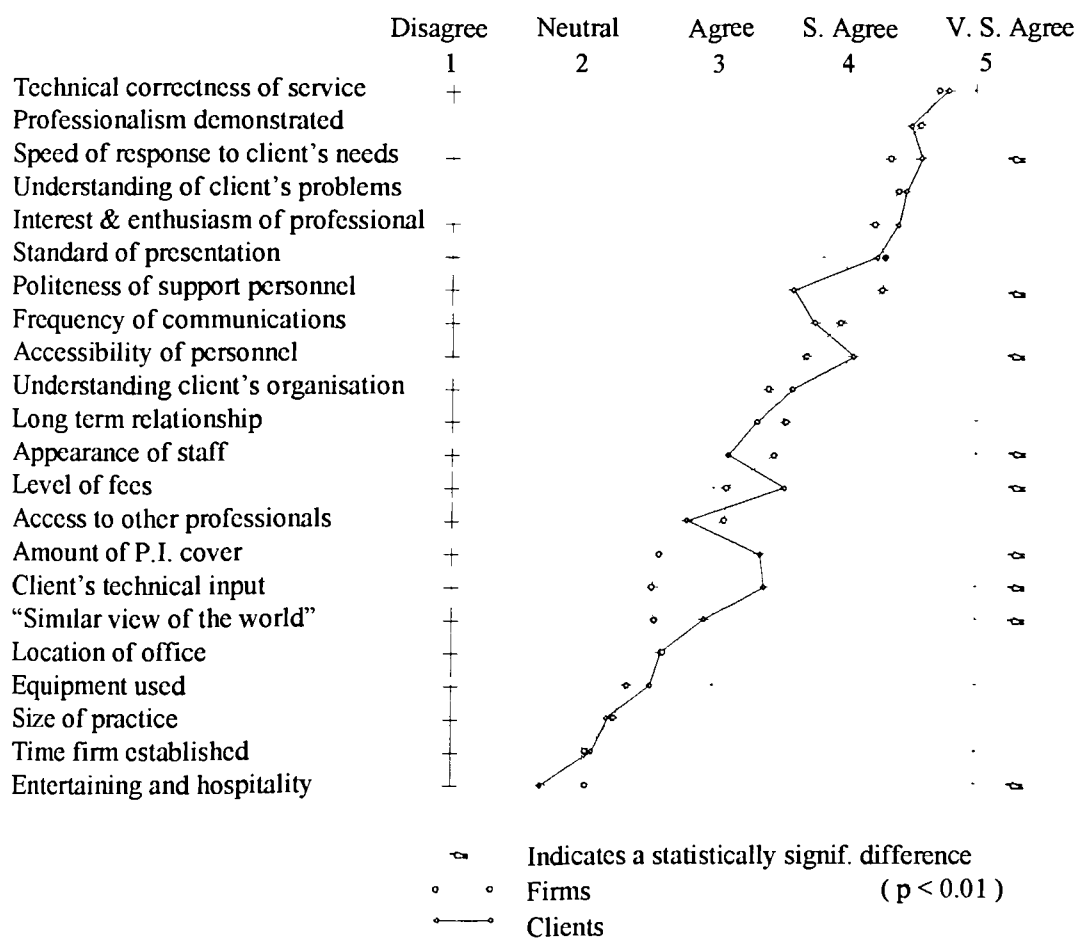


Figure 18 : Factors Important to Building Surveying Service Quality (Hoxley, 1994)

The writer has recently been a member of a working group which has prepared a research questionnaire for the Building Surveyors Division of the RICS (Mole, 1998a). The questionnaire is aimed at clients of building surveying firms and amongst other things attempts to identify the importance of 12 factors in the selection of firms and of 26 factors in the assessment of building surveying services. The two sets of variables are very similar to those contained in Figures 14 and 18.

12.5 SURVEYQUAL

Development of the writer's service quality measurement scale (hereafter referred to as SURVEYQUAL) continued by comparing each of the items in the four studies described in this and the preceding Chapter. To facilitate comparison, a table (see Appendix B) was prepared which placed similar items alongside one another. A study of this table reveals that there are 3 items common to all four studies, 7 items to 3 studies, 18 items to 2 studies and 39 items which are exclusive to one of the studies. One of the items which was common to 3 studies was the *cost of the service* but this item was not included because it is the other main variable being investigated as part of this project.

The selection of the scale items did of course involve some subjectivity but the main criteria for selection was that the item should be represented in 2 or more studies. There were three exceptions to this rule - *design creativity/capability*, *similar views about important things* and *understanding of*

client's organisation. Each of these items was only represented in a single study but they were all items which the literature, and the writer's professional experience, suggested were important to the service quality of construction professionals.

Those items included in the first version of SURVEYQUAL are shaded in Appendix B. It will be noted that six of the original SERVQUAL items have been omitted and that there are an additional 12 items. The SERVQUAL items "Error free records" and "Operating hours convenient to customers" are not particularly relevant to construction professional service quality and the other four items omitted (see Appendix B) are sufficiently similar to other scale items to warrant omission.

12.6 Assessment Proforma

The resulting 28 items of the scale were incorporated into an assessment proforma which may be seen at Appendix C. Table 5 below lists the statements included in the proforma, together with each statement's abbreviated variable name (used in the statistical analysis carried out to verify the reliability and validity of the measurement scale).

The proforma is a seven point Likert attitude scale which asks respondents to compare their perceptions of each statement with their original expectations. The scale is balanced with the central point labelled "same" and the positive labels being "better", "much better" and "very much better".

Table 5 : SURVEYQUAL Statements and Variable Names

Variable Name	Statement
TECH	<i>XYZ use up-to-date technology</i>
OFFICES	<i>The offices of XYZ are visually appealing</i>
STAFF	<i>The staff of XYZ are always tidy in appearance</i>
PRESENT	<i>The written and graphical output of XYZ is well presented</i>
SIZE	<i>XYZ's size is appropriate for the services they perform for me</i>
CORRECT	<i>XYZ's solutions to problems are technically correct</i>
DESIGN	<i>The design element of XYZ's work shows creativity and capability</i>
TIME	<i>XYZ provides its services at the time it promises to</i>
WHEN	<i>XYZ tells me when it will perform the service for me</i>
PROMPT	<i>XYZ provides prompt service</i>
WILLING	<i>XYZ and its employees are always willing to help me</i>
BUSY	<i>XYZ and its employees are never too busy to respond to my requests</i>
ACCESSBL	<i>Employees of XYZ are easily accessible to me</i>
SAFE	<i>I feel safe in my dealings with XYZ</i>
POLITE	<i>XYZ and its employees are always polite to me</i>
COMPETEN	<i>Employees of XYZ have the knowledge and competence to solve my problems</i>
EXPERIEN	<i>XYZ and its employees have experience relevant to the service I require</i>
PERSONAL	<i>XYZ provide me with personal attention</i>
BESTINTS	<i>XYZ have only my best interests at heart</i>
UNDERSTA	<i>XYZ understand my problems</i>
LONGTERM	<i>I will benefit from a long term working relationship with XYZ</i>
SIMILAR	<i>XYZ and I have similar views about things that are important</i>
COSTCONT	<i>XYZ provide good cost control of projects</i>
INVOLVED	<i>The partners or directors of XYZ stay involved with my projects</i>
SITESUPV	<i>The site supervision of projects by XYZ is good</i>
LOCATION	<i>XYZ's offices are conveniently located for me</i>
VERBALPR	<i>The standard of verbal presentation by employees of XYZ is good</i>
UNDERORG	<i>XYZ and its employees understand my organisation</i>

As will be seen from Appendix C, the first page of the assessment proforma requests the names of the respondent and their organisation, the position of the respondent in the organisation, the date the proforma was completed, the profession of the assessed firm, (for Chartered Surveyors also the division)

and the method of appointment. The second page asks questions which are to mainly test Hypotheses 2 - 5 although the first two questions (about an overall quality rating and whether the client would recommend the firm) are to test the validity of the main measurement scale.

Table 3 (see page 76), which is taken from the CIB Report "Selecting Consultants for the Team : Balancing Quality and Price", was published after the development of SURVEYQUAL but it is interesting to note that there are many items common to both tables.

12.7 Summary

The writer's service quality measurement scale (which he has called SURVEYQUAL) has been developed by comparing similar previous studies of architectural, real estate and building surveying service quality, and of course SERVQUAL. SURVEYQUAL is a 28 item scale. The data collection and analysis in order to *purify*, (Churchill, 1979), the measurement scale is discussed in the following Chapter.

CHAPTER 13 : PURIFICATION OF SURVEYQUAL

CHAPTER 13

PURIFICATION OF SURVEYQUAL

13.1 Pilot Study

The assessment proforma was pre-tested by visiting and interviewing senior personnel employed by the property departments of six organisations. The organisations (an American fast food chain, a national electricity generator, a hospital NHS trust, a metropolitan borough council, an Oxbridge University and a central government department) all completed the proforma, indicated that they would have completed it had they received it through the post and they also provided further feedback. As a result of this feedback minor amendments were made to the proforma and these were as follows :

- One respondent suggested that including the date that the proforma was completed, may increase the likelihood of speedy completion and return.
- Some clarification was requested on what “direct appointment” meant. The wording was altered to “direct appointment (no tendering or negotiation involved)”
- The final four questions on the second page were only to be completed where the consultant had been appointed as a result of competitive fee tendering and this fact was emphasised following the pilot study.
- On the final page the words “(If any of the statements do not apply to the service provided by XYZ please leave that section blank)” were added.

The final version of the proforma may be seen at Appendix C.

13.2 Data Collection

A proforma was posted, together with a covering letter and a stamped addressed envelope, to a named senior employee in 500 organisations located throughout the UK. A data base of client organisations was compiled using the RICS Geographical Directory (RICS, 1995 and 1996a) and the covering letters (see Appendix C) were printed using a mail merge facility. 244 completed proformas in a useable form were returned, representing a 48.8% response rate.

13.3 Response Rate

The response rate of just below 50% is above average for a single mailing survey (Weisberg & Bowen, 1977, p58) but is in line with the writer's expectation which was based on his previous questionnaire study of client organisations (Hoxley, 1994). A sample size of over 200 was aimed for since this was recommended by the developers of the SERVQUAL study (Parasuraman, Zeithaml and Berry, 1988, p18), and because any analysis of subsets of the sample would remain valid. Factors which the writer believes contributed to this relatively high response rate are as follows :

Individually addressed covering letters

The compilation of the clients' data base and the printing of letters and envelope labels using a mail merge facility were very time consuming activities of the data collection process. However the writer believes that this was time well spent in that it contributed significantly to the high response rate. There is a far greater likelihood of a respondent replying to a letter if it

is addressed to him or her personally. The full data base may be viewed at Appendix D.

Stamped addressed envelopes

SAE's were enclosed with the proformas and covering letters and these undoubtedly contributed to the high response rate.

RICS involvement in research

The clients' data base was prepared using the RICS Geographical Directory and thus most client representatives will have some involvement with the RICS, indeed it is likely that many are RICS members. The covering letter mentioned that the RICS had funded the research and it is probable that this fact motivated many RICS members to complete the proforma.

13.4 Data Analysis

The study generated nearly 10,000 items of data and clearly analysis of such a volume of data is impossible without the use of a computer. The data generated by the study were analysed using the SPSS PC+ statistical software package and all statistical procedures referred to below were carried out using SPSS. The data entry spread sheet was set up in SPSS before the main data collection took place and the pilot study data were "analysed" to ensure that the proposed analysis did indeed test the stated hypotheses. The main study data were coded and entered into the spread sheet directly off the assessment proformas and when this stage was complete the data were printed (see pp 244-246) and checked for errors against the proformas.

All of the SPSS output for the analysis may be examined at Appendix E and commenced with an examination of the frequency distributions of all variables (see pp 247-266). Thereafter the analysis mirrored that carried out in the SERVQUAL and RESERV studies and consisted of procedures to assess the measurement scale's *reliability* and *validity* (Churchill, 1979). Initially an exploratory factor analysis was carried out to assess the scale's dimensionality and this was followed by tests of reliability of the individual factors and the scale as a whole. In order to assess the scale's validity, that is, "does it measure what it set out to measure?" an analysis of variance was carried out of the computed SURVEYQUAL scores and the answers to questions regarding the professional's overall quality of service and whether the client would recommend the professional to another organisation.

13.5 Description of Samples

The professionals assessed by clients were not exclusively Chartered Surveyors although as will be seen from Figure 19 they made up nearly 60% of the sample. The next largest profession to be assessed were architects at just under 20% of the sample. Just over half of the Chartered Surveyors assessed were Quantity Surveyors (see Figure 20).

Figure 21 is a pie chart of the types of client organisations represented in the sample studied and it will be seen that over half of the sample were local authorities.

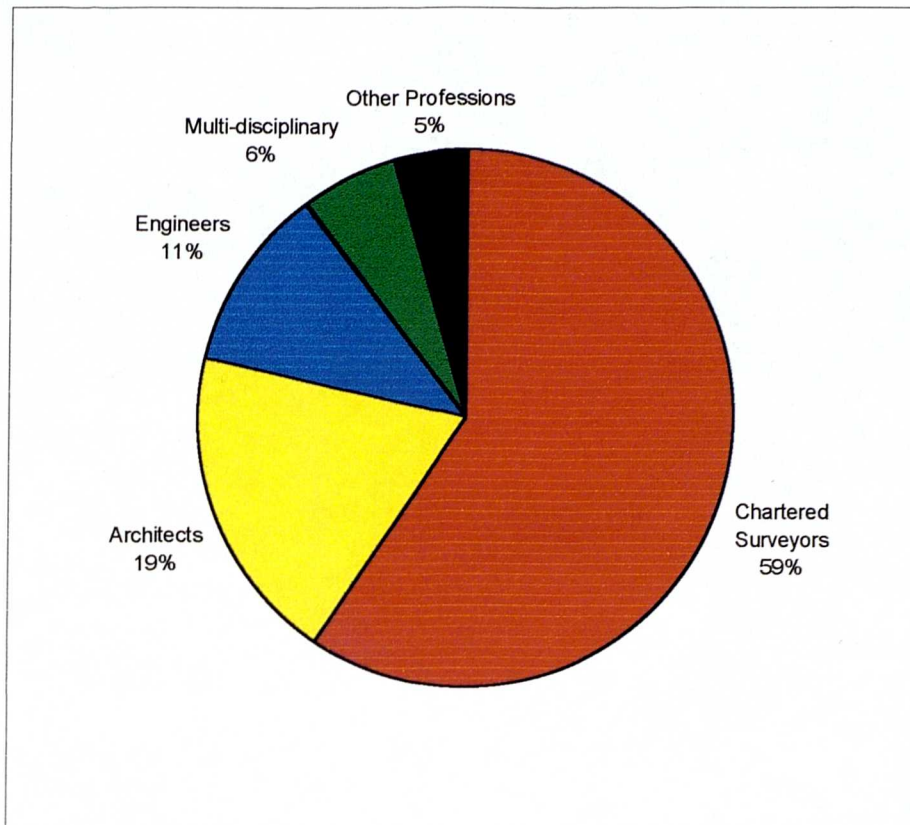


Figure 19 : Professionals Assessed

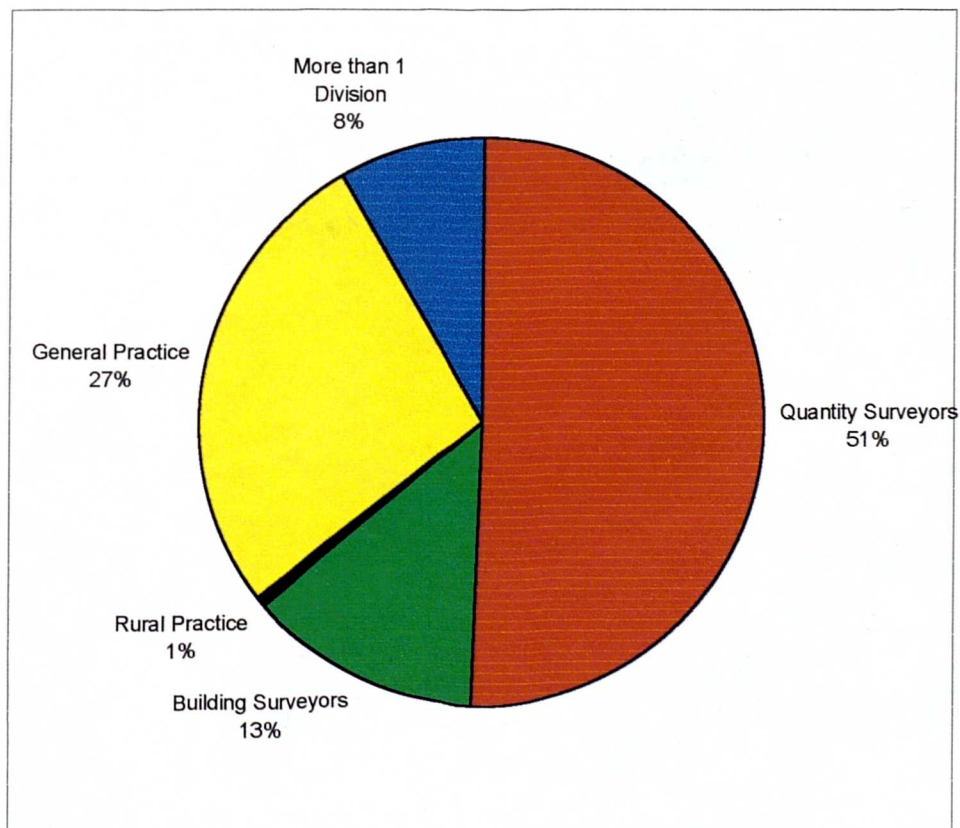


Figure 20 : RICS Divisions of Chartered Surveyors Assessed

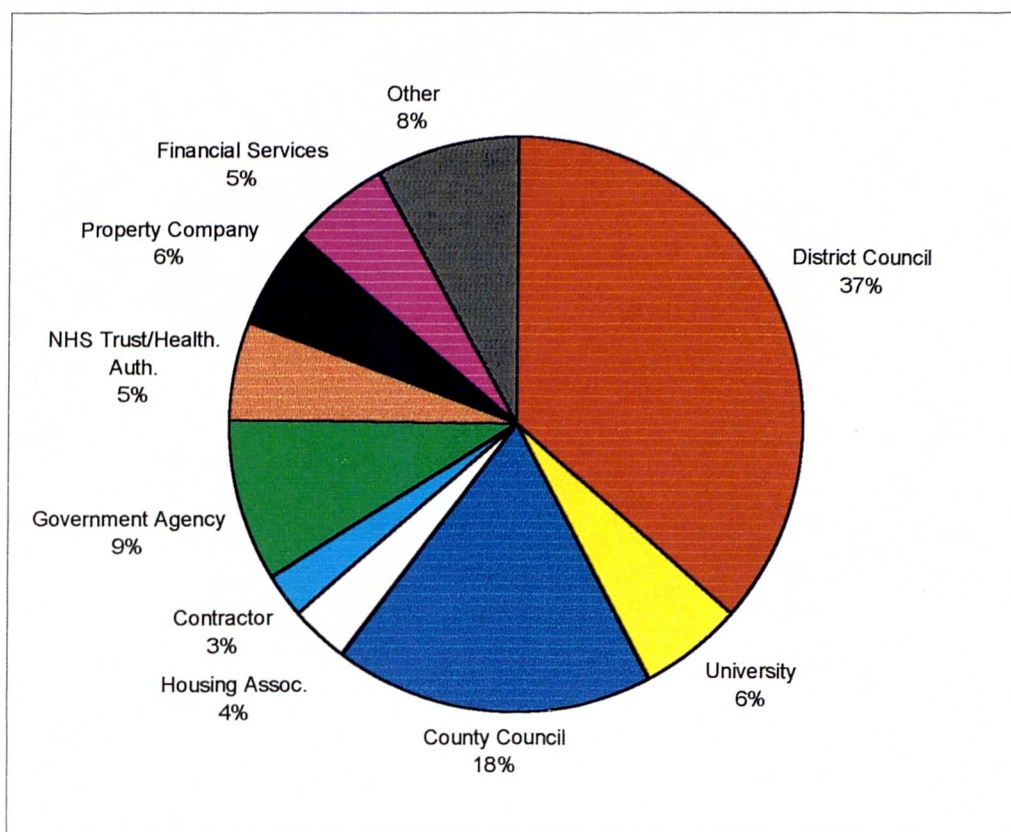


Figure 21 : Client Organisations

13.6 Factor Analysis

Factor analysis is a statistical technique for condensing many variables into a few underlying factors, dimensions or constructs. For example, variables such as scores in aptitude tests may be expressed as a linear combination of factors that represent verbal skills, mathematical ability and perceptual speed. The factor analysis commenced with a study of the correlation matrix of all 28 of the original scale variables. The full SPSS matrix may be seen at Appendix E but an abbreviated version is contained in Table 6 below.

Table 6 : Correlation Matrix of all 28 Variables (shaded cells above diagonal indicate coefficient > 0.4)

	TECH	OFFICES	STAFF	PRESENT	SIZE	CORRECT	DESIGN	TIME	WHEN	PROMPT	WILLING	BUSY	ACCESSBL	SAFE	POLITE	COMPETEN	EXPERIEN	PERSONAL	BESTINTS	UNDERSTA	LONGTERM	SIMILAR	COSTCONT	INVOLVED	SITESUPV	LOCATION	VERBALPR	UNDERORG
TECH																												
OFFICES	.26																											
STAFF	.33	.31																										
PRESENT	.50	.15	.41																									
SIZE	.25	.05	.27	.32																								
CORRECT	.28	.08	.37	.45	.27																							
DESIGN	.44	.23	.32	.49	.23	.47																						
TIME	.31	.11	.35	.39	.41	.48	.43																					
WHEN	.22	.09	.28	.31	.40	.46	.39	.76																				
PROMPT	.26	.12	.35	.39	.38	.43	.33	.81	.77																			
WILLING	.31	.15	.36	.31	.28	.50	.46	.52	.55	.59																		
BUSY	.27	.13	.31	.32	.30	.48	.37	.50	.52	.53	.77																	
ACCESSBL	.35	.17	.28	.31	.22	.44	.39	.34	.43	.44	.59	.65																
SAFE	.30	.20	.41	.46	.32	.57	.48	.53	.52	.57	.67	.64	.63															
POLITE	.22	.18	.39	.29	.31	.30	.40	.37	.37	.42	.63	.52	.51	.64														
COMPETEN	.27	.09	.36	.42	.31	.73	.51	.48	.44	.48	.55	.53	.49	.68	.54													
EXPERIEN	.40	.07	.37	.48	.38	.61	.50	.50	.42	.44	.53	.48	.46	.65	.47	.75												
PERSONAL	.41	.23	.31	.43	.34	.40	.52	.41	.40	.44	.57	.53	.53	.65	.60	.53	.53											
BESTINTS	.32	.22	.34	.36	.38	.52	.47	.52	.47	.50	.61	.51	.40	.64	.51	.61	.64	.65										
UNDERSTA	.30	.20	.30	.46	.33	.57	.47	.50	.55	.50	.61	.54	.42	.67	.51	.60	.58	.55	.65									
LONGTERM	.29	.24	.37	.42	.31	.57	.43	.55	.56	.57	.61	.58	.49	.68	.47	.66	.62	.54	.59	.67								
SIMILAR	.26	.23	.30	.37	.19	.55	.49	.47	.45	.50	.56	.50	.38	.61	.47	.63	.57	.48	.54	.67	.69							
COSTCONT	.33	.25	.44	.44	.31	.53	.49	.54	.53	.51	.48	.40	.36	.61	.38	.58	.53	.45	.62	.56	.57	.59						
INVOLVED	.35	.08	.31	.41	.26	.40	.34	.46	.45	.46	.41	.43	.36	.57	.38	.50	.54	.51	.51	.54	.52	.49	.49					
SITESUPV	.40	.11	.27	.44	.26	.53	.38	.52	.44	.52	.58	.50	.45	.56	.38	.65	.60	.54	.64	.55	.55	.49	.59	.49				
LOCATION	.23	.20	.04	.11	.12	.19	.14	.14	.18	.16	.18	.15	.24	.22	.12	.16	.20	.11	.15	.20	.19	.27	.15	.17	.28			
VERBALPR	.37	.15	.36	.38	.24	.45	.47	.38	.33	.34	.44	.36	.39	.45	.45	.44	.43	.43	.45	.38	.29	.43	.37	.44	.39	.27		
UNDERORG	.37	.22	.32	.32	.22	.45	.41	.41	.32	.34	.48	.42	.34	.50	.40	.48	.48	.43	.52	.58	.47	.54	.41	.44	.45	.30	.59	

Hedderston (1991, p160) suggests that any variable whose correlations with the other variables are less than 0.4 in absolute terms should be excluded from the factor analysis. Reference to Table 6 clearly shows that there are two variables that fall into this category and both were concerned with the professional firm's office premises (with its *appearance* and *location*). The correlation matrix suggests that neither of these variables is important to the clients of the professionals assessed and these two variables were excluded from the scale at this stage of the analysis.

Given the expense and effort that many professional firms go to in order to create lavish office premises, located in prestige situations, close to potential clients, the findings of this part of the study, are perhaps rather surprising. We saw in Chapter 4 that the offices are part of the infrastructure which contributes to the image of the firm (Wilson, A., 1984, p144). These results, which largely confirm the findings of the writer's earlier study (Hoxley, 1993), - see figures 14 and 18 - suggest that many firms may be wasting their money! The writer believes, however, that both of these variables are influential in determining the initial appointment of the consultant, but that once appointed, they have little impact upon the *quality of service* provided. The client may never visit the professional's office once appointed and in this age of instant communications, the location of the office is far less critical to the standard of service provided, than it has been in the past.

Various measures of sampling accuracy were then computed to see whether the data were suitable for factor analysis. The Kaiser-Meyer-Olkin measure

is an index for comparing the magnitudes of the observed correlation coefficients to the magnitudes of the partial correlation coefficients and for the original matrix was 0.93362. Kaiser characterises measures in the 0.90's as *marvellous*, in the 0.80's as *meritorious*, in the 0.70's as *middling*, in the 0.60's as *mediocre*, in the 0.50's as *miserable* and below 0.50 as *unacceptable* (Norusis, 1994, p53). Bartlett's test of sphericity (which tests the hypothesis that the matrix is an identity matrix) was 2284 with an associated significance level of 0.00000. The anti-image correlation matrix was computed and the smallest measure of sampling accuracy was 0.90. All of these results suggest that the data collected are suitable for factor analysis.

The remaining 26 variables of all 244 cases were then subjected to principal-components analysis which is a procedure which *extracts* the factors. The first principal component is the combination that accounts for the largest amount of variance in the sample. The second component (uncorrelated with the first) explains the next largest amount of variance, and so on. This procedure extracted four factors which together accounted for 64% of the variance. The remaining 22 factors only explained the remaining 36% of the variance and this suggests that a four factor model fits the data collected. Since Factor 1 explains 48.8% of the variance it could be argued (as Babakus and Boller, 1992, have done) that service quality is a uni-dimensional construct and reference to Figure 22 below, which is a scree plot of the factor analysis eigenvalues, would support this view. The reader will

recall that SERVQUAL is a five factor model and RESERV has seven dimensions.

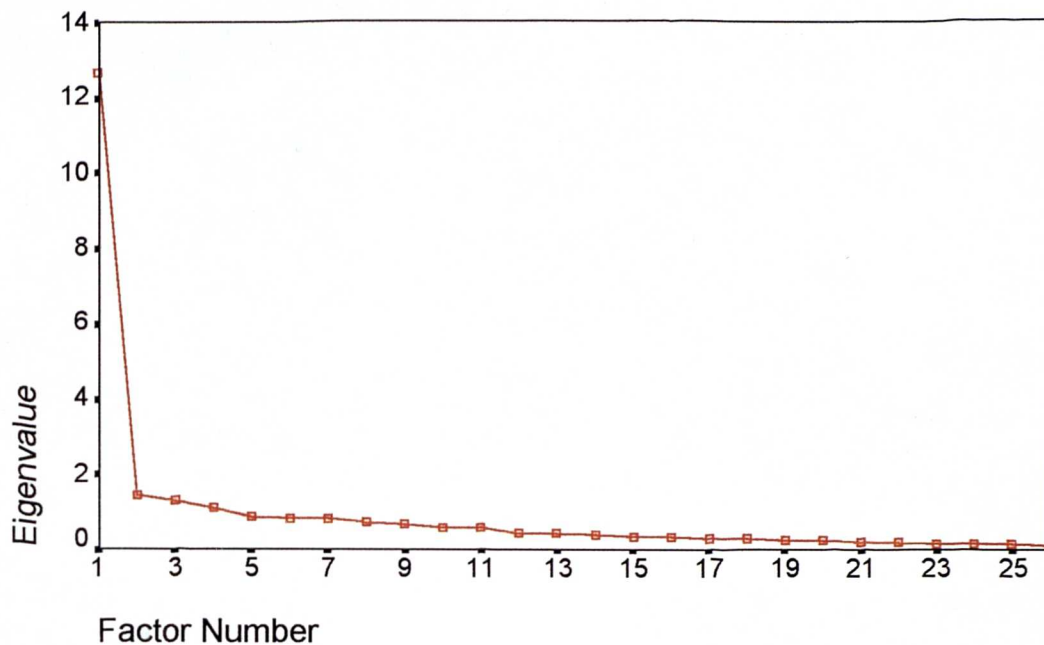


Figure 22 : Factor Analysis Scree Plot

The next stage in factor analysis is to *rotate* the factor matrix which is a procedure which attempts to identify the factors. After rotation the number of larger and smaller factor loadings increases, that is variables are more highly correlated with single factors and more meaningful interpretation of the factors becomes possible. The method of rotation selected was *oblique* which allows for correlations between factors (as opposed to orthogonal rotation which assumes no correlation between factors). It is unlikely that the factors are completely uncorrelated and "oblique rotations have often been found to yield substantively meaningful factors" (Norusis, 1994, p71).

Oblique rotation was used in the development of both the SERVQUAL and RESERV scales. Rotation is an iterative process and the data converged in 20 iterations.

Interpretation of the pattern matrix resulting from the rotation phase of the analysis, which is reproduced in a simplified form in Table 7 below, suggests that the 4 factors could be titled “What,” “When” “How” and “Who.” As will be seen, seven of the twenty six variables loaded on more than one factor and Factor 1 is the most heavily loaded factor. Since this factor appears to be concerned with *what* the professional actually provides in his or her service to the client, this is not surprising. In Chapter 4, the previous research by the writer which revealed that clients of Building Surveying firms are more concerned with *what* is provided in the service rather than *how* it is delivered (Hoxley, 1994), was discussed. The *how* dimension of the current research (Factor 3) is concerned with the written and verbal presentation of the professional and such things as the technology employed and the appearance of staff.

The only variables which load heavily on the *when* factor and which are not directly related to time are the size of the professional’s firm and cost control of projects. However the firm’s ability to deliver a service on time is obviously not unrelated to its size and time is an important aspect of cost control. The *who* factor is mainly concerned with the “people issues” of the service

provision, for example their willingness to help, how busy they are, how accessible they are and whether they are polite to clients.

Table 7 : Factor Loadings* of Variables

Variable**	F1 : "WHAT"	F2 : "WHEN"	F3 : "HOW"	F4 : "WHO"
TECH			0.79	
STAFF			0.50	
PRESENT	0.27		0.64	
SIZE		0.54	0.33	
CORRECT	0.81			
DESIGN	0.38		0.44	
TIME		0.75		
WHEN		0.78		
PROMPT		0.77		
WILLING				0.68
BUSY				0.71
ACCESSBL				0.79
SAFE	0.45			0.45
POLITE				0.80
COMPETEN	0.82			
EXPERIEN	0.67			
PERSONAL			0.26	0.55
BESTINTS	0.55			
UNDERSTA	0.70			
LONGTERM	0.67			
SIMILAR	0.83			
COSTCONT	0.67	0.26		
INVOLVED	0.37			
SITESUPV	0.59			
VERBALPR			0.47	0.29
UNDERORG	0.53			
**see Table 5 for full description of variable	*loadings of 0.25 or less are not shown			

13.7 Reliability

A measurement scale such as the one developed during this research must be both *reliable* and *valid* (Churchill, 1979). Reliability is concerned with the internal consistency of the scale, that is, “does the scale behave similarly when administered by different people?” The most widely used reliability coefficient is Cronbach’s alpha (Cronbach, 1951) which can range from 0 to 1 with higher figures indicating greater reliability. The results of the computation of alpha for each factor and for the scale as a whole are presented in Table 8 below.

Table 8 : Internal Consistencies of the Scale

Dimension	Factor	Number of items	Cronbach’s Alpha
WHAT	F1	13	0.95
WHEN	F2	5	0.86
HOW	F3	7	0.81
WHO	F4	7	0.90
ENTIRE SCALE	ALL	26	0.96

These figures are all high and at a generally higher level than for the original SERVQUAL scale. The total scale alpha figure of 0.96 suggests that the scale has very good reliability.

13.8 Scale's Validity

In order to test whether the scale does what it is intended to do, (that is, measure the service quality of the professionals assessed) a score was computed for each case. This score consisted of the mean score of all variables for which the client gave an assessment of the professional (for calculation see p 299). The lowest possible score is 1.0 (for a professional rated as providing a very much worse service than expected for every variable) and at the other end of the assessment spectrum the highest possible score is 7.0. In fact the lowest score recorded was 2.74 and the highest was 6.15. One-way analyses of variance were then performed between these computed scores and the responses to the questions about the overall quality rating and whether the client would recommend the professional to another organisation. This procedure aims to establish whether the scale score is capable of distinguishing between the responses to these other questions. For both questions the scale score was successful in distinguishing between groups and both analyses resulted in high F Ratios with very small associated probabilities (see pages 300-303).

Part of the output of the SPSS ONEWAY procedure is reproduced below and it will be seen that for both the overall quality and recommendation questions the scale score is significantly different, at a 5% probability level, for all groups. At a 1% level the scale scores are also significantly different for all groups for the recommendation question, while for the overall quality question the scale score is significantly different for all groups apart from the

very good/excellent and poor/average groups. These analyses of variance results suggest that the scale possesses construct validity.

----- ONE WAY -----

Variable SQSCORE

By Variable QUALITY OVERALL QUALITY RATING

(*) Denotes pairs of groups significantly different at the .050 level

		P	A	G	V	E
		o	v	o	e	x
		o	e	o	r	c
		r	r	d	y	e
			a			l
			g		G	l
			e		o	e
Mean	Group				o	n
3.2942	Poor					
3.7283	Average	*				
4.1077	Good	*	*			
4.4022	Very Goo	*	*	*		
4.6539	Excellen	*	*	*	*	

----- ONE WAY -----

Variable SQSCORE

By Variable RECOMEND HOW LIKELY TO RECOMMEND

(*) Denotes pairs of groups significantly different at the .050 level

		N	L	V
		o	i	e
		t	k	r
			e	y
		L	I	
		i	y	I
		k		i
Mean	Group	e		k
3.4656	Not Like			
4.1093	Likely	*		
4.4264	Very lik	*	*	

Thus the results of this part of the research suggest that SURVEYQUAL is both a reliable and valid instrument to measure service quality in a construction profession context.

13.9 SURVEYQUAL Score Correlations

Correlation coefficients were computed for the service quality scores, the overall quality variable and the appearance and location variables, both of which were earlier excluded from the scale. From page 282 it will be seen

that the two quality variables have a relatively high correlation (0.55) while the highest correlation for the office variables with the quality variables is only 0.25. As will be seen the next lowest correlation of any variable with the service quality score is 0.46 (although of course it will be appreciated that all of these variables have been used to compute the score). Never the less these results tend to confirm the view that the SURVEYQUAL score is a valid measure of quality and that the decision to remove the two office variables from the scale was correct.

13.10 Summary

Following a pilot study the slightly modified assessment proforma was sent to 500 client organisations with a request that they complete it for a professional consultant employed by them recently. Two hundred and forty four useable proformas were returned, representing a 48.8% response rate. A wide range of client types assessed mainly surveyors, architects, and engineers. Two assessment variables concerned with the consultant's office were dropped from the scale and an exploratory factor analysis identified 4 factors which the writer has named "What," "When" "How" and "Who". The statistical analysis confirmed that SURVEYQUAL is both a reliable and valid instrument to measure service quality in a construction profession context. In the following chapter the results of testing the main hypotheses of the study are presented.

SECTION IV - RESULTS AND CONCLUSIONS

CHAPTER 14 : RESULTS OF STUDY

SECTION IV - RESULTS AND CONCLUSIONS

CHAPTER 14

RESULTS OF STUDY

14.1 Hypotheses

The hypotheses of the study were developed in Section II of the thesis, but for ease of reference are re-stated below :

Hypothesis 1: Clients' perceptions of service quality are lower for commissions let by competitive fee tendering than with other methods of appointment.

Hypothesis 2 : Clients' perceptions of service quality are increased when they have adequately specified the service required prior to tendering.

Hypothesis 3 : Clients' perceptions of service quality are increased when they have carefully pre-selected tenderers.

Hypothesis 4 : Clients' perceptions of service quality are increased when they have given adequate weighting to ability in the final selection process.

Hypothesis 5 : Clients' perceptions of service quality are lower when the fee bid is more competitive.

14.2 Testing Hypotheses

In order to test each hypothesis the service quality score, using the SURVEYQUAL scale developed in the preceding chapters, was computed for

each case. Means of this score (the dependent variable) were then computed and tabulated for each value of the independent variable associated with each hypothesis. Finally a one-way analysis of variance was computed to test the null hypothesis that there are no differences between these means. The resulting SPSS output may be examined in Appendix E. The main results of the study are presented and discussed below.

14.3 Method of Appointment

Six methods of appointment of professional consultants were recorded across 241 cases. However three of these (*Partnering, Selection Panel and Client's Request*) were recorded for a single case only. Of the remaining cases the methods of appointment were as follows :

Competitive Fee Tendering	127	(52.7%)
By Negotiation	72	(29.9%)
Direct Appointment	39	(16.2%)

These results confirm the findings of the literature review presented in Chapter 7 that competitive fee tendering has become the principal route for the appointment of professionals in the construction and property industries, and in doing so, has highlighted the relevance of this research.

The service quality mean scores for the three main methods of appointment were as follows :

Competitive Fee Tendering 4.17

By Negotiation 4.31

Direct Appointment 4.22

(see Figure 23 below).

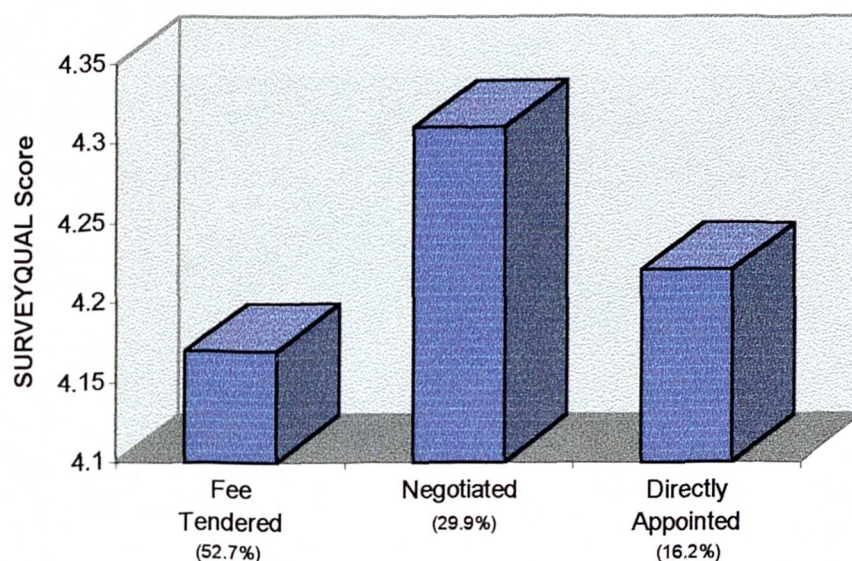


Figure 23 : Mean SURVEYQUAL Scores by Method of Appointment

Thus, although the mean scores are all within the same range (between the responses “same” and “better” service quality than expected), the lowest mean score was recorded for the method of appointment “competitive fee tendering”. At first sight this would tend to support Hypothesis 1, but as the analysis of variance results in Appendix E (page 304) show, this result is not significant (the F Ratio is only 1.37 and the significance 0.25). Ironically if the procedure is repeated using the variable “Quality” which recorded the response to the question about the overall quality rating of the consultant then a significant result is obtained ($F = 4.27$ at a significance level of 1.5%).

The interpretation of this result is discussed at 14.10 below but the finding of the testing of the main hypothesis is that there is no significant link between the client's perception of service quality and the method by which the professional is appointed.

The main hypothesis was also tested by grouping together those cases where fee tendering had not been the method of appointment and using another statistical technique, the T-test, to see whether there is any significant difference in the mean of the service quality scores (and of the overall quality variable) for fee tendered and non-fee tendered appointments. These results are to be seen at Pages 350-351. The Levene's test of equality of variance ($p = 0.021$) suggests that the unequal variance test should be used (Huizingh, 1994, p258). The 2-tail significance is 0.224 but since we have assumed that the service quality for fee tendered appointments is lower we must apply a one-tailed test and hence the significance level is 0.112. This suggests that the null hypothesis that the means are equal cannot be rejected - especially since the value of zero lies within the 95% confidence interval (Huizingh, 1994, p259). These results (which are replicated by using the overall quality variable) confirm the finding that there is no significant link between the client's perception of service quality and whether or not the consultant has been appointed following a fee tendering exercise.

14.4 Client's Specification of Service

As will be seen from Appendix E (page 306), perhaps not surprisingly, only one client was prepared to admit that they had not specified the service required of the consultant very well. Fifty six clients considered that specification was adequate while 72 thought that they had specified the service very well. The mean service quality scores for these groups were as follows :

Not very well specified	3.65
Adequately specified	4.13
Very well specified	4.20

These results are as one would expect, in that, the better specified the service, then the higher the client's perception of service quality. However once again the analysis of variance results suggest that these results are not significant ($F = 0.97$ at a significance level of 38%). The hypothesis is therefore not supported by these results.

14.5 Preselection of Tenderers

Clients were asked to indicate the care that they had given to the preselection of tenderers and the mean service quality scores for each of the responses to this question are given below. Only two clients admitted to taking insufficient care, 52 said that they took sufficient care and 75 took great care.

Insufficient care	3.39
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Sufficient care	4.12
Great care	4.22

Once again these results are as hypothesised and on this occasion the analysis of variance results suggest that this is a significant finding. ($F = 3.49$ at a significance level of 3.3%). The hypothesis that clients' perceptions of service quality are increased when care is taken with the preselection of tenderers is therefore supported by the results of the study.

14.6 Emphasis Given to Ability

The fourth hypothesis stated that clients' perceptions of service quality are increased when they have given adequate weighting to ability when appointing the professional consultant. Seventy two clients believed that they had given great emphasis to ability, and 56 indicated that they had given sufficient emphasis. Only one respondent thought that they had given insufficient emphasis to ability and the mean service quality scores were :

Insufficient emphasis to ability	4.11
Sufficient emphasis to ability	4.04
Great emphasis to ability	4.26

Ignoring the single case these results are as hypothesised and the analysis of variance computation suggests that this is a significant result ($F = 3.53$ at a significance level of 3%). The hypothesis that clients' perceptions of service

quality are higher when they have given adequate weighting to ability when appointing is therefore supported.

14.7 Competitiveness of Fee Bid

The final hypothesis suggests that the more competitive the fee bid then the lower the perception of service quality. In fact as will be seen from Appendix E (page 312) the result is completely opposite to that hypothesised, in that the service quality score is higher (4.18) for the very competitive bids compared to the competitive bids (4.15). No client was prepared to admit that an accepted bid was uncompetitive. However once again the analysis of variance calculation reveals that the result is not statistically significant ($F = .1474$ at a significance level of 70%).

14.8 Public Sector Clients

Following the introduction of compulsory competitive fee tendering one would expect public sector clients to use the fee tendering method of appointment more than clients in the private sector. To investigate whether there were any significant differences between the public body clients and the complete data set, private sector clients were removed from the data and the analysis described above was repeated. These results are to be seen at pages 340-349. The first thing to note is that these clients (local authorities, health trusts/authorities and government departments) do indeed use fee tendering more than the complete clients' sample, since 62% of consultants were appointed by this method compared with 53% of the complete sample.

Using the SURVEYQUAL score as the measure, exactly the same hypotheses are supported by the data as for complete sample, although this time the “emphasis given to ability” hypothesis is only supported at the 10% probability level. Similar results are achieved by using the overall quality variable as for the main sample, that is, the main hypothesis is also supported (see 14.10). Thus there are no significant differences between the public sector clients’ data set results and those for the complete clients’ sample.

14.9 The Components of Service Quality

The writer wished to investigate whether any of the factors identified by the factor analysis (see 13.6) were particularly important to the hypotheses under consideration. Therefore factor scores were computed for each case and these scores were used to test each hypothesis in turn (see pages 320-339). Of the 20 separate analyses of variance performed only three provided statistically significant results (at the 0.05 probability level). Two of these concerned the emphasis given to ability in the final selection of the consultant hypothesis and suggest that what is provided and when it is performed are the most important components when considering this aspect of the consultant’s service. The other result suggests that the main factor, which the writer has named “what” is important to the main hypothesis, that is, to the method of appointment. Thus although the main hypothesis is not fully supported by the data analysis, one important component of a client’s perception of service quality, *what* is actually provided, does appear to

depend on the method of appointment used. We have seen previously that this factor accounts for nearly half of the variance in the variables measuring service quality and the fact that this component does vary with the method used to appoint the consultant is an interesting finding.

14.10 Discussion

As pointed out at 14.3 above, when the overall quality rating is used as the dependent variable in order to test the main hypothesis, then the data do provide some support for this hypothesis. It will be seen from Appendix E that the procedure to use the “quality” variable was repeated to test each of the other four hypotheses (for the complete data set and that for public sector clients). The results for each of these sub-hypotheses are the same when using the overall quality variable as when using the SURVEYQUAL score, that is, two hypotheses are supported while the other two are not.

In view of the support provided to the main hypothesis by using the overall quality rating, it would of course be tempting to abandon the use of the SURVEYQUAL score method of testing the hypotheses. One justification for such an approach concerns the scale’s attempt to measure perceptions and expectations in a single statement. A possible criticism of using the SURVEYQUAL scale for testing the study’s hypotheses is that clients have lower perceptions of quality for fee tendered commissions precisely because their original expectations are also lower for this method of appointment. However this is a criticism which the writer rejects for a number of reasons.

Firstly, the writer does not believe that any client would consider using a method of appointment, still less actually appoint a consultant, who he or she believed was going to provide inadequate service. Secondly, the literature (for example Gronroos, 1984) suggests that clients' perceptions are always compared with their expectations, and therefore the "quality" variable is implicitly measuring the perception-expectation gap, even though the proforma question does not make this requirement explicit.

However it is the fact that the SURVEYQUAL scale is a multi-item measure which the writer believes is the most significant factor here. As Churchill (1979) points out multi-item measures possess greater reliability and sensitivity. The writer believes that the SURVEYQUAL scale provides a much richer picture of service quality in a construction profession context than a single overall quality measure is able to provide. The results obtained by using the scale are therefore likely to possess greater reliability and validity.

14.11 Other Results

Service quality scores were computed for the main professions assessed - Chartered Surveyors, Architects and Engineers. The results are as follows :

Chartered Surveyors	4.27
Architects	4.18
Engineers	4.01

The analysis of variance calculation suggests that this result is significant, but only at the 10% level. Since the clients were selected from the RICS

Geographical Directory, it is likely that there is a bias towards Surveyors (and indeed inspection of page 314 reveals that this is the case) and the writer makes no claim that this result is likely to be representative of the entire population of clients of construction professionals.

As will be seen from Appendix E (pages 315-319) no significant differences were recorded in the service quality scores for different RICS Divisions, types of client organisation or for the assessor's position in the organisation.

14.12 Summary

The hypotheses of the study have been tested by computing SURVEYQUAL scale service quality scores for each consultant assessed, calculating means of the score and then carrying out a one-way analysis of variance for each independent variable. The main hypothesis that clients' perceptions of service quality are lower for fee tendered commissions than for other methods of appointment has also been investigated by applying a T-test. This hypothesis has not been supported by the data collected from the 244 client organisations. Similarly the hypotheses that service quality is lower when the fee bid is more competitive and higher when the service has been well specified, have also not been supported by the data. However the hypotheses that service quality is higher when care has been taken with the pre-selection of tenderers and when adequate weighting has been given to ability in the final selection process, are both supported by the analysis of the data.

The public sector clients appointed 62% of consultants by fee tendering (compared with 53% of the complete sample) but very similar results are achieved in testing the study's hypotheses when private sector clients are dropped from the data set. Investigation of the impact of the variables represented by each hypothesis, upon the components of service quality identified by the factor analysis, revealed the interesting finding that "what" is provided in the service does vary with the method used to appoint the consultant. In the following chapter the research project is summarised.

CHAPTER 15 : SUMMARY OF RESEARCH PROJECT

CHAPTER 15

SUMMARY OF RESEARCH PROJECT

15.1 Introduction

As we approach the millennium, service industries have become of critical importance to the economies of all developed nations. In the UK 73% of all employees were employed in services in 1993, compared with 48% in 1964 (Griffiths & Wall, 1995). Professional services are an important sector of the service economy.

It is less than 15 years since the institutions representing professionals in the UK, succumbed to central government pressure and abolished the mandatory fee scales which they had imposed upon their members for many years. At the time of abolition most of the organisations representing construction and property professionals predicted a decline in service quality as competition forced down fee levels. This research has been carried out with financial assistance from the Royal Institution of Chartered Surveyors and aims to establish whether competitive fee tendering has led to a decline in the quality of service provided to clients of construction professionals.

15.2 Professional Services

The research commenced with a literature review of professional services. The literature review had as its framework the three stage consumer behaviour model (Bateson, 1995) and each stage - pre-purchase,

consumption and post-purchase - was considered separately. The main differences between services and products (intangibility, simultaneous production and consumption and heterogeneous delivery) result in significant differences in the way that consumers perceive service quality (Gronroos, 1984). A service cannot be fully assessed until it is consumed and consumption very often coincides with production. Since the delivery of services is so dependent upon the people involved, each service encounter is unique.

Professional services differ from other services in that they are high in credence quality (Zeithaml, 1981). This means that very often clients do not possess the knowledge to assess whether the service provided is acceptable. Wittreich (1966) suggests that the essential characteristics of a professional service are that the client has a high degree of uncertainty and that the professional needs to demonstrate not only his or her knowledge and skills but also an understanding of the client's problem.

Wilson A. (1984) identifies nine potential sources of uncertainty and amongst these are perceptions that the client is entering into an unspecified or open ended cost commitment, that he or she is unable to assess value for money and that the professions are attempting to reject liability. All professionals conduct their work within a self imposed ethical framework but the professional needs to survive. There can be a conflict between "business" and "professionalism" in the work of all professionals. A further tension

arises from the “innately conservative nature” (Root, 1997) of the knowledge passed on during the education and training of professionals. This can lead to conflict between individual professions and there is general recognition within the construction industry that a greater inter disciplinary approach is required.

Winch and Schneider (1993a and 1993b) building upon the work of Coxe et al (1987), suggest that architectural firms can be categorised into one of four market segments - strong delivery, strong experience, strong ideas or strong ambition. They recommend that firms have a clear strategic vision of which of these market segments they are striving to serve.

Gronroos (1984) points out that the client’s ultimate perception of service quality is based upon his or her original expectation of the service. Professionals can do much to direct these expectations during the pre-purchase stage, but another important variable is the client’s level of previous experience with the particular service being offered. Higgin and Jessop (1965) identify four distinct client types - once in a lifetime/inexperienced, regular/repeat, expert and special.

During the consumption stage the client and professional have to work together to establish a brief and a personality match (or way of working together). Both of these requirements involve a high level of communication between the parties. Much of the training of construction professionals is

concerned with verbal, written and graphical communication, but most of this is directed towards telling contractors how to construct buildings. It is in the area of communicating with one's client that there is much room for improvement.

An added complication is that in complex projects it is sometimes difficult for the professional to identify exactly who the client is. The professional should be aware that it is necessary to engage fully with what Barrett (1993) terms the "client system". Bejder's (1991) research suggests that the wider the client system engaged with at the briefing stage, the greater the client's ultimate satisfaction with the project.

From the client's perspective, therefore, it is necessary to be involved with the project (NEDO, 1978) and integrated into the project team (Walker, 1989). The professional obviously needs to perform the service and this will involve understanding not only the client's problem (Wittriech, 1966) but also the client's organisation (Walker, 1989).

At post-purchase stage the client has the outcome of the service. In the construction industry this outcome may be more tangible than in other service settings. This is why the writer believes that the client places greater emphasis on technical quality (*what* is delivered) than on functional quality (*how* it is delivered), than Gronroos (1984) suggests is the situation generally with services. The main outcome for the professional is that he or she has

hopefully been paid for the service - and this is of course related to one of the two main variables under investigation here.

The client's perception of service quality is the other main variable under consideration and this has considerable impact upon the professional. Not only will a satisfied client enhance his or her image and possibly result in repeat business but because referrals are so important to a professional service (Wilson A., 1984) the future well being of the professional may depend upon providing a high quality service.

Of course sometimes things do go wrong and not all clients are satisfied with every service received. In extreme circumstances this dissatisfaction may lead to the client suing for professional negligence. Every activity undertaken by a professional for a client incurs a legal liability and most professional institutions require their members to insure against these risks. In the current consumer led society many institutions are now going further than this and are increasing their powers to discipline members, even imposing heavy financial penalties upon defaulting members (Chartered Surveyor Monthly, 1998).

15.3 Process Model of Professional Services

The variables identified by the literature review have been developed into a process model of construction professional services which is presented again

in Figure 24 below. The initial and final horizontal links were added and it will be seen that these are the aspects under investigation during this project. Similar models of professional services have been compared with this model, and the use that such models service is :

- Providing a broader context for the placement of findings.
- Identifying relationships between their component variables.
- Providing a common perspective.
- Identifying gaps in knowledge.

(Zaltman and Wallendorf, 1979)

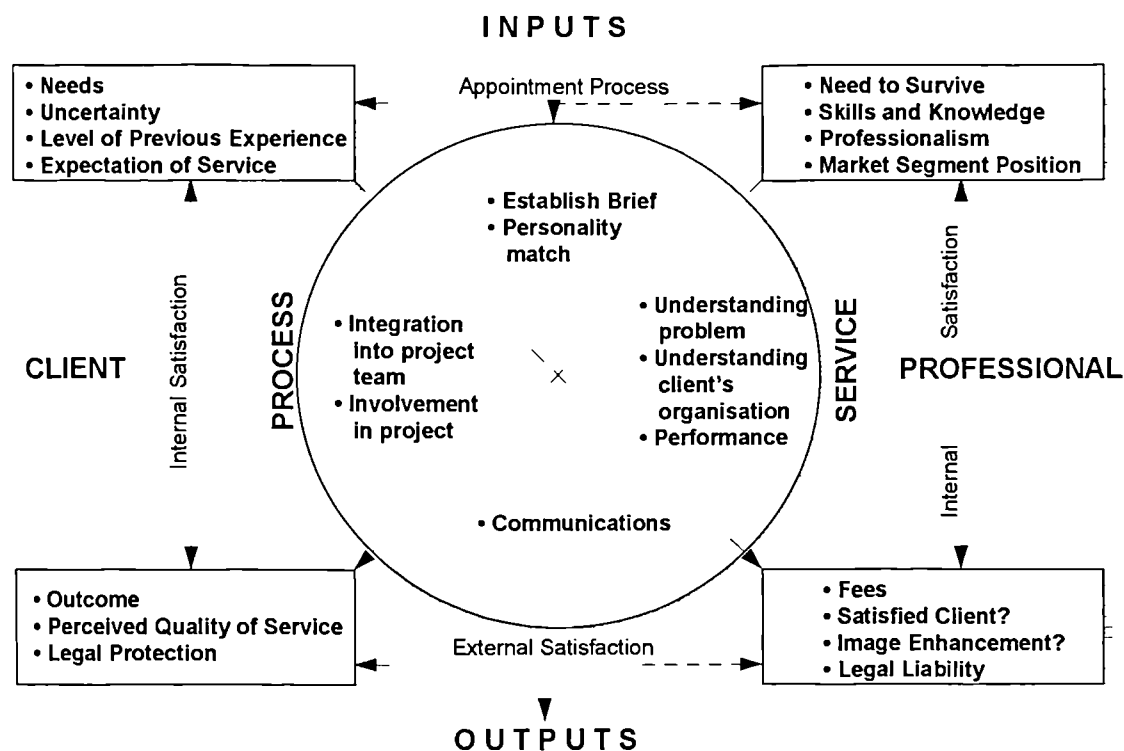


Figure 24 : A Process Model of Construction Professional Services

15.4 Research Question

Response to the publication of earlier research by the writer (Hoxley, 1993) highlighted the apparent divergence between clients' rating of the importance of "level of fees" and "the Government's continued insistence on fee competition for all public sector work" (Middelboe, 1993). At that time much disquiet was being expressed about the low level of fees being achieved for professional work. The economy was still deep in recession and intense competition was resulting in lower and lower fees. The then President of the RICS expressed concern that this situation "cannot produce the level of service required by the client" (Morgan, 1993). The writer commenced this research to ascertain whether there was any cause for this concern.

15.5 Competitive Fee Tendering

The abolition of mandatory professional fee scales did not happen overnight. As long ago as 1956 collective restrictive practices in the supply of goods were prohibited by law and this principle was extended to the supply of services by the Monopolies and Mergers Act of 1965. Professional services were investigated by the Monopolies Commission in 1970 and each construction and property profession was individually scrutinised during the 1970's. It was another 10 years or so before the Professional Institutions capitulated and abolished their mandatory fee scales. The Office of Fair Trading has recently said that the *recommended* fee scales produced by some professional institutions must also be abolished (Mole, 1998b).

The property boom of the mid to late 1980's cushioned the blow of fee competition and it was not until the recession of the early 1990's that practitioners began to feel the full impact. Meanwhile the Conservative government of the time extended their policies into the public sector by the introduction of compulsory fee tendering (CCT). The UK stood alone in Europe as the only country to introduce compulsion to tender (Pottinger, 1995). Such has been the pace of change however, that in 14 years a position of *mandatory* fee scales, preventing fee competition, has been completely reversed so that now a construction professional providing services for a local authority may have been appointed as a result of *compulsory* competitive fee tendering.

The new labour government has said that it will eventually abandon CCT in favour of a duty to provide *Best Value*. The threat of compulsory competition will however be used as a deterrent to those authorities which auditors advise have failed to provide best value. Despite this U turn in compulsion to tender for public work, competitive fee tendering is now the principal route for the appointment of professionals in the UK construction industry. Latham (1994, p43) has said "It is now widely - if in some quarters reluctantly - accepted among consultants that competitive fees are a permanent feature of their work".

Much advice to clients has been provided by both central government and the professional institutions on how to achieve a fair balance between quality and

price. These include ensuring adequate specification of the service required, careful pre-selection of tenderers and giving adequate weighting to ability in the final selection process. A formula for achieving this final point is provided by the Construction Industry Board (1996).

15.6 Decline in Service Quality

At the time of the abolition of fee scales most professional institutions voiced fears that price competition would lead to a reduction in service quality and even the Monopolies and Mergers Commission were prepared to admit that this could be true in exceptional circumstances (Monopolies and Mergers Commission, 1970) and that in a recession fee-cutting might be “deep and widespread” (Monopolies and Mergers Commission, 1978). Latham (1994) reports evidence from consulting engineers in the UK and also from Scottish architects which suggests that professionals themselves believe that they are providing an inferior service as a result of fee competition.

Attempts have been made in the UK and abroad to limit the worst excesses of fee competition. Accountants in England and Wales have changed their ethical guidelines to discourage reckless discounting (Institute of Chartered Accountants in England and Wales, 1993), while the Law Society stepped back from the brink of outright confrontation with the Office of Fair Trading in their attempt to influence a rise in conveyancing charges (Hilborne, 1996). Solicitors in Northern Ireland have however been disciplined for fee undercutting and in the United States the Brookes Law stipulates that

architects and engineers must be appointed on the basis of quality and not price.

15.7 Hypotheses

Most of the evidence of a decline in service quality is anecdotal and comes from the professionals themselves. There is little evidence available that the most important party - clients - perceive that fee tendering has led to a decline in quality. A major part of this study has therefore been an attempt to measure clients' perceptions of service quality for various methods of appointment. Sub-hypotheses have investigated whether quality is lower when the fee offer is particularly competitive, and whether quality is improved when the service is well specified by the client, when care is taken with pre-selection of tenderers and when adequate weighting is given to ability in the final selection process.

15.8 Professional Indemnity Insurance Claims

Claims for professional negligence made by clients of surveyors initially increased after fee scales were abolished but according to the insurers this was mainly due to the dramatic fall in property values in the early 1990's. Since this time claims have fallen back to pre-abolition levels suggesting that this variable cannot be used to prove or disprove the main hypothesis under investigation.

15.9 Quality Assurance

Barrett (1994b) estimates that about half of all construction professionals will seek quality assurance (QA) registration by the year 2004. The main motivations in becoming QA registered appear to be seeking a competitive edge and fear of losing clients who insist upon QA registration. There is no clear evidence that QA actually improves quality and some research suggests that it may actually have an adverse impact (Hughes, Williams and Ryall, 1997).

15.10 Measuring Service Quality

Given that "quality is an elusive concept" (Gummerson, 1981) how does one measure it? Churchill (1979) presents a paradigm for developing better measures of marketing constructs and describes the measures with which marketers then worked as being "woefully inadequate". He discusses the steps needed to ensure adequate validity, reliability and sensitivity of measurement scales and recommends the use of multi-item measures. Over a period of some six years Parasuraman, Zeithaml and Berry (1985, 1988 and 1991) followed this procedure in order to develop a generic service quality assessment scale which has been used extensively in industry and academe in recent years. The scale (called SERVQUAL) measures gap scores (perceptions minus expectations) for 22 items across 5 dimensions - tangibles, reliability, responsiveness, assurance and empathy. Many attempts have been made to replicate the scale and there is a large body of literature available regarding its use in both industry and research settings.

The scale is not without its critics however and although the writer has based his scale on SERVQUAL he has also taken into account the criticisms that have been levelled at the work. Two of the more significant of these criticisms concern the use of gap scores and the fact that it is advisable to adapt the scale for each particular service setting.

15.11 SURVEYQUAL

The writer's measurement scale is based on a comparative study of SERVQUAL, his own research into Building Surveying service quality (Hoxley, 1994) and studies of architectural and real estate service quality in the US. The initial scale had 28 items of which 16 are to be found in SERVQUAL. The scale involves only one application since expectations and perceptions are measured in a single statement (Brown, Churchill and Peter, 1993). All seven points are labelled (Lewis, 1993) and all statements of the attitude scale are positively worded.

15.12 Data Collection

An assessment proforma was designed to incorporate SURVEYQUAL and also to record details of the anonymous consultant assessed and the method of appointment. Following a pilot study the slightly modified assessment proforma was sent to 500 client organisations with a request that they complete it for a professional consultant employed by them recently. Two hundred and forty four useable proformas were returned, representing a 48.8% response rate. A wide range of client types (but with local authorities

making up over half of the sample) assessed mainly surveyors (59%), architects (19%), and engineers (11%). An exploratory factor analysis led to two of the scale items being dropped (the appearance and location of the firm's office) and identified 4 factors which the writer has named "What," "When" "How" and "Who". The statistical analysis confirmed that SURVEYQUAL is both a reliable and valid instrument to measure service quality in a construction profession context. The analysis suggests that the reliability of the scale is superior to that reported by the developers of SERVQUAL.

15.13 Results of the Study

In order to test each hypothesis the service quality score, using the SURVEYQUAL scale, was computed for each case. Means of this score (the dependent variable) were then computed and tabulated for each value of the independent variable associated with each hypothesis. Finally a one-way analysis of variance was computed to test the null hypothesis that there are no differences between these means.

Nearly 53% of the consultants assessed were appointed on a fee tendered basis while 30% of the consultants negotiated a fee. This result confirms that competitive fee tendering is now the main method of appointment for UK construction professionals and has therefore highlighted the relevance of the research. While the mean service quality score for fee tendered commissions was lower than for other methods of appointment the statistical

analysis suggests that this is not a significant result. The main hypothesis that clients' perceptions of service quality for fee tendered appointment are lower has therefore not been supported by the data. Similarly the hypotheses that service quality is lower when the fee bid is more competitive and higher when the service has been well specified, have also not been supported by the data. However the hypotheses that service quality is higher when care has been taken with the pre-selection of tenderers and when adequate weighting has been given to ability in the final selection process, are both supported by the analysis of the data.

Since public sector clients are more likely to use fee tendering as a method of appointment the analysis was repeated for this type of client only. Sixty two percent of public sector clients used fee tendering to appoint their consultants but the hypothesis testing results were very similar to those achieved by analysis of the entire data set of clients. Investigation of the impact of the variables represented by each hypothesis, upon the components of service quality identified by the factor analysis, revealed the interesting finding that "what" is provided in the service does vary with the method used to appoint the consultant.

The service quality provided by surveyors was higher than that provided by architects and engineers but the writer accepts that his clients' sample is likely to be biased towards the surveying profession and he makes no claim

that this result is likely to be representative of the entire population of clients of construction professionals.

In the final chapter of this thesis conclusions are drawn from the research, implications for clients and the professions are drawn, and recommendations for further research are made.

CHAPTER 16 : CONCLUSIONS AND RECOMMENDATIONS

CHAPTER 16

CONCLUSIONS AND RECOMMENDATIONS

16.1 Discussion

When mandatory fee scales were abolished by the property and construction professions in the early 1980's there was a widespread belief that abolition would inevitably lead to a decline in service quality. The economic and property boom of the late 1980's resulted in high demand for professional services and therefore abolition initially had little impact upon fee levels. However during the deep recession of the early 1990's intense competition led to a significant decline in fee levels. In their evidence to the Latham Review several construction professions said that competition had led to a decline in the level of service they were able to provide to clients. (Latham, 1994)

In the services management field it is generally recognised that the only meaningful measure of service quality is that provided by the consumer. Despite the observations of the service suppliers (the professionals) that fee competition had led to lower quality there was no evidence from clients that this was the case. The writer's main motivation in carrying out this research was to provide such evidence, should it exist.

Although overall the 53% of consultants appointed by competitive fee tendering, were assessed as providing a lower level of service quality than

those appointed by other means, this result was not statistically significant. If the overall quality question is used as the basis of the measure then the result is significant. However the SURVEYQUAL scale developed during this research is likely to provide a more reliable and sensitive measure of service quality and therefore the writer must conclude that the research has shown that clients' perceptions of service quality are not lower for competitive fee tendered commissions.

This main result of the research has provided reassuring evidence to the institutions representing construction and property professions that their members have not allowed their standards to slip in the face of increased competition.

There is much evidence that fee levels have fallen to a significant extent since the introduction of competition. If service quality has not declined, then this can mean only one of two things - that profitability has fallen or that consultants have become more efficient. In fact the writer suspects that both of these things have occurred, although further research would be required to confirm the decline in profitability. Certainly professional firms are much leaner than they were 15 years ago. The introduction of IT has contributed to a reduction in the number of clerical and technical staff employed by professional organisations during that time. Although a small proportion of professional firms have not survived the recent recession and the fall in fee levels, those that have survived, have done so by increasing their efficiency

and/or accepting reduced profit levels. There is of course a limit to how efficient a firm can become, before it falls into what Gronroos (1984, pp 55-61) defines as "the strategic management trap" - which is when clients begin to notice a decline in quality as a result of these efficiencies.

During the current economic recovery there are signs that firms are taking on more staff and it is also likely that profit levels are rising. What is happening under these circumstances to the main variables under investigation here - service quality and fee levels? Of course one can only speculate but it is possible that as firms can be more selective in taking on more work, fee levels will rise and service quality for fee tendered (and thus possibly less profitable) commissions, may fall. Certainly this is a view which has been put to the writer by one experienced practitioner recently. It would be a very interesting exercise to repeat the collection of data in the near future to see whether there is any difference in clients' perceptions of service quality during more healthy economic times.

16.2 Regulation of Fees?

One of the stated aims of the research in attempting to find evidence of a decline in service quality following the introduction of fee tendering, was to influence Government and/or the professional institutions to legislate to prevent excessive fee undercutting. The writer accepts that in the absence of such evidence there is little likelihood of such action being taken. Although the RICS Rules of Conduct do require members to "receive information ... to

assess the nature and scope of the services required" (RICS, 1990) the writer believes that it would be preferable to follow the lead of other professions (for example, Chartered Accountants) to introduce a rule to prohibit excessive fee undercutting. Such legislation would hopefully prevent the worst excesses of undercutting when the next recession comes along!

16.3 Measurement Scale

The SURVEYQUAL service quality measurement scale developed during this research has provided a useful instrument for clients to compare the performance of different consultants, or for tracking the performance of the same consultant over time. One of the client organisations which assisted with the pilot study phase of the research has expressed an interest in using the scale for such a purpose. The writer has also assisted with the development of a similar scale to be used by the Building Surveyors Division of the RICS to record clients' perceptions of the performance of their members. (Mole, 1998a).

One interesting finding of the scale development is the lack of any correlation between the appearance and location of the professional firm's office premises and service quality. While it is likely that these variables do influence the initial selection of the consultant, they clearly have little impact upon service quality. This finding for the construction professions is contrary to what Parasuraman, Zeithaml and Berry (1991) suggest is the case for services generally.

One shortcoming of the scale is that it fails to differentiate between Winch and Schneider's (1993a) categories of firms. Although one of the scale's statements was concerned with the experience of the personnel in the firm, there was no specific mention of the market segment in which the firm is operating. This fact is relevant to service quality, since a firm which is strong on experience but not on ideas may not be the best firm to design a ground - breaking new concept building. Another weakness is that the scale does not take account of the fact that different methods of appointment are likely to be used for different types of project. Perhaps information on the project types should have been sought when collecting data.

16.4 Gap Analysis

One of the most difficult decisions faced by the writer in carrying out this research was whether or not to measure the perception minus expectation gap in a single statement or in two statements. Critics of the original SERVQUAL scale are equally divided on the subject. The measurement of gaps is in keeping with much conceptual thinking on services management and in a construction industry context Winch et al (1998) have recently advocated gap analysis as a better way of understanding the challenge of managing projects. The writer's decision to use a single statement was heavily influenced by the rejection of the gap based model by Boulding et al (1993) and because Brown et al (1993) found that such a scale had better validity and reliability than a scale which measured gaps. The writer will never know whether his scale would have been improved by the

measurement of gaps. It is certainly possible that by not measuring expectations explicitly the results have been biased by those clients who had a lower expectation of consultants appointed by the fee tendering method. It would be an interesting exercise to repeat the data collection by using both single and dual statements and to compare the results.

16.5 Model of Professional Services

The initial literature review has provided a useful conceptual framework for considering how the important variables in construction professional services relate one to the other. The process model (see Figure 24) certainly assisted the writer in the early stages of the research in assessing which were the main areas of study necessary to pursue this research question.

16.6 Other Findings

Although the main hypothesis was not supported by the data collected, two of the sub-hypotheses were supported. Thus clients should be aware that the service quality they receive is likely to be higher when they take care with the initial pre-selection of tenderers and when they give adequate weighting to ability in the final selection of the consultant. The recommendations of the Construction Industry Board (1996) on balancing quality and price are therefore of particular relevance.

An interesting finding is that the “what is provided” component of service quality does vary with the method of appointment. This factor accounts for

nearly half of the variance in the variables used to measure service quality and the fact that this factor is so important to a client's perception of service quality is in keeping with the writer's previous research into the respective importance of process and outcome factors (Hoxley, 1994).

16.7 Recommendations for Further Research

The writer believes that the main variables under investigation are likely to be dependant upon the state of the economy and he intends to repeat the data collection in the near future to see whether there is any significant difference in the results obtained. It will also be necessary to obtain data on the profitability of consultants at the times when assessment data were and are collected. The only way to establish whether a single or dual statement is more effective in measuring the perception minus expectation gap would be to repeat the data collecting exercise using both methods.

16.8 Summary

The results of this research project provide reassurance to the construction professions in that their clients perceive that they have not allowed their standards to fall in the face of increased competition. In order to avoid the worst excesses of fee competition, however, the writer believes that the construction professions should follow the lead of other professions and legislate to prohibit excessive undercutting. Clients should be aware that they can increase service quality by taking care with the initial pre-selection

of tenderers and by giving adequate weighting to ability in the final selection of the consultant.

The writer intends to repeat the data collection under improved economic conditions, possibly measuring expectations and perceptions separately. Other outputs of the research are an assessment scale for construction professional service quality and a process model of professional services in a construction industry context.

In conclusion and to return to the Hollis' (1995) simile with which we started : just as most of the Apollo astronauts made a successful return mission to the moon, even though their spacecrafts had been manufactured by companies quoting in competition, so clients of the UK construction professions can take comfort from the fact that their surveyor, architect and engineer have not allowed fee competition to compromise their professionalism.

APPENDIX A : THE SERVQUAL SCALE

APPENDIX A

THE SERVQUAL SCALE

(Parasuraman, Zeithaml & Berry, 1991)

Expectations Section

DIRECTIONS : Based on your experiences as a customer of telephone repair services, please think about the kind of telephone company that would deliver excellent quality of repair service. Think about the kind of telephone company with which you would be pleased to do business. Please show the extent to which you think such a telephone company would possess the feature described by each statement. If you feel a feature is *not at all essential* for excellent telephone companies such as the one you have in mind, circle the number "1." If you feel a feature is *absolutely essential* for excellent telephone companies, circle the number "7." If your feelings are less strong, circle one of the numbers in the middle. There are no right or wrong answers - all we are interested in is a number that truly reflects your feelings regarding telephone companies that would deliver excellent quality of service.

Note: Each of the statements was accompanied by a 7-point scale anchored at the ends by the labels "Strongly Disagree" (=1) and "Strongly Agree" (=7). Intermediate scale points were not labelled. Also, the headings (TANGIBLES, RELIABILITY, etc.), shown here to indicate which statements fall under each dimension, were not included in the actual questionnaire.

TANGIBLES

- E1. Excellent telephone companies will have modern-looking equipment.
- E2. The physical facilities at excellent telephone companies will be visually appealing.
- E3. Employees of excellent telephone companies will be neat-appearing.

- E4. Materials associated with the service (such as pamphlets or statements) will be visually appealing in an excellent telephone company.

RELIABILITY

- E5. When excellent telephone companies promise to do something by a certain time, they will do so.
- E6. When customers have a problem, excellent telephone companies will show a sincere interest in solving it.
- E7. Excellent telephone companies will perform the service right the first time.
- E8. Excellent telephone companies will provide their services at the time they promise to do so.
- E9. Excellent telephone companies will insist on error free records.

RESPONSIVENESS

- E10. Employees of excellent telephone companies will tell customers exactly when services will be performed.
- E11. Employees of excellent telephone companies will give prompt service to customers.
- E12. Employees of excellent telephone companies will always be willing to help customers.
- E13. Employees of excellent telephone companies will never be too busy to respond to customer requests.

ASSURANCE

- E14. The behaviour of employees of excellent telephone companies will instil confidence in customers.
- E15. Customers of excellent telephone companies will feel safe in their transactions.
- E16. Employees of excellent telephone companies will be consistently courteous with customers.

- E17. Employees of excellent telephone companies will have the knowledge to answer customer questions.

EMPATHY

- E18. Excellent telephone companies will give customers individual attention.
- E19. Excellent telephone companies will have operating hours convenient to all their customers.
- E20. Excellent telephone companies will have employees who give customers personal attention.
- E21. Excellent telephone companies will have the customers' best interests at heart.
- E22. The employees of excellent telephone companies will understand the specific needs of their customers.

Perceptions Section

DIRECTIONS : The following set of statements relate to your feelings about XYZ Telephone Company's repair service. For each statement please show the extent to which you believe XYZ has the feature described by the statement. Once again, circling a "1." means that you strongly disagree that XYZ has that feature, and circling a "7." means that you strongly agree. You may circle any of the numbers in the middle that show how strong your feelings are. There are no right or wrong answers - all we are interested in is a number that best shows your perceptions about XYZ's repair service.

TANGIBLES

- P1. XYZ has modern-looking equipment.
- P2. XYZ's physical facilities are visually appealing.
- P3. XYZ's employees are neat-appearing.
- P4. Materials associated with the service (such as pamphlets or statements) are visually appealing at XYZ.

RELIABILITY

- P5. When XYZ promises to do something by a certain time, it does so.
- P6. When you have a problem, XYZ shows a sincere interest in solving it.
- P7. XYZ performs the service right the first time.
- P8. XYZ provides its services at the time it promises to do so.
- P9. XYZ insists on error free records.

RESPONSIVENESS

- P10. Employees of XYZ tell you exactly when services will be performed.
- P11. Employees of XYZ give you prompt service.
- P12. Employees of XYZ are always be willing to help you.
- P13. Employees of XYZ are never too busy to respond to your requests.

ASSURANCE

- P14. The behaviour of employees of XYZ instils confidence in customers.
- P15. You feel safe in your transactions with XYZ.
- P16. Employees of XYZ are consistently courteous with you.
- P17. Employees of XYZ have the knowledge to answer your questions.

EMPATHY

- P18. XYZ gives you individual attention.
- P19. XYZ has operating hours convenient to all its customers.
- P20. XYZ has employees who give you personal attention.
- P21. XYZ has your best interests at heart.
- P22. Employees of XYZ understand your specific needs.

APPENDIX B : A COMPARISON OF FOUR STUDIES

SERVQUAL (PZB, 1991) <i>Generic Service Quality Measure</i>	CRAVENS ET AL (1985) <i>Architectural Services</i>	NELSON & NELSON (1995) <i>Real Estate Brokerage</i>	HOXLEY (1994) <i>Building Surveying</i>
Modern looking equipment		Up-to-date technology	Sophistication of equipment used by firm
Physical facilities visually appealing		Offices visually appealing	Appearance of staff
Employees neat-appealing			Standard of presentation of written and graphical material
Pamphlets or statements visually appealing	Quality of design documents	Appropriate size of firm for services offered	Size of practice
Keeping promises			
Interest in solving problem			Technical correctness
Performs right first time	Design creativity / capabilities		Meeting targets
Provides service at time promised	Meets deadlines	Provides service at time promised	
		Firms should be dependable	
Error free records		Accurate records	
Employees tell you exactly when service will be performed		Firm tells you when service will be performed	
		Should keep clients informed	
			Frequency of communications
Prompt service	Responsiveness	Responds to client's requests promptly	Speed of response to client's needs
Employees always willing to help		Agents always willing to help	
Employees never too busy to respond to your request		Clients should not have to wait to get appointments	
		Clients should not have to wait a long time for results	
Behaviour of employees instils confidence in customers			
		Clients should be able to trust firm's agents	Interest and enthusiasm in project demonstrated by professional

SERVQUAL (PZB, 1991)	CRAVENS ET AL (1985)	NELSON & NELSON (1995)	HOXLEY (1994)
You feel safe in your transactions		Clients should feel safe in their transactions	
Employees always courteous to you		Firm's agents should be knowledgeable	Politeness of support personnel
Employees have the knowledge to answer questions	Competent staff	Agents should have extensive training and education	
	Experience with projects like mine		Relevance of experience
Firm gives you individual attention		Agents should be available at hours convenient to their clients	
Operating hours convenient to customers		Agents should be easy to contact by telephone	Accessibility of personnel in firm
			Access to other professionals via the professional
		Personal attention	Quality of entire design team
Employees give you personal attention		Firms should protect client's interest and well-being	
Firm has your best interests at heart			Professionalism
			Honesty/integrity/no conflicts of interest
Employees understand your specific needs	Understands my needs	Every effort to understand needs of clients	Extent of understanding of client's problem
	Working relationship		Benefits of long term working relationship
			Professional and client having a "similar view of the world"
	Stays within budget		Cost control
	Ongoing participation of principals	Clients should be able to contact a senior broker in a firm without difficulty	Continued involvement of senior partners
	Economic feasibility / know-how		
	Engineering know-how		

SERVQUAL (PZB, 1991)	CRAVENS ET AL (1985)	NELSON & NELSON (1995)	HOXLEY (1994)
	Personal references		Quality control/reliability
	Construction supervision		
	Used architect before		Level of fees
	Competitive fees	Fees charged in keeping with services provided	
	Proximity of architect to project	Offices conveniently located	Location of firm's office
	Presentations by architect		Standard of verbal presentation
	Post-construction follow-up		
	National prestige of firm		
		Firms should be reputable	
	Full range of services		
		Client's dealings with firm should be very pleasant	
		Aggressive on client's behalf	
		Properties should be well advertised	
		Agents should have adequate support from firm	
		Agents should be instrumental in setting best price for a house	
		Agents should make suggestions for how to best prepare a house for sale	
			Use of good English
			Professional input to finalisation of brief
			First class understanding of planning matters
			QA to BS 5750
			Client's technical input to project
			Amount of cover provided by PI policy
			Entertaining and hospitality
			Age of firm
			Extent of understanding of client's organisation

APPENDIX C : RESEARCH INSTRUMENTS

ASSESSMENT OF PROFESSIONAL CONSULTANT'S PROFORMA

Completed by : Date Completed :

Position :

Organisation :

Please select a professional consultant employed by you recently and complete this brief assessment proforma.
There is no requirement for you to identify the consultant who will be referred to as "XYZ".

Please tick the appropriate boxes

What profession are XYZ members of?

☐ Chartered Surveyors

☐ Engineers

☐ Architects

☐ Other (please state)

*If Chartered Surveyors, which Division?
(if known)*

☐ Quantity Surveyors

☐ General Practice

☐ Building Surveyors

☐ Other (please state)

How were XYZ appointed?

☐ Competitive fee tendering

☐ Direct appointment (no tendering or
negotiation involved)

☐ By negotiation

☐ Other (please state)

Please tick the appropriate boxes

	Excellent	Very Good	Good	Average	Poor	Very Poor
<i>How would you rate the overall quality of service provided by XYZ?</i>						

	Very Likely	Likely	Not Likely
<i>How likely would you be to recommend XYZ to another organisation?</i>			

PLEASE ANSWER THE FOLLOWING FOUR QUESTIONS IF XYZ WERE APPOINTED BY COMPETITIVE FEE TENDERING
(If another method of appointment was used please move on to complete the final page of the Proforma)

	Very Competitive	Competitive	Uncompetitive
<i>How competitive did you consider XYZ's fee bid to be at the time of appointment?</i>			

	Great Emphasis	Sufficient Emphasis	Insufficient Emphasis
<i>How much emphasis do you think you gave to the XYZ's ability when appointed?</i>			

	Great Care	Sufficient Care	Insufficient Care
<i>How much care do you think was taken with the preselection of tenderers when XYZ was appointed?</i>			

	Very Well Specified	Adequately Specified	Not Very Well Specified
<i>How well do you think that the service was specified prior to tendering?</i>			

The table below contains statements relating to your attitude about XYZ professional consultants. For each statement please indicate (by ticking the appropriate box) how the service you received from XYZ compares with your original expectation of what the service would be. (If any of the statements do not apply to the service provided by XYZ please leave that section blank)

Statement	Very Much Better	Much Better	Better	Same	Worse	Much Worse	Very Much Worse
XYZ use up-to-date technology							
The offices of XYZ are visually appealing							
The staff of XYZ are always tidy in appearance							
The written and graphical output of XYZ is well presented							
XYZ's size is appropriate for the services they perform for me							
XYZ's solutions to problems are technically correct							
The design element of XYZ's work shows creativity and capability							
XYZ provides its services at the time it promises to							
XYZ tells me when it will perform the service for me							
XYZ provides prompt service							
XYZ and its employees are always willing to help me							
XYZ and its employees are never too busy to respond to my requests							
Employees of XYZ are easily accessible to me							
I feel safe in my dealings with XYZ							
XYZ and its employees are always polite to me							
Employees of XYZ have the knowledge and competence to solve my problems							
XYZ and its employees have experience relevant to the service I require							
XYZ provide me with personal attention							
XYZ have only my best interests at heart							
XYZ understand my problems							
I will benefit from a long term working relationship with XYZ							
XYZ and I have similar views about things that are important							
XYZ provide good cost control of projects							
The partners or directors of XYZ stay involved with my projects							
The site supervision of projects by XYZ is good							
XYZ's offices are conveniently located for me							
The standard of verbal presentation by employees of XYZ is good							
XYZ and its employees understand my organisation							

The University of Salford Salford M7 9NU England
Bridgewater Building
Tel +44 (0)161 745 5000 Ext Fax +44 (0)161 745 5011
Professor Peter Barrett MSc PhD FRICS
Director of Research Centre



Mr G G Piper
Director of Estates & Technical Services
Tower Hamlets Health Authority
The London Hospital (Whitechapel)
London
E1 1BB

17 June 1996

Dear Mr Piper,

Re : Service Quality and Method of Appointment

I am conducting a study (with the support of the RICS Education Trust) into possible links between *clients' assessment of service quality* and the *method of appointment*.

In your capacity as an employer of professional consultants in the construction and/or property industry I would be very grateful if you could spare a few minutes to complete the enclosed "assessment of professional consultant's proforma". If you feel that there is someone else in your organisation who is in a better position to complete the proforma then please pass it to them. I enclose a stamped addressed envelope for you to return the completed proforma to me.

Thank you in anticipation for your assistance with this research.

Yours sincerely,

MICHAEL HOXLEY MPhil FRICS
tel. 0161 745 5215

APPENDIX D : CLIENTS' DATA BASE

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
Mr	G G	Piper	Director of Estates & Technical Services	Tower Hamlets Health Authority	The London Hospital (Whitechapel)		London		E1 1BB	0171 377 7740
Mr	K R	Egerton	Director	Taylor Woodrow Property Co Ltd	International House	1 St Katherine's Way	London		E1 9TW	0171 488 0555
Mr	R	Grout	Chief Quantity Surveyor	London Borough of Tower Hamlets Building Services Department	PO Box 62	255-259 Cambridge Heath Road	London		E2 0HQ	0171 739 4344
Mr	L J	Andrews	Chief Quantity Surveyor	London Borough of Waltham Forest	Municipal Offices	The Ridgeway	Chingford	London	E4 6PS	0181 527 5544
Mr	P E	Elwin	Head of Building Design	London Borough of Newham	25 Nelson Street	East Ham	London		E6 4EH	0181 472 1430
Mr	G D	Hall	Property Director	Port of London Authority	13 Selsdon Way	Cityharbour	London		E14 9GL	0171 987 8803
Mr	R W	Davidson	Head of Construction & Maintenance Management	British Telecom Group Property	Caxton House	2 Farringdon Road	London		EC1M 3LU	0171 492 9770
Mr	R J	Michael	Director of Planning & Environmental Services	London Borough of Hackney	161-189 City Road		London		EC1V 1NR	0171 253 8455
Mr	M K F	Sinclair	Head of Buildings	Royal Mail Property Holdings	Royal Mail House		London		EC1V 9HQ	0171 250 2900
Mr	M J	Whalley	Director	AMP Asset Management PLC (Property Division)	55 Moorgate		London		EC2R 6PA	0171 477 5811
Mr	P	Davies	Director	Advisory Unit Midland Bank PLC	Scottish Life House	36 Poultry	London		EC2P 2BX	0171 260 6724
Mr	R J	Dismorr	Director	Hill Samuel	45 Beech Street		London		EC2P	0171 203

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
				Property Services Limited					2LX	3000
Mr	R	Clutton	Director	Wales City of London Properties PLC	City Tower	40 Basinghall Street	London		EC2V 5DE	0171 588 2888
Mr	J	McAuslan	Chief Surveyor	Church, Charity & Local Authority Fund Managers Ltd	St Alphage House	2 Fore Street	London		EC2Y 5AQ	0171 588 1815
Mr	W G	Row	Director of Building & Services	Corporation of London	PO Box 270	Guildhall	London		EC2P 2EJ	0171 606 3030
Mr	P J	Barber	Estates Surveyor	London Stock Exchange	Old Broad Street		London		EC2N 1HP	0171 797 1000
Mr	T F H	King	Director	Rothschild Asset Management Ltd	Five Arrows House	St Swithins Lane	London		EC4 8NR	0171 280 5000
Mr	M G	Savage	Director	St Martins Property Corporation Ltd	Adelaide House	London Bridge	London		EC4R 9DT	0171 626 3411
Mr	W J	Story	Property Investment Surveyor	Unilever PLC Property Department	PO Box 68	Unilever House	Blackfriars	London	EC4P 4BQ	0171 822 5127
Mr	J K	Booth	Acting Assistant Head of Architecture & Engineering	London Borough of Islington	222 Upper Street		London		N1 2UH	0171 226 1234
Mr	J	Mead	Principal Quantity Surveyor	London Borough of Barnet	Barnet House	1255 High Road	Whetstone	London	N20 0EJ	0181 446 8511
Mr	M	Bovis	Director	Barclays Property Holdings Ltd	250 Euston Road		London		NW1 2PZ	0171 388 2399
Mr	D A	Haigh		Barclays Property Holdings Ltd	Kennedy Tower	St Chads	Queensway	Birmingham	B4 6JA	0121 233 1212
Mr	B	Bentley		Barclays Property	11th Floor	The Colston Centre	Colston	Bristol	BS1	01272

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
				Holdings Ltd			Street		4TA	277711
Mr	P M	Griffiths	Operations Director	Barclays Property Holdings Ltd	PO Box 120	Longwood Close	Westwood Business Park	Coventry	CV4 8AS	01203 694242
Mr	D J	Turner	Director	Barclays Property Holdings Ltd	North West House	119/127 Marylebone Road	London		NW1 5PX	0171 723 7688
Mr	R	Hill	Director	Railtrack PLC	Fitzroy House	355 Euston House	London		NW1 3AG	0171 830 5500
Mr	C J	Rickard	Director of Projects	The Royal Free Hampstead NHS Trust	Pond Street	Hampstead	London		NW3 2QG	0171 794 0500
Mr	J M	Allen	Director	John Laing Construction Ltd	Page Street		London		NW7 2ER	0181 959 3636
Mr	R A	Anderson	Director of Property	J Sainsbury PLC	Stanford House	Stanford Street	London		SE1 9LL	0171 921 6000
Mr	R G	Pickett	Diocesan Surveyor	South London Church Fund & Southwark Diocesan Board of Finance	Trinity House	4 Chapel Court	Borough High Street	London	SE1 1HW	0171 403 8686
Mr	B G	Whitehouse	Chief Quantity Surveyor	Department of Education & Science Architects & Building Group	Elizabeth House	York Road	London		SE1 7PH	0171 928 92222
Mr	N E	Borrett	Director Property Holdings	Department of the Environment Property Holdings	St Christopher House	Southwark Street	London		SE1 0TE	0171 928 3666
Mr	J G	McCarthy	Estates Manager	King's College	Cornwall House	Waterloo Road	London		SE1 8TX	0171 872 3347
Mr	P R	Green	Assistant Director	Building & Estate Management	Ministry of Agriculture,	Eastbury House	30-34 Albert	London	SE1 7TL	0171 238 6677

Title	FirstName	LastName	Job Title	Company	Address1	Address2	City	County	Post Code	WorkPhone
				Division	Fisheries & Food		Embankment			
Mr	K O	Hobbs	Planning Manager, Property Holdings (South)	Post Office Counters Ltd	Old Hospital Block	London Bridge Street	London		SE1 9SG	0171 233 7429
Mr	K A	Bryan	Head of Building Economics	Lewisham Architects Directorate of Economic Development & Estates	Laurence House	1 Catfield Road	London		SE6 4SW	0181 695 6000
Mr	G	Brooker	Head of Property Services	London Borough of Greenwich Property Services Directorate of Development	John Humphries House	Stockwell Street	London		SE10 9JN	0181 853 0077
Mr	R N	Atkinson	Assistant Chief Building Surveyor	London Borough of Southwark Housing Department	38 Rye Lane	Peckham	London		SE15 5BY	0171 639 4353
Mr	T	Simmmonds	AMPS Building & Design	Property Services Department, London Borough of Greenwich	50 Woolwich New Road		London		SE18 6HQ	0181 854 8888
Mr	C R	Hill	Director	Blue Circle Properties Ltd	84 Eccleston Sqare		London		SW1V 1PX	0171 245 8184
Mr	I D	Mathieson	Director	Commercial Union Properties Ltd	Schomberg House	80-82 Pall Mall	London		SW1Y 5HF	0171 930 5474
Mr	H M J	King	Director	John Lewis Partnership Property Department	171 Victoria Street		London		SW1E 5NN	0171 828 1000

Title	First Name	Last Name	Job Title	Company	Address1	Address2	City	County	Post Code	WorkPhone
Mr	A H	Fletcher	Deputy Group Chief Surveyor	P & O Property Holdings Ltd	78 Pall Mall		London		SW1Y 5EH	0171 930 4343
Mr	A W	Gillman	Head of Central Building Services Unit	Home Office	Abell House	John Islip Street	London		SW1 4LH	
Mr	P J	Attwater	Chief Estate Officer	H M Prison Service, Directorate of Works	Abell House	John Islip Street	London		SW1P 4LH	0171 217 3000
Mr	C H	Smith	Director of Property	London Regional Transport	Townsend House	Greycoat Place	London		SW1P 1BL	0171 918 3729
Mr	I A	Fry	Senior Project Manager	London Underground Ltd	Broadway Buildings	50-64 Broadway	London		SW1H 0DB	0171 918 4212
Mr	K R	Sewell	Deputy Director - Works	Metropolitan Police Office Property Services Department	1 Drummond Gate		London		SW1V 2JJ	0171 834 6622
Mr	J F	Moore	Senior Quantity Surveyor	Parliamentary Works Directorate	1 Canon Row	Westminster	London		SW1A 2JN	0171 219 6598
Mr	I A	Mawson	Estate Building Surveyor - Housing	Westminster City Council	Westminster City Hall	Victoria Street	London		SW1E 6QP	0171 828 8070
Mr	R K	Sewell	Chief Technical Services Officer	London Borough of Lambeth	Courtenay House	9-15 New Park Road	London		SW2 4DU	0181 674 9844
Mr	A	Faulkner	Director	Sun Life Properties Ltd	160 Brompton Road		London		SW3 1HS	0171 589 3477
Mr	G H	Marshall	Director of Estates	Imperial College	Exhibition Road		London		SW7	
Mr	D W	Main	Head of Surveying (Design Service)	London Borough of Wandsworth Design Service	Town Hall	Wandsworth High Street	London		SW18 2PU	0181 871 6000
Mr	J D	Longden	Director	Bass Plc	20 North Audley Street		London		W1	0171 409 1919

Title	First Name	Last Name	Job Title	Company	Address1	Address2	City	County	Post Code	WorkPhone
Mr	A C	Edwards	Director	Boots Properties Plc	Nightingale House	65 Curzon Street	London		W1Y 7PE	0171 495 8880
Mr	A D	White	Director Group Property	British Telecom Group Property	19 Stratford Place		London		W1N 9AF	0171 290 4000
Mr	J H M	Newsum	Director	Grosvenor Estate Holdings	The Grosvenor Office	53 Davies Street	London		W1Y 1FH	0171 408 0988
Mr	M	Baker	Director	Guardian Properties	17 Bruton Street		London		W1X 7AH	0171 493 9596
Mr	N H	Kudish	Director	Lucas Industries Plc	Lucas House	44/46 Park Street	London		W1Y 4DJ	0171 493 6793
Mr	R V	Pearman	Director	National Car Parks Ltd	21 Bryanston Street		London		W1A 4NH	0171 499 7050
Mr	M R	Bronley	Senior Building Surveyor	The Portman Estate	The Portman Office	38 Seymour Street	London		W1H 6BP	0171 262 1464
Mr	H	Wood	Director	The Soho Housing Association Ltd	8-10 Denman Street		London		W1V 7RF	0171 437 9141
Mr	A L	Fenton	Trafalgar House Estates Ltd	1 Berkeley Street		London			W1A 1BF	0171 437 9020
Mr	H C	Stanley	Director of Estates & Facilities Management	Bloomsbury Health Authority	District Estates Office	The Middlesex Hospital	Mortimer Street	London	W1N 8AA	0171 380 9195
Mr	B R	Richardson	Director of Estates & Accommodation	The University of Westminster	15-18 Clipstone Street		London		W1M 8JS	0171 911 5170
Mr	C W	Ridge	British Railways Board	BR Works Group	Macmillan House	Paddington Street	London		W2 1FT	0171 922 4301
Mr	C	Hamilton	Regional Estates Manager	North East Thames Regional Health Authority Estates Department	40 Eastbourne Terrace	Paddington	London		W2 3QR	0171 262 8011
Mr	J Q	Blurton	Group Manager,	London Borough of	4th Floor	Cambridge Grove	Hamme	London	W6 0LE	0181 748

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
			Quantity Surveying	Hammersmith & Fulham Building Technical Services	Cambridge House		rsmith			3020
Mr	L	Good	Chief Building Surveyor Client Services	Royal Borough of Kensington & Chelsea Directorate of Housing & Property Services	The Town Hall	Hornton Street	London		W8 7NX	0171 937 5464
Mr	A H	Strangeways	Director	British Broadcasting Corporation	Room 3304	White City	201 Wood Lane	London	W12 7TS	0181 752 5198
Mr	D J	Blythe	Chief Building Surveyor	London Borough of Camden, Building Design Services	Bidborough House	38/50 Bidborough Street	London		WC1H 9DB	0171 278 4444
Mr	L W S	Rix	Senior Quantity Surveyor	London Electricity Plc	Templar House	81-87 High Holborn	London		WC1V 6NU	0171 242 9050
Mr	R W	Marlow	Chief Surveyor	University College London	Gower Street		London		WC1E 6BT	0171 387 7050
Mr	P J	Hunt	Director	Land Securities Plc	5 The Strand		London		WC2N 5AF	0171 413 9000
Mr	M L	Dew	Managing Director	Sun Alliance Group Properties Ltd	25 Floral Street	Covent Garden	London		WC2E 9BU	0171 836 1211
Mr	J	Wallace	Group Property Manager	Civil Aviation Authority	CAA House	45-59 Kingsway	London		WC2B 6TE	0171 832 5673
Mr	M J	Apse	Director of Property	T I Group PLC	Lambourn Court	Abingdon Business Park	Abingdon		OX14 1UH	01235 55570
Mr	M A	Watson	Estate Manager	Development Services Hyndburn Borough Council	Council Offices	Eagle Street	Accrington		BB5 1LN	01254 380147
Mr	D G	Kent	Housing Manager	Alnwick District Council	1 Claypot Street		Alnwick		NE66 1LA	01665 510505
Mr	J J	Green		Chiltern Hundred	Hundreds House	24 London Road	Amersham		HP7	01494

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
				Housing Association Ltd		West	am		0EZ	433000
Mr	I	McKie	Assistant Director Technical Services	Test Valley Borough Council	Beech Hurst	Weyhill Road	Andover		SP10 3AJ	01264 64144
Mr	J S	Booth	Estates Manager	Tameside Metropolitan Borough Council	Council Offices	Wellington Road	Ashton-under-Lyne		OL6 6DL	0161 330 8355
Mr	B W	Ballard	Chief Quantity Surveyor	Buckinghamshire County Council	County Hall	Walton Street	Aylesbury		HP20 1UX	01296 5000
Mr	K S	Hilton	Head of Quantity Surveying	Barnsley Metropolitan Borough Council	2 County Way		Barnsley		S70 2DT	01226 774305
Mr	M J	Thompson	County Planning Officer	South Yorkshire Metropolitan County Council	County Hall		Barnsley		S70 2TN	01226 286141
Mr	D E	Hill	Estates Manager	North Devon District Council	Civic Centre		Barnstaple		EX31 1EA	01271 72511
Mr	R A	Barber	Chief Estates Surveyor	Basildon District Council	The Basildon Centre	Pagel Mead	Basildon		SS14 1DL	01268 533333
Mr	H S	Jones	Chief Surveyor	Basingstoke & Deane Borough Council Architects Section	Civic Offices	London Road	Basingstoke		RG21 2AJ	01256 56222
Mr	T G S	McCaw	Partner	Duchy of Cornwall Office	The Old Rectory	Newton St Loe	Bath		BA2 9BU	01225 874194
Mr	R F S	Mimmack	Director of Property & Engineering	Bath City Council	9-10 Bath Street		Bath		BA1 1SN	01225 461111
Mr	D E	Goodall	Senior Assistant Estates Officer	University of Bath			Bath		BA2 7AY	

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
Mr	T R	Seed	Chief Quantity Surveyor	Blackburn Borough Council	Town Hall	King William Street	Blackburn		BB1 7DY	01254 585585
Mr	G R	Scott	Capital Control Manager	South East Thames Regional Health Authority	Thrift House	Collington Avenue	Bexhill-on-sea		TN39 3NQ	01424 222555
Mr	P W	Garnet	Head of Technical Services	Ellesmere Port & Neston Borough Architects Department	4 Civic Way	Ellesmere Port			L65 0BE	0151 355 3665
Mr	J	McAdams	Regional Quantity Surveyor	National Westminster Bank PLC	Property Management - South Region	Turnpike House	123 High Street	Crawley	RH10 1DH	01293 640123
Mr	J E	Coe	Principal Quantity Surveyor	Corby Borough Council	Civic Centre	George St	Corby	NN17 1QB		01536 402551
Mr	R	Webber	Assistant Director - Client Service	Essex County Council Property Services Department	P O Box 6	County Hall	Chelmsford		CM1 1LB	01245 492211
Mr	A H	Pope	Defence Land Agent	Ministry of Defence	Victoria House	Military Road	Canterbury		CT1 1JL	01227 464036
Mr	I L	Cheetam	Director	Department of Development Services Bury Metropolitan Borough Council	Craig House	5 Bank Street	Bury		BL9 0DN	0161 705 5000
Mr	T V	Frankland	Senior Maintenance Officer - Programmes	East Staffordshire Borough Council	Town Hall	Burton On Trent			DE14 2EB	01283 508000
Mr	A J	Walker	Director of Planning &	Burnley Borough Council	P O Box 29	Parker Lane	Burnley		BB11 2DT	01282 425011

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
			Development Services							
Mr	M J	Biggs	Chief Quantity Surveyor	London Borough of Bromley	Civic Centre	Stockwell Close	Bromley		BR1 3UH	0181 464 3333
Mr	B J	Coles	Special Projects Officer	Sedgemoor District Council	Bridgewater House	King Square	Bridgewater		TA6 3AR	01278 435210
Mr	A C	King	Principal Surveyor	Wansbeck District Council	Council Offices	Front Street	Bedlington		NE22 5TU	01670 530033
Mr	A P	Smith	Quantity Surveyor	Bedford Borough Council	Department of Planning	Development and Amenities	Town Hall	Bedford	MK40 1SJ	01234 267422
Mr	P K	Buckley	Director of Property	Bedfordshire County Council	County Hall	Bedford			MK42 9AP	01234 63222
Mr	G	Holman	Quantity Surveyor - Development Department	Bedfordshire Pilgrims Housing Association Ltd	Pilgrims House	Horne Lane	Bedford		MK40 1NY	01234 328828
Mr	G	Hayes	Director	British Rail Regional Railways (Design & Construction)	1st Floor West	Meridian, 85 Smallbrook	Queensway	Birmingham	B4 4HX	0121 654 7340
Mr	E W	Pearce	Property Manager	British Telecom Group Property	BT Plc	41 Essex Street	Birmingham		B5 4TS	0121 666 7155
Mr	J D	Clothier	Regional Manager	Lloyds Bank Plc Midlands and North	The Rotunda	149 New Street	Birmingham		B2 4NZ	0121 632 6511
Mr	P A	Ludlow	Director	Severn Trent Property Ltd	2308 Coventry Road	Sheldon	Birmingham		B26 3JZ	0121 722 4000
Mr	D N	Hudson	Assistant Director of Estates	West Midlands RHA	142 Hagley Road	Edgebaston	Birmingham		B16 9PA	0121 456 1444
Mr	T	Westwood	Head of Building Consultancy	Birmingham City Council	1 Duchess Place	Hagley Road	Birmingham	Edgbaston	B16 8PB	0121 235 3069

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
Mr	M J	Hathaway	Divisional Property Manager	Department of the Environment	38 George Road	Egbaston	Birmingham		B15 1PL	0121 455 7515
Mr	R H	Osgood	Chief Property Services Officer	Blackpool Borough Council	Municipal Buildings	Talbot Square	Blackpool		FY1 1LZ	01253 25212
Mr	P L	Peel	Group Quantity Surveyor	Bolton Metropolitan Borough Council	The Wellsprings	Civic Centre	Bolton		BL1 1US	01204 22311
Mr	C F	Leak	Principal Housing Maintenance Officer	Metropolitan Borough of Sefton	Vermont House	375 Stanley Road	Bootle		L20 3RY	0151 934 3132
Mr	M J	Barker	Property Manager	Boston Borough Council	Municipal Buildings	West Street	Boston		PE21 8QR	01205 357400
Mr	A J B	Clark	Director	Abbey Life Investment Services Ltd	Abbey Life Centre	100 Holdenhurst Road	Bournemouth		BH8 8AL	01202 292373
Mr	R	Hanbidge	Chief Building Surveyor	Bracknell Forest Borough Council	Easthampstead House	Town Square	Bracknell		RG12 1AQ	01344 424642
Mr	A J	Robertson	Building Surveyor	Yorkshire Building Society	Yorkshire House	Westgate	Bradford		BD1 2AU	01274 734822
Mr	J K	Tyler	Principal Quantity Surveyor	City of Bradford Metropolitan Council	Jacob's Well		Bradford		BD1 5RW	01274 75 3887
Mr	C R	Fairweather	Director of Estates	University of Bradford	Richmond Road		Bradford		BD7 1DP	01274 383416
Mr	M	Thornborrow	Estate Manager	British Rail Property Board	Temple Gate House	Temple Gate	Bristol		BS1 6PX	0117 9348735
Mr	R L	Hutchinson	Property Manager	British Telecom Group Property	BT Plc	Telephone House	Queen Charlotte Street	Bristol	BS1 1BA	0117 9203003
Mr	R C	Harris	Director	Great Mills (Retail)	RMC House	Paulton	Bristol		BS18	01761

Title	First Name	Last Name	Job Title	Company	Address1	Address2	City	County	Post Code	WorkPhone
				Ltd					5SX	416034
Mr	H D	Stebbing	Head of Central Property Services	Lloyds Bank Plc	UK Retail Banking	Canons House	Canons Way	Bristol	BS99 7LB	0177 9433433
Mr	T G	Hunt	Director of Property Services	North Avon District Council	Council Offices	Castle Street	Thornbury	Bristol	BS12 1HF	01454 416262
Mr	J	Orr	Director of Estates	South and West Regional Health Authority Estates Directorate	King Square House	26/27 King Square	Bristol		BS2 8EF	0117 9423271
Mr	D	Cotterill	Property Manager	South Western Electricity Plc	800 Park Avenue	Aztec West	Almondsbury	Bristol	BS12 4SE	01454 201101
Mr	D W	Revell	Chief Quantity Surveyor	Universities Funding Council	Northavon House	Coldharbor Lane	Frenchay	Bristol	BS16 1QY	
Mr	K C	Ettle	Principal Contracts Officer	City of Bristol Council Housing Department	The Council House	College Green	Bristol		BS1 5TW	0117 926031
Mr	H	McKee	Deputy Director	County of Avon Property Services Department	Whitefriars	Middlegate	Lewins Mead	Bristol	BS1 2NW	0117 9290777
Mr	J R	Cowin	Head of Property Services	Cambridge City Council	The Guildhall		Cambridge		CB2 3QJ	01223 358977
Mr	J N	Wilday	Manager and Head of Quantity Surveying	Cambridgeshire County Council	Shire Hall	Castle Hill	Cambridge		CB3 OAP	01223 317450
Mr	B J	Sygrove	Defence Land Agent	Defence Land Agent	Government Offices	Brooklands Avenue	Cambridge		CB2 2DA	01233 456011
Mr	J C	Hooper	Regional Estates Surveyor	East Anglian Regional Health Authority	Union Lane	Chesterton	Cambridge		CB4 1RF	01223 375375
Mr	D J	Todd-Jones	Director of Estate Management	University of Cambridge Estate Management &	74 Trumpington Street		Cambridge		CB2 1RW	01223 337770

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
				Building Service						
Mr	J L	Morris	Borough Property Services Officer	London Borough of Sutton	24 Denmark Road		Carshalton		SM5 2JG	0181 661 5000
Mr	D G	Cox	General Manager	Building and Design Cumbria County Council	15 Portland Square		Carlisle		CA1 1QQ	01228 812118
Mr	C F	Jones	Principal Building Economist	Cheshire County Council	Property Management Services	Richard House	Chester		CH1 1SW	01244 602876
Mr	I W	Gould	County Property Manager	Cheshire County Council	Richard House	80 Lower Bridge Street	Chester		CH1 1SW	01244 602501
Mr	M C	Denham	Head of Land And Property Management & Design	Darlington Borough Council	Town Hall		Darlington		DL1 5QU	01325 380651
Mr	B A	Bodiam	Head of Property Services	Breckland District Council	The Guildhall		Derham		NR19 1EE	01362 695333
Mr	J W	Gregory	Head of Property Services	Eastleigh Borough Council	Leigh Road		Eastleigh		SO5 4YN	01703 614646
Mr	R A	Harvey	Professional Services Manager	Tendring District Council	Environmental and Technical Services Department	Town Hall	Clacton on Sea		CO15 1SE	0125 55 425501
Mr	M	Forbes	Principal Quantity Surveyor	Crewe And Nantwich Borough Council	Delamere House	Delamere Street	Crewe		CW1 2JZ	01270 573446
Mr	P	Wynne	Principal Quantity Surveyor	Eastbourne Borough Council	68 Grove Road			Eastbourne	BN21 1DF	01323 410000
Mr	S	Gooda	Principal Quantity Surveyor	Dover District Council	Council Offices	White Cliffs Business Park	Dover		CT16 3PE	01304 821199

Title	First Name	Last Name	Job Title	Company	Address1	Address2	City	County	Post Code	WorkPhone
Mr	R K	Pollard	Director	Royal London Asset Management Ltd	Royal London House	27 Middleborough	Colchester		CO1 1RA	01206 761761
Mr	A R	Nightingale	Building Surveyor	University of Essex	Estates Officer	Wivenhoe Park	Colchester		CO4 3SQ	01206 873411
Mr	R G	Sernan	Director of Property	West Sussex County Council		The Tannery	Westgate	Chichester	PO19 3RJ	01243 777100
Mr	T D	Owen-Ellis	Assistant Chief Technical Officer	Chichester District Council	East Pallant House	Chichester	West Sussex		PO19 1TY	01243 785166
Mr	P J	Darley	Estates Manager	National Grid Company Plc	Kirby Corner Road		Coventry		CV4 8JY	01203 423582
Mr	C J	Ferguson	Estates Officer	University of Warwick			Coventry		CV4 7AL	01203 523523
Mr	R G M	Pearce	Principal Quantity Surveyor	Dorset Building Design Practice	Pullman Court		Dorchester		DT1 1BA	01305 205250
Mr	W K	Edden	Head of Technical Services	Mole Valley District Council	Pipbrook	Dorking	Surrey		RH4 1SJ	01306 885001
Mr	A A	Allread	Acting Director of Development Services	Derby City Council	Roman House		Friargate	Derby	DE1 2FD	01332 255071
Mr	A A	Beastall	Head of Property Management	Derbyshire County Council	County Offices		Matlock		DE4 3AG	01629 580000
Mr	M H J	Taylor	Director	British Rail Infrastructure Services Engineering Operations	Network Technical Centre	Wellesley Grove	Croydon		CR9 1DY	0181 666 6815
Mr	P	Ball	Manager	Philips Electronics	The Philips Centre	420-430 London	Croydon		CR9	0181 781

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
				Limited		Road	n		3QR	8816
Mr	A	Landon	Technical Officer	The Housing Corporation	Leon House	High Street	Croydon		CR9 1UH	0181 681 3771
Mr	G J	Maskall	Chief Quantity Surveyor	London Borough of Croydon	Taberner House	Park Lane	Croydon		CR9 1JR	0181 686 4433
Mr	C R	Williams	Assistant Director	Dudley Health Authority	12 Bull Street		Dudley		DY1 2DD	01384 256911
Mr	D G	Jones	Principal Property Surveyor	Dudley Metropolitan Borough Council	3 St James's Road		Dudley		DY1 1HP	01384 453337
Mr	A J	Hadley	Principal Quantity Surveyor	Dudley Metropolitan Borough	3 St James's Road		Dudley		DY1 1HZ	01384 456000
Mr	J E	Maguire	Principal Building Surveyor	South Bedfordshire District Council	The District Offices	High Street North	Dunstable		LU6 1LF	01582 472222
Mr	G P	Oak	Director of Land and Property	Durham County Council	County Hall		Durham		DH1 5UH	0191 3864411
Mr	S P	Britton	Deputy Director	University of Durham Estates & Buildings Department	Hollow Drift	Green Lane	Durham		DH1 3LA	0191 374 2661
Mr	C J	Jones	Principal Quantity Surveyor	Salford City Council	Architectural Services Division	Peel House	Albert Street	Eccles	M30 0LA	0161 788 8282
Mr	G A	Postles	Principal Building Surveyor	Lee Valley Regional Park Authority	Myddelton House	Bulls Cross	Enfield		EN2 9HG	01992 717711
Mr	P J	Gooch	Senior Quantity Surveyor	London Borough of Enfield	Civic Centre	Silver Street	Enfield		EN1 3XB	0181 366 6565
Mr	C W	Wood	Chief Quantity Surveyor	Surrey County Council	Highway House	21 Chessington Road	West Ewell	Epsom	KT17 1TT	0181 541 7310

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
Mr	R H	Lee	Chief Property Services Officer	Devon County Council	County Hall	Topsham Road	Exeter		EX2 4QQ	01392 77977
Mr	D	Wheeler	Technical Officer	The Housing Corporation West	Beaufort House	51 New North Road	Exeter		EX4 4EP	01392 51052
Mr	R	Soar	Head of Quantity Surveying	Hertfordshire County Council	County Hall		Hertford		SG13 8DD	01992 55151
Mr	R H	Paver	Manager, Property Services	BP Oil Uk Ltd	BP House	Breakspears Way		Hemel Hempstead	HP2 4UL	01442 225973
Mr	M J	Fitch	Regional Chief Quantity Surveyor	Sir Robert McAlpine Ltd	Eaton Court	Maylands Avenue			HP2 7TR	01442 233444
Mr	D R	Bridges	Architecture and Cost Control Manager	Havant Borough Council	Civic Offices	Civic Centre Road	Havant		PO9 2AX	01705 446240
Mr	B D	Jones	Director	Thorn EMI Pension Trust Ltd	CRL Building	Dawley Road	Hayes		UB3 1HH	0181 848 0011
Mr	M J	Armstrong	Director	Pubmaster Limited	Greenbank		Hartlep		TS24 7QS	01429 266699
Mr	I R	Gillespie	Principal Quantity Surveyor	Hartlepool Borough Council	Civic Centre		Hartlep		TS24 8AY	01429 266522
Mr	D B	Smith	Assistant Director	Yorkshire RHA Estates - Provision Directorate	Queen Building	Park Parade	Hatfield		HG1 5AH	01423 500066
Mr	P	Biles	Executive	B O C Ltd	The Priestley Centre	10 Priestley Road	Guildford	Surrey	GU2 5XY	01483 579857
Mr	T	Aldridge	Group Property Manager	Municipal Mutual Insurance Ltd	Mount Manor House	16 The Mount		Guildford	GU2 5HN	01483 574049
Mr	J H	Lewis	Estates and Planning Officer	University of Surrey	Surrey University		Guildford		GU2 5XH	01483 39236
Mr	M J	Charity	Principal	South Kesteven	Council Offices	St Peters Hill		Grantham	NG31	01476

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
			Quantity Surveyor	District Council Design Services				m	6PZ	591591
Mr	C D	Lynch	Director	Ladbroke Racing Ltd	Gatcombe House	Brigthouse Court	Barnet Way	Gloucester	GL4 7RT	01452 371418
Mr	IE	Heather	Property Services Manager	Nuclear Electric Plc	Barnett Way	Barnwood	Gloucester		GL4 7RS	01452 653470
Mr	J H	Riley	Regional Quantity Surveyor	Department of the Environment	Sunley Tower	Piccadilly Plaza	Manchester		M1 4BE	0161 832 9111
Mr	A R	Jones	Divisional Property Surveyor	Department of the Environment	West Point	501 Chester Road	Manchester		M16 9HT	0161 876 0482
Mr	D	Coyle	Technical Officer	The Housing Corporation	Elisabeth House	16 St Peter's Square	Manchester		M2 3DF	0161 228 2951
Mr	J	Nicholls	Assistant Director	Manchester City Council	Land and Property Department	4th Floor	Town Hall Extension	Manchester	M60 2AX	0161 234 1200
Mr	E	Jones	Head of Buildings and Estates Services	Manchester Metropolitan University	All Saints Building	Oxford Road	Manchester		M15 6BH	0161 247 1237
Mr	J L	Kemp	Director of Estates	North Western Regional Health Authority	Gateway House	Piccadilly South	Manchester		M60 7LP	0161 236 9456
Mr	A E M	McCabe	Development Manager	St Vincent's Housing Association	Ozanam House	171 Upper Chorlton Road	Whalley Range	Manchester	M16 9RA	0161 881 0256
Mr	N D	Simecock	District Building Officer	Trafford Health Authority	Trafford General Hospital	Moorside Road	Davyholme	Manchester	M31 3FP	0161 748 4022
Mr	S A	Barnard	Project and Development Surveyor	Victoria University Of Manchester	Oxford Road		Manchester		M13 9PL	0161 275 2251

Title	FirstName	LastName	Job Title	Company	Address1	Address2	City	County	Post Code	WorkPhone
Mr	ID	Ditchfield	Property Manager	Independant Order of Odd Fellows Manchester Unity Friendly Society	Odd Fellows House	40 Fountain Street	Manchester		M2 2AB	0161 832 9361
Mr	IB	Perry	Director	Manchester and Housing District Group	Apex House	266 Mosley Road	Levenshulme	Manchester	M19 2LH	0161 224 6281
Mr	MJ	Wallace	Regional Quantity Surveyor	Sir Robert McAlpine Ltd	8 Oxford Court	Bishopgate	Manchester		M2 3WQ	0161 237 5119
Mr	AA	Chambers	Director	P & O Properties Ltd	St James's Court	St James's Building	Oxford Street	Manchester	M1 6EJ	0161 236 4316
Mr	AJ	Cherry	Property Manager	Railtrack Property	Rail House	Store Street	Manchester		M60 7RP	0161 228 5866
Mr	JT	Judge	Senior Assistant Director, Consulting Services	City of Manchester City Architects Department	Town Hall		Manchester		M60 2JT	
Mr	PH	Holland	Practice Manager	City of Manchester Technical and Consultancy Division	Pink Bank Lane	Belle Vue	Manchester		M12 5QN	0161 953 2525
Mr	G	Holder	Buildings Manager	Ryedale District Council	Technical Department	Ryedale House	Malton		YO17 0HH	01653 600666
Mr	S	Vizard	Senior Quantity Surveyor	Malvern Hills District Council	Brunnel House	Portland Road	Malvern		WR14 2TB	01684 892700
Mr	CG	Hillyard	Director of Estates	Southern Derbyshire Health Authority	Estate Services	Boden House	Main Centre	Derby	DE1 2PT	01332 363971
Mr	D	Kitching	Chief Project Manager	Yorkshire RHA - Project Design Services	9 Victoria Avenue		Harrogate		HG1 1DY	

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
Mr	H J	Hockett	Chief Quantity Surveyor	Kent Property Services	Springfield	Maidstone			ME14 2LT	01622 696302
Mr	John C	Williams	Head of Property Services	The Maidstone Borough Council	13 Tonbridge Road	Maidstone			ME16 8HG	01622 602000
Mr	G B	Dodgson	Chief Quantity Surveyor	Macclesfield Borough Council	Housing Department	Town Hall	Macclesfield		SK10 1DR	01625 21955
Mr	M M	Harrison	Chief Building Surveyor	Royal Borough of Windsor Surveyors Department	Town Hall	St Ives Road	Maidenhead		SL6 1RF	01628 33155
Mr	G L	Spademan	Principal Quantity Surveyor	Luton Borough Council Architects Division	Town Hall		Luton		LU1 2BQ	01582 31291
Mr	B M	Hodgson	Assistant Director (Property Management)	Luton Borough Council	Town hall		Luton		LU1 2BQ	01582 31291
Mr	H R	Siegle	Director	Whitbread Property	Oakley House	Leagrave	Luton		LU4 9QH	01582 499499
Mr	G W	Johnston	Technical Services Manager	East Lindsey District Council	Tedder Hall	Manby Park	Louth		LN11 8UP	01507 601111
Mr	N L	Horwill	Principal Housing Surveyor	Arun District Council	Council Offices	Church Street	Littlehampton		BN17 5ER	0190 64 716133
Mr	R F	Pettifor	Principal Quantity Surveyor	London Borough of Hounslow Housing Department	The Civic Centre	Lampton Road	Hounslow		TW3 4DN	0181 570 7728
Mr	A J	Partridge	Divisional Property Manager	Department of the Environment	Terminus House	Terminus Street	Harlow		CM20 1YD	01279 415880
Mr	D H	Evans	Head of Building Maintenance	Surrey County Council	County Hall	Pennyhn Road	Kingston-upon-Thames		KT1 2DW	0181 541 9942

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
Mr	J N	Cutler	Principal Quantity Surveyor	Huntingdonshire District Council	Patlinder House	St Marys Street	Huntingdon		PE18 6TN	01480 56161
Mr	C J	Hilton	Property Services Manager	Borough Council of Kings Lynn and West Norfolk	Kings Court	Chapel Street	Kings Lynn		PE30 1EX	01553 692722
Mr	A K	Birchall	Director	J Parkinson & Sons (Contracting) Ltd	Willow Lane	Lancaster			LA1 5LS	01524 60161
Mr	A	Egerton-Smith	Chief Executive	Letchworth Garden City Corporation	Estate Office	Broadway	Letchworth		SG6 3AB	01462 482424
Mr	M J S	Turner	Property Services Manager	North Hertfordshire District Council	Council Offices	Town Hall		Letchworth	SG6 3PD	01462 686500
Mr	P H	Howard	Chief Quantity Surveyor	Ipswich Borough Council	Civic Centre	Civic Drive	Ipswich		IP1 2EE	01473 262626
Mr	L J	Taylor	Chief Quantity Surveyor	Suffolk County Council	St Edmund House	Rope Walk	Ipswich		IP4 1LZ	01473 230000
Mr	J	Baragwanath	Technical Officer	The Housing Corporation Merseyside	Corn Exchange Building	Fenwick Street	Liverpool		L2 7RD	0151 236 0406
Mr	R S	Wright	Principal Quantity Surveyor	Liverpool City Council Architecture Service	Blackburn Chambers	Dale Street	Liverpool		L69 2JG	0151 236 9231
Mr	L N	Bush	City Building Surveyor	Liverpool City Council	Kingsway House	Hatton Gardens	Liverpool		L3 2AJ	0151 227 3911
Mr	J R	Cryer	Director	Liverpool John Moores University	Assets Management	2 Rodney Street	Liverpool		L3 5UX	0151 231 3544
Mr	R T	Edge	Diocesan Surveyor	Liverpool Roman Catholic Archdiocese	152 Brownlow Hill		Liverpool		L3 5RQ	0151 709 3666
Mr	G E	Wadham	Regional	Mersey Regional	Hamilton House	24 Pall Mall	Liverpool		L3 6AL	0151 236

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
			Quantity Surveyor	Health Authority			ol			4620
Mr	M L	Greenfield	Estates Surveyor	Anglian Water Lincoln Division	PO Box 62	Waterside House	Lincoln		LN2 5HA	01522 25231
Mr	C V	Powell	Director of Property Services	East Sussex County Council	County Hall	St Annes Crescent	Lewes		BN7 1SW	01273 481000
Mr	M H	Keeping	Principal Surveyor	Lewes District Council	Lewes House	High Street	Lewes		BN7 2LX	01273 471600
Mr	P G	Mc Dermott	Director	A M Tomlinson Builders Ltd	Farington Sawmills		Leyland	Preston	PR5 2RA	01772 421606
Mr	R L	Palni	Property Services Controller	Central Midlands Co-operative Society Limited	Central House	Hermes Road	Lichfield		WS13 6RH	01543 414140
Mr	A	Shoukri	Technical Officer	The Housing Corporation East Midlands	Attenborough House	109/119 Charles Street	Leicester		LE1 1FQ	0116 2623600
Mr	A J	Carter	Assistant Head of Property Management	Leicester City Council	New Walk Centre	Welford Place	Leicester		LE1 6ZG	0116 2526703
Mr	P A C	Smith	Director of Property	Leicestershire County Council	County Hall		Glenfield	Leicester	LE3 8RE	0116 2323232
Mr	C H	Brackenbury	Deputy Director of Estate Partner	Leicestershire Health Authority	McLevy House	Carlton Hayes Hospital	Narborough	Leicester	LE9 5ES	0116 2750133
Mr	C W	Gladman		Alliance and Leicester Building Society Group Property Services	Cadby Administration	Glen Road	Cadby	Leicester	LE2 4PF	0116 2717272
Mr	M J	Wallace	Regional Quantity Surveyor	Sir Robert Mc Alpine Ltd	St George House	6 St Georges Way	Leicester		LE1 9GB	0116 2554223
Mr	B P	Kirkham	Chief Quantity Surveyor	Kirklees Metropolitan	The Design Practice	Kirkgate Buildings	Huddersfield		HD1 1BY	01484 422133

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
				Council						
Mr	P A	Wharton	Property Services Manager	The East Yorkshire Borough of Beverley	Anlaby House		Anlaby	Hull	HU10 7BJ	01482 672246
Mr	R W	Bates	Chief Quantity Surveyor	Kingston upon Hull City Council	The Guildhall	Alfred Gelder Street	Hull		HU1 2AA	01482 593007
Mr	J	Pike	Property Manager	British Telecom Group Property	St Martins House	Briannia Street	Leeds		LS1 2EA	0113 2466301
Mr	M D	Joyce	Regional Quantity Surveyor	Sir Robert Mc Alpine Ltd	Belmont House	20 Wood Lane	Headingley	Leeds	LS6 2AE	0113 2304806
Mr	P	Spencer	Principal Estates Surveyor - North East	British Waterways Board	Wellington Park House	Thrisk Row	Leeds		LS1 4DD	0113 2436741
Mr	C J	Meyrick	Regional Quantity Surveyor	Department of the Environment	Yorkshire and Humberside Regional Office	City House	New Station Street		LS1 4JD	0113 2438232
Mr	D	Ward	Technical Officer	The Housing Corporation North East	St Paul's House	23 Park Square South	Leeds		LS1 2ND	0113 2469601
Mr	C	Walls	Principal Quantity Surveyor	Leeds City Council Department of Education	Further Education (Community)	Sweet Street Annexe	Leeds		LS11 9DD	0113 2478842
Mr	E D	Ladds	Chief Quantity Surveyor	Leeds City Council	Selectapost 26	Merrion House	110 Merrion Centre	Leeds	LS2 8QA	0113 2463755
Mr	J M	Dent	Senior Assistant Director (Property Services)	Leeds City Council	Selectapost 20	Headrow Buildings	44 The Headrow	Leeds	LS1 8EA	0113 2463000
Mr	G T	Boswell	Assistant Director of	The University of Liverpool	PO Box 147		Liverpool		L69 3BX	0151 794 2183

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
			Estates							
Mr	A R	Wormald	Deputy Director of Property Services	Cleveland County Council Property Services Dept.	PO Box 43	Teeside House	108a Borough Road	Middles borough	TS1 2HG	01642 248155
Mr	J G	Price	Chief Surveyor	Abbey National Plc	Abbey House	201 Grafton Gate East	Milton Keynes		MK9 1AN	01908 343000
Mr	N	Purdie	Director of Estates	University of Northumbria at Newcastle	Ellison Building	Ellison Place	Newcastle-le-upon-Tyne		NE1 8ST	0191 227 4070
Mr	C A	Faine	Director	Abbeygate Developments Ltd	Blackfriars House	379 South Row	Wigan Gate East	Central Milton Keynes	MK9 2PN	01908 230911
Mr	B E	Beton	Director of Estates	Estates Division, The Open University	Walton Hall	Milton Keynes			MK7 6AA	01908 653210
Mr	S D	Costello	Assistant Director	London Borough of Merton Development	Crown House	London Road	Morden		SM4 5DX	0181 543 2222
Mr	D J	Norman	Senior Quantity Surveyor	Mid Suffolk District Council	Council Offices	131 High Street	Needham Market		IP6 8DL	01449 720711
Mr	R P H	McFerran	Director	Thoresby Estates Management Ltd	The Estate Office	Thoresby Park	Newark		NG22 9EF	01623 822301
Mr	R N	Mullineux	Assistant Quantity Surveyor	Newcastle-under-Lyme Borough Council	Civic Offices	Merial Street	Newcastle-under-Lyme		ST5 2AG	01782 717717
Mr	M J	Foley	City Estate & Property Surveyor	City of Newcastle-upon-Tyne	Civic Centre	Newcastle-upon-Tyne			NE1 8PP	0191 232 8520 (x 5500)
Mr	M W	McHale	Chief Quantity Surveyor	Newcastle City Architects	2-10 Archbold Terrace	Newcastle-upon-Tyne			NE2 1BZ	0191 232 8520

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
Mr	R J	Allport	Capital Programme Manager	Northern Regional Health Authority	Benfield Road	Walker Gate	Newcastle upon-Tyne		NE6 4PY	0191 265 4188
Mr	A J	Flower	Property Services Manager	Isle of Wight County Council	County Hall	Newport			PO30 1UD	01983 821000
Mr	J	Hollingsworth	Manager, Building Design Agency	Metropolitan Borough of North Tyneside	Building Design Agency	14 Northumberland Square	North Shields		NE30 1PZ	0191 257 5544
Mr	D A	Roxburgh	Assistant Director	North Yorkshire County Council	Department of Property Services	County Hall	Northallerton		DL7 8DG	01609 3123
Mr	D I	Wilson	Head of Property & Promotional Services	Northampton Borough Council	Property & Promotional Services	The Guildhall	St Giles Square	Northampton	NN1 7DA	
Mr	A J	Schrier	Director of Land & Buildings	Northamptonshire County Council	Department of Land & Buildings	PO Box 128, County Hall	Guildhall Road	Northampton	NN1 1AS	01604 236950
Mr	N J	Price	Chief Estates Manager	Norwich Union Investment Management	Sentinel House	PO Box 432	37 Surrey Street	Norwich	NR1 3PW	01603 622200
Mr	P R	King	Director	Property Partnerships Plc	Noverre House	Theatre Street	Norwich		NR2 1RH	01603 761260
Mr	L J	Cooper	Head of Building Maintenance	Norfolk County Council	County Hall	Martineau Lane	Norwich		NR1 2DH	01603 222222
Mr	L D	Goode	Chief Quantity Surveyor	Norwich City Council	Planning & Architectural Services Department	City Hall	Norwich	Norfolk	NR2 1NH	01603 622233
Mr	A C	Edwards	Director	Boots Properties Plc	Hargreaves House	Wollaton Street	Nottingham		NG1 5FJ	0115 9506111
Mr	B M	Hardisty	Regional Quantity Surveyor	Department of the Environment	East Midlands Regional Office	Cranbrook House	Cranbrook Street	Nottingham	NG1 1EY	0115 9476121
Mr	D W	Hoar	Quantity	Nottinghamshire	Architectural	County Hall	West	Nottingham	NG2	0115 982

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
			Surveying & Client Services Practice Manager	County Council	Services Department of Construction & Design		Bridgford	ham	7QP	3823
Mr	M F	Gilbert	Assistant Director, Property	Nottingham City Council	Design & Property Services Department	Lawrice House	Clarendon Street	Nottingham	NG1 5NT	0115 9483500
Mr	P F	Martin	Quantity Surveyor	Severn Trent Water Authority	Lower Trent Division	Mapperley Hall	Lucknow Avenue	Mapperley	Nottingham NG3 5BN	0115 9608101
Mr	H	Tansley	Minor Works Officer	University of Nottingham	Estate Office	University Park	Nottingham		NG7 2RD	
Mr	J M	Robinson	Assistant Director, Property Services	Economic Development Department	Oldham Metropolitan Borough Council	PO Box 32	Civic Centre, West Street	Oldham	OL1 1UT	0161 911 4525
Mr	B N	Crowley	Property Development Manager	Anglia & Oxford Regional Health Authority Estates Department	Old Road	Headington	Oxford		OX3 7LF	01865 742277
Mr	N A	Monaghan	Chief Property Manager	Oxfordshire County Council	Department of Planning & Property Services	County Hall	New Road	Oxford	OX1 1SD	01865 722422
Mr	C D	Ellmore	Head of Tenancy Services	Oxford City Council Housing Department	St Aldates Chambers	St Aldates	Oxford		OX1 1DF	01865 249811
Mr	J M	Arnold	Director of Property & Technical Services	Oxford City Council	Property & Technical Services	Town hall	St Aldates	Oxford	OX1 1BX	01865 249811
Mr	D G	Foote	Estates Surveyor	Oxford Regional	Estates & Building	Old Road	Headington	Oxford	OX3	01865 64861

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
				Health Authority Regional Architects Division	Control Section		ton		7LF	
Mr	D A	Stuart	Deputy Surveyor	Oxford University Surveyors Office	The Malthouse	Tidmarsh Lane	Oxford		OX1 1NQ	01865 278750
Mr	D J	Dent	Regional Estates Surveyor	National Rivers Authority Anglian Region	Kingfisher House	Goldhay Way	Orton Goldhay	Peterbor ough	PE2 5ZR	01733 371811
Mr	D J H	Walton	Assistant Head of Building Services	Peterborough City Council	Town Hall	Bridge Street	Peterbor ough		PE1 1HG	01733 317344
Mr	S J	Olivant	Head of Development Services	East Hampshire District Council	Council Offices	Penns Place	Petersfi eld		GU31 4EX	01730 66551
Mr	P J	Finnegan	Practice Manager	Devon County Council	Civic Centre	Royal Parade	Plymout h		PL1 2EW	01752 264619
Dr	P	Turvey	Head of Land & Property Management	Plymouth City Council Land & Property Management	Civic Centre	Royal Parade	Plymout h		PL1 2EW	01752 668000
Mr	P	McIlven	Principal Building Surveyor (Projects)	University of Plymouth	Drake Circul	Plymouth			PL4 8AA	01752 221312
Mr	P	Burnford	Director	The Burton Group Plc	Group Maintenance	21-23 High Street	Portishe ad		BS20 9AB	01275 842141
Mr	J A	Milton	Head of Economic Development and Property Services	Borough of Poole	Civic Centre	Poole			BH15 2RU	01202 633064
Mr	C	Pratt	Senior Building	Building	Branel House	42 The Hard	Portsmo		PO1	01705

Title	First Name	Last Name	Job Title	Company	Address1	Address2	City	County	Post Code	WorkPhone
			Surveyor	Management South East Portsmouth Office			uth		3DS	822341
Mr	R A	Arney		Portsmouth Healthcare NHS Trust	Estates Department	Locksway Road	Milton	Portsmouth	PO4 8LD	01705 822331
Mr	D R	Eastwood	Chief Quantity Surveyor	Portsmouth City Council Design Services	Civic Offices	Guildhall Square	Portsmouth		PO1 2AT	01705 822251
Mr	A	Cutley	Area Housing Manager	Portsmouth City Council Housing Service	221 Allaway Avenue	Paulsgrove	Portsmouth		PO6 4HQ	01705 210880
Mr	J W	Henderson	Property Services Officer	Wyre Borough Council	Civic Centre	Breck Road	Poulton-le-Fylde		FY6 7PU	01253 891000
Mr	J T	Raven	Group Manager	Lancashire County Property Consultancy	County Hall	Preston			PR1 8RE	01772 254868
Mr	C D	Carefoot	Director	Walter Carefoot & Sons Ltd	Blackpool Road	Off Derby Road	Longridge	Preston	PR3 3AL	0177 278 3711
Mr	J R	Burrow	Director	Conlon Construction Ltd	Charnley Fold Lane	Bamber Bridge	Preston	PR5 6BE		01772 35268
Mr	P G	Forrest	Director	Eric Wright Construction Ltd	506 Walton Summit Centre	Bamber Bridge	Preston		PR5 8AY	01772 34961
Mr	J F	Carter	Director	Maple Grove Developments Ltd	506 Walton Summit Centre	Bamber Bridge	Preston		PR5 8AY	01772 322144
Mr	R	Wigglesworth	Building Surveyor	Fylde Borough Council	Architects Division	Public Offices	Derby Road	Westham	Preston, PR4 3AJ	
Mr	F E	Hart	Client Services Manager	Lancashire County Council	Department of Property Services	County Hall	Preston		PR1 8RE	01772 254868
Mr	S E	Ward	Principal Quantity Surveyor	Mansfield District Council	Civic Centre	Chesterfield Road South	Mansfield		NG19 7BH	01623 656656

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
Mr	E M	White	Chief Valuer	Bank of Ireland Mortgages	Plaza West	Bridge Street	Reading		RG1 2LZ	01734 393393
Mr	J	Adams	Development Manager	Berkshire County Council	Shire Hall	Shinfield Park	Reading		RG2 9XA	01734 875444
Mr	C J	Taylor	Director	Claude Fenton (Construction) Ltd	Rose Kiln Lane	Reading			RG2 0HR	01734 884211
Mr	A S	Smith	Principal Estates Surveyor	International Computers Ltd	Kings House	33 Kings Road	Reading		RG1 3PX	01734 586211
Mr	H	Jow		Thames Water Utilities	Gainsborough House	Manor Farm Road	Reading		RG2 0JN	01734 237534
Mr	P D	Bleasdale	Director of Technical Services	Metropolitan Borough of Rochdale	Technical Services Department	St Albans House	Drake Street	Rochdale	OL16 1UZ	01706 452522 (x 3207)
Mr	A G	Powell	Head of Land & Property Services	London Borough of Havering	Mercury House	Mercury Gardens	Romford		RM1 3RX	01708 772568
Mr	G H	Stilgoe	Chief Quantity Surveyor & Support Services Manager	London Borough of Havering	Technical Offices	Spisbury Road	Romford		RM3 8LU	01708 746040 (x 2410)
Mr	J S	Martin	Manager, Land & Property Unit	Rotherham Metropolitan Borough Council	Estates Division	Ground Floor	Crinoline House	Effingham Square	Rotherham S65 1DB	01709 382121
Mr	I H	Russell	Deputy Director	Metropolitan Borough of Rotherham	Department of Architecture	Norfolk House	Walker Place	Rotherham	S65 1AN	01709 382121
Mr	D C	Richardson	Assistant Area Building Officer	Rotherham Area Health Authority Area Works Dept.	220 Badsley Moor Lane	Rotherham			S65 2QU	01709 62222
Mr	R C	Barker	Head of Housing & Building Services	Uttlesford District Council	Council Offices	London Road	Safron Walden		CB11 4ER	01799 510510
Mr	R D	Trahair	Property	Salisbury Diocesan	Church House	Crane Street	Salisbury		SP1	01722

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
			Secretary	Property Department			y		2QB	411933
Mr	SD	Turner	Senior Building Surveyor	Humberside County Council	County Design Consultancy	1 Cliff Gardens	Scunthorpe		DN15 7PH	
Mr	GB	Ibbeson	Director of Estate Management	Sheffield Health Authority	Westbrook House	Sharrowvale Road	Sheffield		S11 8EU	0114 267 0333
Mr	E W	Liddell	Regional Estates Manager	Trent Regional Health Authority	Fulwood House	Old Fulwood Road	Sheffield		S10 3TH	0114 2630300
Mr	JP	Brennan	Group Manager	Sheffield City Development Agency	2nd Floor	Barkers Pool House	Burgess Street	Sheffield	S1 2HF	0114 273 4511
Mr	IM	Hepworth	Assistant Chief Quantity Surveyor	Sheffield City Council Design & Building Services	2-10 Carbrook Hall Road	Sheffield			S9 2DB	0114 2736225
Mr	D G	Pannell	Head of Building & Surveying Services	Adur District Council Housing & Environmental Services Dept.	Civic Centre	Ham Road	Shoreham-by-Sea		BN43 6PR	01273 455566
Mr	DR	Pagett	Director of Environment	Shropshire County Council	Environment Department	The Shirehall	Shrewsbury		SY2 6ND	01743 252313
Mr	G J	Watts	Head of Property Services	London Borough of Bexley	Directorate of Development Services Valuation & Estates Dept.	Manor House	The Green,	Sidcup	DA14 6BW	0181 303 7777
Mr	R	Say	Section Quantity Surveyor	London Borough of Bexley	Directorate of Engineering & Surveying	Sidcup Place	Sidcup	Kent	DA14 6BT	0181 303 7777
Mr	IM	Richardson	Chief Quantity Surveyor	North Kesteven District Council	Technical Services Department	PO Box 3, District Council Offices	Kesteven Street	Shearford	NG34 7EF	01529 302792
Mr	SM	Bailey	Director of Subsidiary	Slough Estates Plc	234 Bath Road	Slough			SL1 4EE	01753 537171

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
			Companies							
Mr	C J	Poplam	Principal Assistant Surveyor	South Buckinghamshire District Council	Council Offices	Windsor Road	Slough		SL1 2HN	01753 533333
Mr	S G	Mirfin	Principal Quantity Surveyor	Department of Technical Services	Solihull Metropolitan Borough Council	Council House	Solihull		B91 3QT	0121 704 6469
Mr	P E	Humphries	Property Services Manager	South Tyneside Metropolitan Borough Council	Town Hall	South Shields			NE33 2RL	0191 427 1717
Mr	J	Sears	Head of Property Services	Southampton City Council	Property Services Division	Civic Centre	Southampton		SO9 4XN	01703 23855
Mr	P M	Davis	Buildings Manager	University of Southampton	Estates & Buildings Department	Highfield	Southampton		SO17 1BJ	01703 594012
Mr	G D	Swan	Borough Surveyor	Southend-on-Sea Borough Council	Civic Centre	Victoria Avenue	Southend-on-Sea		SS2 6ER	01702 355000
Mr	M L	Burrill	Estates Consultancy Manager	Metropolitan Borough of Salford	Technical Services Department	2nd Floor Crown Building	9 Eastbank Street	Southport	PR8 1DL	01704 533133
Mr	R A	Scougall	Property Services Officer	Sedgefield District Council	Green Lane	Spenyrmoor			DL16 6JQ	01388 816166
Mr	J A	Holt	Director	St Michaels Estates Ltd	Kingsbury Manor	St Michaels	St Albans		AL3 4SE	01727 833464
Mr	A	Wearmouth	Valuer & Estates Surveyor	City & District Council of St Albans	Civic Centre	St Peter's Street	St Albans		AL1 3JE	01727 866100
Mr	J P	Dunn	Chief Quantity Surveyor	Restormel Borough Council	39 Penwinnick Road	St Austell			PL25 5DR	01726 74466
Mr	J M	Beaton	Assistant Director - Building Design	Metropolitan Borough of St Helens	Environmental & Design Services Department	Wesley House	Corporation Street	St Helens	WA10 1HF	01744 24061

Title	First Name	Last Name	Job Title	Company	Address1	Address2	City	County	Post Code	WorkPhone
Mr	A H	Menzies	Quantity Surveyor	Property Services Agency Building Management South East	Gundolphus House	87/89 London Road	St Leonard s-on-Sea		TN37 6LW	01424 455006
Mr	J P	Flynn	Principal Development Surveyor	Staffordshire County Council	Planning & Economic Development Department	Shire Hall	Market Street	Stafford	ST16 2LQ	01785 223121
Mr	C J	Dewar	Director	Courage Ltd	Ashby House	Bridge Street	Staines		TW18 4TP	01784 466199
Mr	C R	Beever	Estates Manager & Valuer	Department of Technical Services	Stevenage Borough Council	Daneshill House	Daneshill Street	Stevenage	SG1 1HN	01438 356177
Mr	J A	Speakman	Director	London Stansted Airport	Stansted Airport Ltd	Enterprise House	Stansted Airport		CM24 1QW	01279 680500
Mr	D K	Barber	Surveying Services Manager	Metropolitan Borough of Stockport	Technical Services Division, Property Services	Greenhale House	Piccadilly	Stockport	SK1 3DY	0161 474 3589
Mr	P	Glover	Development Director	North Cheshire Housing Association	130 Mile End Lane	Stockport			SK2 6BY	
Mr	W D	Shaw	Principal Quantity Surveyor	City of Stoke-on-Trent	Department of Planning & Architecture	PO Box 633	Civic Centre, Glebe Street	Stoke-on-Trent	ST4 1RH	01782 404242
Mr	D	Weston	Assistant Director Property & Facilities Management	Stoke-on-Trent City Council	Department of Legal, Property & Administrative Services	PO Box 631, 4th Floor, Civic Centre	Glebe Street	Stoke-on-Trent	ST4 1RG	01782 744241
Mr	J	Toal	Principal Quantity Surveyor	Metropolitan Borough Council of Trafford Department of	PO Box 12	Trafford Town Hall	Talbot Road	Stretford	M32 0YX	0161 872 2101 (x 4352)

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
				Land & Property						
Mr	J W	Kirby	Director	Amec Design & Management Ltd	Timothys Bridge Road	Stratford-upon-Avon			CV37 9NJ	01789 204288
Mr	R C	Turner	Property Data & Maintenance Manager	Trafford Borough Council	Department of Land & Property	Trafford Town Hall	Talbot Road	Stretford	M32 0YY	0161 872 2101
Mr	C R	Marshall	Head of Building Design	Newark & Sherwood District Council	Kelham Hall		Newark		NG23 5QX	01636 705111
Mr	K G	Little	Group Quantity Surveyor	Borough of Sunderland	Town Hall & Civic Centre	Sunderland			SR2 7DN	01783 76161
Mr	R D	Lynch	Building Surveyor	Biotechnology & Biological Sciences Research Council	Polaris House	North Star Avenue	Swindon		SN2 1UH	01793 413200
Mr	CP F	Bennett	Property Manager & Valuer	Thamesdown Borough Council	Civic Offices	Euclid Street	Swindon		SN1 2JH	01793 526161
Mr	S W	Drysdale	Director of Property Services	Somerset County Council Property Services	County Hall	Taunton			TA1 4DY	01823 333451
Mr	C J	Mackrell	Director West Midlands	Commission for New Towns	Jordan House	Hall Court	Hall Park Way	Telford	TF3 4NN	01952 293131
Mr	P M	Semple	Head of Land & Property	District of the Wrekin Council	Land & Property Unit	PO Box 213	Civic Offices	Telford	TF3 4LD	
Mr	S E	Morris	Group Quantity Surveyor	District of the Wrekin	Council Planning & Environmental Services Department	PO Box 212	Mainstreet House	Telford	TR3 4LB	01952 2537
Mr	J A	Clark	Principal Quantity Surveyor	South Hams District Council	Follaton House	Plymouth Road	Tolnes		TQ9 5NE	01803 864499 (x 343)

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
Mr	R J	Lander	Director of Property Services	Wiltshire County Council Property Services	County Hall	Trowbridge			BA14 8JA	01225 713201
Mr	S J	Hicks	Group Quantity Surveyor	Cornwall County Council Department	County Architects Department	County Hall	Truro		TR1 3AX	01872 74282
Mr	C G H	Young	Divisional Property Manager	Department of the Environment Property Holdings Thames South	Coach & Horses Passage	Lower Panliles	Tunbridge Wells		TN2 5UA	01892 546667
Mr	K C	Arnold	Head of Contracts and Property Team	London Borough of Hillingdon Contracts & Property Team	Civic Centre	High Street	Uxbridge		UB8 1UW	
Mr	R P	Pie	Principal Quantity Surveyor	Turnbridge Wells Borough Council	Quantity Surveying Services	Town Hall	Tunbridge Wells		TN1 1RS	01892 526121
Mr	M D	Oakley	General Manager	London Borough of Hillingdon Property Services	Civic Centre	Room A432	High Street	Uxbridge	UB8 1UW	01895 250111
Mr	D M	Norton	Senior Assistant Director	Department of Property Services	Metropolitan Borough of Wirral	Municipal Offices	Brighthelm Street	Wallasey	L44 8ED	0151 638 7070
Mr	R P L	Barrington	Assistant Director - Property Management	Wirral Borough Council	Department of Property Services	South Annexe	Brighthelm Street	Wallasey	L44 8ED	0151 691 8408
Mr	A B	Skillman	Principal Quantity Surveyor	South Oxfordshire District Council	PO Box 131	Council Offices	Cromwell	Wallingford	OX10 8DB	01491 835351
Mr	M T	Adey	Building Surveyor	Walsall Community Health Trust	Leckie House	57 Lichfield Street	Walsall		WS4 2BX	01922 721007

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
Mr	T	Gibson	Assistant Director of Technical Services	Warrington Borough Council	Technical Services Directorate	Palmyra House	Palmyra Square North	Warrington	WA1 1JN	01925 444400
Mr	M V	Anderson	Partner	Commission for the New Towns	PO Box 49	New Town House	Buttermarket Street	Warrington	WA1 2LF	01925 51144
Mr	J	Storey	Senior Property Manager	The Greenalls Group Plc	Wilderspool House	Greenalls Avenue	Warrington	Warrington	WA4 6RH	01925 651234
Mr	R L R	Pyle	Director	NWW Properties	Chadwick House	Warrington Road	Risley	Warrington	WA3 6AE	01925 857472
Mr	P H	Ridley	Director of Property Services	Warwickshire County Council	Property Services Department	PO Box 46	Shire Hall	Warwick	CV34 4RP	01926 412037
Mr	D R	Fisher	Property & Development Manager - Central	British Waterways	Willow Grange	Church Road	Watford		WD1 3QA	01923 201312
Mr	R H	Entwistle	Director of Development & Estates	Borough Council of Wellingborough	Croyland Hall	Burstead Place	Wellingborough		NN8 1AH	01933 229777
Mr	A R	Hall	Director	Moat Management Services	53 Old Woking Road	West Byfleet			KT14 6LF	01932 340371
Mr	J I	Barrett	Director	Tainbrook Contractors	Central House	Lyng Lane	West Bromwich		B70 7RW	0121 580 1526
Mr	G E	Morris	Chief Surveyor	West Bromwich Building Society	374 High Street	West Bromwich			B70 8LR	0121 525 7070
Mr	I T	Clarkson	Building Consultancy Manager	Sandwell Metropolitan Borough Council	Technical Services Department	Wigmore Buildings	Pennyhi ll Lane	West Bromwich	B71 3RZ	0121 569 4699
Mr	K G	Abram	Chief Property Manager	Woodspring District Council	Town Hall	Weston-super-Mare			BS23 1UJ	01934 31701

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
Mr	A J	Hodkinson	Director of Development Services	Vale Royal Borough Council	Planning Department	Wyvern House	The Drumbert	Windsford	CW7 1AH	01606 862862
Mr	A J D	Phillips	Director	Beazer Homes (East) Ltd	10 Collingwood Road	Witham			CM8 2EA	01376 518811
Mr	B B	Jervis	Group Manager	Wolverhampton Metropolitan Borough Council	Department of Technical Services	Property Services Division, Civic Centre	St Peter's Square	Wolverhampton	WV1 1RW	01902 27811 (x2501)
Mr	M J	Kent	Director	Bromford Carinthia Housing Association Ltd	9 Shaw Park Business Village	Shaw Road	Bushbury	Wolverhampton	WV10 9LE	01902 773618
Mr	C M	Brand	Estates Manager	Tarmac Construction Ltd	Construction House	Birch Street	Wolverhampton		WV1 4HY	01902 22431
Mr	D I	Clewley		Wolverhampton & Dudley Breweries Plc	Park Brewery	Bath Road	Wolverhampton		WV1 4NY	01902 711811
Mr	P	Rendle	Area Manager	The Housing Corporation West Midlands	Norwich Union House	Waterloo Road	Wolverhampton		WV1 4BP	01902 24654
Mr	R G	Marling	Chief Surveyor	City of Worcester Department of Technical Services	Orchard House	Farrier Street	Worcester		WR1 3BB	01905 722515
Mr	C S	Birks	Chief Building Surveyor	Hereford & Worcester County Council	County Property Department	County Hall	Speckley Road	Worcester	WR5 2NP	01905 763763
Mr	D T	Hope	Senior Building Surveyor	Hereford & Worcester County Council	Technical Services Department	PO Box 73	227 London Road	Worcester	WR5 2YA	01905 768358
Mr	V H	Swanwick	Principal Quantity Surveyor	Worthing Borough Council	Portland House	Richmond Road	Worthing		BN11 1HS	01903 239999 (x317)

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
Mr	D J	Scott	Director	Coppergate Properties Ltd	98 Tadcaster Road	Dringhouses	York		YO2 2LT	01904 706467
Mr	M F	Hudson		City of York Directorate of Development Services	9 St Leonard's Place	York			YO1 2ET	01904 613161
Mr	D C	Reynolds	Director of Property	Grampian Regional Council Property Department	Woodhill House	Westburn Road	Aberdeen		AB9 2LU	01224 682222
Mr	D M	Gordon	Chief QS	Aberdeen City District Council City Architects Division	St Nicholas House	Broad Street	Aberdeen		AB9 1GY	01224 642121
Mr	J G	Hood	Divisional Quantity Surveyor	Scottish Health Service	Common Services Agency Building Division	3-5 Albyn Place	Aberdeen		AB9 1RE	01224 589901
Mr	R	Robertson	Director of Estates	Grampian Healthcare NHS Trust	Westholme	Woodend Hospital	Edy Road	Aberdeen	AB2 6LR	01224 663131
Mr	H J	Wight	Estates Director	University of Aberdeen	University Office	Regent Walk	Aberdeen		AB9 1FX	01224 272060
Mr	J A	Farquhar	Principal Officer Construction & Related Services	Banff & Buchan District Council	Department of Housing & Technical Services	Town House	Low Street	Banff	AB45 1AY	01261 812521
Mr	J S	McLuggage	Divisional Manager	Strathclyde Regional Council Department of Architectural & Related Services	Regional Offices	Wellington Square	Ayr		KA7 IDR	01292 612430
Mr	J	Burns	District Quantity Surveyor	Monklands District Council	Department of Technical Services, Quantity Surveying	124 Main Street	Coatbridge		ML5 3BT	01236 441200 (x 392)

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
					Section					
Mr	W G	Anderson	Chief Technical Officer	North East Fife District Council	Technical Advice Unit	Department of Corporate Services	County Building ^{gs}	Cupar	KY15 4TA	01334 653722 (x 311)
Mr	J A	Mackenzie	Senior Quantity Surveyor	Ross & Cromarty District Council	Architectural Services	Council Offices	Dingwall		IV15 9QN	01349 63381
Mr	J	Malcolm	Principal Surveyor	Department of Agriculture & Fisheries for Scotland	161 Brooms Road	Dunfries			DG1 3ES	01387 55292
Mr	J T P	Porter	Chief Quantity Surveyor	City of Dundee District Council	21 City Square	Dundee			DD1 3BS	01382 23141
Mr	C J	McNicoll	Development Manager - Tayside District	Scottish Homes	Tayside & Fife District	Nethergate Centre	Dundee		DD1 4BU	01382 202211
Mr	J A	Jenkins	Director	Tayside Regional Council	Property Department	Tayside House	28 Crichton Street	Dundee	DD1 3RQ	01382 23281
Mr	I T	Townsend	Director	Bett Properties Ltd	9 Cox Street	Dundee			DD3 9HA	01382 84191
Mr	T A I	Martin	Director	George Martin (Builders) Ltd	5-9 Fairfield Road	Dundee			DD3 8HR	01382 815415
Mr	J K	Mather	Principal Quantity Surveyor	Dunfermline District Council	Department of Property Services - Quantity Surveyors	6 Abbot Street	Dunfermline		KY12 6NW	01383 620640
Mr	D	Lawson	Surveyor	British Telecom Group Property	BT Plc	Telephone House	357 Gorgie Road	Edinburgh	EH11 2RP	0131 345 3050
Mr	J E	Irvine	Director - Grosvenor Developments	Grosvenor Estate Holdings	22 Alva Street	Edinburgh			EH2 4PY	0131 225 5775
Mr	D M	Scobie	Director	Hanover (Scotland)	36 Albany Street	Edinburgh			EH1	0131 557

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
				Housing Assoc. Ltd					3QH	0598
Mr	I	Whiteford	Director	Scottish Life Assurance Company	19 St Andrew Square	Edinburgh			EH2 1YE	0131 225 2211
Mr	D	Bradon	Director	Lothian Regional Council	Department of Property Services	7/9 North St David Street	Edinburgh		EH2 1AA	0131 556 9242
Mr	B	Lumsden	Deputy Director of Housing - Development	City of Edinburgh District Council	Housing Department	23/25 Waterloo Place	Edinburgh		EH1 3BH	0131 225 2424
Mr	K	Mackinnon	Principal Quantity Surveyor	City of Edinburgh District Council	Department of Property Services	329 High Street	Edinburgh		EH1 1PN	0131 225 2424
Mr	P R	Stewart	Divisional Property Manager	Department of the Environment Property Holdings Scotland	28 Thistle Street	Edinburgh			EH2 1EN	0131 226 7800
Mr	G N	Sutherland	Assistant Director	Lothian Regional Council Architectural Services	154 McDonald Road	Edinburgh			EH7 4NN	0131 556 9242
Mr	A J	Wyllie	Deputy Director of Building, Building Procurement Division	Scottish Office Environment Department	Building Directorate	New St Andrew's House	Edinburgh		EH1 3SZ	0131 556 8400
Mr	H R	McCallum	Head of Estates	Scottish Office National Health Service in Scotland	Management Executive - Estates Division	St Andrew's House	Edinburgh		EH1 3DG	0131 244 2079
Mr	C P	Easton	Principal QS	Scottish Prison Service Estates & Buildings Division	Calton House	Edinburgh			EH12 9HW	0131 556 8400
Mr	J S	Tweddie	Principal	Moray District	Department of	High Street	Elgin		IV30	01343

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
			Quantity Surveyor	Council	Housing & Property Services				IBX	543451
Mr	F M	Reid	Director	The Robertson Construction Group	Head Office	10 Perimeter Road	Pinefield Industrial Estate	Elgin	IV30 3AJ	01343 548621
Mr	D H	Ross	Deputy Director	Falkirk District Council	Department of Development Services	Property Division Municipal Buildings	West Bridge Street	Falkirk	FK1 5RS	01324 24911
Mr	A S	Macdonald	Chief Quantity Surveyor	Falkirk District Council Department of Development Services	Quantity Surveying Division	Municipal Buildings	West Bridge Street	Falkirk	FK1 5RS	01324 24911
Mr	S M	Fergusson	District Quantity Surveyor	Angus District Council	County Buildings	Forfar			DD8 3LG	01307 465101
Mr	I A	Paterson	Estate Manager, Corporate	Scottish Power Plc	75 Waterloo Street	Glasgow			G2 7BD	0141 221 3345
Mr	I G	Donaldson	Technical Manager - Glasgow North & East District	Scottish Homes (Glasgow Region)	Highlander House	58 Waterloo Street	Glasgow		G2 7DA	0141 226 4611
Mr	C A	Macpherson	Chief Quantity Surveyor	Strathclyde Regional Council	Department of Architectural & Related Services	Professional Services	Merlin House, Mossland Road	Hillingdon, Glasgow	G52 4YQ	0141 842 5353
Mr	A	Macdonald	Chief Quantity Surveyor - North	City of Glasgow District Council	Department of Architecture & Related Services	20 Trongate	Glasgow		G1 5EY	0141 227 5229
Mr	R S	Bell	District Quantity surveyor	Strathkelvin District Council	Directorate of Housing Services	PO Box 4, Tom Johnson House	Civic Way,	Glasgow	G66 4TJ	0141 776 7171

Title	First Name	Last Name	Job Title	Company	Address 1	Address 2	City	County	Post Code	Work Phone
							Kirkcaldy Illochs			
Mr	J A F	McCombie	Director	Glenrothes Development Corporation	Balgownie Road	Markingch	Glenrothes		KY7 6AH	01592 754343
Mr	W	Cameron	Assistant Director of Architectural Services Quantity Surveying	Fife Regional Council	Department of Architectural Services	Fife House	North Street	Glenrothes	KY7 5LT	01592 754411
Mr	R H	Hannah	Director Contract Services Group	East Lothian District Council	Council Buildings	Haddington			EH41 3HA	0162 082 4161
Mr	I K	Taylor	Senior Principal Quantity Surveyor	Department of Planning & Technical Service	Inverclyde District Council	Cathcart House	6 Cathcart Square	Greenock	PA15 1LS	01475 24400 (x 2448)
Mr	A G	Stodart	Head of Technical Services	Hamilton District Council	123 Cadzow Street	Hamilton			ML3 6JA	01698 282323
Mr	D C	Sutherland	Principal Surveyor	Department of Agriculture & Fisheries for Scotland	28 Longman Road	Longman East	Inverness		IV1 1SF	01463 234141
Mr	D	Duncan	Chief Quantity Surveyor/Coordinator	Irvine Development Corporation	Perceiton House		Irvine		KA11 2AL	01294 214100
Mr	J B	Blyth	Chief Technical Services Officer	Kirkcaldy District Council	Forth House		Kirkcaldy		KY1 IRU	01592 261144
Mr	R	Leask	Section Leader, Architectural Services Division	Shetland Islands Council	Design & Technical Services Department	Hayfield House	Hayfield Lane	Lerwick	ZE1 0QD	01595 696776

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
Mr	A W	Coutts	Director of Operations	Fife Healthcare NHS Trust	Cameron House	Cameron Bridge	Leven		KY8 5RG	01592 712812
Mr	F	Godden	Head of Quantity Surveying	Livingstone Development Corporation	Sidlaw House	Almondvale	Livingstone		EH54 6QA	01506 414177
Mr	W	Wilkie	Chief Estates & Works Manager	Borders Health Board	Huntlyburn		Melrose		TD6 9BP	0189 682 2662
Mr	M J	Schofield	Estates Officer	Borders Regional Council	Property Services Department	Newtown St Boswells	Melrose		TD6 0SA	01835 823301
Mr	G W	Smith	Assistant Director of Administration (Industrial Development and Estates)	Motherwell District Council	Civic Centre		Motherwell		ML1 1TW	01698 66166
Mr	G M	Murray	Senior Surveyor	Department of Agriculture & Fisheries for Scotland	Cameron House	Albany Street	Oban		PA34 4AE	01631 63071
Mr	J S	Turnbull	Technical Manager - South Clyde	Scottish Homes (North & South Clyde District)	St James House	25 St James Street	Paisley		PA3 2HQ	0141 889 8896
Mr	A G	Burt	Senior QS	Perth & Kinross District Council	Department of Architectural Services	PO Box 57	2 High Street	Perth	PH1 5YH	01738 39911
Mr	J A	Laidlaw	AMEC Construction Scotland Plc	PO Box 1	Meadowside Street		Renfrew		PA4 8LF	0141 885 1234
Mr	D	McBride	Director	Babcock Construction Ltd	PO Box 19	Porterfield Road	Renfrew		PA4 8EP	0141 886 4141
Mr	J I	Shaw	Head of Property Services	Central Regional Council	Viewforth		Stirling		FK8 2ET	01786 442000

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
Mr	W S	Kerr	Quantity Surveying Team Leader	Stirling District Council	Thistle Trading Estate	Kerse Road	Stirling		FK7 7RW	01786 79000
Mr	G	McD Weir	Director of Estates & Buildings	University of Stirling	Estates & Buildings Office		Stirling		FK9 4LA	01786 73171
Mr	R F	Cameron	Assistant Director, Support Services	Western Isles Islands Council	Sandwick Road		Stornoway		PA87 2BW	01851 703773 x405
Mr	C A	McGregor	Principal Quantity Surveyor	Kyle & Carrick District Council	Burns House	Burns Statue Square	Aye		KA7 1UT	01292 281511
Mr	D K	Morgan	Chief Quantity Surveyor	Cyngor Dosbarth Ceredigion	Technical Services Department	26 Bridge Street	Aberystwyth		SY23 1QA	01970 617911 x4280
Mr	P J	Evison	Chief Quantity Surveyor	Gwynedd County Council	Architects Department	County Offices	Shirehall Street	Carnarfon	LL55 1SH	01286 679337
Mr	S M	Pritchard	Regional Property Manager	Associated British Ports	Regional Property Department	Pierhead Building	Bute Docks	Cardiff	CF1 5TH	01222 471311
Mr	C	Ryland	Group Property Executive	Welsh Water Plc	PO Box 295	Alexandra Gate	Rover Way	Cardiff	CF2 2UE	01222 500600
Mr	A A	James	Property Manager	County of South Glamorgan	Property Services Department	County Hall	Atlantic Wharf	Cardiff	CF1 5UW	01222 872000
Mr	J S	Madge	Senior Property Manager	Department of the Environment	Property Holdings South West & Wales	Ty Glas	Llanishen	Cardiff	CF4 5UN	01222 753271
Mr	W G	Evans	Principal Quantity Surveyor	Mid Glamorgan County Council	Land & Buildings Department	Greyfriars	Cardiff		CF1 3LD	01222 820820
Mr	P J	Riordan	Director, Estate Care Projects	Welsh Health Common Services	Crickhowell House	Pierhead Street	Cardiff Waterside	Cardiff	CF1 5XT	01222 471234

Title	First Name	Last Name	Job Title	Company	Address1	Address2	City	County	Post Code	WorkPhone
				Authority			de			
Mr	G K	Hoad	Chief Estates Advisor	Welsh Office	Cathays Park		Cardiff		CF1 3NQ	01222 825111
Mr	H R	Eynon	Buildings Manager	Dfed Powys Police	Police Headquarters	PO Box 99	Llangunmor	Carmathen	SA31 2PF	01267 236444
Mr	P R	John	Chief Quantity Surveyor	Dyfed County Council	County Architects Department	Lime Grove House	Lime Grove Avenue	Carmarthen	SA31 1SW	01267 233333
Mr	A	Ives	Building Project Manager	Colwyn Borough Council	Technical Services Department	Civic Centre	Colwyn Bay		LL29 8AR	01492 515271
Mr	C	Hunter	Head of Property Services	Preseli Penbroke-shire District Council	Cambria House		Haverfordwest		SA61 1TP	01437 764551
Mr	R A	Howes	Property Services Manager	Delyn Borough Council	Housing Services Department	Civic Offices	Coleshill Street	Holywell	CH8 7LX	01352 710710
Mr	M R	Shelton	Assistant Director (Property) - Client	Powys County Council	County Hall	Llandrindod Wells			LD1 5LG	01597 826000
Mr	J A	Jones	Director of Housing & Property	Ynys Môn - Isle of Anglesey Borough Council	Borough Council Office		Llangefni		LL77 7TW	01248 750057
Mr	D C	Davies	Director of Development	Llanelli Borough Council	Ty Elwyn	Llanelli			SA15 3AP	01554 741100
Mr	D	Stanton	Chief Quantity Surveyor	Clwd County Council	Department of Architecture Planning and Estates	Shire Hall	Mold		CH7 6NH	01352 752121
Mr	G B	Singleton	Chief Quantity Surveyor	Borough of Newport	Department of Development	Civic Centre	Newport		NP9 4UR	01633 65491
Mr	M J	Green	Deputy Works Manager	Gwent County Council	County Building & Works Department	Ponhir	Newport		NP9 1PD	01633 421774

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
Mr	D T	Haddon	Assistant Director (Services)	Borough of Torfaen Technical Services	The Civic Centre		Pontypool		NP4 6YB	01495 762200
Mr	J R	Moore	Director of Facilities	Glan-Y-Mor NHS Trust	Cefn Coed Hospital	Cockett	Swansea		SA2 0GH	01792 561155
Mr	A A	Sievens	Principal Quantity Surveyor	Property Services Department	West Glamorgan County Council	County Hall	Swansea		SA1 3SN	01792 471111
Mr	P	Lloyd	Principal Assistant Quantity Surveyor	Wrexham Maelor Borough Council	Guildhall		Wrexham		LL11 1AY	01978 292520
Mr	J J R	Logan	Principal Quantity Surveyor	Department of Education for Northern Ireland Building Advisory Branch	Rathgael House	Balloo Road	Bangor		BT19 7PR	01247 279487
Mr	R I	Spence	Divisional Director	Department of Health & Social Services	Works Unit	Stoney Road	Dundonald	Belfast	BT16 0US	0123 121 4535
Mr	N	Sleator	Principal Quantity Surveyor	Department of the Environment (Northern Ireland)	Works Service (Advisory Services Division) at the IDB	64 Chichester Street	Belfast		BT1 4JX	01232 233233
Mr	W	Piccaithley	Superintending Quantity Surveyor	Department of the Environment for Northern Ireland	Works Services	Churchill House	Victoria Square	Belfast	BT1 4QW	01232 250250
Mr	M D A	McMath	Principal Quantity Surveyor	DOE for NI Works Service c/o Compensation Agency	Royston House	34 Upper Green Street		Belfast	BT1 6FD	01232 249944
Mr	D	McClure	Quantity	Northern Ireland	PO Box 2	Danesfort	120	Belfast	BT9	01232

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	County	Post Code	WorkPhone
			Surveyor - Senior Engineer	Electricity Service			Malone Road		5HT	661100 x2381
Mr	W	Cameron	Deputy Chief Executive and Director of Operations	Northern Ireland Housing Executive	Technical Services Division	The Housing Centre	2 Adelaide Street	Belfast	BT2 8PB	01232 240588
Mr	R A	Wylie	Land & Property Manager	Northern Ireland Housing Executive	Macallister House	Woodside Avenue	Omagh		BT79 7DT	01662 46111

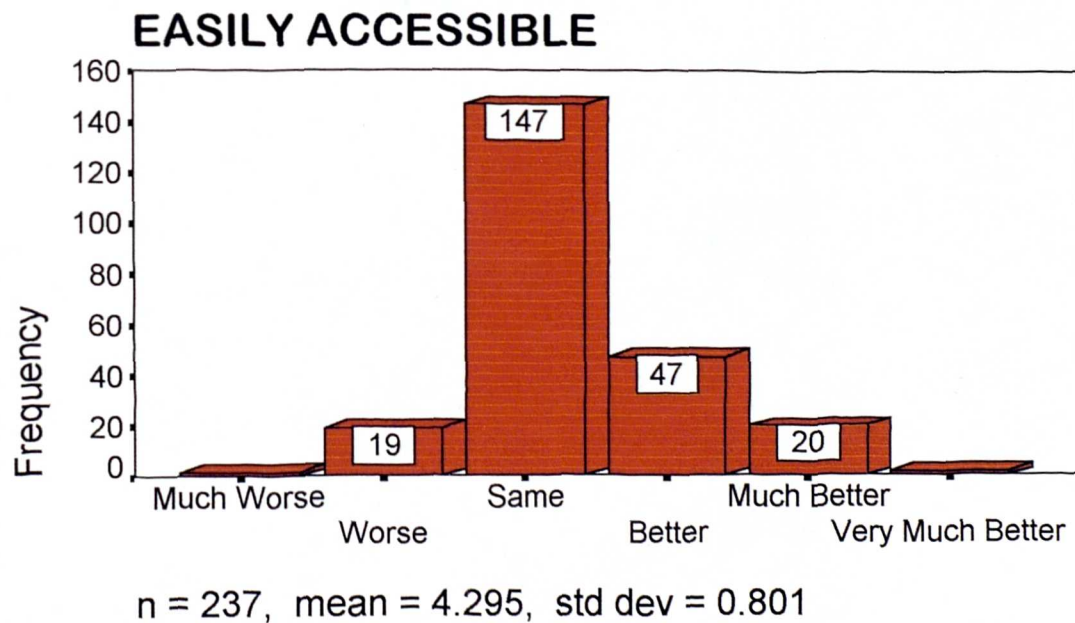
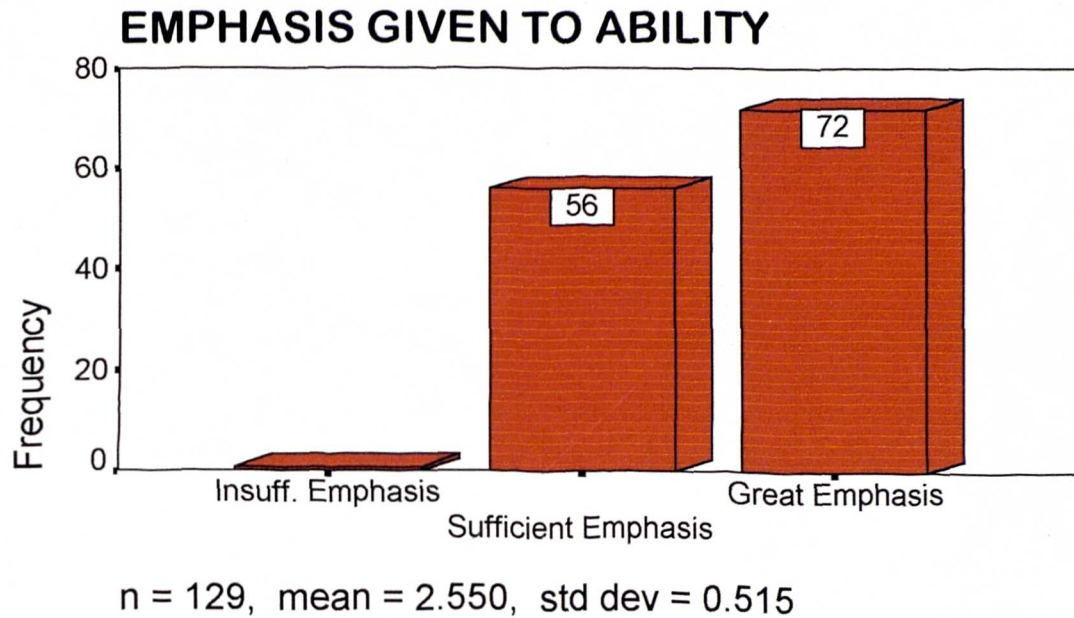
APPENDIX E : SPSS STATISTICAL ANALYSIS OUTPUT

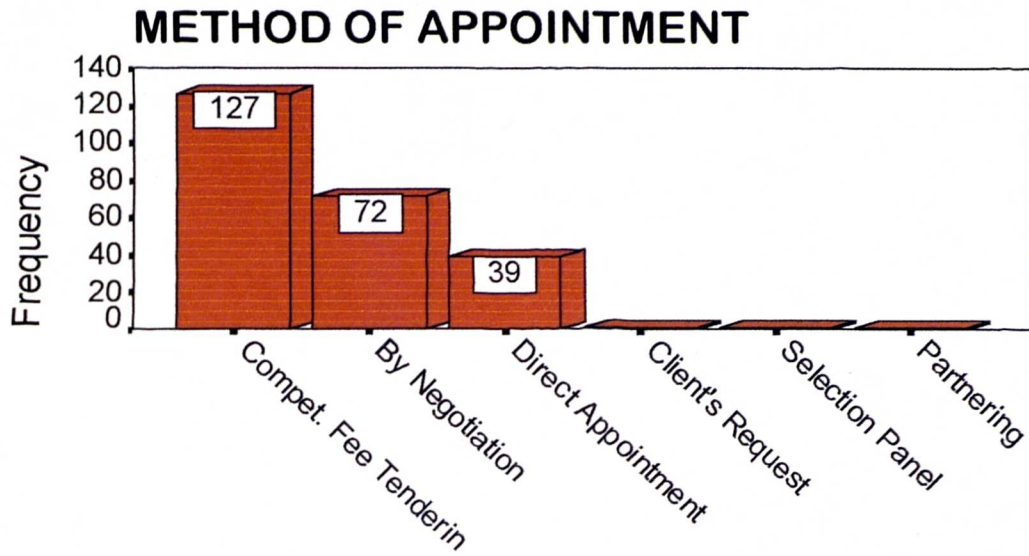
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7	1	1	2	0	1	4	2	3	2	3	2	5	5	4	4
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17	8	7	2	0	1	3	2	2	2	2	3	4	4	4	4
18	9	1	2	0	2	4	3	0	0	0	0	4	3	4	4
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	size	correct	design	time	when	prompt	willing	busy	accessibl	safe	polite	competen	experien	personal	bestinta	understa
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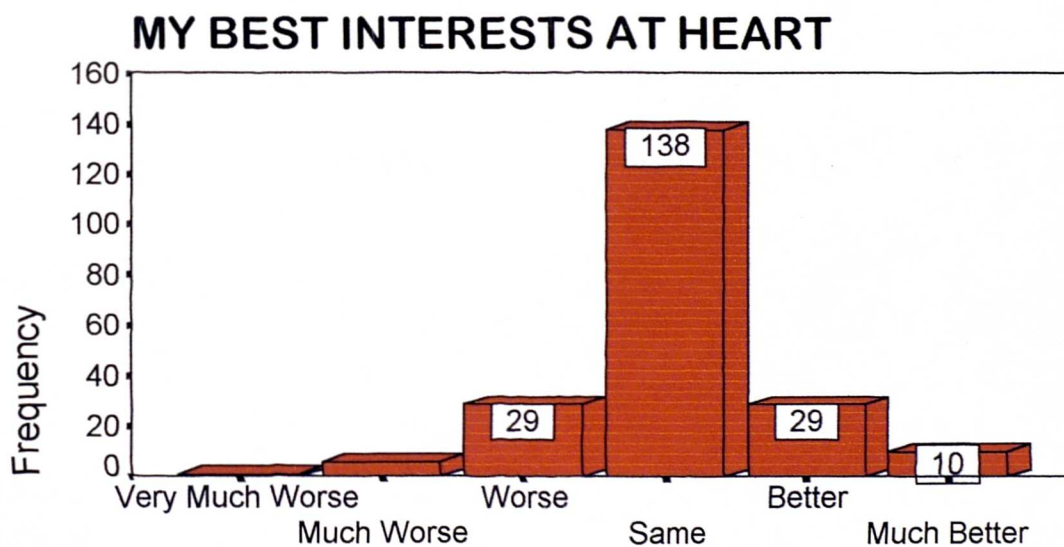
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19	0	4	4	4	0	4	0	4	84.00	5.00	21.00	4.000000
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Frequency Distributions of all Variables





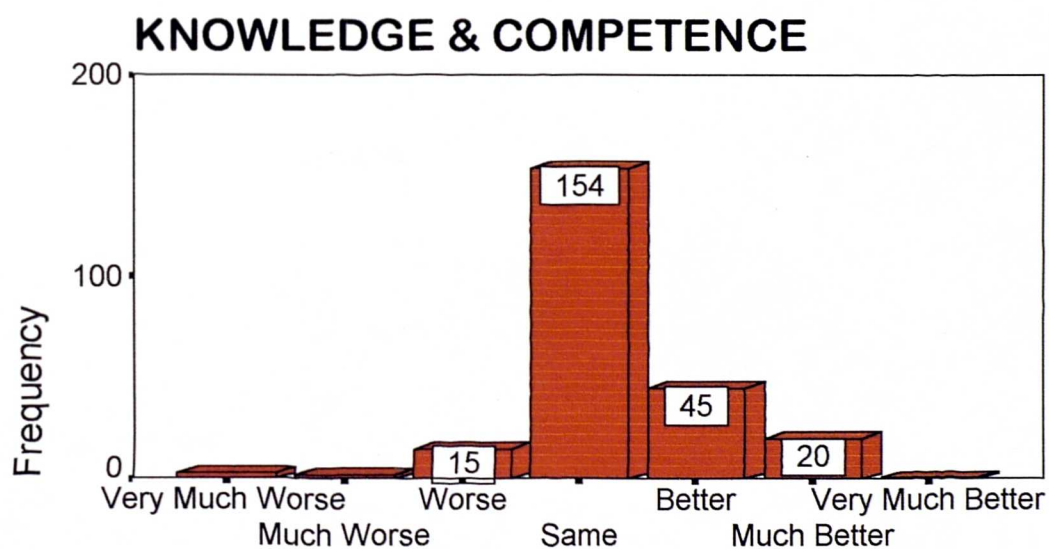
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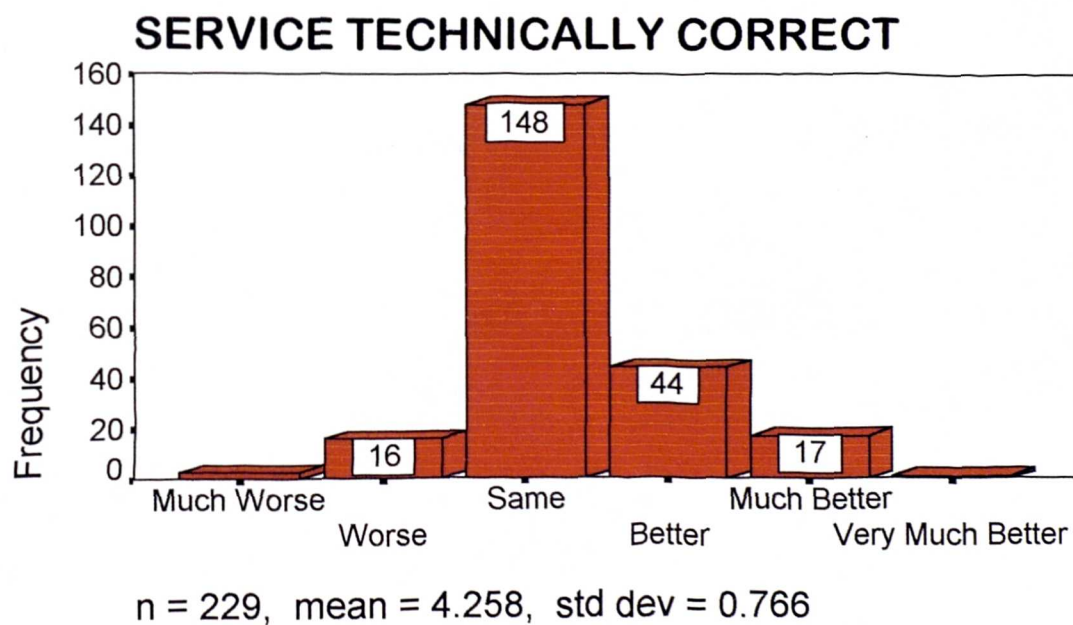
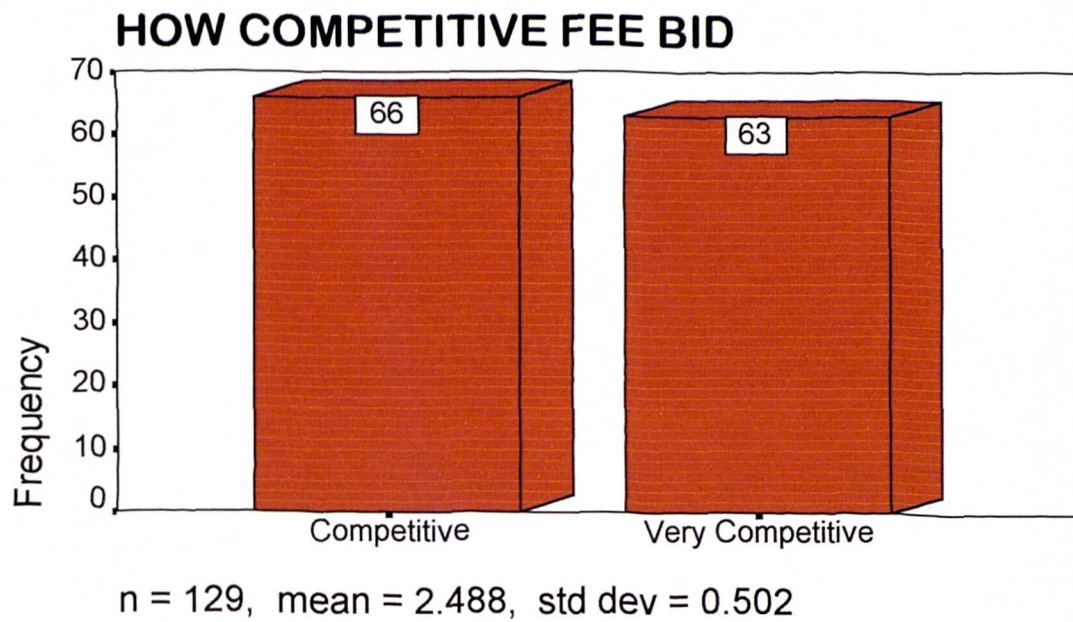
n = 213, mean = 4.023, std dev = 0.786

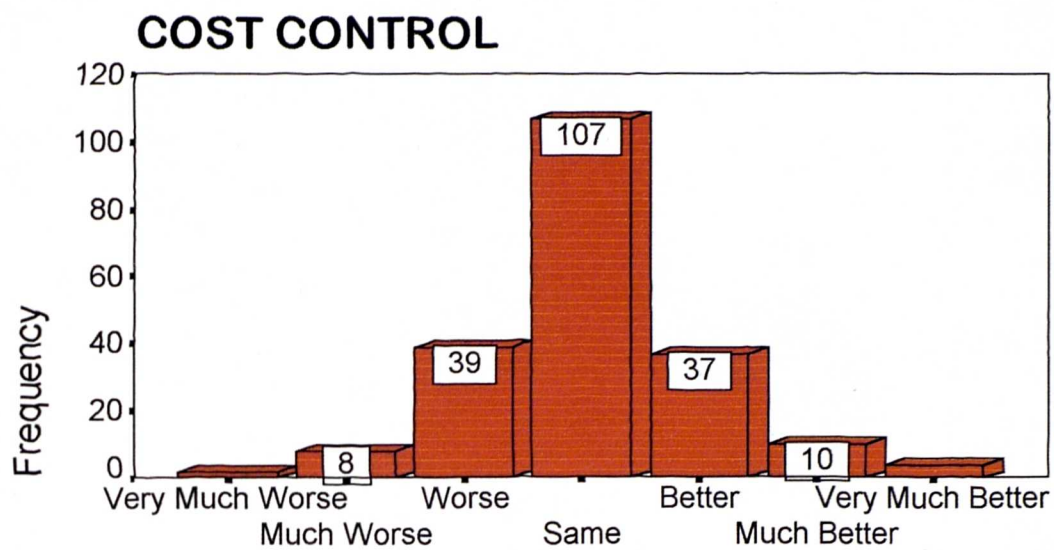


n = 235, mean = 4.323, std dev = 0.831

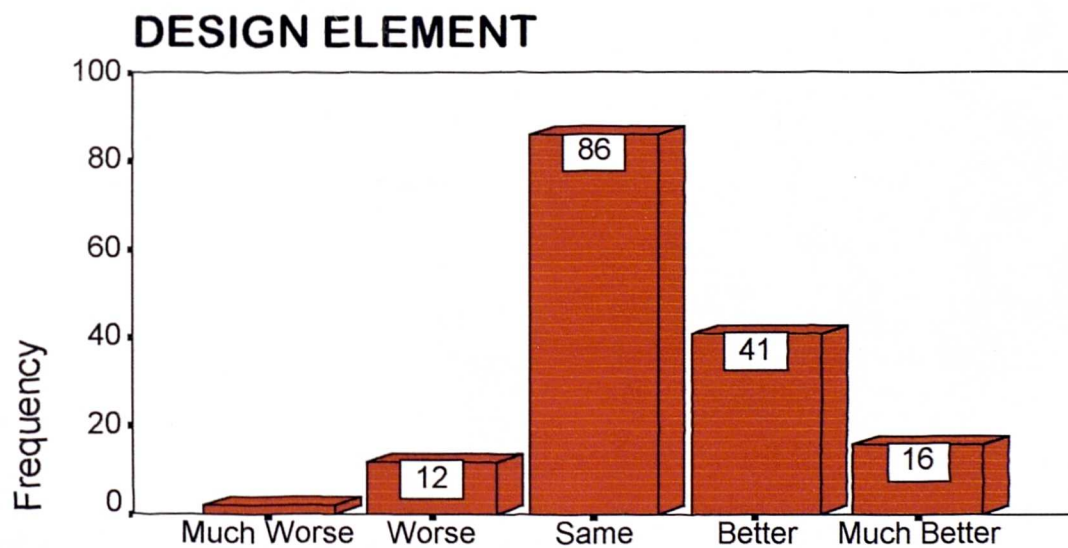


n = 240, mean = 4.250, std dev = 0.841

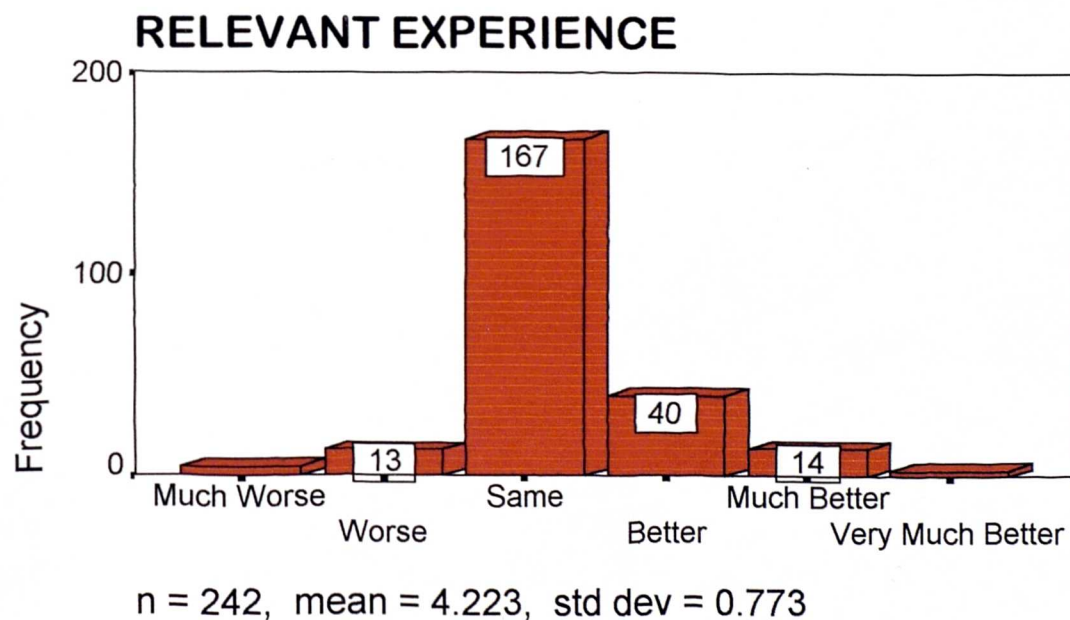
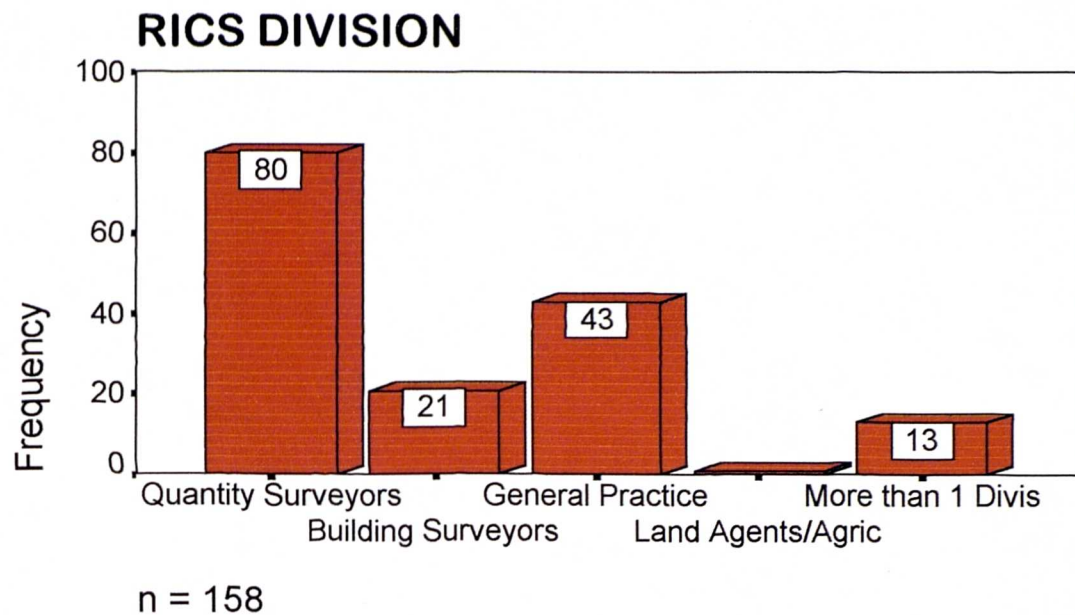




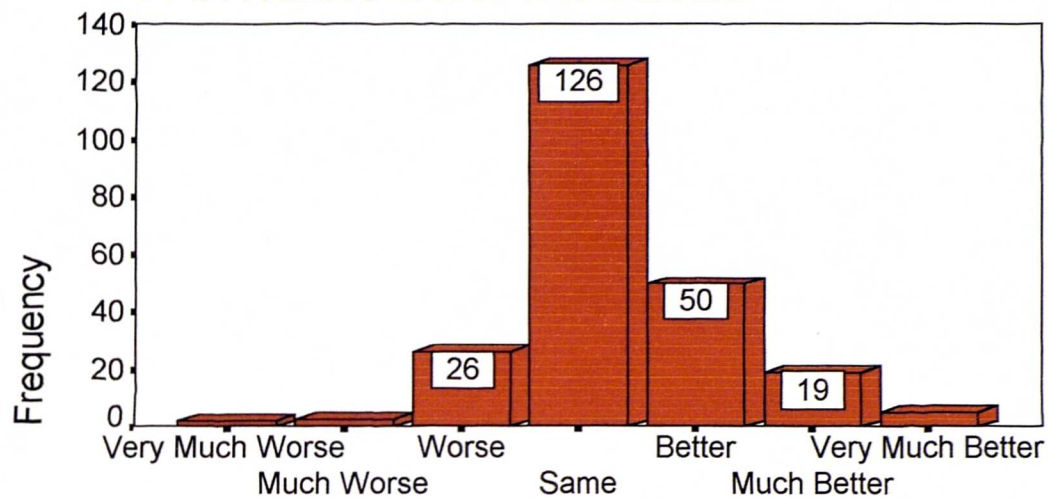
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n = 157, mean = 4.363, std dev = 0.818

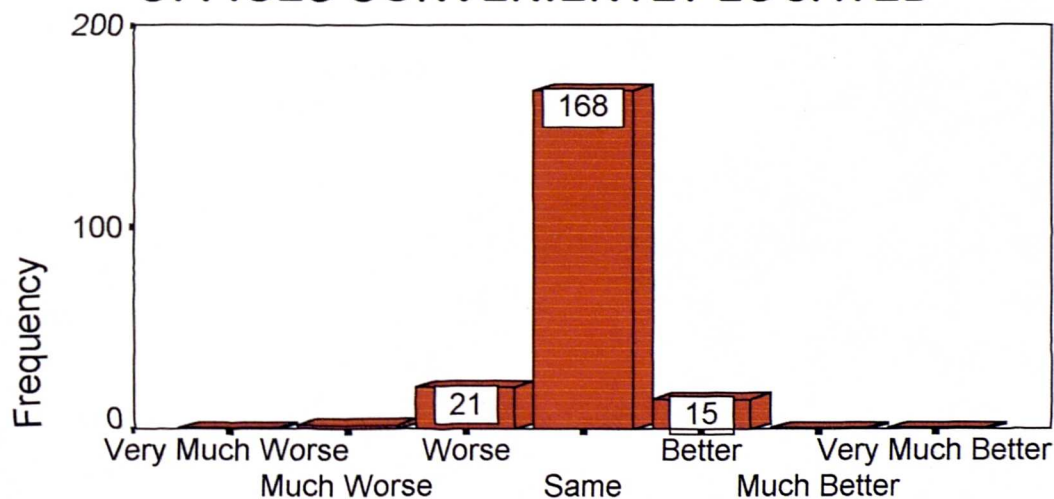


PARTNERS STAY INVOLVED

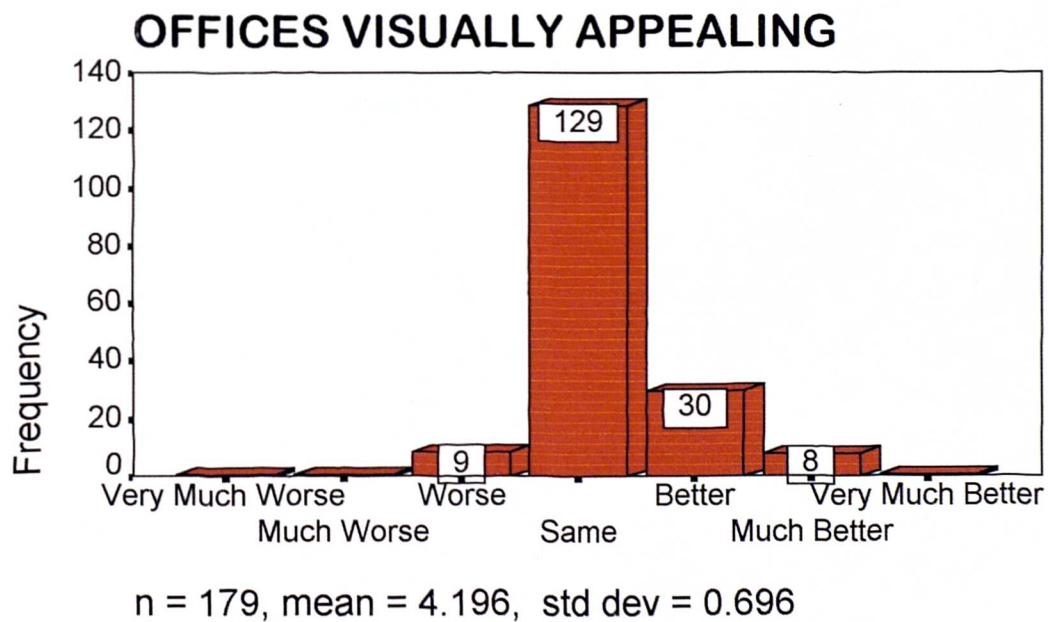
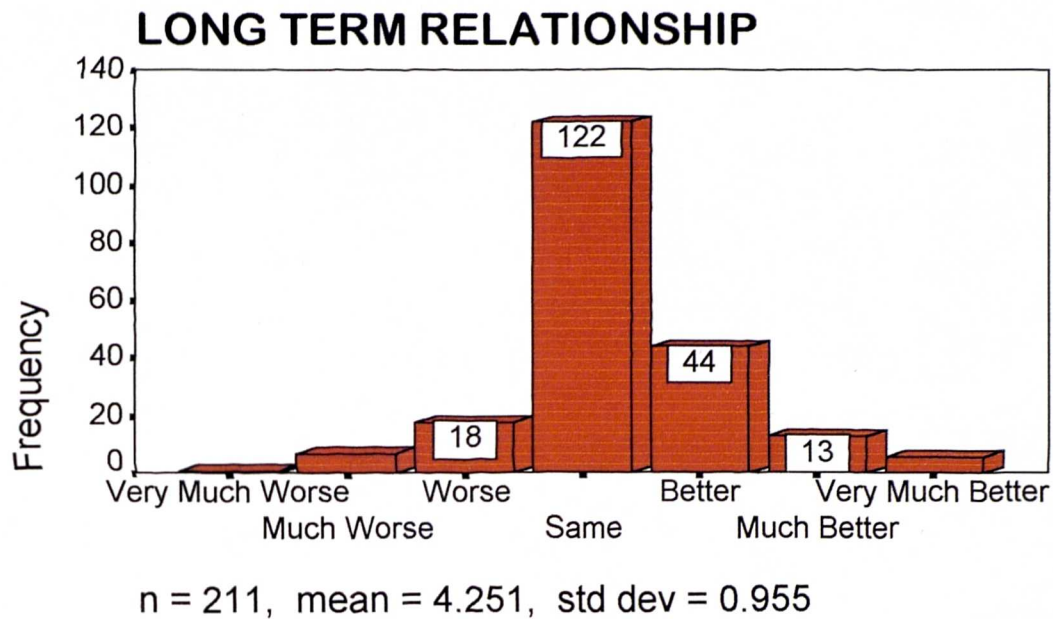


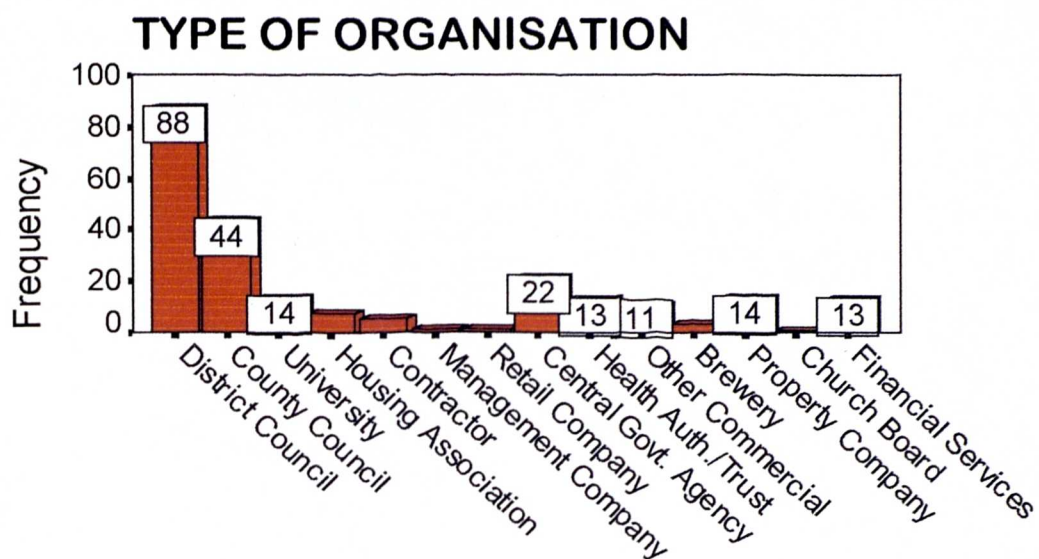
n = 231, mean = 4.281, std dev = 0.953

OFFICES CONVENIENTLY LOCATED

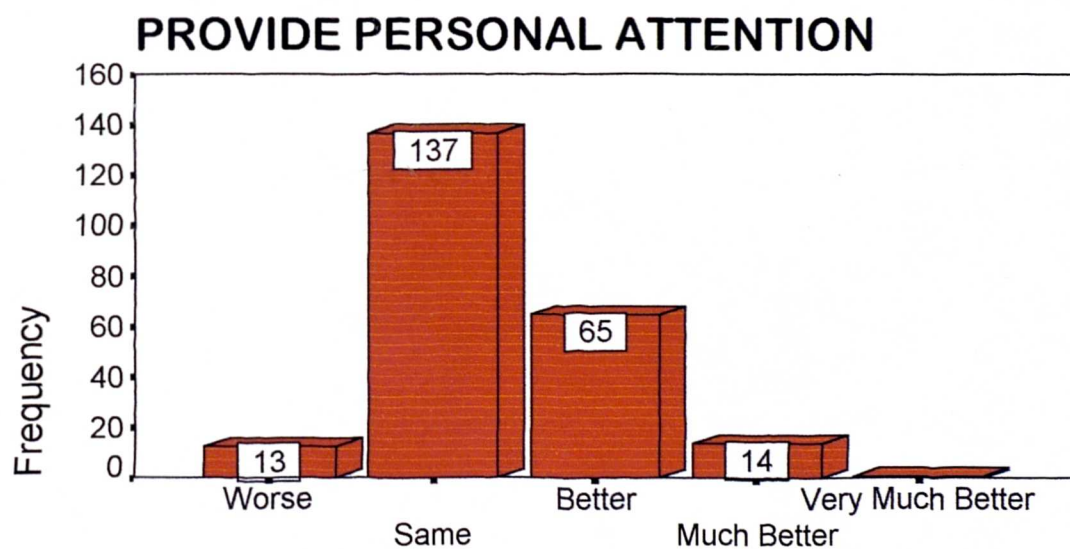


n = 209, mean = 3.962, std dev = 0.562

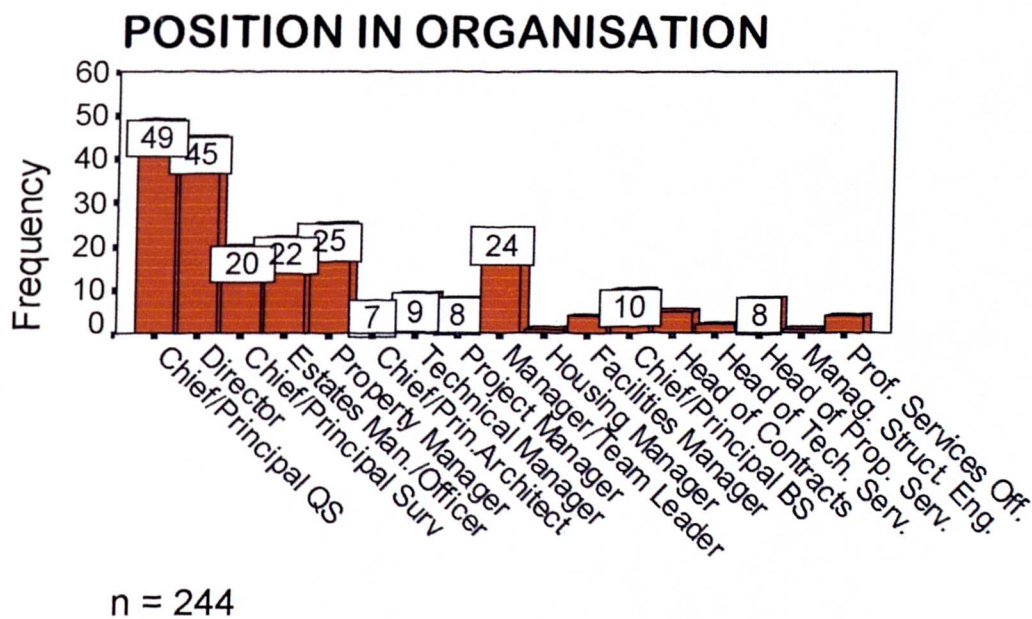
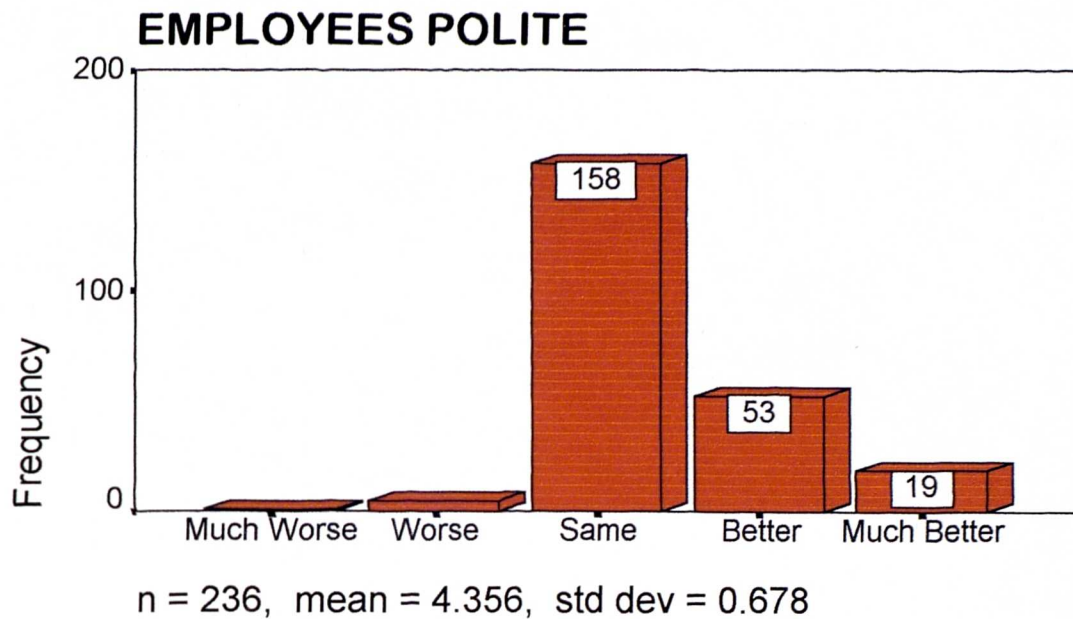


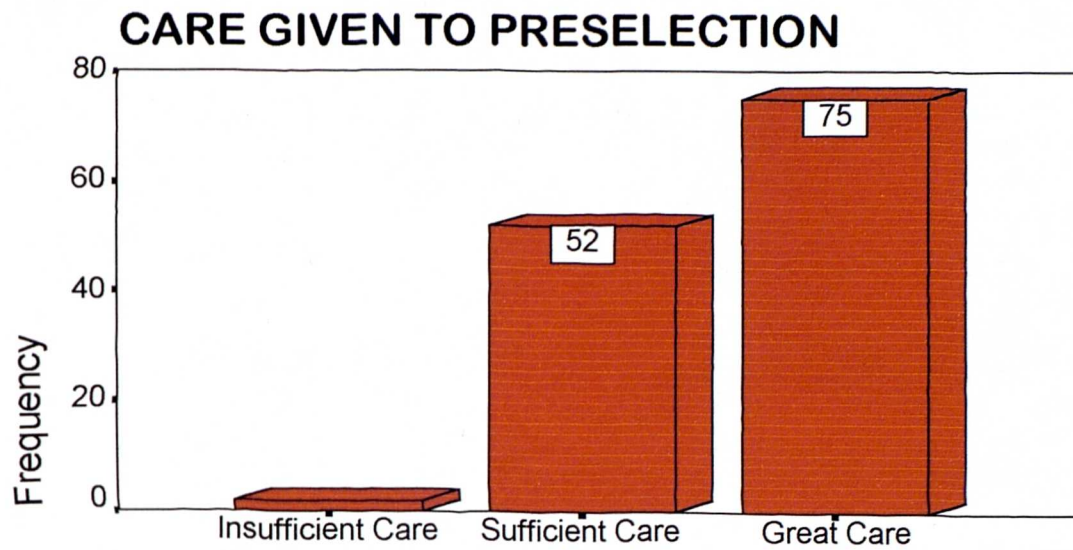


n = 242

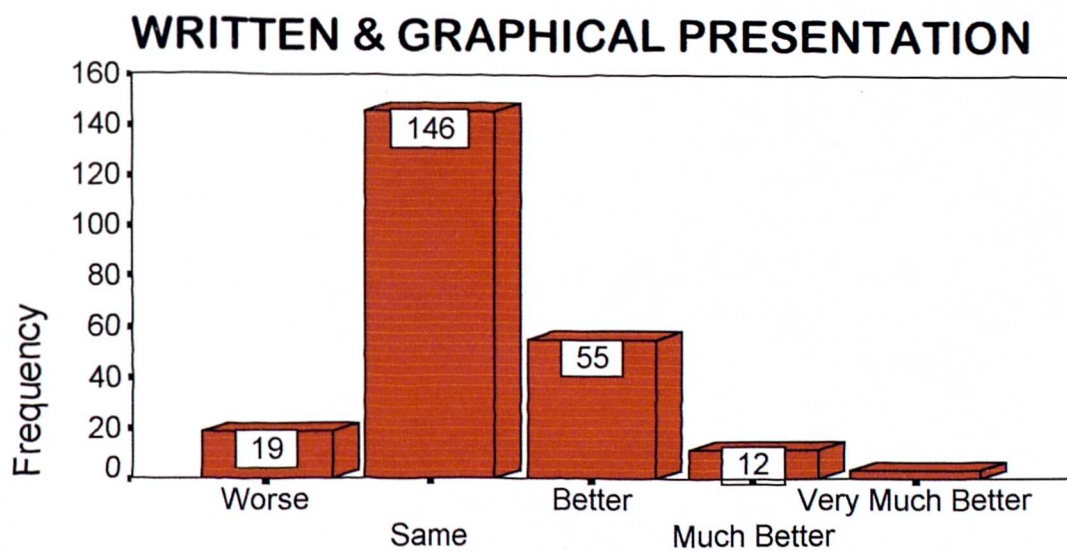


n = 230, mean = 4.361, std dev = 0.703

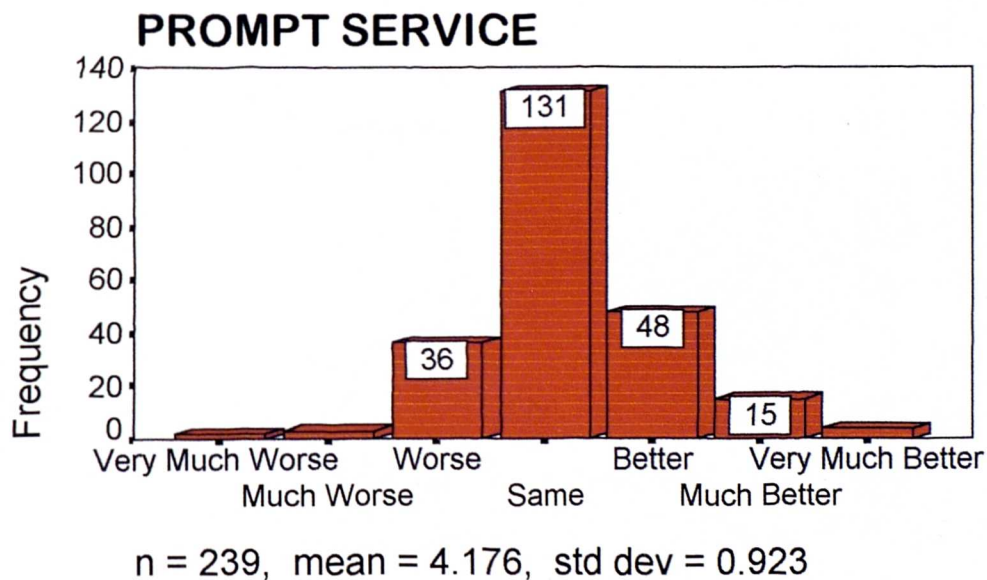
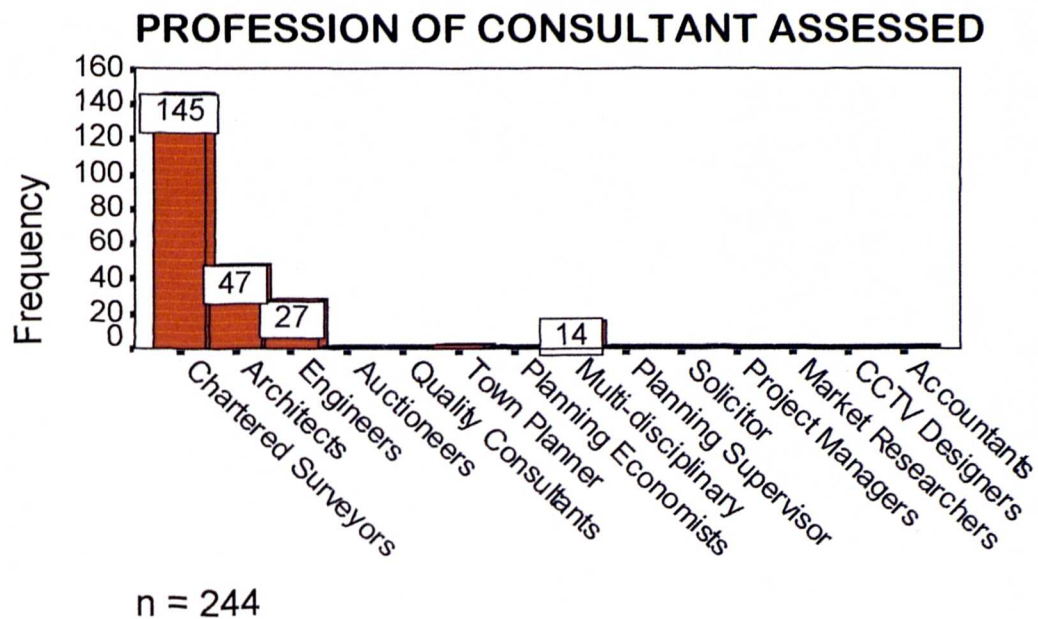


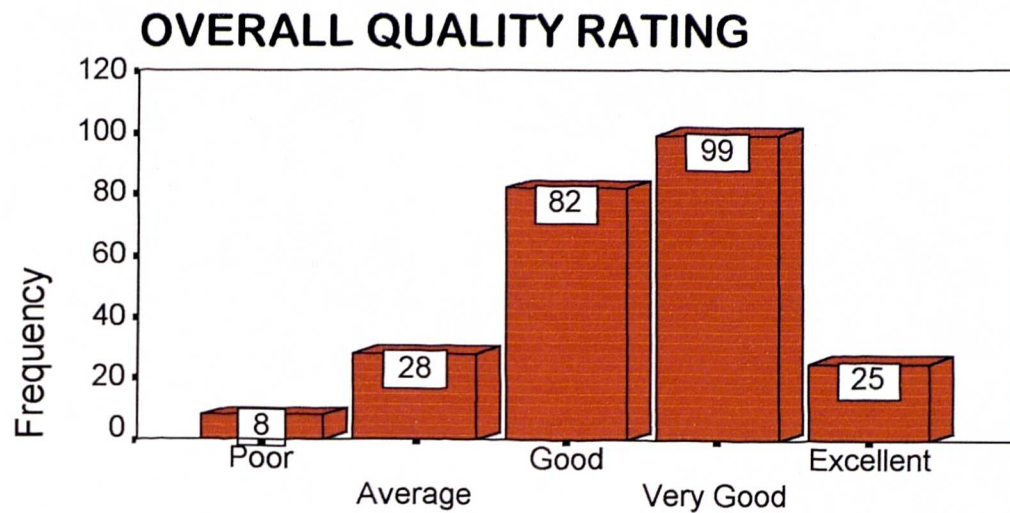


n = 129, mean = 2.566, std dev = 0.528

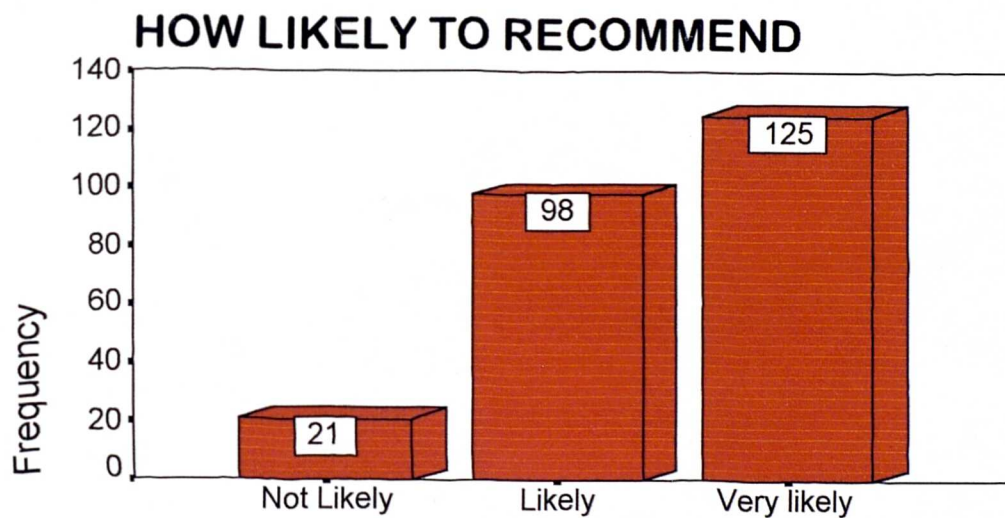


n = 236, mean = 4.305, std dev = 0.761

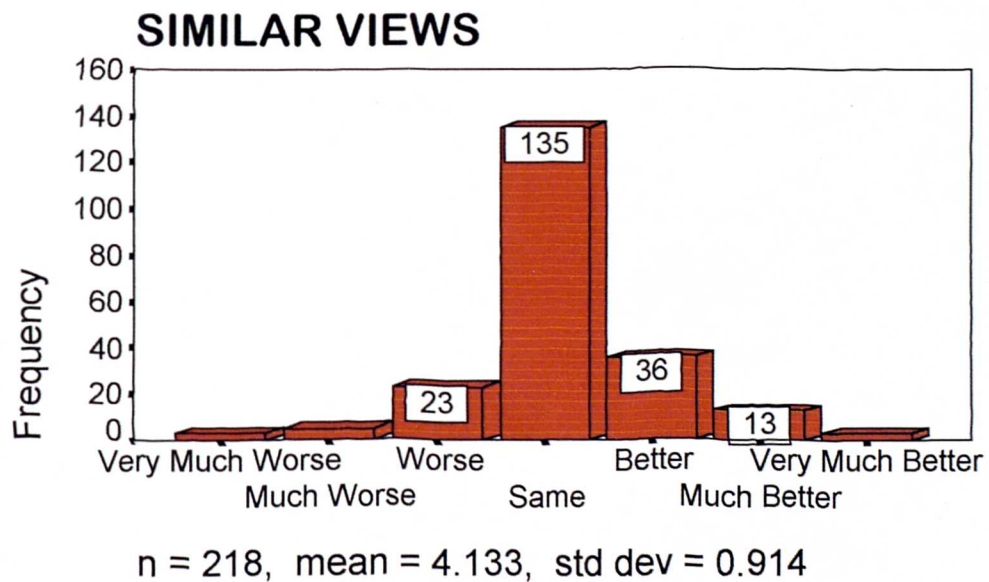
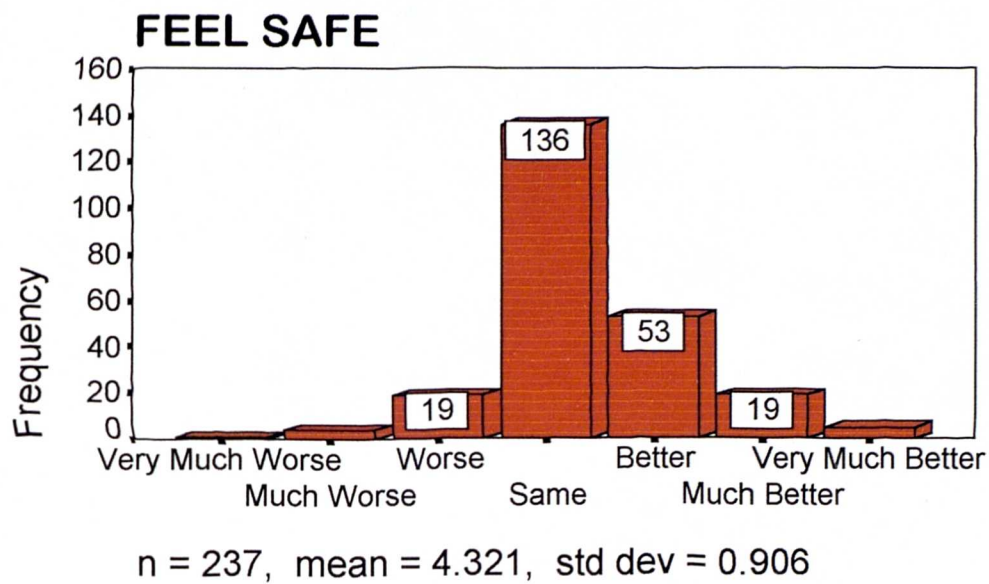


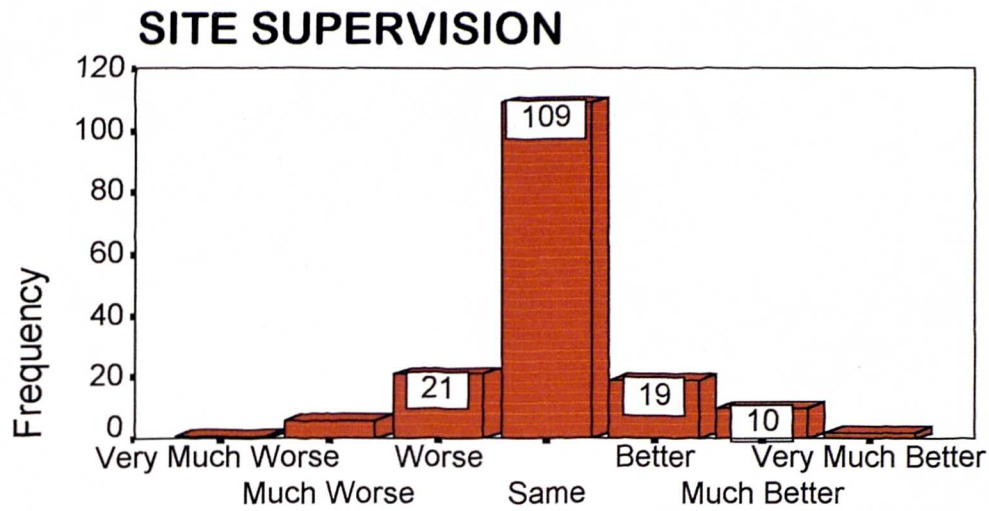


n = 242, mean = 4.434, std dev = 0.941

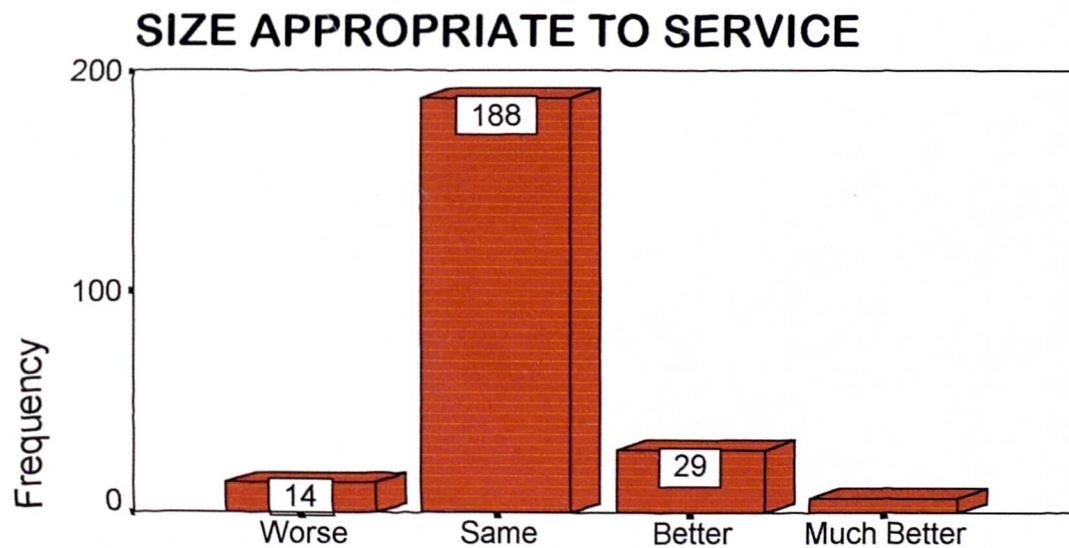


n = 244, mean = 2.426, std dev = 0.647

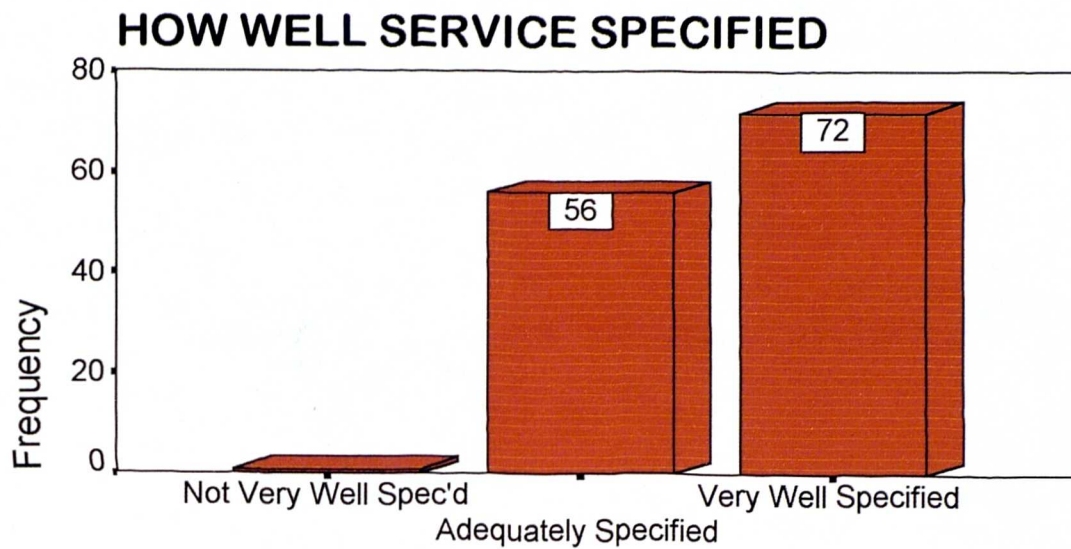




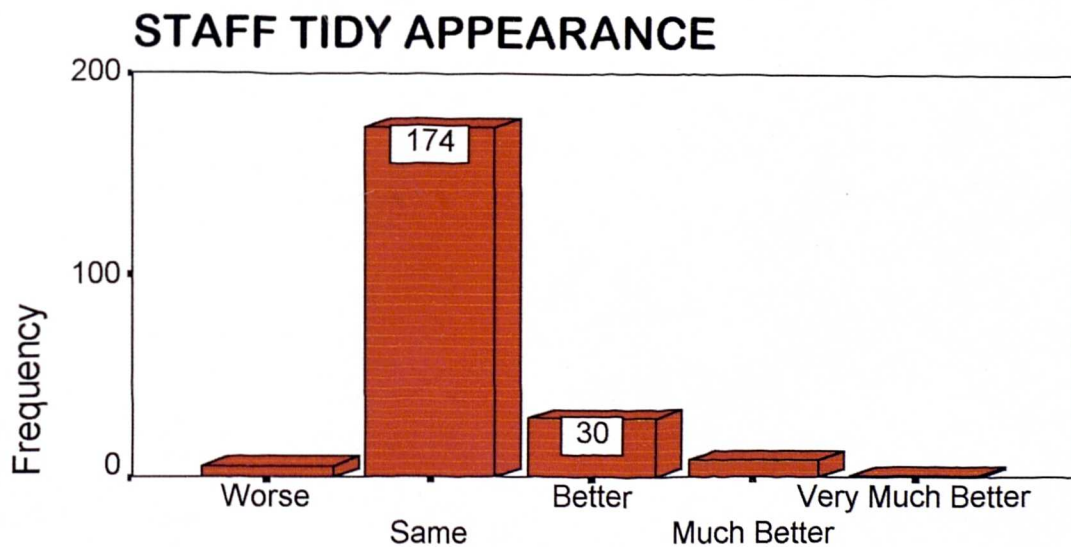
n = 168, mean = 4.054, std dev = 0.884



n = 238, mean = 4.122, std dev = 0.534

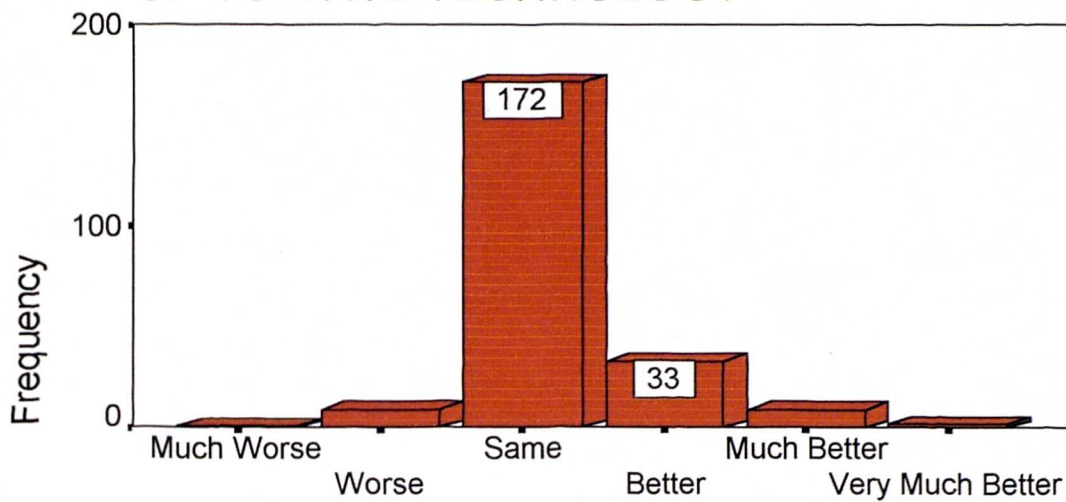


n = 129, mean = 2.550, std dev = 0.515



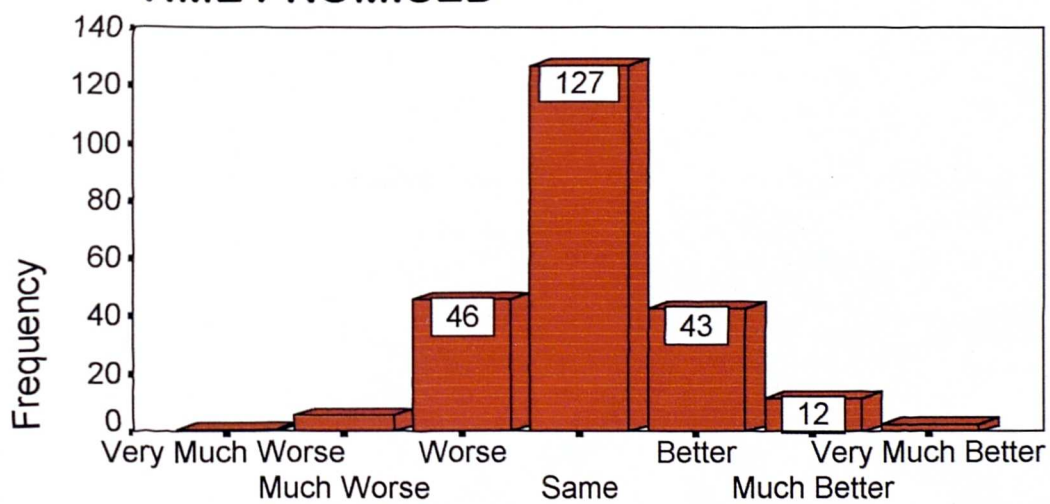
n = 220, mean = 4.205, std dev = 0.573

UP-TO-DATE TECHNOLOGY



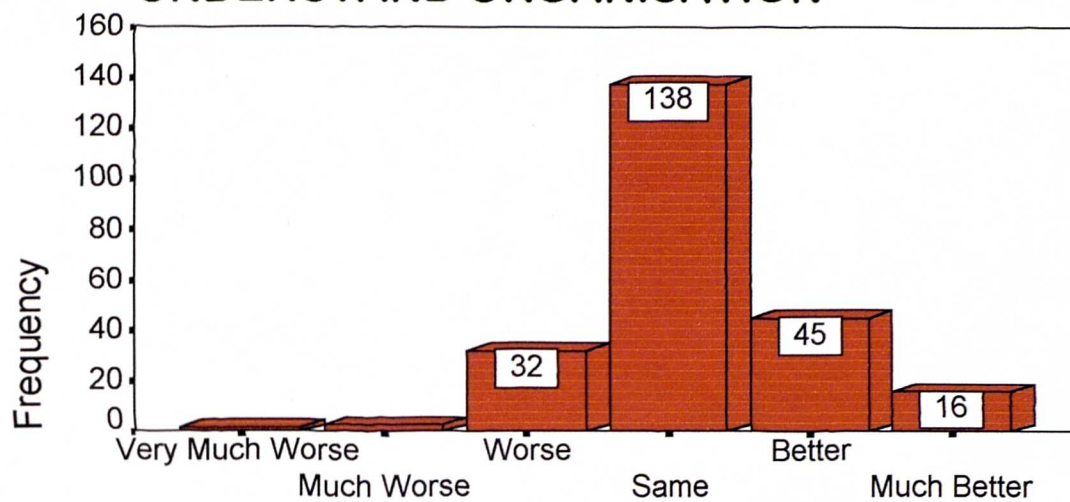
n = 226, mean = 4.204, std dev = 0.635

TIME PROMISED



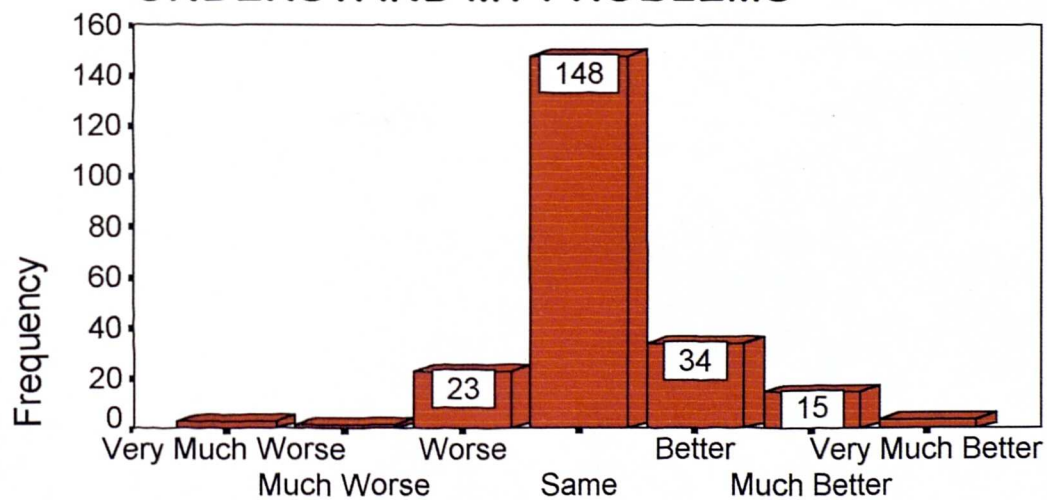
n = 238, mean = 4.063, std dev = 0.910

UNDERSTAND ORGANISATION

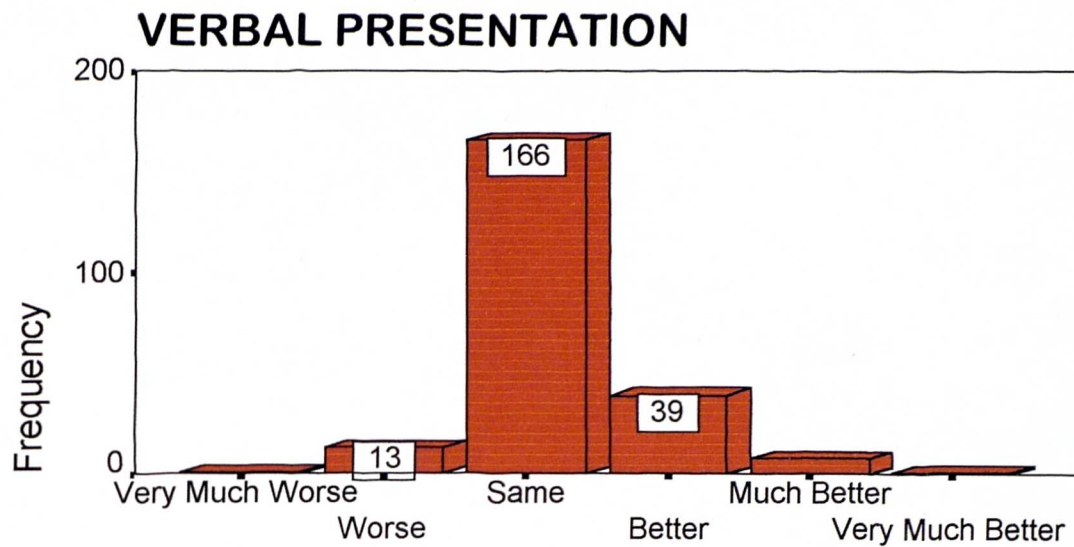


n = 236, mean = 4.140, std dev = 0.841

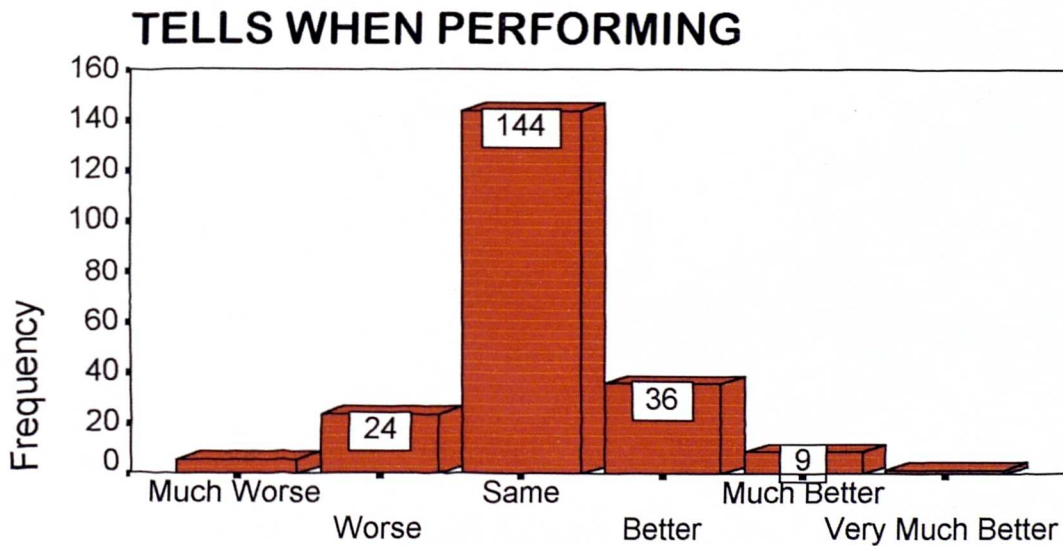
UNDERSTAND MY PROBLEMS



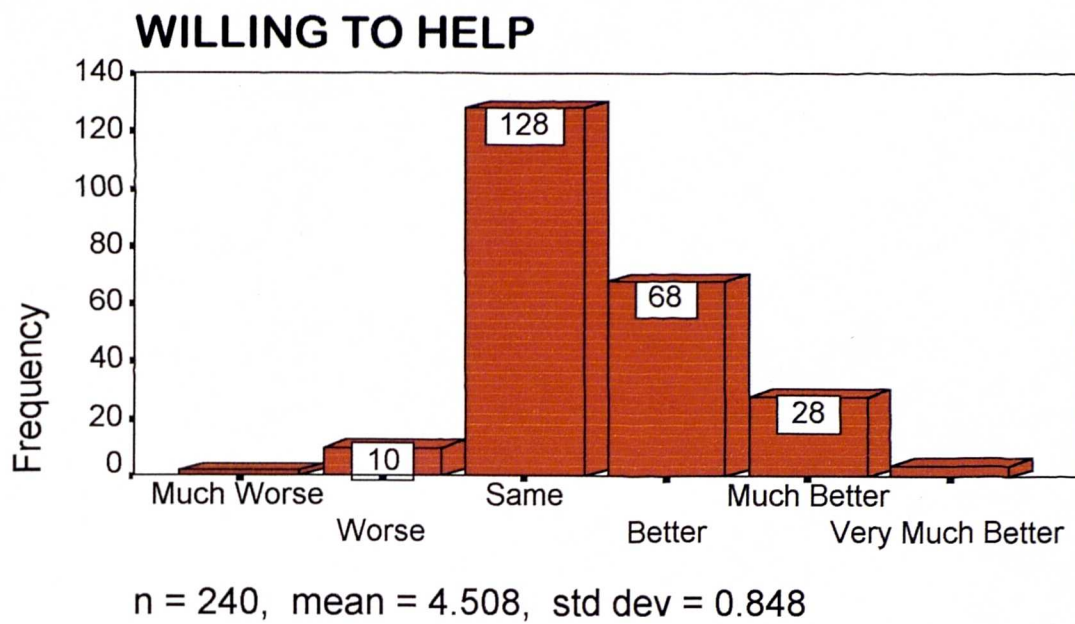
n = 229, mean = 4.175, std dev = 0.891



n = 228, mean = 4.184, std dev = 0.644



n = 221, mean = 4.109, std dev = 0.784



-- Correlation Coefficients --

	ACCESSBL	BESTINTS	BUSY	COMPETEN	CORRECT	COSTCONT
ACCESSBL	1.0000 (237) P= .	.4048 (209) P= .000	.6470 (232) P= .000	.4912 (234) P= .000	.4399 (223) P= .000	.3575 (202) P= .000
BESTINTS	.4048 (209) P= .000	1.0000 (213) P= .	.5087 (211) P= .000	.6075 (211) P= .000	.5238 (202) P= .000	.6167 (184) P= .000
BUSY	.6470 (232) P= .000	.5087 (211) P= .000	1.0000 (235) P= .	.5267 (232) P= .000	.4837 (222) P= .000	.3998 (202) P= .000
COMPETEN	.4912 (234) P= .000	.6075 (211) P= .000	.5267 (232) P= .000	1.0000 (240) P= .	.7281 (226) P= .000	.5801 (204) P= .000
CORRECT	.4399 (.223) P= .000	.5238 (202) P= .000	.4837 (222) P= .000	.7281 (226) P= .000	1.0000 (229) P=.	.5329 (196) P= .000
COSTCONT	.3575 (202) P= .000	.6167 (184) P= .000	.3998 (202) P= .000	.5801 (204) P= .000	.5329 (196) P= .000	1.0000 (207) P= .
DESIGN	.3870 (156) P= .000	.4661 (143) P= .000	.3749 (155) P= .000	.5099 (155) P= .000	.4733 (154) P= .000	.4878 (142) P= .000
EXPERIEN	.4641 (236) P= .000	.6142 (212) P= .000	.4813 (234) P= .000	.7527 (239) P= .000	.6113 (227) P= .000	.5283 (205) P= .000
INVOLVED	.4295 (226) P= .000	.5055 (205) P= .000	.4059 (225) P= .000	.4975 (227) P= .000	.3983 (220) P= .000	.4937 (197) P= .000
LOCATION	.2441 (203) P= .000	.1458 (185) P= .048	.1483 (202) P= .035	.1582 (205) P= .023	.1893 (197) P= .008	.1545 (185) P= .036
LONGTERM	.4863 (208) P= .000	.5859 (191) P= .000	.5792 (206) P= .000	.6586 (208) P= .000	.5711 (202) P= .000	.5689 (181) P= .000

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	ACCESSBL	BESTINTS	BUSY	COMPETEN	CORRECT	COSTCONT
OFFICES	.1666 (176) P= .027	.2164 (164) P= .005	.1254 (177) P= .096	.0896 (176) P= .237	.0793 (168) P= .307	.2538 (159) P= .001
PERSONAL	.5305 (226) P= .000	.6424 (210) P= .000	.5290 (225) P= .000	.5307 (229) P= .000	.3966 (218) P= .000	.4495 (195) P= .000
POLITE	.5101 (231) P= .000	.5074 (210) P= .000	.5227 (230) P= .000	.5395 (233) P= .000	.2985 (223) P= .000	.3760 (199) P= .000
PRESENT	.3120 (230) P= .000	.3568 (209) P= .000	.3240 (228) P= .000	.4190 (233) P= .000	.4537 (223) P= .000	.4407 (200) P= .000
PROMPT	.4358 (232) P= .000	.4992 (210) P= .000	.5330 (230) P= .000	.4835 (235) P= .000	.4307 (225) P= .000	.5062 (204) P= .000
SAFE	.6311 (232) P= .000	.6394 (210) P= .000	.6391 (229) P= .000	.6816 (233) P= .000	.5711 (223) P= .000	.5715 (201) P= .000
SIMILAR	.3845 (214) P= .000	.5364 (198) P= .000	.4994 (213) P= .000	.6328 (214) P= .000	.5451 (206) P= .000	.5912 (189) P= .000
SITESUPV	.4541 (164) P= .000	.6403 (150) P= .000	.4998 (164) P= .000	.6493 (164) P= .000	.5267 (160) P= .000	.5916 (157) P= .000
SIZE	.2214 (232) P= .001	.3779 (209) P= .000	.3037 (231) P= .000	.3128 (234) P= .000	.2680 (225) P= .000	.3142 (204) P= .000
STAFF	.2800 (217) P= .000	.3358 (200) P= .000	.3143 (216) P= .000	.3592 (217) P= .000	.3676 (207) P= .000	.4433 (189) P= .000
TECH	.3464 (222) P= .000	.3231 (199) P= .000	.2724 (219) P= .000	.2691 (222) P= .000	.2842 (213) P= .000	.3337 (196) P= .000

(Coefficient / (Cases) / 2-tailed Significance)

“ . ” is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	ACCESSBL	BESTINTS	BUSY	COMPETEN	CORRECT	COSTCONT
TIME	.3423 (233) P= .000	.5247 (210) P= .000	.5001 (231) P= .000	.4758 (236) P= .000	.4797 (224) P= .000	.5412 (204) P= .000
UNDERORG	.3369 (230) P= .000	.5150 (208) P= .000	.4185 (228) P= .000	.4780 (232) P= .000	.4511 (223) P= .000	.4053 (200) P= .000
UNDERSTA	.4185 (225) P= .000	.6521 (210) P= .000	.5372 (223) P= .000	.6029 (226) P= .000	.5737 (217) P= .000	.5636 (195) P= .000
VERBALPR	.3942 (222) P= .000	.4509 (202) P= .000	.3577 (222) P= .000	.4353 (224) P= .000	.4460 (217) P= .000	.3733 (196) P= .000
WHEN	.4327 (216) P= .000	.4709 (198) P= .000	.5219 (215) P= .000	.4359 (217) P= .000	.4569 (210) P= .000	.5313 (189) P= .000
WILLING	.5929 (235) P= .000	.6138 (212) P= .000	.7683 (234) P= .000	.5477 (237) P= .000	.5014 (227) P= .000	.4826 (203) P= .000

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	DESIGN	EXPERIEN	INVOLVED	LOCATION	LONGTERM	OFFICES
ACCESSBL	.3870 (156) P= .000	.4641 (236) P= .000	.4295 (226) P= .000	.2441 (203) P= .000	.4863 (208) P= .000	.1666 (176) P= .027
BESTINTS	.4661 (143) P= .000	.6142 (212) P= .000	.5055 (205) P= .000	.1458 (185) P= .048	.5859 (191) P= .000	.2164 (164) P= .005
BUSY	.3749 (155) P= .000	.4813 (234) P= .000	.4059 (225) P= .000	.1483 (202) P= .035	.5792 (206) P= .000	.1254 (177) P= .096
COMPETEN	.5099 (155) P= .000	.7527 (239) P= .000	.4975 (227) P= .000	.1582 (205) P= .023	.6586 (208) P= .000	.0896 (176) P= .237
CORRECT	.4733 (154) P= .000	.6113 (227) P= .000	.3983 (220) P= .000	.1893 (197) P= .008	.5711 (202) P= .000	.0793 (168) P= .307
COSTCONT	.4878 (142) P= .000	.5283 (205) P= .000	.4937 (197) P= .000	.1545 (185) P= .036	.5689 (181) P= .000	.2538 (159) P= .001
DESIGN	1.0000 (157) P= .	.4996 (156) P= .000	.3428 (152) P= .000	.1433 (142) P= .089	.4288 (147) P= .000	.2336 (127) P= .008
EXPERIEN	.4996 (156) P= .000	1.0000 (242) P= .	.5442 (229) P= .000	.2034 (207) P= .003	.6186 (209) P= .000	.0669 (179) P= .374
INVOLVED	.3428 (152) P= .000	.5442 (229) P= .000	1.0000 (231) P= .	.1683 (202) P= .017	.5244 (203) P= .000	.0769 (175) P= .312
LOCATION	.1433 (142) P= .089	.2034 (207) P= .003	.1683 (202) P= .017	1.0000 (209) P= .	.1918 (187) P= .009	.2014 (168) P= .009
LONGTERM	.4288 (147) P= .000	.6186 (209) P= .000	.5244 (203) P= .000	.1918 (187) P= .009	1.0000 (211) P= .	.2428 (164) P= .002

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	DESIGN	EXPERIEN	INVOLVED	LOCATION	LONGTERM	OFFICES
OFFICES	.2336 (127) P= .008	.0669 (179) P= .374	.0769 (175) P= .312	.2014 (168) P= .009	.2428 (164) P= .002	1.0000 (179) P= .
PERSONAL	.5164 (153) P= .000	.5323 (229) P= .000	.5065 (219) P= .000	.1077 (199) P= .130	.5372 (204) P= .000	.2293 (174) P= .002
POLITE	.4001 (156) P= .000	.4723 (235) P= .000	.4722 (225) P= .000	.1219 (206) P= .081	.4650 (208) P= .000	.1761 (178) P= .019
PRESENT	.4922 (156) P= .000	.4781 (235) P= .000	.4124 (224) P= .000	.1133 (205) P= .106	.4245 (205) P= .000	.1495 (175) P= .048
PROMPT	.3266 (155) P= .000	.4425 (237) P= .000	.4608 (227) P= .000	.1607 (206) P= .021	.5726 (207) P= .000	.1200 (174) P= .115
SAFE	.4776 (154) P= .000	.6509 (235) P= .000	.5457 (226) P= .000	.2234 (205) P= .001	.6822 (208) P= .000	.1977 (176) P= .009
SIMILAR	.4948 (146) P= .000	.5673 (216) P= .000	.4894 (209) P= .000	.2665 (193) P= .000	.6938 (199) P= .000	.2253 (168) P= .003
SITESUPV	.3836 (130) P= .000	.5987 (166) P= .000	.4901 (165) P= .000	.2758 (159) P= .000	.5542 (153) P= .000	.1132 (137) P= .188
SIZE	.2327 (154) P= .004	.3816 (236) P= .000	.2558 (226) P= .000	.1158 (206) P= .097	.3095 (208) P= .000	.0542 (175) P= .476
STAFF	.3183 (147) P= .000	.3663 (219) P= .000	.3089 (212) P= .000	.0384 (193) P= .596	.3686 (196) P= .000	.3108 (175) P= .000
TECH	.4430 (150) P= .000	.4035 (224) P= .000	.3526 (216) P= .000	.2270 (196) P= .001	.2923 (201) P= .000	.2639 (175) P= .000

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	DESIGN	EXPERIEN	INVOLVED	LOCATION	LONGTERM	OFFICES
TIME	.4320 (155) P= .000	.4987 (237) P= .000	.4640 (225) P= .000	.1418 (204) P= .043	.5496 (206) P= .000	.1099 (174) P= .149
UNDERORG	.4072 (155) P= .000	.4812 (234) P= .000	.4386 (225) P= .000	.2974 (203) P= .000	.4687 (210) P= .000	.2188 (175) P= .004
UNDERSTA	.4724 (153) P= .000	.5829 (227) P= .000	.5428 (221) P= .000	.2008 (199) P= .004	.6739 (204) P= .000	.2047 (172) P= .007
VERBALPR	.4651 (153) P= .000	.4299 (226) P= .000	.4417 (217) P= .000	.2678 (200) P= .000	.2945 (206) P= .000	.1476 (173) P= .053
WHEN	.3903 (148) P= .000	.4170 (219) P= .000	.4520 (211) P= .000	.1759 (193) P= .014	.5587 (197) P= .000	.0905 (166) P= .246
WILLING	.4577 (157) P= .000	.5324 (239) P= .000	.4636 (228) P= .000	.1777 (206) P= .011	.6072 (210) P= .000	.1479 (178) P= .049

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	PERSONAL	POLITE	PRESENT	PROMPT	SAFE	SIMILAR
ACCESSBL	.5305 (226) P= .000	.5101 (231) P= .000	.3120 (230) P= .000	.4358 (232) P= .000	.6311 (232) P= .000	.3845 (214) P= .000
BESTINTS	.6424 (210) P= .000	.5074 (210) P= .000	.3568 (209) P= .000	.4992 (210) P= .000	.6394 (210) P= .000	.5364 (198) P= .000
BUSY	.5290 (225) P= .000	.5227 (230) P= .000	.3240 (228) P= .000	.5330 (230) P= .000	.6391 (229) P= .000	.4994 (213) P= .000
COMPETEN	.5307 (229) P= .000	.5395 (233) P= .000	.4190 (233) P= .000	.4835 (235) P= .000	.6816 (233) P= .000	.6328 (214) P= .000
CORRECT	.3966 (218) P= .000	.2985 (223) P= .000	.4537 (223) P= .000	.4307 (225) P= .000	.5711 (223) P= .000	.5451 (206) P= .000
COSTCONT	.4495 (195) P= .000	.3780 (199) P= .000	.4407 (200) P= .000	.5062 (204) P= .000	.5715 (201) P= .000	.5912 (189) P= .000
DESIGN	.5164 (153) P= .000	.4001 (156) P= .000	.4922 (156) P= .000	.3266 (155) P= .000	.4776 (154) P= .000	.4948 (146) P= .000
EXPERIEN	.5323 (229) P= .000	.4723 (235) P= .000	.4781 (235) P= .000	.4425 (237) P= .000	.6509 (235) P= .000	.5673 (216) P= .000
INVOLVED	.5065 (219) P= .000	.4722 (225) P= .000	.4124 (224) P= .000	.4608 (227) P= .000	.5457 (226) P= .000	.4894 (209) P= .000
LOCATION	.1077 (199) P= .130	.1219 (206) P= .081	.1133 (205) P= .106	.1607 (206) P= .021	.2234 (205) P= .001	.2665 (193) P= .000
LONGTERM	.5372 (204) P= .000	.4650 (208) P= .000	.4245 (205) P= .000	.5726 (207) P= .000	.6822 (208) P= .000	.6938 (199) P= .000

(Coefficient / (Cases) / 2-tailed Significance)

“ . ” is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	PERSONAL	POLITE	PRESENT	PROMPT	SAFE	SIMILAR
OFFICES	.2293 (174) P= .002	.1761 (178) P= .019	.1495 (175) P= .048	.1200 (174) P= .115	.1977 (176) P= .009	.2253 (168) P= .003
PERSONAL	1.0000 (230) P= .	.6025 (226) P= .000	.4256 (223) P= .000	.4366 (225) P= .000	.5561 (226) P= .000	.4763 (208) P= .000
POLITE	.6025 (226) P= .000	1.0000 (236) P= .	.2875 (229) P= .000	.4152 (231) P= .000	.6409 (232) P= .000	.4652 (214) P= .000
PRESENT	.4256 (223) P= .000	.2875 (229) P= .000	1.0000 (236) P= .	.3898 (232) P= .000	.4572 (229) P= .000	.3687 (211) P= .000
PROMPT	.4366 (225) P= .000	.4152 (231) P= .000	.3898 (232) P= .000	1.0000 (239) P= .	.5721 (232) P= .000	.4952 (215) P= .000
SAFE	.5561 (226) P= .000	.6409 (232) P= .000	.4572 (229) P= .000	.5721 (232) P= .000	1.0000 (237) P= .	.6141 (214) P= .000
SIMILAR	.4763 (208) P= .000	.4652 (214) P= .000	.3687 (211) P= .000	.4952 (215) P= .000	.6141 (214) P= .000	1.0000 (218) P= .
SITESUPV	.5364 (161) P= .000	.3848 (167) P= .000	.4398 (163) P= .000	.5154 (167) P= .000	.5593 (167) P= .000	.4881 (154) P= .000
SIZE	.3391 (225) P= .000	.3067 (230) P= .000	.3178 (231) P= .000	.3768 (234) P= .000	.3237 (232) P= .000	.1935 (214) P= .005
STAFF	.3134 (212) P= .000	.3937 (219) P= .000	.4130 (214) P= .000	.3483 (217) P= .000	.4115 (216) P= .000	.3017 (201) P= .000
TECH	.4104 (215) P= .000	.2175 (221) P= .001	.4970 (218) P= .000	.2571 (221) P= .000	.2992 (222) P= .000	.2595 (206) P= .000

(Coefficient / (Cases) / 2-tailed Significance)

“ . ” is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	PERSONAL	POLITE	PRESENT	PROMPT	SAFE	SIMILAR
TIME	.4108 (225) P= .000	.3726 (231) P= .000	.3928 (232) P= .000	.8107 (235) P= .000	.5266 (231) P= .000	.4707 (214) P= .000
UNDERORG	.4322 (223) P= .000	.3963 (232) P= .000	.3184 (228) P= .000	.3444 (232) P= .000	.5047 (232) P= .000	.5426 (216) P= .000
UNDERSTA	.5535 (220) P= .000	.5056 (225) P= .000	.4609 (222) P= .000	.5044 (224) P= .000	.6688 (226) P= .000	.6662 (211) P= .000
VERBALPR	.4347 (216) P= .000	.4489 (225) P= .000	.3817 (222) P= .000	.3373 (223) P= .000	.4455 (223) P= .000	.4332 (206) P= .000
WHEN	.4034 (210) P= .000	.3721 (216) P= .000	.3056 (215) P= .000	.7722 (221) P= .000	.5224 (215) P= .000	.4479 (202) P= .000
WILLING	.5735 (228) P= .000	.6290 (235) P= .000	.3146 (234) P= .000	.5856 (235) P= .000	.6687 (233) P= .000	.5625 (216) P= .000

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	SITESUPV	SIZE	STAFF	TECH	TIME	UNDERORG
ACCESSBL	.4541 (164) P= .000	.2214 (232) P= .001	.2800 (217) P= .000	.3464 (222) P= .000	.3423 (233) P= .000	.3369 (230) P= .000
BESTINTS	.6403 (150) P= .000	.3779 (209) P= .000	.3358 (200) P= .000	.3231 (199) P= .000	.5247 (210) P= .000	.5150 (208) P= .000
BUSY	.4998 (164) P= .000	.3037 (231) P= .000	.3143 (216) P= .000	.2724 (219) P= .000	.5001 (231) P= .000	.4185 (228) P= .000
COMPETEN	.6493 (164) P= .000	.3128 (234) P= .000	.3592 (217) P= .000	.2691 (222) P= .000	.4758 (236) P= .000	.4780 (232) P= .000
CORRECT	.5267 (160) P= .000	.2680 (225) P= .000	.3676 (207) P= .000	.2842 (213) P= .000	.4797 (224) P= .000	.4511 (223) P= .000
COSTCONT	.5916 (157) P= .000	.3142 (204) P= .000	.4433 (189) P= .000	.3337 (196) P= .000	.5412 (204) P= .000	.4053 (200) P= .000
DESIGN	.3836 (130) P= .000	.2327 (154) P= .004	.3183 (147) P= .000	.4430 (150) P= .000	.4320 (155) P= .000	.4072 (155) P= .000
EXPERIEN	.5987 (166) P= .000	.3816 (236) P= .000	.3663 (219) P= .000	.4035 (224) P= .000	.4987 (237) P= .000	.4812 (234) P= .000
INVOLVED	.4901 (165) P= .000	.2558 (226) P= .000	.3089 (212) P= .000	.3526 (216) P= .000	.4640 (225) P= .000	.4386 (225) P= .000
LOCATION	.2758 (159) P= .000	.1158 (206) P= .097	.0384 (193) P= .596	.2270 (196) P= .001	.1418 (204) P= .043	.2974 (203) P= .000
LONGTERM	.5542 (153) P= .000	.3095 (208) P= .000	.3686 (196) P= .000	.2923 (201) P= .000	.5496 (206) P= .000	.4687 (210) P= .000

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	SITESUPV	SIZE	STAFF	TECH	TIME	UNDERORG
OFFICES	.1132 (137) P= .188	.0542 (175) P= .476	.3108 (175) P= .000	.2639 (175) P= .000	.1099 (174) P= .149	.2188 (175) P= .004
PERSONAL	.5364 (161) P= .000	.3391 (225) P= .000	.3134 (212) P= .000	.4104 (215) P= .000	.4108 (225) P= .000	.4322 (223) P= .000
POLITE	.3848 (167) P= .000	.3067 (230) P= .000	.3937 (219) P= .000	.2175 (221) P= .001	.3726 (231) P= .000	.3963 (232) P= .000
PRESENT	.4398 (163) P= .000	.3178 (231) P= .000	.4130 (214) P= .000	.4970 (218) P= .000	.3928 (232) P= .000	.3184 (228) P= .000
PROMPT	.5154 (167) P= .000	.3768 (234) P= .000	.3483 (217) P= .000	.2571 (221) P= .000	.8107 (235) P= .000	.3444 (232) P= .000
SAFE	.5593 (167) P= .000	.3237 (232) P= .000	.4115 (216) P= .000	.2992 (222) P= .000	.5266 (231) P= .000	.5047 (232) P= .000
SIMILAR	.4881 (154) P= .000	.1935 (214) P= .005	.3017 (201) P= .000	.2595 (206) P= .000	.4707 (214) P= .000	.5426 (216) P= .000
SITESUPV	1.0000 (168) P= .	.2633 (165) P= .001	.2676 (159) P= .001	.4005 (161) P= .000	.5194 (164) P= .000	.4479 (166) P= .000
SIZE	.2633 (165) P= .001	1.0000 (238) P= .	.2699 (215) P= .000	.2511 (221) P= .000	.4063 (233) P= .000	.2193 (231) P= .001
STAFF	.2676 (159) P= .001	.2699 (215) P= .000	1.0000 (220) P= .	.3292 (210) P= .000	.3513 (216) P= .000	.3188 (215) P= .000
TECH	.4005 (161) P= .000	.2511 (221) P= .000	.3292 (210) P= .000	1.0000 (226) P= .	.3085 (221) P= .000	.3705 (220) P= .000

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

-- Correlation Coefficients --

	SITESUPV	SIZE	STAFF	TECH	TIME	UNDERORG
TIME	.5194 (164) P= .000	.4063 (233) P= .000	.3513 (216) P= .000	.3085 (221) P= .000	1.0000 (238) P= .	.4145 (230) P= .000
UNDERORG	.4479 (166) P= .000	.2193 (231) P= .001	.3188 (215) P= .000	.3705 (220) P= .000	.4145 (230) P= .000	1.0000 (236) P= .
UNDERSTA	.5476 (161) P= .000	.3257 (224) P= .000	.2975 (210) P= .000	.2984 (214) P= .000	.4997 (223) P= .000	.5845 (225) P= .000
VERBALPR	.3866 (164) P= .000	.2441 (223) P= .000	.3646 (211) P= .000	.3653 (214) P= .000	.3832 (222) P= .000	.5881 (224) P= .000
WHEN	.4449 (158) P= .000	.4047 (216) P= .000	.2758 (203) P= .000	.2182 (207) P= .002	.7586 (217) P= .000	.3183 (216) P= .000
WILLING	.5754 (166) P= .000	.2761 (234) P= .000	.3586 (219) P= .000	.3112 (222) P= .000	.5170 (235) P= .000	.4848 (233) P= .000

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

-- Correlation Coefficients --

	UNDERSTA	VERBALPR	WHEN	WILLING
ACCESSBL	.4185 (225) P= .000	.3942 (222) P= .000	.4327 (216) P= .000	.5929 (235) P= .000
BESTINTS	.6521 (210) P= .000	.4509 (202) P= .000	.4709 (198) P= .000	.6138 (212) P= .000
BUSY	.5372 (223) P= .000	.3577 (222) P= .000	.5219 (215) P= .000	.7683 (234) P= .000
COMPETEN	.6029 (226) P= .000	.4353 (224) P= .000	.4359 (217) P= .000	.5477 (237) P= .000
CORRECT	.5737 (217) P= .000	.4460 (217) P= .000	.4569 (210) P= .000	.5014 (227) P= .000
COSTCONT	.5636 (195) P= .000	.3733 (196) P= .000	.5313 (189) P= .000	.4826 (203) P= .000
DESIGN	.4724 (153) P= .000	.4651 (153) P= .000	.3903 (148) P= .000	.4577 (157) P= .000
EXPERIEN	.5829 (227) P= .000	.4299 (226) P= .000	.4170 (219) P= .000	.5324 (239) P= .000
INVOLVED	.5428 (221) P= .000	.4417 (217) P= .000	.4520 (211) P= .000	.4636 (228) P= .000
LOCATION	.2008 (199) P= .004	.2678 (200) P= .000	.1759 (193) P= .014	.1777 (206) P= .011
LONGTERM	.6739 (204) P= .000	.2945 (206) P= .000	.5587 (197) P= .000	.6072 (210) P= .000

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	UNDERSTA	VERBALPR	WHEN	WILLING
OFFICES	.2047 (172) P= .007	.1476 (173) P= .053	.0905 (166) P= .246	.1479 (178) P= .049
PERSONAL	.5535 (220) P= .000	.4347 (216) P= .000	.4034 (210) P= .000	.5735 (228) P= .000
POLITE	.5056 (225) P= .000	.4489 (225) P= .000	.3721 (216) P= .000	.6290 (235) P= .000
PRESENT	.4609 (222) P= .000	.3817 (222) P= .000	.3056 (215) P= .000	.3146 (234) P= .000
PROMPT	.5044 (224) P= .000	.3373 (223) P= .000	.7722 (221) P= .000	.5856 (235) P= .000
SAFE	.6688 (226) P= .000	.4455 (223) P= .000	.5224 (215) P= .000	.6687 (233) P= .000
SIMILAR	.6662 (211) P= .000	.4332 (206) P= .000	.4479 (202) P= .000	.5625 (216) P= .000
SITESUPV	.5476 (161) P= .000	.3866 (164) P= .000	.4449 (158) P= .000	.5754 (166) P= .000
SIZE	.3257 (224) P= .000	.2441 (223) P= .000	.4047 (216) P= .000	.2761 (234) P= .000
STAFF	.2975 (210) P= .000	.3646 (211) P= .000	.2758 (203) P= .000	.3586 (219) P= .000
TECH	.2984 (214) P= .000	.3653 (214) P= .000	.2182 (207) P= .002	.3112 (222) P= .000

(Coefficient / (Cases) / 2-tailed Significance)

“ . ” is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	UNDERSTA	VERBALPR	WHEN	WILLING
TIME	.4997 (223) P= .000	.3832 (222) P= .000	.7586 (217) P= .000	.5170 (235) P= .000
UNDERORG	.5845 (225) P= .000	.5881 (224) P= .000	.3183 (216) P= .000	.4848 (233) P= .000
UNDERSTA	1.0000 (229) P= .	.3835 (216) P= .000	.5473 (210) P= .000	.6142 (226) P= .000
VERBALPR	.3835 (216) P= .000	1.0000 (228) P= .	.3256 (210) P= .000	.4418 (227) P= .000
WHEN	.5473 (210) P= .000	.3256 (210) P= .000	1.0000 (221) P= .	.5530 (220) P= .000
WILLING	.6142 (.226) P= .000	.4418 (227) P= .000	.5530 (220) P= .000	1.0000 (240) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

07 Aug 98 SPSS for MS WINDOWS Release 6.0

This software is functional through September 30, 1998.

-- Correlation Coefficients --

	QUALITY	SQSCORE	OFFICES	LOCATION
QUALITY	1.0000 (242) P= .	.5488 (242) P= .000	.1044 (177) P= .167	.1613 (207) P= .020
SQSCORE	.5488 (242) P= .000	1.0000 (244) P= .	.2271 (179) P= .002	.2512 (209) P= .000
OFFICES	.1044 (177) P= .167	.2271 (179) P= .002	1.0000 (179) P= .	.2014 (168) P= .009
LOCATION	.1613 (207) P= .020	.2512 (209) P= .000	.2014 (168) P= .009	1.0000 (209) P= .

	ACCESSBL	BESTINTS	BUSY	COMPETEN	CORRECT	COSTCONT
SQSCORE	.6547 (237) P= .000	.7653 (213) P= .000	.7221 (235) P= .000	.7911 (240) P= .000	.7086 (229) P= .000	.7226 (207) P= .000
	DESIGN	EXPERIEN	INVOLVED	LONGTERM	PERSONAL	POLITE
SQSCORE	.6566 (157) P= .000	.7675 (242) P= .000	.6845 (231) P= .000	.7894 (211) P= .000	.7178 (230) P= .000	.6629 (236) P= .000
	PRESENT	PROMPT	QUALITY	SAFE	SIMILAR	SITESUPV
SQSCORE	.5998 (236) P= .000	.7250 (239) P= .000	.5488 (242) P= .000	.8327 (237) P= .000	.7408 (218) P= .000	.7270 (168) P= .000
	SIZE	SQSCORE	STAFF	TECH	TIME	UNDERORG
SQSCORE	.4561 (238) P= .000	1.0000 (244) P= .	.5051 (220) P= .000	.4863 (226) P= .000	.7252 (238) P= .000	.6490 (236) P= .000
	UNDERSTA	VERBALPR	WHEN	WILLING		
SQSCORE	.7880 (229) P= .000	.6031 (228) P= .000	.6934 (221) P= .000	.7803 (240) P= .000		

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

----- FACTOR ANALYSIS -----

Analysis number 1 Pairwise deletion of cases with missing values

Kaiser-Meyer-Olkin Measure of Sampling Adequacy = .93362

Bartlett Test of Sphericity = 2283.6183, Significance .00000

Anti-image Covariance Matrix:

	ACCESSBL	BESTINTS	BUSY	CORRECT	COSTCONT
ACCESSBL	.40110				
BESTINTS	.05536	.32013			
BUSY	-.10893	.00572	.31549		
CORRECT	-.04174	-.01473	-.00378	.33737	
COSTCONT	.00318	-.07677	.03620	-.00682	.38451
DESIGN	-.02555	-.01114	.03899	.00466	-.04564
EXPERIEN	-.01214	-.03390	.02399	-.00566	.03143
INVOLVED	-.03184	-.00114	.02317	.03270	-.04386
LONGTERM	-.01815	-.00836	-.00995	-.00509	.00675
PERSONAL	-.06043	-.10372	-.02774	.02347	.02387
POLITE	-.02868	.00822	.02038	.11214	.02547
PRESENT	.04349	.07331	-.02559	-.05595	-.01953
PROMPT	-.02849	-.00517	.02478	.03724	.02228
SAFE	-.09152	-.04394	-.02474	-.00448	-.02492
SIMILAR	.04443	.03297	-.02339	-.00595	-.08826
SITESUPV	-.02763	-.06423	.00520	.02357	-.08030
SIZE	.02977	-.05510	-.03921	.01382	-.02029
STAFF	.02555	.00883	-.00808	-.05247	-.12565
TECH	-.07536	.01610	.01407	.01750	-.00782
TIME	.06422	-.01375	-.04005	-.03079	-.01246
UNDERORG	.02078	-.01350	-.01204	.00832	.02741
UNDERSTA	.03500	-.05466	.00322	-.04444	.00175
VERBALPR	-.04381	-.03590	.02717	-.06339	.02667
WHEN	-.03636	.02717	-.01240	-.02430	-.05751
WILLING	-.00049	-.02977	-.13353	-.03343	.00612
COMPETEN	.00755	.00823	-.01909	-.12377	-.01694

	DESIGN	EXPERIEN	INVOLVED	LONGTERM	PERSONAL
DESIGN	.45591				
EXPERIEN	-.00626	.31993			
INVOLVED	.07850	-.05842	.50867		
LONGTERM	.02850	-.01703	-.02740	.30945	
PERSONAL	-.07813	.00046	-.03972	-.03424	.38080
POLITE	.00508	.02133	-.04097	.02990	-.09639
PRESENT	-.10945	-.02911	-.04067	-.02285	-.03280
PROMPT	.07698	.03667	.00345	.00212	-.01561
SAFE	-.00323	-.03510	-.00809	-.03591	.04369
SIMILAR	-.05468	-.01868	-.01064	-.10333	.00244
SITESUPV	.07731	-.01283	-.00793	.00309	-.03385
SIZE	.05128	-.07136	.05204	-.00313	-.02993
STAFF	.02338	-.00885	.01693	-.04580	.01995
TECH	-.09720	-.05441	-.04250	.00096	-.04474
TIME	-.06395	-.03681	-.01716	-.01209	.02389
UNDERORG	.01194	.00085	-.00752	-.01685	.00459
UNDERSTA	-.00074	.00373	-.04013	-.02771	-.01479
VERBALPR	-.05119	.01040	-.07040	.09505	-.00484
WHEN	-.04459	.01213	-.03058	-.03208	.00807
WILLING	-.04734	-.01908	.01423	-.01730	.01252
COMPETEN	-.05051	-.09668	.00082	-.03187	.00353

	POLITE	PRESENT	PROMPT	SAFE	SIMILAR
POLITE	.35388				
PRESENT	.01508	.47063			
PROMPT	.01886	-.05767	.22324		
SAFE	-.07408	-.04156	-.02395	.26673	
SIMILAR	-.01200	.03296	-.04382	-.00454	.33942
SITESUPV	.05014	-.05983	-.00838	.01561	.02933
SIZE	-.04664	-.05942	-.00735	.01694	.06570
STAFF	-.09121	-.08445	-.02878	-.01137	.04927
TECH	.04335	-.11530	.00441	.03499	.01395
TIME	-.01836	.01568	-.12000	.00398	.01724
UNDERORG	.02572	.05954	.02333	-.01809	-.04423
UNDERSTA	-.02918	-.07390	.01699	-.03369	-.06449
VERBALPR	-.05802	-.05261	.00741	.00714	-.05637
WHEN	.01096	.05862	-.08615	.01119	.03538
WILLING	-.08753	.05879	-.04593	-.00134	-.00560
COMPETEN	-.07855	.03719	-.03025	-.01442	-.02263
	SITESUPV	SIZE	STAFF	TECH	TIME
SITESUPV	.36173				
SIZE	.05287	.68599			
STAFF	.07232	-.02217	.62013		
TECH	-.06832	-.04949	-.06941	.56517	
TIME	-.03309	-.02107	-.00498	-.01090	.23476
UNDERORG	-.01247	.00962	-.03203	-.07496	-.04294
UNDERSTA	-.00383	-.01739	.04900	.01925	.02608
VERBALPR	-.00321	-.02049	-.04497	-.00860	-.00490
WHEN	.01850	-.06611	.03613	.02657	-.07269
WILLING	-.05818	.03851	-.01484	-.01279	.03520
COMPETEN	-.08340	-.01028	.01040	.05143	.02979

	UNDERORG	UNDERSTA	VERBALPR	WHEN	WILLING
UNDERORG	.44489				
UNDERSTA	-.10354	.30135			
VERBA-LPR	-.17656	.06885	.46039		
WHEN	.04188	-.06388	-.02401	.27370	
WILLING	-.00920	-.02202	-.01509	-.01252	.25006
COMPETEN	-.00496	.01241	.00615	.01998	.04591
COMPETEN					
COMPETEN	.21723				

Anti-image Correlation Matrix:

	ACCESSBL	BESTINTS	BUSY	CORRECT	COSTCONT	DESIGN	EXPERIEN
ACCESSBL	.92393						
BESTINTS	.15450	.95060					
BUSY	-.30621	.01799	.93339				
CORRECT	-.11347	-.04483	-.01158	.92455			
COSTCONT	.00809	-.21881	.10394	-.01894	.94791		
DESIGN	-.05975	-.02917	.10280	.01188	-.10901	.91688	
EXPERIEN	-.03389	-.10593	.07551	-.01723	.08962	-.01638	.95870
INVOLVED	-.07049	-.00282	.05784	.07893	-.09917	.16300	-.14481
LONGTERM	-.05151	-.02655	-.03184	-.01575	.01956	.07587	-.05412
PERSONAL	-.15461	-.29707	-.08004	.06547	.06239	-.18752	.00133
POLITE	-.07613	.02442	.06101	.32454	.06905	.01264	.06338
PRESENT	.10010	.18888	-.06642	-.14041	-.04590	-.23628	-.07502
PROMPT	-.09520	-.01934	.09339	.13569	.07606	.24130	.13722
SAFE	-.27981	-.15035	-.08530	-.01493	-.07781	-.00927	-.12014
SIMILAR	.12041	.10003	-.07148	-.01757	-.24431	-.13900	-.05669
SITESUPV	-.07255	-.18874	.01540	.06747	-.21531	.19036	-.03770
SIZE	.05676	-.11757	-.08429	.02874	-.03950	.09170	-.15233
STAFF	.05124	.01982	-.01826	-.11472	-.25732	.04396	-.01986
TECH	-.15828	.03786	.03332	.04009	-.01676	-.19148	-.12795
TIME	.20929	-.05015	-.14718	-.10942	-.04146	-.19548	-.13433
UNDERORG	.04918	-.03578	-.03214	.02147	.06626	.02652	.00225
UNDERSTA	.10068	-.17599	.01044	-.13937	.00515	-.00198	.01201
VERBALPR	-.10195	-.09352	.07129	-.16084	.06339	-.11174	.02710
WHEN	-.10974	.09179	-.04221	-.07996	-.17726	-.12624	.04099
WILLING	-.00155	-.10521	-.47542	-.11510	.01973	-.14021	-.06747
COMPETEN	.02556	.03119	-.07293	-.45719	-.05860	-.16049	-.36674

	INVOLVED	LONGTERM	PERSONAL	POLITE	PRESENT	PROMPT	SAFE
INVOLVED	.97001						
LONGTERM	-.06907	.96300					
PERSONAL	-.09026	-.09974	.95076				
POLITE	-.09656	.09035	-.26258	.90178			
PRESENT	-.08312	-.05988	-.07747	.03696	.89902		
PROMPT	.01022	.00806	-.05353	.06711	-.17792	.90044	
SAFE	-.02197	-.12498	.13709	-.24111	-.11729	-.09816	.96582
SIMILAR	-.02560	-.31884	.00678	-.03464	.08247	-.15920	-.01507
SITESUPV	-.01850	.00925	-.09120	.14013	-.14500	-.02951	.05027
SIZE	.08811	-.00680	-.05856	-.09466	-.10458	-.01878	.03960
STAFF	.03014	-.10455	.04105	-.19470	-.15633	-.07736	-.02796
TECH	-.07926	.00229	-.09644	.09694	-.22356	.01241	.09013
TIME	-.04966	-.04485	.07991	-.06370	.04717	-.52420	.01589
UNDERORG	-.01581	-.04541	.01116	.06483	.13013	.07403	-.05252
UNDERSTA	-.10251	-.09075	-.04365	-.08935	-.19623	.06550	-.11885
VERBA-LPR	-.14548	.25181	-.01155	-.14375	-.11303	.02313	.02039
WHEN	-.08197	-.11022	.02499	.03521	.16333	-.34850	.04142
WILLING	.03989	-.06218	.04058	-.29423	.17137	-.19441	-.00520
COMPETEN	.00247	-.12292	.01227	-.28331	.11632	-.13736	-.05990
	SIMILAR	SITESUPV	SIZE	STAFF	TECH	TIME	UNDERORG
SIMILAR	.94263						
SITESUPV	.08371	.94044					
SIZE	.13616	.10613	.93318				
STAFF	.10739	.15270	-.03400	.92097			
TECH	.03185	-.15110	-.07948	-.11725	.91279		
TIME	.06107	-.11354	-.05249	-.01306	-.02991	.90963	
UNDERORG	-.11381	-.03110	.01742	-.06098	-.14949	-.13286	.93188
UNDERSTA	-.20165	-.01160	-.03825	.11334	.04664	.09807	-.28277
VERBALPR	-.14259	-.00786	-.03647	-.08416	-.01685	-.01490	-.39012
WHEN	.11608	.05880	-.15256	.08769	.06757	-.28676	.12001
WILLING	-.01924	-.19344	.09297	-.03769	-.03403	.14526	-.02760
COMPETEN	-.08335	-.29751	-.02663	.02834	.14677	.13190	-.01596
	UNDERSTA	VERBALPR	WHEN	WILLING	COMPETEN		
UNDERSTA	.94868						
VERBALPR	.18485	.91028					
WHEN	-.22244	-.06763	.92331				
WILLING	-.08022	-.04446	-.04785	.92757			
COMPETEN	.04850	.01946	.08193	.19700	.91331		

Measures of Sampling Adequacy (MSA) are printed on the diagonal.

Extraction 1 for analysis 1, Principal Components Analysis (PC)

Initial Statistics:

Variable	Communality	Factor	Eigenvalue	Pct of Var	Cum Pct
ACCESSBL	1.00000	1	12.68120	48.8	48.8
BESTINTS	1.00000	2	1.47356	5.7	54.4
BUSY	1.00000	3	1.30605	5.0	59.5
CORRECT	1.00000	4	1.14389	4.4	63.9
COSTCONT	1.00000	5	.88221	3.4	67.3
DESIGN	1.00000	6	.84036	3.2	70.5
EXPERIEN	1.00000	7	.82440	3.2	73.7
INVOLVED	1.00000	8	.72215	2.8	76.4
LONGTERM	1.00000	9	.67329	2.6	79.0
PERSONAL	1.00000	10	.62294	2.4	81.4
POLITE	1.00000	11	.61060	2.3	83.8
PRESENT	1.00000	12	.47832	1.8	85.6
PROMPT	1.00000	13	.45558	1.8	87.4
SAFE	1.00000	14	.39464	1.5	88.9
SIMILAR	1.00000	15	.37051	1.4	90.3
SITESUPV	1.00000	16	.36398	1.4	91.7
SIZE	1.00000	17	.31476	1.2	92.9
STAFF	1.00000	18	.30128	1.2	94.1
TECH	1.00000	19	.25509	1.0	95.1
TIME	1.00000	20	.24299	.9	96.0
UNDERORG	1.00000	21	.22504	.9	96.9
UNDERSTA	1.00000	22	.19929	.8	97.6
VERBALPR	1.00000	23	.18416	.7	98.3
WHEN	1.00000	24	.17342	.7	99.0
WILLING	1.00000	25	.15551	.6	99.6
COMPETEN	1.00000	26	.10477	.4	100.0

PC extracted 4 factors.

----- FACTOR ANALYSIS -----

Factor Matrix:

	Factor 1	Factor 2	Factor 3	Factor 4
ACCESSBL	.65176	-.03445	-.31063	.35158
BESTINTS	.77948	.01025	-.06067	-.09629
BUSY	.72481	-.22824	-.27689	.24203
CORRECT	.71597	.08355	.03567	-.33255
COSTCONT	.72829	.00059	.20957	-.24533
DESIGN	.64225	.31423	.10449	.01395
EXPERIEN	.77814	.15981	-.00452	-.17267
INVOLVED	.67942	.05674	.00369	.01072
LONGTERM	.79174	-.14954	-.07276	-.21021
PERSONAL	.72542	.13715	-.15440	.23862
POLITE	.66751	.00550	-.34319	.33667
PRESENT	.59027	.34319	.38649	.04516
PROMPT	.71595	-.47684	.26846	.09586
SAFE	.83331	-.05582	-.19610	.01520
SIMILAR	.74404	.00980	-.14812	-.32686
SITESUPV	.73691	.01975	.01355	-.15411
SIZE	.45396	-.12382	.38404	.26401
STAFF	.50944	.20153	.24508	.20838
TECH	.48431	.46916	.32211	.27978
TIME	.71853	-.37261	.38393	.02103
UNDERORG	.64645	.25812	-.10223	-.09047
UNDERSTA	.79034	-.03082	-.09252	-.20883
VERBALPR	.60238	.34845	-.00004	.17272
WHEN	.68735	-.50707	.26617	.06381
WILLING	.78668	-.17130	-.27803	.18999
COMPETEN	.79813	.07340	-.13516	-.28526

Final Statistics:

Variable	Communality	Factor	Eigenvalue	Pct of Var	Cum Pct
ACCESSBL	.64607	1	12.68120	48.8	48.8
BESTINTS	.62064	2	1.47356	5.7	54.4
BUSY	.71269	3	1.30605	5.0	59.5
CORRECT	.63145	4	1.14389	4.4	63.9
COSTCONT	.63451				
DESIGN	.52234				
EXPERIEN	.66087				
INVOLVED	.46496				
LONGTERM	.69869				
PERSONAL	.62582				
POLITE	.67673				
PRESENT	.61761				
PROMPT	.82122				
SAFE	.73621				
SIMILAR	.68248				
SITESUPV	.56736				
SIZE	.43860				
STAFF	.40363				
TECH	.63669				
TIME	.80296				
UNDERORG	.50316				
UNDERSTA	.67775				
VERBALPR	.51411				
WHEN	.80448				
WILLING	.76160				
COMPETEN	.74204				

OBLIMIN rotation 1 for extraction 1 in analysis 1 - Kaiser Normalization.

OBLIMIN converged in 20 iterations.

Pattern Matrix:

	Factor 1	Factor 2	Factor 3	Factor 4
ACCESSBL	-.03661	-.03279	.06167	.78898
BESTINTS	.55394	-.10172	.06536	.21101
BUSY	.09483	-.21087	-.11254	.71400
CORRECT	.80943	-.04191	.06308	-.11274
COSTCONT	.66587	-.25700	.14280	-.16538
DESIGN	.37760	.04155	.43769	.08221
EXPERIEN	.66771	.00087	.18513	.07290
INVOLVED	.36706	-.10993	.17328	.21391
LONGTERM	.67138	-.20419	-.12164	.14651
PERSONAL	.15184	.00850	.25606	.55424
POLITE	.00311	.02354	.07039	.80228
PRESENT	.27315	-.12977	.63617	-.14864
PROMPT	.13724	-.77155	-.05433	.15638
SAFE	.45408	-.09776	-.00907	.45192
SIMILAR	.83162	.01933	-.09985	.06721
SITESUPV	.59231	-.12405	.08369	.08168
SIZE	-.16100	-.53696	.33244	.07448
STAFF	.02254	-.16612	.49681	.11193
TECH	-.03855	-.00717	.78855	.06366
TIME	.23324	-.75024	.06582	-.02254
UNDERORG	.52920	.16371	.22046	.17276
UNDERSTA	.69516	-.09083	-.03690	.14660
VERBALPR	.18342	.11796	.46835	.29492
WHEN	.15555	-.78165	-.10000	.12496
WILLING	.20380	-.16469	-.08002	.67968
COMPETEN	.82031	.04194	-.01180	.10138

Structure Matrix:

	Factor 1	Factor 2	Factor 3	Factor 4
ACCESSBL	.48297	-.33687	.33351	.80120
BESTINTS	.75672	-.45478	.40961	.60863
BUSY	.57467	-.49731	.24008	.81280
CORRECT	.78781	-.38672	.38745	.41577
COSTCONT	.74553	-.53826	.44651	.38708
DESIGN	.59892	-.28586	.61944	.44940
EXPERIEN	.79206	-.38479	.50132	.54223
INVOLVED	.62233	-.40889	.43949	.53963
LONGTERM	.80060	-.53366	.27975	.58864
PERSONAL	.59502	-.34613	.51546	.73331
POLITE	.50876	-.30628	.34839	.81996
PRESENT	.51951	-.37633	.73906	.29128
PROMPT	.56139	-.87925	.27738	.51709
SAFE	.76851	-.47688	.37565	.76127
SIMILAR	.82000	-.35909	.28051	.52807
SITESUPV	.73498	-.45007	.40525	.51759
SIZE	.27458	-.58532	.43949	.30092
STAFF	.38264	-.35907	.59281	.36489
TECH	.34659	-.23555	.79626	.32150
TIME	.59162	-.86681	.37018	.43053
UNDERORG	.65486	-.20688	.46586	.50805
UNDERSTA	.80943	-.45501	.34302	.58943
VERBALPR	.51191	-.21101	.61919	.52596
WHEN	.54542	-.87282	.23144	.48452
WILLING	.65588	-.49694	.29495	.83818
COMPETEN	.85736	-.36918	.36934	.57777

Factor Correlation Matrix:

	Factor 1	Factor 2	Factor 3	Factor 4
Factor 1	1.00000			
Factor 2	-.45768	1.00000		
Factor 3	.43536	-.28094	1.00000	
Factor 4	.60550	-.38468	.35307	1.00000

RELIABILITY ANALYSIS SCALE (WHAT)

1.	BESTINTS	MY BEST INTERESTS AT HEART
2.	CORRECT	SERVICE TECHNICALLY CORRECT
3.	COSTCONT	COST CONTROL
4.	DESIGN	DESIGN ELEMENT
5.	EXPERIEN	RELEVANT EXPERIENCE
6.	INVOLVED	PARTNERS STAY INVOLVED
7.	LONGTERM	LONG TERM RELATIONSHIP
8.	PRESENT	WRITTEN & GRAPHICAL PRESENTATION
9.	SAFE	FEEL SAFE
10.	SIMILAR	SIMILAR VIEWS
11.	SITESUPV	SITE SUPERVISION
12.	UNDERORG	UNDERSTAND ORGANISATION
13.	UNDERSTA	UNDERSTAND MY PROBLEMS
14.	COMPETEN	KNOWLEDGE & COMPETENCE

Statistics for SCALE	Mean 59.4646	Variance 102.0880	Std Dev 10.1039	N of Variables 14
-------------------------	-----------------	----------------------	--------------------	-------------------------

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
BESTINTS	55.4141	88.4492	.7723	.9425
CORRECT	55.1818	90.2727	.7393	.9435
COSTCONT	55.4444	86.1474	.7382	.9435
DESIGN	55.0202	91.8363	.5964	.9467
EXPERIEN	55.1414	87.6125	.8211	.9413
INVOLVED	55.0505	88.4362	.6572	.9456
LONGTERM	55.2626	85.8691	.7941	.9418
PRESENT	55.1111	92.8549	.5291	.9482
SAFE	55.0606	85.2208	.8410	.9404
SIMILAR	55.2929	87.5970	.7378	.9433
SITESUPV	55.3838	89.1981	.7211	.9437
UNDERORG	55.2525	90.0478	.6520	.9455
UNDERSTA	55.2828	85.9600	.8124	.9412
COMPETEN	55.1414	87.8369	.8066	.9416

Reliability Coefficients

N of Cases = 99.0

N of Items = 14

Alpha = .9474

RELIABILITY ANALYSIS SCALE (WHEN)

- | | | |
|----|----------|-----------------------------|
| 1. | COSTCONT | COST CONTROL |
| 2. | PROMPT | PROMPT SERVICE |
| 3. | SIZE | SIZE APPROPRIATE TO SERVICE |
| 4. | TIME | TIME PROMISED |
| 5. | WHEN | TELLS WHEN PERFORMING |

Statistics for SCALE	Mean 20.7158	Variance 12.6990	Std Dev 3.5636	N of Variables 5
-------------------------	-----------------	---------------------	-------------------	------------------------

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
COSTCONT	16.6721	8.1996	.5864	.8613
PROMPT	16.4590	7.4255	.8005	.7976
SIZE	16.5574	10.7755	.4309	.8836
TIME	16.5902	7.4410	.8266	.7900
WHEN	16.5847	8.2112	.8009	.8024

Reliability Coefficients

N of Cases = 183.0

N of Items = 5

Alpha = .8606

R E L I A B I L I T Y A N A L Y S I S S C A L E (H O W)

- | | | |
|----|----------|----------------------------------|
| 1. | DESIGN | DESIGN ELEMENT |
| 2. | PERSONAL | PROVIDE PERSONAL ATTENTION |
| 3. | PRESENT | WRITTEN & GRAPHICAL PRESENTATION |
| 4. | SIZE | SIZE APPROPRIATE TO SERVICE |
| 5. | STAFF | STAFF TIDY APPEARANCE |
| 6. | TECH | UP-TO-DATE TECHNOLOGY |
| 7. | VERBALPR | VERBAL PRESENTATION |

Statistics for SCALE	Mean	Variance	Std Dev	N of Variables
	29.9556	11.3711	3.3721	7

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
DESIGN	25.5852	7.8117	.6228	.7675
PERSONAL	25.5407	8.1606	.6215	.7677
PRESENT	25.6074	7.7328	.6581	.7598
SIZE	25.7852	9.7371	.3842	.8067
STAFF	25.7630	9.3762	.4400	.7991
TECH	25.7259	8.4691	.5664	.7783
VERBALPR	25.7259	9.0661	.4983	.7902

Reliability Coefficients

N of Cases = 135.0

N of Items = 7

Alpha = .8078

RELIABILITY ANALYSIS SCALE (W H O)

- | | | |
|----|----------|----------------------------|
| 1. | ACCESSBL | EASILY ACCESSIBLE |
| 2. | BUSY | NEVER TOO BUSY |
| 3. | PERSONAL | PROVIDE PERSONAL ATTENTION |
| 4. | POLITE | EMPLOYEES POLITE |
| 5. | SAFE | FEEL SAFE |
| 6. | VERBALPR | VERBAL PRESENTATION |
| 7. | WILLING | WILLING TO HELP |

Statistics for SCALE	Mean	Variance	Std Dev	N of Variables
	30.4571	19.1010	4.3705	7

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
ACCESSBL	26.1381	14.1483	.6968	.8837
BUSY	26.1238	13.8123	.7433	.8781
PERSONAL	26.0857	14.8156	.6769	.8861
POLITE	26.0810	14.8307	.7061	.8834
SAFE	26.1333	13.0156	.7745	.8748
VERBALPR	26.2667	15.9573	.5161	.9018
WILLING	25.9143	13.3228	.8109	.8695

Reliability Coefficients

N of Cases 210.0 N of Items = 7

Alpha = .8981

RELIABILITY ANALYSIS SCALE (SURVEYQUAL)

1.	ACCESSBL	EASILY ACCESSIBLE
2.	BESTINTS	MY BEST INTERESTS AT HEART
3.	BUSY	NEVER TOO BUSY
4.	COMPETEN	KNOWLEDGE & COMPETENCE
5.	CORRECT	SERVICE TECHNICALLY CORRECT
6.	COSTCONT	COST CONTROL
7.	DESIGN	DESIGN ELEMENT
8.	EXPERIEN	RELEVANT EXPERIENCE
9.	INVOLVED	PARTNERS STAY INVOLVED
10.	LONGTERM	LONG TERM RELATIONSHIP
11.	PERSONAL	PROVIDE PERSONAL ATTENTION
12.	POLITE	EMPLOYEES POLITE
13.	PRESENT	WRITTEN & GRAPHICAL PRESENTATION
14.	PROMPT	PROMPT SERVICE
15.	SAFE	FEEL SAFE
16.	SIMILAR	SIMILAR VIEWS
17.	SITESUPV	SITE SUPERVISION
18.	SIZE	SIZE APPROPRIATE TO SERVICE
19.	STAFF	STAFF TIDY APPEARANCE
20.	TECH	UP-TO-DATE TECHNOLOGY
21.	TIME	TIME PROMISED
22.	UNDERORG	UNDERSTAND ORGANISATION
23.	UNDERSTA	UNDERSTAND MY PROBLEMS
24.	VERBALPR	VERBAL PRESENTATION
25.	WHEN	TELLS WHEN PERFORMING
26.	WILLING	WILLING TO HELP

Statistics for SCALE	Mean	Variance	Std Dev	N of Variables
	110.9121	276.9477	16.6417	26

RELIABILITY ANALYSIS SCALE (SURVEYQUAL)

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
ACCESSBL	106.5385	259.6068	.5955	.9626
BESTINTS	106.8462	253.0872	.7894	.9609
BUSY	106.5495	257.6281	.7312	.9615
COMPETEN	106.5824	253.7348	.7859	.9610
CORRECT	106.6374	256.6559	.7629	.9613
COSTCONT	106.9011	250.0012	.7471	.9614
DESIGN	106.4835	260.2303	.6077	.9625
EXPERIEN	106.5934	253.1551	.8093	.9608
INVOLVED	106.4835	252.9858	.6957	.9618
LONGTERM	106.7143	249.8508	.7953	.9609
PERSONAL	106.4286	258.8254	.7426	.9615
POLITE	106.4835	260.0525	.6776	.9620
PRESENT	106.5385	259.5179	.5988	.9626
PROMPT	106.7033	252.9665	.7095	.9617
SAFE	106.5165	248.8303	.8408	.9604
SIMILAR	106.7363	253.5741	.7238	.9615
SITESUPV	106.8352	254.5392	.7330	.9614
SIZE	106.7033	268.7443	.4232	.9636
STAFF	106.7143	266.7619	.4571	.9635
TECH	106.6374	264.1448	.5281	.9630
TIME	106.8132	252.2869	.7270	.9615
UNDERORG	106.7473	257.0354	.6541	.9621
UNDERSTA	106.7253	250.0015	.7932	.9609
VERBALPR	106.6813	264.6418	.5951	.9626
WHEN	106.8462	258.6650	.6392	.9622
WILLING	106.3626	249.6781	.8490	.9603

Reliability Coefficients

N of Cases 91.0 N of Items 26

Alpha = .9632

-- Computing SURVEYQUAL Scores - -

SPSS/PC+ The Statistical Package for IBM PC

GET /FILE 'A: survqual'.

The SPSS/PC+ system file is read from file A:survqual

The file was created on 10/3/96 at 12:11:47 and is titled

SPSS/PC+

The SPSS/PC+ system file contains

244 cases, each consisting of

42 variables (including system variables).

42 variables will be used in this session.

COMPUTE SQTOTAL = VALUE(TECH) + VALUE(STAFF) + VALUE(PRESENT) +
VALUE(SIZE) + VALUE(CORRECT) + VALUE(DESIGN) + VALUE(TIME) + VALUE(WHEN) +
VALUE(PROMPT) + VALUE(WILLING) + VALUE(BUSY) + VALUE(ACCESSBL) + VALUE(SAFE) +
VALUE(POLITE) + VALUE(COMPETEN) + VALUE(EXPERIEN) + VALUE(PERSONAL) +
VALUE(BESTINTS) + VALUE(UNDERSTA) + VALUE(LONGTERM) + VALUE(SIMILAR) +
VALUE(COSTCONT) + VALUE(INVOLVED) + VALUE(SITESUPV) + VALUE(VERBALPR) +
VALUE(UNDERORG).

COUNT MISSVALS = TECH STAFF TO SITESUPV VERBALPR UNDERORG (MISSING).

COMPUTE VALIDVAR = 26 - MISSVALS.

COMPUTE SQSCORE = SQTOTAL / VALIDVAR.

FORMATS SQSCORE (F8.7).

DESCRIPTIVES VARIABLES SQSCORE.

The raw data or transformation pass is proceeding

244 cases are written to the uncompressed active file.

Number of Valid Observations (Listwise) = 244.00

Variable	Mean	Std Dev	Minimum	Maximum	N Label
SQSCORE	4.22	.55	2.739130	6.153846	244

----- ONE WAY -----

By	Variable Variable	SQSCORE QUALITY	SERVICE QUALITY SCORE OVERALL QUALITY RATING
----	----------------------	--------------------	---

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	4	22.6473	5.6618	26.1396	.0000
Within Groups	237	51.3343	.2166		
Total	241	73.9816			

Group	Count	Mean	Standard Deviation	Standard Error	95 Pct Conf Int for Mean
Poor	8	3.2942	.2999	.1060	3.0435 TO 3.5449
Average	28	3.7283	.4068	.0769	3.5705 TO 3.8861
Good	82	4.1077	.3225	.0356	4.0368 TO 4.1785
Very Goo	99	4.4022	.4965	.0499	4.3032 TO 4.5013
Excellen	25	4.6539	.7544	.1509	4.3425 TO 4.9653
Total	242	4.2138	.5541	.0356	4.1437 TO 4.2840

GROUP	MINIMUM	MAXIMUM
Poor	2.9200	3.7200
Average	2.7391	4.3750
Good	3.2308	4.8750
Very Goo	3.8000	6.0769
Excellen	4.0000	6.1538
TOTAL	2.7391	6.1538

Levene Test for Homogeneity of Variances

Statistic	df1	df2	2-tail Sig.
10.5318	4	237	.000

---- ONE WAY ----

By	Variable	SQSCORE	SERVICE QUALITY SCORE
	Variable	QUALITY	OVERALL QUALITY RATING

Multiple Range Tests: Duncan test with significance level .05

The difference between two means is significant if
 $MEAN(J) - MEAN(I) \geq .3291 * RANGE * \sqrt{1/N(I) + 1/N(J)}$
 with the following value(s) for RANGE:

Step	2	3	4	5
RANGE	2.79	2.94	3.03	3.10

(*) Indicates significant differences which are shown in the lower triangle

P	A	G	V	E
o	v	o	e	x
o	e	o	r	c
r	r	d	y	e
	a			l
	g		G	l
	e		o	e
			o	n

Mean	QUALITY
------	---------

3.2942	Poor				
3.7283	Average	*			
4.1077	Good	*	*		
4.4022	Very Goo	*	*	*	
4.6539	Excellen	*	*	*	*

----- ONE WAY -----

By	Variable Variable	SQSCORE RECOMEND	SERVICE QUALITY SCORE HOW LIKELY TO RECOMEND
----	----------------------	---------------------	---

Analysis of Variance

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	18.4734	9.2367	39.6406	.0000
Within Groups	241	56.1555	.2330		
Total	243	74.6289			

Group	Count	Mean	Standard Deviation	Standard Error	95 Pct Conf Int for Mean
Not Like	21	3.4656	.4509	.0984	3.2604 TO 3.6708
Likely	98	4.1093	.3899	.0394	4.0311 TO 4.1875
Very lik	125	4.4264	.5488	.0491	4.3292 TO 4.5235
Total	244	4.2163	.5542	.0355	4.1464 TO 4.2862

GROUP	MINIMUM	MAXIMUM
Not Like	2.7391	4.2308
Likely	3.2308	6.0000
Very lik	3.7308	6.1538
TOTAL	2.7391	6.1538

Levene Test for Homogeneity of Variances

Statistic	df1	df2	2-tail Sig.
5.0659	2	241	.007

----- O N E W A Y -----

	Variable	SQSCORE	SERVICE QUALITY SCORE
By	Variable	RECOMEND	HOW LIKELY TO RECOMEND

Multiple Range Tests: Duncan test with significance level .05

The difference between two means is significant if
 $MEAN(J) - MEAN(I) \geq .3413 * RANGE * \sqrt{1/N(I) + 1/N(J)}$
 with the following value(s) for RANGE:

Step	2	3
RANGE	2.79	2.94

(*) Indicates significant differences which are shown in the lower triangle

		N	L	V
		o	i	e
		t	k	r
			e	y
	L	L		
	i	y		
	k			
	e			k
Mean	RECOMEND			
3.4656	Not Like			
4.1093	Likely	*		
4.4264	Very lik	*	*	

02 Nov 97 SPSS for MS WINDOWS Release 6.0

File: SPSS/PC+

- - Description of Subpopulations - -

Summaries of By levels of		SQSCORE APPOINT	SERVICE QUALITY SCORE METHOD OF APPOINTMENT		
Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.22100295	.549554978	238
APPOINT	1	Compet. Fee Tendering	4.17170531	.462014495	127
APPOINT	2	By Negotiation	4.30595876	.605452279	72
APPOINT	3	Direct Appointment	4.22469480	.684901451	39

Total Cases = 238

- - Analysis of Variance - -

Dependent Variable By levels of		SQSCORE APPOINT	SERVICE QUALITY SCORE METHOD OF APPOINTMENT		
Value	Label	Mean	Std Dev	Sum of Sq	Cases
1	Compet. Fee Tendering	4.17170531	.462014495	26.8956316	127
2	By Negotiation	4.30595876	.605452279	26.0266448	72
3	Direct Appointment	4.22469480	.684901451	17.8254199	39
Within Groups Total		4.22100295	.548683904	70.7476963	238

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	.8288	2	.4144	1.3766	.2545
Within Groups	70.7477	235	.3011		
Eta = .1076		Eta Squared = .0116			

- - Description of Subpopulations - -

Summaries of By levels of		QUALITY APPOINT	OVERALL QUALITY RATING METHOD OF APPOINTMENT		
Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.4407	.9275	236
APPOINT	1	Compet. Fee Tendering	4.3413	.8869	126
APPOINT	2	By Negotiation	4.7042	.9164	71
APPOINT	3	Direct Appointment	4.2821	.9986	39

Total Cases = 238

Missing Cases = 2 or .8 Pct

- - Analysis of Variance - -

Dependent Variable By levels of		QUALITY APPOINT	OVERALL QUALITY RATING METHOD OF APPOINTMENT		
Value	Label	Mean	Std Dev	Sum of Sq	Cases
1	Compet. Fee Tendering	4.3413	.8869	98.3254	126
2	By Negotiation	4.7042	.9164	58.7887	71
3	Direct Appointment	4.2821	.9986	37.8974	39
Within Groups Total		4.4407	.9149	195.0116	236

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	7.1579	2	3.5790	4.2761	.0150
Within Groups	195.0116	233	.8370		
Eta = .1882		Eta Squared = .0354			

-- Description of Subpopulations --

Summaries of SQSCORE SERVICE QUALITY SCORE
By levels of SPECIFD HOW WELL SERVICE SPECIFIED

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.16662895	.480123798	129
SPECIFD	1	Not Very Well Spec'd	3.65217391	.	1
SPECIFD	2	Adequately Specified	4.12799877	.481339544	56
SPECIFD	3	Very Well Specified	4.20381985	.479374117	72

Total Cases = 238
Missing Cases = 109 or 45.8 Pct

-- Analysis of Variance --

Dependent variable SQSCORE SERVICE QUALITY SCORE
By levels of SPECIFD HOW WELL SERVICE SPECIFIED

Value	Label	Mean	Std Dev	Sum of Sq	Cases
1	Not Very Well Spec'd	3.65217391	.	.000000000	1
2	Adequately Specified	4.12799877	.481339544	12.7428266	56
3	Very Well Specified	4.20381985	.479374117	16.3157676	72
Within Groups Total		4.16662895	.480233031	29.0585942	129

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	.4478	2	.2239	.9709	.3816
Within Groups	29.0586	126	.2306		
Eta = .1232		Eta Squared = .0152			

- - Description of Subpopulations - -

Summaries of By levels of		QUALITY SPECIFD	OVERALL QUALITY RATING HOW WELL SERVICE SPECIFIED		
Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.3281	.8883	128
SPECIFD	1	Not Very Well Spec'd	4.0000	.	1
SPECIFD	2	Adequately Specified	4.3036	.7609	56
SPECIFD	3	Very Well Specified	4.3521	.9870	71

Total Cases = 244
Missing Cases = 116 or 47.5 Pct

- - Analysis of Variance - -

Dependent variable By levels of		QUALITY SPECIFD	OVERALL QUALITY RATING HOW WELL SERVICE SPECIFIED		
Value	Label	Mean	Std Dev	Sum of Sq	Cases
1	Not Very Well Spec'd	4.0000	.	.00000	1
2	Adequately Specified	4.3036	.7609	31.8393	56
3	Very Well Specified	4.3521	.9870	68.1972	71
Within Groups Total		4.3281	.8946	100.03565	128

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	.1823	2	.0911	.1139	.8925
Within Groups	100.0365	125	.8003		
Eta = .0426		Eta Squared = .0018			

-- Description of Subpopulations --

Summaries of SQSCORE SERVICE QUALITY SCORE
By levels of PRESELECT CARE GIVEN TO PRESELECTION

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.16662895	.480123798	129
PRESELECT	1	Insufficient Care	3.38956522	.919853691	2
PRESELECT	2	Sufficient Care	4.11829371	.439679966	52
PRESELECT	3	Great Care	4.22086308	.482830860	75

Total Cases = 238
Missing Cases = 109 or 45.8 Pct

-- Analysis of Variance --

Dependent variable SQSCORE SERVICE QUALITY SCORE
By levels of PRESELECT CARE GIVEN TO PRESELECTION

	Value	Label	Mean	Std Dev	Sum of Sq	Cases
	1	Insufficient Care	3.38956522	.919853691	.846130813	2
	2	Sufficient Care	4.11829371	.439679966	9.85924210	52
	3	Great Care	4.22086308	.482830860	17.2512973	75
<hr/>						
Within Groups Total			4.16662895	.471039632	27.9566702	129

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	1.5497	2	.7749	3.4923	.0334
Within Groups	27.9567	126	.2219		
Eta = .2292 Eta Squared = .0525					

-- Description of Subpopulations --

Summaries of By levels of		QUALITY PRESELECT	OVERALL QUALITY RATING CARE GIVEN TO PRESELECTION		
Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.3281	.8883	128
PRESELECT	1	Insufficient Care	3.0000	.0000	2
PRESELECT	2	Sufficient Care	4.2115	.8245	52
PRESELECT	3	Great Care	4.4459	.9087	74

Total Cases = 244
Missing Cases = 116 or 47.5 Pct

-- Analysis of Variance --

Dependent variable By levels of		QUALITY PRESELECT	OVERALL QUALITY RATING CARE GIVEN TO PRESELECTION		
Value	Label	Mean	Std Dev	Sum of Sq	Cases
1	Insufficient Care	3.0000	.0000	.0000	2
2	Sufficient Care	4.2115	.8245	34.6731	52
3	Great Care	4.4459	.9087	60.2838	74
Within Groups Total		4.3281	.8716	94.9569	128

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	5.2619	2	2.6309	3.4633	.0334
Within Groups	94.9569	125	.7597		
Eta = .2291 Eta Squared = .0525					

- - Description of Subpopulations - -

Summaries of SQSCORE SERVICE QUALITY SCORE
By levels of ABILITY EMPHASIS GIVEN TO ABILITY

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.16662895	.480123798	129
ABILITY	1	Insufficient Emphasis	4.10526316		1
ABILITY	2	Sufficient Emphasis	4.04190422	.496676590	56
ABILITY	3	Great Emphasis	4.26448937	.449947705	72

Total Cases = 238
Missing Cases = 109 or 45.8 Pct

- - Analysis of Variance - -

Dependent variable SQSCORE SERVICE QUALITY SCORE
By levels of ABILITY EMPHASIS GIVEN TO ABILITY

Value	Label	Mean	Std Dev	Sum of Sq	Cases
1	Insufficient Emphasis	4.10526316	.	.0000000	1
2	Sufficient Emphasis	4.04190422	.496676590	3.5678199	56
3	Great Emphasis	4.26448937	.449947705	14.3741585	72
<hr/>					
Within Groups Total		4.16662895	.470915846	27.9419784	129

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	1.5644	2	.7822	3.5273	.0323
Within Groups	27.9420	126	.2218		
Eta = .2303 Eta Squared = .0530					

-- Description of Subpopulations --

Summaries of By levels of		QUALITY ABILITY	OVERALL QUALITY RATING EMPHASIS GIVEN TO ABILITY		
Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.3281	.8883	128
ABILITY	1	Insufficient Emphasis	5.0000	.	1
ABILITY	2	Sufficient Emphasis	4.0536	.8403	56
ABILITY	3	Great Emphasis	4.5352	.8756	71

Total Cases = 244
Missing Cases = 116 or 47.5 Pct

-- Analysis of Variance --

Dependent variable By levels of		QUALITY ABILITY	OVERALL QUALITY RATING EMPHASIS GIVEN TO ABILITY		
Value	Label	Mean	Std Dev	Sum of Sq	Cases
1	Insufficient Emphasis	5.0000	.	.00000	1
2	Sufficient Emphasis	4.0536	.8403	38.8393	56
3	Great Emphasis	4.5352	.8756	53.6620	71
Within Groups Total		4.3281	.8602	92.5013	128

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	7.7175	2	3.8587	5.2145	.0067
Within Groups	92.5013	125	.7400		
Eta = .2775 Eta Squared = .0770					

- - Description of Subpopulations - -

Summaries of SQSCORE SERVICE QUALITY SCORE
By levels of COMPETIV HOW COMPETITIVE FEE BID

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.16662895	.480123798	129
COMPETIV	2	Competitive	4.15071709	.504206297	66
COMPETIV	3	Very Competitive	4.18329851	.456982361	63

Total Cases = 238
Missing Cases = 109 or 45.8 Pct

- - Analysis of Variance - -

Dependent variable SQSCORE SERVICE QUALITY SCORE
By levels of COMPETIV HOW COMPETITIVE FEE BID

Value	Label	Mean	Std Dev	Sum of Sq	Cases
2	Competitive	4.15071709	.504206297	16.5245593	66
3	Very Competitive	4.18329851	.456982361	12.9476385	63
<hr/>					
Within Groups Total		4.16662895	.481730785	29.4721978	129

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	.0342	1	.0342	.1474	.7016
Within Groups	29.4722	127	.2321		

Eta = .0341 Eta Squared = .0012

-- Description of Subpopulations --

Summaries of By levels of		QUALITY COMPETIV	OVERALL QUALITY RATING HOW COMPETITIVE FEE BID		
Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.3281	.8883	128
COMPETIV	2	Competitive	4.3182	.9472	66
COMPETIV	3	Very Competitive	4.3387	.8287	62

Total Cases = 244
Missing Cases = 116 or 47.5 Pct

-- Analysis of Variance --

Dependent variable By levels of		QUALITY COMPETIV	OVERALL QUALITY RATING HOW COMPETITIVE FEE BID		
Value	Label	Mean	Std Dev	Sum of Sq	Cases
2	Competitive	4.3182	.9472	58.3182	66
3	Very Competitive	4.3387	.8287	41.8871	62
Within Groups Total		4.3281	.8918	100.2053	128

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	.0135	1	.0135	.0169	.8967
Within Groups	100.2053	126	.7953		

Eta = .0116 Eta Squared = .0001

- - Description of Subpopulations - -

Summaries of SQSCORE SERVICE QUALITY SCORE
By levels of PROFESS PROFESSION OF CONSULTANT ASSESSED

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.21854854	.567007507	219
PROFESS	1	Chartered Surveyors	4.26994547	.568742417	145
PROFESS	2	Architects	4.18086945	.566644868	47
PROFESS	3	Engineers	4.00811750	.522263649	27

Total Cases = 219

- - Analysis of Variance - -

Dependent variable SQSCORE SERVICE QUALITY SCORE
By levels of PROFESS PROFESSION OF CONSULTANT ASSESSED

Value	Label	Mean	Std Dev	Sum of Sq	Cases
1	Chartered Surveyors	4.26994547	.568742417	46.5793830	145
2	Architects	4.18086945	.566644868	14.7699747	47
3	Engineers	4.00811750	.522263649	7.09174228	27
Within Groups Total		4.21854854	.562900474	68.4410999	219

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	1.6454	2	.8227	2.5964	.0769
Within Groups	68.4411	216	.3169		
Eta = .1532		Eta Squared = .0253			

- - Description of Subpopulations - -

Summaries of By levels of		SQSCORE DIVISION	SERVICE QUALITY SCORE RICS DIVISION		
Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.27716197	.564026462	144
DIVISION	1	Quantity Surveyors	4.32002736	.606008421	74
DIVISION	2	Building Surveyors	4.33291884	.541917165	19
DIVISION	3	General Practice	4.20301358	.546718250	43
DIVISION	4	Land Agents/Agric	4.42857143	.	1
DIVISION	5	More than 1 Divis	4.10652652	.175527953	7

Total Cases = 219
Missing Cases = 75 or 34.2 Pct

- - Analysis of Variance - -

Dependent variable By levels of		SQSCORE DIVISION	SERVICE QUALITY SCORE RICS DIVISION		
Value	Label	Mean	Std Dev	Sum of Sq	Cases
1	Quantity Surveyors	4.32002736	.606008421	26.8089731	74
2	Building Surveyors	4.33291884	.541917165	5.28613584	19
3	General Practice	4.20301358	.546718250	12.5538355	43
4	Land Agents/Agric	4.42857143	.	.000000000	1
5	More than 1 Divis	4.10652652	.175527953	.184860374	7
Within Groups Total		4.27716197	.567930769	44.8338048	144

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	.6582	4	.1645	.5102	.7283
Within Groups	44.8338	139	.3225		
Eta = .1203		Eta Squared = .0145			

-- Description of Subpopulations --

Summaries of SQSCORE SERVICE QUALITY SCORE
By levels of ORGANSN TYPE OF ORGANISATION

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.21639748	.556357191	242
ORGANSN	1	District Council	4.15417456	.474403932	88
ORGANSN	2	County Council	4.10871066	.522804010	44
ORGANSN	3	University	4.25978978	.710305397	14
ORGANSN	4	Housing Association	4.57309295	.469196692	8
ORGANSN	5	Contractor	4.07777592	.452370984	6
ORGANSN	6	Management Company	4.23351648	.275849349	2
ORGANSN	7	Retail Company	4.95692308	1.69270485	2
ORGANSN	8	Central Govt. Agency	4.19446249	.635630144	22
ORGANSN	9	Health Auth./Trust	4.39724295	.742211188	13
ORGANSN	10	Other Commercial	4.08800874	.248075067	11
ORGANSN	11	Brewery	4.58444816	1.10189893	4
ORGANSN	12	Property Company	4.42733252	.517018760	14
ORGANSN	13	Church Board	4.15000000	.	1
ORGANSN	14	Financial Services	4.31287290	.528905094	13

Total Cases = 244

Missing Cases = 2 or .8 Pct

-- Analysis of Variance --

Dependent variable By levels of		SQSCORE ORGANSN	SERVICE QUALITY SCORE TYPE OF ORGANISATION			
Value	Label	Mean	Std Dev	Sum of Sq	Cases	
1	District Council	4.15417456	.474403932	19.5801409	88	
2	County Council	4.10871066	.522804010	11.7529334	44	
3	University	4.25978978	.710305397	6.55893884	14	
4	Housing Association	4.57309295	.469196692	1.54101875	8	
5	Contractor	4.07777592	.452370984	1.02319753	6	
6	Management Company	4.23351648	.275849349	.076092863	2	
7	Retail Company	4.95692308	1.69270485	2.86524970	2	
8	Central Govt. Agency	4.19446249	.635630144	8.48453927	22	
9	Health Auth./Trust	4.39724295	.742211188	6.61052937	13	
10	Other Commercial	4.08800874	.248075067	.615412389	11	
11	Brewery	4.58444816	1.10189893	3.64254379	4	
12	Property Company	4.42733252	.517018760	3.47500918	14	
13	Church Board	4.15000000	.	.000000000	1	
14	Financial Services	4.31287290	.528905094	3.35688719	13	
Within Groups Total		4.21639748	.552436760	69.5824932	242	

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	5.0150	13	.3858	1.2641	.2361
Within Groups	69.5825	228	.3052		
Eta = .2593		Eta Squared = .0672			

-- Description of Subpopulations --

Summaries of SQSCORE SERVICE QUALITY SCORE
By levels of POSITION POSITION IN ORGANISATION

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.21633138	.554179444	244
POSITION	1	Chief/Principal QS	4.16449409	.551250470	49
POSITION	2	Director	4.25171547	.594256258	45
POSITION	3	Chief/Principal Surv	4.20964053	.555942785	20
POSITION	4	Estates Man./Officer	4.18184345	.660875920	22
POSITION	5	Property Manager	4.31528955	.562252038	25
POSITION	6	Chief/Prin.Architect	4.01521978	.215915157	7
POSITION	7	Technical Manager	4.39737967	.443049184	9
POSITION	8	Project Manager	4.61883013	.773697008	8
POSITION	9	Manager/Team Leader	4.10278166	.241500602	24
POSITION	10	Housing Manager	4.38461538	.	1
POSITION	11	Facilities Manager	4.20000000	.427083130	4
POSITION	12	Chief/Principal BS	4.14693640	.739710361	10
POSITION	13	Head of Contracts	4.29310256	.582955051	5
POSITION	14	Head of Tech. Serv.	3.46212121	.524973216	2
POSITION	15	Head of Prop. Serv.	4.26100125	.683675295	8
POSITION	16	Manag.. Struct. Eng.	4.04166667	.	1
POSITION	17	Prof. Services Off.	4.26201923	.238049556	4

Total Cases = 244

-- Analysis of Variance --

Dependent variable By levels of		SQSCORE POSITION	SERVICE QUALITY SCORE POSITION IN ORGANISATION			
Value	Label	Mean	Std Dev	Sum of Sq	Cases	
1	Chief/Principal QS	4.16449409	.551250470	14.5860999	49	
2	Director	4.25171547	.594256258	15.5381820	45	
3	Chief/Principal Surv	4.20964053	.555942785	5.87237522	20	
4	Estates Man./Officer	4.18184345	.660875920	9.17189661	22	
5	Property Manager	4.31528955	.562252038	7.58705651	25	
6	Chief/Prin.Architect	4.01521978	.215915157	279716131	7	
7	Technical Manager	4.39737967	.443049184	1.57034064	9	
8	Project Manager	4.61883013	.773697008	4.19024942	8	
9	Manager/Team Leader	4.10278166	.241500602	1.34141843	24	
10	Housing Manager	4.38461538	.	.000000000	1	
11	Facilities Manager	4.20000000	.427083130	.547200000	4	
12	Chief/Principal BS	4.14693640	.739710361	4.92454277	10	
13	Head of Contracts	4.29310256	.582955051	1.35934636	5	
14	Head of Tech. Serv.	3.46212121	.524973216	.275596878	2	
15	Head of Prop. Serv.	4.26100125	.683675295	3.27188336	8	
16	Manag. Struct. Eng.	4.04166667	.	.000000000	1	
17	Prof. Services Off.	4.26201923	.238049556	.170002774	4	
Within Groups Total		4.21633138	.558024785	70.68590704	244	

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	3.9430	16	.2464	.7914	.6947
Within Groups	70.6859	227	.3114		
Eta = .2299		Eta Squared = .0528			

28 July 98 SPSS for MS WINDOWS Release 6.0

This software is functional through September 30, 1998

- - Description of Subpopulations - -

Summaries of By levels of		FACTWHAT APPOINT	REGR factor score 1 for analysis 1 METHOD OF APPOINTMENT		
Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			.0360994	1.1292692	240
APPOINT	1	Compet. Fee Tendering	-.0524357	1.0723252	127
APPOINT	2	By Negotiation	.2388807	1.0641380	72
APPOINT	3	Direct Appointment	.3139086	1.0079403	39
APPOINT	4	Client's Request	-1.2214273	.	1
APPOINT	5	Selection Panel	-3.6933608	.	1

Total Cases = 244

Missing Cases = 4 or 1.6 Pct

- - Analysis of Variance - -

Dependent Variable By levels of		FACTWHAT APPOINT	REGR factor score 1 for analysis 1 METHOD OF APPOINTMENT		
Value	Label	Mean	Std Dev	Sum of Sq	Cases
1	Compet. Fee Tendering	-.0524357	1.0723252	54.0444266	127
2	By Negotiation	.2388807	1.0641380	27.1773522	72
3	Direct Appointment	.3139086	1.0079403	14.2232113	39
4	Client's Request	-1.2214273	.	.0000000	1
5	Selection Panel	-3.6933608	.	.0000000	1
Within Groups Total		.0360994	1.0596614	95.4449901	240

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	18.0522	4	4.5130	4.0192	.0049
Within Groups	95.4450	85	1.1229		
Eta = .3988		Eta Squared = .1591			

- - Description of Subpopulations - -

Summaries of FACTWHAT REGR factor score 1 for analysis 1
By levels of SPECIFD HOW WELL SERVICE SPECIFIED

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			-.0693614	1.0698964	128
SPECIFD	2	Adequately Specified	-.0679227	.8835836	56
SPECIFD	3	Very Well Specified	-.0700808	1.1652084	72

Total Cases = 244
Missing Cases = 116 or 47.5 Pct

- - Analysis of Variance - -

Dependent variable FACTWHAT REGR factor score 1 for analysis 1
By levels of SPECIFD HOW WELL SERVICE SPECIFIED

Value	Label	Mean	Std Dev	Sum of Sq	Cases
2	Adequately Specified	-.0679227	.8835836	11.7107988	56
3	Very Well Specified	-.0700808	1.1652084	42.0890289	72
Within Groups Total		-.0693614	1.0814627	53.7998277	128

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	.0000	1	.0000	.0000	.9948
Within Groups	53.7998	46	1.1696		
Eta = .0010		Eta Squared = .0000			

-- Description of Subpopulations --

Summaries of FACTWHAT REGR factor score 1 for analysis 1
By levels of PRESELECT CARE GIVEN TO PRESELECTION

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			-.0693614	1.0698964	127
PRESELECT	2	Sufficient Care	-.3150132	1.1002615	52
PRESELECT	3	Great Care	.0125225	1.0625849	75

Total Cases = 244
Missing Cases = 117 or 48.0 Pct

-- Analysis of Variance --

Dependent variable FACTWHAT REGR factor score 1 for analysis 1
By levels of PRESELECT CARE GIVEN TO PRESELECTION

	Value	Label	Mean	Std Dev	Sum of Sq	Cases
	2	Sufficient Care	-.3150132	1.1002615	13.3163299	52
	3	Great Care	.0125225	1.0625849	39.5180308	75
Within Groups Total			-.0693614	1.0717150	52.8343607	127

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	.9655	1	.9655	.8406	.3640
Within Groups	52.8344	46	1.1486		
Eta = .1340 Eta Squared = .0179					

-- Description of Subpopulations --

Summaries of FACTWHAT REGR factor score 1 for analysis 1
By levels of ABILITY EMPHASIS GIVEN TO ABILITY

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			-.0693614	1.0698964	128
ABILITY	2	Sufficient Emphasis	-.5475641	.9373445	56
ABILITY	3	Great Emphasis	.1928788	1.0602304	72

Total Cases = 244
Missing Cases = 116 or 47.5 Pct

-- Analysis of Variance --

Dependent variable FACTWHAT REGR factor score 1 for analysis 1
By levels of ABILITY EMPHASIS GIVEN TO ABILITY

Value	Label	Mean	Std Dev	Sum of Sq	Cases
2	Sufficient Emphasis	-.5475641	.9373445	14.0578340	56
3	Great Emphasis	.1928788	1.0602304	33.7226537	72
Within Groups Total		-.0693614	1.0191694	47.7804877	128

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	6.0194	1	6.0194	5.7951	.0201
Within Groups	47.7805	46	1.0387		

Eta = .3345 Eta Squared = .1119

- - Description of Subpopulations - -

Summaries of FACTWHAT REGR factor score 1 for analysis 1
By levels of COMPETIV HOW COMPETITIVE FEE BID

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			-.0693614	1.0698964	129
COMPETIV	2	Competitive	-.0877433	1.1063935	66
COMPETIV	3	Very Competitive	-.0436268	1.0444412	63

Total Cases = 244
Missing Cases = 115 or 47.1 Pct

- - Analysis of Variance - -

Dependent variable FACTWHAT REGR factor score 1 for analysis 1
By levels of COMPETIV HOW COMPETITIVE FEE BID

Value	Label	Mean	Std Dev	Sum of Sq	Cases
2	Competitive	-.0877433	1.1063935	33.0508800	66
3	Very Competitive	-.0436268	1.0444412	20.7262909	63
<hr/>					
Within Groups Total		-.0693614	1.0812349	53.7771709	129

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	.0227	1	.0227	.0194	.8898
Within Groups	53.7772	46	1.1691		

Eta = .0205 Eta Squared = .0004

- - Description of Subpopulations - -

Summaries of By levels of		FACTWHEN APPOINT	REGR factor score 2 for analysis 1 METHOD OF APPOINTMENT		
Variable For Entire Population	Value	Label	Mean	Std Dev	Cases
			-.0314510	1.0561624	240
APPOINT	1	Compet. Fee Tendering	.0851406	1.0694287	127
APPOINT	2	By Negotiation	-.1026221	.8770410	72
APPOINT	3	Direct Appointment	-.4002440	1.2562300	39
APPOINT	4	Client's Request	1.4094102	.	1
APPOINT	5	Selection Panel	.2424612	.	1

Total Cases = 244

Missing Cases = 4 or 1.6 Pct

- - Analysis of Variance - -

Dependent Variable By levels of		FACTWHEN APPOINT	REGR factor score 2 for analysis 1 METHOD OF APPOINTMENT		
Value	Label	Mean	Std Dev	Sum of Sq	Cases
1	Compet. Fee Tendering	.0851406	1.0694287	53.7528519	127
2	By Negotiation	-.1026221	.8770410	18.4608231	72
3	Direct Appointment	-.4002440	1.2562300	22.0935945	39
4	Client's Request	1.4094102	.	.0000000	1
5	Selection Panel	.2424612	.	.0000000	1
Within Groups Total		-.0314510	1.0533268	94.3072695	240

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	4.9704	4	1.2426	1.1200	.3526
Within Groups	94.3073	85	1.1095		
Eta = .2238		Eta Squared = .0501			

-- Description of Subpopulations --

Summaries of FACTWHEN REGR factor score 2 for analysis 1
By levels of SPECIFD HOW WELL SERVICE SPECIFIED

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			.1058170	1.0610849	128
SPECIFD	2	Adequately Specified	.3436881	.9690138	56
SPECIFD	3	Very Well Specified	-.0131185	1.0994801	72

Total Cases = 244
Missing Cases = 116 or 47.5 Pct

-- Analysis of Variance --

Dependent variable FACTWHEN REGR factor score 2 for analysis 1
By levels of SPECIFD HOW WELL SERVICE SPECIFIED

Value	Label	Mean	Std Dev	Sum of Sq	Cases
2	Adequately Specified	.3436881	.9690138	14.0848174	56
3	Very Well Specified	-.0131185	1.0994801	37.4745539	72
Within Groups Total		.1058170	1.0587048	51.5593713	128

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	1.3580	1	1.3580	1.2116	.2768
Within Groups	51.5594	46	1.1209		
Eta = .1602		Eta Squared = .0257			

-- Description of Subpopulations --

Summaries of FACTWHEN REGR factor score 2 for analysis 1
By levels of PRESELT CARE GIVEN TO PRESELECTION

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			.1058170	1.0610849	127
PRESELT	2	Sufficient Care	.3273443	1.1380931	52
PRESELT	3	Great Care	.0319746	1.0403894	75

Total Cases = 244
Missing Cases = 117 or 48.0 Pct

-- Analysis of Variance --

Dependent variable FACTWHEN REGR factor score 2 for analysis 1
By levels of PRESELT CARE GIVEN TO PRESELECTION

Value	Label	Mean	Std Dev	Sum of Sq	Cases
2	Sufficient Care	.3273443	1.1380931	14.2478147	52
3	Great Care	.0319746	1.0403894	37.8843501	75
Within Groups Total		.1058170	1.0645694	52.1321647	127

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	.7852	1	.7852	.6928	.4095
Within Groups	52.1322	46	1.1333		

Eta = .1218 Eta Squared = .0148

- - Description of Subpopulations - -

Summaries of FACTWHEN REGR factor score 2 for analysis 1
By levels of ABILITY EMPHASIS GIVEN TO ABILITY

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			.1058170	1.0610849	128
ABILITY	2	Sufficient Emphasis	.6078991	.9398594	56
ABILITY	3	Great Emphasis	-.1695183	1.0351879	72

Total Cases = 244
Missing Cases = 116 or 47.5 Pct

- - Analysis of Variance - -

Dependent variable FACTWHEN REGR factor score 2 for analysis 1
By levels of ABILITY EMPHASIS GIVEN TO ABILITY

Value	Label	Mean	Std Dev	Sum of Sq	Cases
2	Sufficient Emphasis	.6078991	.9398594	14.1333724	56
3	Great Emphasis	-.1695183	1.0351879	32.1484170	72
<hr/>					
Within Groups Total		.1058170	1.0030583	46.2817894	128

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	6.6356	1	6.6356	6.5952	.0135
Within Groups	46.2818	46	1.0061		

Eta = .3541 Eta Squared = .1254

-- Description of Subpopulations --

Summaries of FACTWHEN REGR factor score 2 for analysis 1
By levels of COMPETIV HOW COMPETITIVE FEE BID

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			.1058170	1.0610849	129
COMPETIV	2	Competitive	.1087226	1.1532611	66
COMPETIV	3	Very Competitive	.1017493	.9460857	63

Total Cases = 244
Missing Cases = 115 or 47.1 Pct

-- Analysis of Variance --

Dependent variable FACTWHEN REGR factor score 2 for analysis 1
By levels of COMPETIV HOW COMPETITIVE FEE BID

	Value	Label	Mean	Std Dev	Sum of Sq	Cases
	2	Competitive	.1087226	1.1532611	35.9103013	66
	3	Very Competitive	.1017493	.9460857	17.0064855	63
Within Groups Total			.1058170	1.0725507	52.9167868	129

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	.0006	1	.0006	.0005	.9824
Within Groups	52.9168	46	1.1504		

Eta = .0033 Eta Squared = .0000

-- Description of Subpopulations --

Summaries of By levels of		FACT_HOW APPOINT	REGR factor score 3 for analysis 1 METHOD OF APPOINTMENT		
Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			.1353859	1.1350027	240
APPOINT	1	Compet. Fee Tendering	.1224572	.9455762	127
APPOINT	2	By Negotiation	.1911063	1.3242896	72
APPOINT	3	Direct Appointment	.2560777	1.3639968	39
APPOINT	4	Client's Request	-1.8090742	.	1
APPOINT	5	Selection Panel	-.5029644	.	1
Total Cases = 244					
Missing Cases = 4 or 1.6 Pct					

-- Analysis of Variance --

Dependent Variable By levels of		FACT_HOW APPOINT	REGR factor score 3 for analysis 1 METHOD OF APPOINTMENT		
Value	Label	Mean	Std Dev	Sum of Sq	Cases
1	Compet. Fee Tendering	.1224572	.9455762	42.0233702	127
2	By Negotiation	.1911063	1.3242896	42.0898295	72
3	Direct Appointment	.2560777	1.3639968	26.0468212	39
4	Client's Request	-1.8090742	.	.0000000	1
5	Selection Panel	-.5029644	.	.0000000	1
Within Groups Total		.1353859	1.1384201	110.160021	240
Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	4.4926	4	1.1231	.8666	.4875
Within Groups	110.1600	85	1.2960		
Eta = .1979		Eta Squared = .0392			

- - Description of Subpopulations - -

Summaries of FACT_HOW REGR factor score 3 for analysis 1
By levels of SPECIFD HOW WELL SERVICE SPECIFIED

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			.1059947	.9461342	128
SPECIFD	2	Adequately Specified	-.0925531	.7570603	56
SPECIFD	3	Very Well Specified	.2052686	1.0243767	72

Total Cases = 244
Missing Cases = 116 or 47.5 Pct

- - Analysis of Variance - -

Dependent variable FACT_HOW REGR factor score 3 for analysis 1
By levels of SPECIFD HOW WELL SERVICE SPECIFIED

Value	Label	Mean	Std Dev	Sum of Sq	Cases
2	Adequately Specified	-.0925531	.7570603	8.5971055	56
3	Very Well Specified	.2052686	1.0243767	32.5297738	72
Within Groups Total		.1059947	.9455488	41.1268793	128

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	.9461	1	.9461	1.0582	.3090
Within Groups	41.1269	46	.8941		
Eta = .1500		Eta Squared = .0225			

- - Description of Subpopulations - -

Summaries of FACT_HOW REGR factor score 3 for analysis 1
By levels of PRESELECT CARE GIVEN TO PRESELECTION

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			.1059947	.9461342	127
PRESELECT	2	Sufficient Care	-.0673323	.6402124	52
PRESELECT	3	Great Care	.1637704	1.0293371	75

Total Cases = 244
Missing Cases = 117 or 48.0 Pct

- - Analysis of Variance - -

Dependent variable FACT_HOW REGR factor score 3 for analysis 1
By levels of PRESELECT CARE GIVEN TO PRESELECTION

Value	Label	Mean	Std Dev	Sum of Sq	Cases
2	Sufficient Care	-.0673323	.6402124	4.5085916	52
3	Great Care	.1637704	1.0293371	37.0837214	75
Within Groups Total		.1059947	.9508842	41.5923131	127

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	.4807	1	.4807	.5316	.4696
Within Groups	41.5923	46	.9042		

Eta = .1069 Eta Squared = .0114

- - Description of Subpopulations - -

Summaries of FACT_HOW REGR factor score 3 for analysis 1
By levels of ABILITY EMPHASIS GIVEN TO ABILITY

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			.1059947	.9461342	128
ABILITY	2	Sufficient Emphasis	.0893394	.8637436	56
ABILITY	3	Great Emphasis	.1151283	1.0021450	72

Total Cases = 244
Missing Cases = 116 or 47.5 Pct

- - Analysis of Variance - -

Dependent variable FACT_HOW REGR factor score 3 for analysis 1
By levels of ABILITY EMPHASIS GIVEN TO ABILITY

Value	Label	Mean	Std Dev	Sum of Sq	Cases
2	Sufficient Emphasis	.0893394	.8637436	11.9368484	56
3	Great Emphasis	.1151283	1.0021450	30.1288388	72
Within Groups Total		.1059947	.9562800	42.0656872	128

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	.0073	1	.0073	.0080	.9292
Within Groups	42.0657	46	.9145		

Eta = .0132 Eta Squared = .0002

-- Description of Subpopulations --

Summaries of FACT_HOW REGR factor score 3 for analysis 1
By levels of COMPETIV HOW COMPETITIVE FEE BID

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			.1059947	.9461342	129
COMPETIV	2	Competitive	.0864607	1.0193941	66
COMPETIV	3	Very Competitive	.1333423	.8580857	63

Total Cases = 244
Missing Cases = 115 or 47.1 Pct

-- Analysis of Variance --

Dependent variable FACT_HOW REGR factor score 3 for analysis 1
By levels of COMPETIV HOW COMPETITIVE FEE BID

Value	Label	Mean	Std Dev	Sum of Sq	Cases
2	Competitive	.0864607	1.0193941	28.0574361	66
3	Very Competitive	.1333423	.8580857	13.9899110	63
Within Groups Total		.1059947	.9560715	42.0473471	129

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	.0256	1	.0256	.0281	.8677
Within Groups	42.0473	46	.9141		

Eta = .0247 Eta Squared = .0006

-- Description of Subpopulations --

Summaries of
By levels of

FACT_WHO
APPOINT

REGR factor score 4 for analysis 1
METHOD OF APPOINTMENT

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			.1223865	1.0833545	240
APPOINT	1	Compet. Fee Tendering	.0133749	1.0857799	127
APPOINT	2	By Negotiation	.2685175	1.0951070	72
APPOINT	3	Direct Appointment	.2664291	1.0687591	39
APPOINT	4	Client's Request	.9910532	.	1
APPOINT	5	Selection Panel	-1.3276408	.	1

Total Cases = 244

Missing Cases = 4 or 1.6 Pct

-- Analysis of Variance --

Dependent Variable
By levels of

FACT_WHO
APPOINT

REGR factor score 4 for analysis 1
METHOD OF APPOINTMENT

Value	Label	Mean	Std Dev	Sum of Sq	Cases
1	Compet. Fee Tendering	.0133749	1.0857799	55.4091434	127
2	By Negotiation	.2685175	1.0951070	28.7822238	72
3	Direct Appointment	.2664291	1.0687591	15.9914443	39
4	Client's Request	.9910532	.	.0000000	1
5	Selection Panel	-1.3276408	.	.0000000	1
Within Groups Total		.1223865	1.0856433	100.182811	240

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	4.2727	4	1.0682	.9063	.4641
Within Groups	100.1828	85	1.1786		
Eta = .2022		Eta Squared = .0409			

- - Description of Subpopulations - -

Summaries of FACT_WHO REGR factor score 4 for analysis 1
By levels of SPECIFD HOW WELL SERVICE SPECIFIED

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			.0310039	1.0685835	128
SPECIFD	2	Adequately Specified	.0631069	1.0762962	56
SPECIFD	3	Very Well Specified	.0149523	1.0816205	72

Total Cases = 244
Missing Cases = 116 or 47.5 Pct

- - Analysis of Variance - -

Dependent variable FACT_WHO REGR factor score 4 for analysis 1
By levels of SPECIFD HOW WELL SERVICE SPECIFIED

Value	Label	Mean	Std Dev	Sum of Sq	Cases
2	Adequately Specified	.0631069	1.0762962	17.3762034	56
3	Very Well Specified	.0149523	1.0816205	36.2669889	72
Within Groups Total		.0310039	1.0798872	53.6431992	128

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	.0247	1	.0247	.0212	.8848
Within Groups	53.6432	46	1.1662		
Eta = .0215		Eta Squared = .0005			

-- Description of Subpopulations --

Summaries of FACT_WHO REGR factor score 4 for analysis 1
By levels of PRESELCT CARE GIVEN TO PRESELECTION

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			.0310039	1.0685835	127
PRESELCT	2	Sufficient Care	-.1501316	1.3004164	52
PRESELCT	3	Great Care	.0913823	.9934220	75

Total Cases = 244
Missing Cases = 117 or 48.0 Pct

-- Analysis of Variance --

Dependent variable FACT_WHO REGR factor score 4 for analysis 1
By levels of PRESELCT CARE GIVEN TO PRESELECTION

Value	Label	Mean	Std Dev	Sum of Sq	Cases
2	Sufficient Care	-.1501316	1.3004164	18.6019110	52
3	Great Care	.0913823	.9934220	34.5410550	75
Within Groups Total		.0310039	1.0748404	53.1429661	127

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	.5250	1	.5250	.4544	.5036
Within Groups	53.1430	46	1.1553		

Eta = .0989 Eta Squared = .0098

- - Description of Subpopulations - -

Summaries of FACT_WHO REGR factor score 4 for analysis 1
By levels of ABILITY EMPHASIS GIVEN TO ABILITY

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			.0310039	1.0685835	128
ABILITY	2	Sufficient Emphasis	-.2245267	1.2996910	56
ABILITY	3	Great Emphasis	.1711335	.9114462	72

Total Cases = 244
Missing Cases = 116 or 47.5 Pct

- - Analysis of Variance - -

Dependent variable FACT_WHO REGR factor score 4 for analysis 1
By levels of ABILITY EMPHASIS GIVEN TO ABILITY

Value	Label	Mean	Std Dev	Sum of Sq	Cases
2	Sufficient Emphasis	-.2245267	1.2996910	27.0271459	56
3	Great Emphasis	.1711335	.9114462	24.9220254	72
Within Groups Total		.0310039	1.0626993	51.9491712	128

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	1.7188	1	1.7188	1.5219	.2236
Within Groups	51.9492	46	1.1293		

Eta = .1790 Eta Squared = .0320

-- Description of Subpopulations --

Summaries of FACT_WHO REGR factor score 4 for analysis 1
By levels of COMPETIV HOW COMPETITIVE FEE BID

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			.0310039	1.0685835	129
COMPETIV	2	Competitive	.139038	1.1069081	66
COMPETIV	3	Very Competitive	.0549439	1.0404110	63

Total Cases = 244
Missing Cases = 115 or 47.1 Pct

-- Analysis of Variance --

Dependent variable FACT_WHO REGR factor score 4 for analysis 1
By levels of COMPETIV HOW COMPETITIVE FEE BID

Value	Label	Mean	Std Dev	Sum of Sq	Cases
2	Competitive	.0139038	1.1069081	33.0816306	66
3	Very Competitive	.0549439	1.0404110	20.5666461	63
Within Groups Total		.0310039	1.0799384	53.6482767	129

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	.0196	1	.0196	.0168	.8973
Within Groups	53.6483	46	1.1663		

Eta = .0191 Eta Squared = .0004

Analysis for Public Sector Clients only

05 Aug 98 SPSS for MS WINDOWS Release 6.0

This software is functional through September 30, 1998.

-- Description of Subpopulations --

Summaries of By levels of		SQSCORE APPOINT	SERVICE QUALITY SCORE METHOD OF APPOINTMENT		
Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.16381749	.534103773	165
APPOINT	1	Compet. Fee Tendering	4.12794857	.417839632	102
APPOINT	2	By Negotiation	4.23843776	.611941610	46
APPOINT	3	Direct Appointment	4.20982182	.880061033	16
APPOINT	4	Client's Request	3.65384615	.	1

Total Cases = 167
Missing Cases = 2 or 1.2 Pct

-- Analysis of Variance --

Dependent Variable By levels of		SQSCORE APPOINT	SERVICE QUALITY SCORE METHOD OF APPOINTMENT		
Value	Label	Mean	Std Dev	Sum of Sq	Cases
1	Compet. Fee Tendering	4.12794857	.417839632	17.6335858	102
2	By Negotiation	4.23843776	.611941610	16.8512640	46
3	Direct Appointment	4.20982182	.880061033	11.6176113	16
4	Client's Request	3.65384615	.	.0000000	1
Within Groups Total		4.16381749	.535117455	46.1024611	165

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	.6813	3	.2271	.7931	.4994
Within Groups	46.1025	161	.2864		
	Eta = .1207		Eta Squared = .014		

-- Description of Subpopulations --

Summaries of By levels of		QUALITY APPOINT	OVERALL QUALITY RATING METHOD OF APPOINTMENT		
Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.3598	.9650	164
APPOINT	1	Compet. Fee Tendering	4.3039	.8876	102
APPOINT	2	By Negotiation	4.6222	.9603	45
APPOINT	3	Direct Appointment	4.1250	1.2042	16
APPOINT	4	Client's Request	2.0	.	1

Total Cases = 167
Missing Cases = 3 or 1.8 Pct

-- Analysis of Variance --

Dependent variable By levels of		QUALITY APPOINT	OVERALL QUALITY RATING METHOD OF APPOINTMENT		
Value	Label	Mean	Std Dev	Sum of Sq	Cases
1	Compet. Fee Tendering	4.3039	.8876	79.5784	102
2	By Negotiation	4.6222	.9603	40.5778	45
3	Direct Appointment	4.1250	1.2042	21.7500	16
4	Client's Request	2.0000	.	.0000	1
Within Groups Total		4.3598	.9418	141.9062	164

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	9.8682	3	3.2894	3.7088	.0129
Within Groups	141.9062	160	.8869		
Eta = .2550		Eta Squared = .0650			

- - Description of Subpopulations - -

Summaries of SQSCORE SERVICE QUALITY SCORE
By levels of SPECIFD HOW WELL SERVICE SPECIFIED

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.12229330	.439055836	106
SPECIFD	1	Not Very Well Spec'd	3.65217391	.	1
SPECIFD	2	Adequately Specified	4.08191786	.475635155	48
SPECIFD	3	Very Well Specified	4.16454138	.405478096	57

Total Cases = 167
Missing Cases = 61 or 36.5 Pct

- - Analysis of Variance - -

Dependent variable SQSCORE SERVICE QUALITY SCORE
By levels of SPECIFD HOW WELL SERVICE SPECIFIED

Value	Label	Mean	Std Dev	Sum of Sq	Cases
1	Not Very Well Spec'd	3.65217391	.	.0000000	1
2	Adequately Specified	4.08191786	.475635155	10.6327536	48
3	Very Well Specified	4.16454138	.405478096	9.20709923	57
Within Groups Total		4.12229330	.438884872	19.8398529	106

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	.4010	2	.2005	1.0409	.3568
Within Groups	19.8399	103	.1926		
Eta = .1408		Eta Squared = .0198			

- - Description of Subpopulations - -

Summaries of QUALITY OVERALL QUALITY RATING
By levels of SPECIFD HOW WELL SERVICE SPECIFIED

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.3019	.8855	106
SPECIFD	1	Not Very Well Spec'd	4.0000	.	1
SPECIFD	2	Adequately Specified	4.2500	.7579	48
SPECIFD	3	Very Well Specified	4.3509	.9909	57

Total Cases = 167
Missing Cases = 61 or 36.5 Pct

- - Analysis of Variance - -

Dependent variable QUALITY OVERALL QUALITY RATING
By levels of SPECIFD HOW WELL SERVICE SPECIFIED

Value	Label	Mean	Std Dev	Sum of Sq	Cases
1	Not Very Well Spec'd	4.0000	.	.0000	1
2	Adequately Specified	4.2500	.7579	27.0000	48
3	Very Well Specified	4.3509	.9909	54.9825	57
Within Groups Total		4.3019	.8922	81.9825	106

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	.3572	2	.1786	.2244	.7994
Within Groups	81.9825	103	.7959		
Eta = .0659		Eta Squared = .0043			

- - Description of Subpopulations - -

Summaries of SQSCORE SERVICE QUALITY SCORE
By levels of PRESELCT CARE GIVEN TO PRESELECTION

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.12229330	.439055836	106
PRESELCT	1	Insufficient Care	3.38956522	.919853691	2
PRESELCT	2	Sufficient Care	4.07734308	.429593154	44
PRESELCT	3	Great Care	4.17968106	.413721739	60

Total Cases = 167
Missing Cases = 61 or 36.5 Pct

- - Analysis of Variance - -

Dependent variable SQSCORE SERVICE QUALITY SCORE
By levels of PRESELCT CARE GIVEN TO PRESELECTION

Value	Label	Mean	Std Dev	Sum of Sq	Cases
1	Insufficient Care	3.38956522	.919853691	.846130813	2
2	Sufficient Care	4.07734308	.429593154	7.93566197	44
3	Great Care	4.17968106	.413721739	10.0987750	60
Within Groups Total		4.12229330	.428143064	18.8805677	106

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	1.3603	2	.6801	3.7104	.0278
Within Groups	18.8806	103	.1833		
Eta = .2592		Eta Squared =		.0672	

- - Description of Subpopulations - -

Summaries of QUALITY OVERALL QUALITY RATING
By levels of PRESELCT CARE GIVEN TO PRESELECTION

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.3019	.8855	106
PRESELCT	1	Insufficient Care	3.0000	.0000	2
PRESELCT	2	Sufficient Care	4.1818	.8148	44
PRESELCT	3	Great Care	4.4333	.9088	60

Total Cases = 167
Missing Cases = 61 or 36.5 Pct

- - Analysis of Variance - -

Dependent variable QUALITY OVERALL QUALITY RATING
By levels of PRESELCT CARE GIVEN TO PRESELECTION

Value	Label	Mean	Std Dev	Sum of Sq	Cases
1	Insufficient Care	3.0000	.0000	.0000	2
2	Sufficient Care	4.1818	.8148	28.5455	44
3	Great Care	4.4333	.9088	48.7333	60
Within Groups Total		4.3019	.8662	77.2788	106

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	5.0608	2	2.5304	3.3726	.0381
Within Groups	77.2788	103	.7503		
Eta = .2479		Eta Squared =		.0615	

-- Description of Subpopulations --

Summaries of SQSCORE SERVICE QUALITY SCORE
By levels of ABILITY EMPHASIS GIVEN TO ABILITY

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.12229330	.439055836	106
ABILITY	1	Insufficient Emphasis	4.10526316		1
ABILITY	2	Sufficient Emphasis	4.02938305	.505817458	52
ABILITY	3	Great Emphasis	4.21377184	.348064566	53

Total Cases = 167
Missing Cases = 61 or 36.5 Pct

-- Analysis of Variance --

Dependent variable SQSCORE SERVICE QUALITY SCORE
By levels of ABILITY EMPHASIS GIVEN TO ABILITY

Value	Label	Mean	Std Dev	Sum of Sq	Cases
1	Insufficient Emphasis	4.10526316	.	.0000000	1
2	Sufficient Emphasis	4.02938305	.505817458	13.0484163	52
3	Great Emphasis	4.21377184	.348064566	6.29974500	53
Within Groups Total		4.12229330	.433412305	19.3481613	106

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	.8927	2	.4463	2.3761	.0980
Within Groups	19.3482	103	.1878		
Eta = .2100 Eta Squared = .0441					

-- Description of Subpopulations --

Summaries of QUALITY OVERALL QUALITY RATING
By levels of ABILITY EMPHASIS GIVEN TO ABILITY

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.3019	.8855	106
ABILITY	1	Insufficient Emphasis	5.0000	.	1
ABILITY	2	Sufficient Emphasis	4.0577	.8498	52
ABILITY	3	Great Emphasis	4.5283	.8683	53

Total Cases = 167
Missing Cases = 61 or 36.5 Pct

-- Analysis of Variance --

Dependent variable QUALITY OVERALL QUALITY RATING
By levels of ABILITY EMPHASIS GIVEN TO ABILITY

Value	Label	Mean	Std Dev	Sum of Sq	Cases
1	Insufficient Emphasis	5.0000	.	.0000	1
2	Sufficient Emphasis	4.0577	.8498	36.8269	52
3	Great Emphasis	4.5283	.8683	39.2075	53
Within Groups Total		4.3019	.8592	76.0345	106

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	6.3052	2	3.1526	4.2706	.0165
Within Groups	76.0345	103	.7382		
Eta = .2767 Eta Squared = .0766					

- - Description of Subpopulations - -

Summaries of SQSCORE SERVICE QUALITY SCORE
By levels of COMPETIV HOW COMPETITIVE FEE BID

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.12229330	.439055836	106
COMPETIV	2	Competitive	4.11476383	.437146842	52
COMPETIV	3	Very Competitive	4.12954390	.444868023	54

Total Cases = 167
Missing Cases = 61 or 36.5 Pct

- - Analysis of Variance - -

Dependent variable SQSCORE SERVICE QUALITY SCORE
By levels of COMPETIV HOW COMPETITIVE FEE BID

Value	Label	Mean	Std Dev	Sum of Sq	Cases
2	Competitive	4.11476383	.437146842	9.74596542	52
3	Very Competitive	4.12954390	.444868023	10.4891006	54
<hr/>					
Within Groups Total		4.12229330	.441098563	20.2350660	106

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	.0058	1	.0058	.0297	.8634
Within Groups	20.2351	104	.1946		

Eta = .0169 Eta Squared = .0003

- - Description of Subpopulations - -

Summaries of QUALITY OVERALL QUALITY RATING
By levels of COMPETIV HOW COMPETITIVE FEE BID

Variable	Value	Label	Mean	Std Dev	Cases
For Entire Population			4.3019	.8855	106
COMPETIV	2	Competitive	4.3462	.9473	52
COMPETIV	3	Very Competitive	4.2593	.8284	54

Total Cases = 167
Missing Cases = 61 or 36.5 Pct

- - Analysis of Variance - -

Dependent variable QUALITY OVERALL QUALITY RATING
By levels of COMPETIV HOW COMPETITIVE FEE BID

Value	Label	Mean	Std Dev	Sum of Sq	Cases
2	Competitive	4.3462	.9473	45.7692	52
3	Very Competitive	4.2593	.8284	36.3704	54
<hr/>					
Within Groups Total		4.3019	.8887	82.1396	106

Source	Sum of Squares	d.f.	Mean Square	F	Sig.
Between Groups	.2000	1	.2000	.2533	.6159
Within Groups	82.1396	104	.7898		

Eta = .0493 Eta Squared = .0024

07 Aug 98 SPSS for MS WINDOWS Release 6.0

This software is functional through September 30, 1998.

t-tests for independent samples of APPOINT METHOD OF APPOINTMENT

Variable	Number of Cases	Mean	SD	SE of Mean
SQSCORE	SERVICE QUALITY SCORE			
Compet. Fee Tende	127	4.1717	.462	.041
Non-compet. Fee T	114	4.2605	.643	.060

Mean Difference = -.0888

Levene's Test for Equality of Variances: F= 5.411 P= .021

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.24	239	.216	.072	(-.230, .052)
Unequal	-1.22	202.96	.224	.073	(-.232, .055)

Variable	Number of Cases	Mean	SD	SE of Mean
QUALITY	OVERALL QUALITY RATING			
Compet. Fee Tende	126	4.3413	.887	.079
Non-compet. Fee T	113	4.5221	.992	.093

Mean Difference = -.1809

Levene's Test for Equality of Variances: F= 1.832 P= .177

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.49	237	.138	.122	(-.420, .059)
Unequal	-1.48	226.06	.140	.122	(-.422, .060)

Repeat for Public Sector Clients only

t-tests for independent samples of APPOINT METHOD OF APPOINTMENT

Variable	Number of Cases	Mean	SD	SE of Mean
SQSCORE SERVICE QUALITY SCORE				
Compet. Fee Tende	102	4.1279	.418	.041
Non-compet. Fee T	63	4.2219	.682	.086

Mean Difference = -.0939

Levene's Test for Equality of Variances: F= 8.032 P= .005

t-test for Equality of Means			95%		
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-1.10	163	.274	.086	(-.263, .075)
Unequal	-.99	91.11	.327	.095	(-.283, .095)

Variable	Number of Cases	Mean	SD	SE of Mean
QUALITY OVERALL QUALITY RATING				
Compet. Fee Tende	102	4.3039	.888	.088
Non-compet. Fee T	62	4.4516	1.082	.137

Mean Difference = -.1477

Levene's Test for Equality of Variances: F= 3.561 P= .061

t-test for Equality of Means			95%		
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.95	162	.343	.155	(-.455, .159)
Unequal	-.91	110.03	.367	.163	(-.471, .176)

APPENDIX F : SURVEYORS' PII CLAIMS DATA



Aon Risk Services

Professions Group

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23 June, 1998

Dear Mr Hoxley

Surveyors Claims Service Ltd Statistics

Please note that with effect from 22 April 1998, Surveyors Insurance Brokers Ltd, the parent company of Surveyors Claims Service Ltd, became a wholly owned subsidiary within the Aon group of companies.

With effect from 15 June 1998 Surveyors Claims Service Ltd became part of Professions Group, a division of Aon Risk Services Ltd.

I am writing further to our telephone conversation last week when we discussed various statistics that you may find of assistance.

Firstly, I would advise you that the statistics we produce are for our own use and are for a different purpose and no doubt you will appreciate why I am not able to give you absolute claim values.

Please also bear in mind that these figures do not reflect claims made in any one twelve month period as the year of account shown follows our cover years. Because of the manner in which policies attach, the statistics on any one year of account cover two calendar years.

It should also be borne in mind that after February 1994, our market share changed. It would thus be very misleading to compare the number and quantum of claims for the 1994 and 1995 years with the earlier years without giving this due consideration. Apart from the figures not being directly comparable, they may also not be representative of the true position.

Notwithstanding the above, I believe that these statistics do show a general trend and, looking at the figures merely in terms of percentage, they are perhaps less misleading than actual values.

Aon Risk Services Limited

Reg. Office: Lloyds Chambers, 1 Portsoken Street, London E1 8DF

Reg. No: 653255 CRO London

A member of BIIBA

The Company acts as an Agent for Aon Risk Services UK Limited, a Lloyd's Broker

(Incorporating Surveyors Insurance Brokers Limited and Surveyors Claims Service Limited)



L97



Aon Risk Services

Professions Group

15 Minories
London EC3N 1NJ
Tel: (0171) 301 4200
Fax: (0171) 626 4480
DX 552 London/City

Up until 1993, you will note that there is a section for fee recovery. This of course does not reflect claims made against surveyors but notifications where they wish to pursue unpaid fees with the benefit of policy cover. This can therefore be ignored from your point of view when analysing statistics..

The attached figures reflect the position @ 31st December 1997 but unfortunately I am unable to provide you with any more up to date figures due to the change in our *modus operandi*.

Please do not hesitate to contact me if you require any further information.

Yours sincerely

R M Fish (Mrs) ACII
Director

Aon Risk Services Limited

Reg. Office: Lloyds Chambers, 1 Portsoken Street, London E1 8DF

Reg. No: 653255 CRO London

A member of BIIBA

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(Incorporating Surveyors Insurance Brokers Limited and Surveyors Claims Service Limited)



L97

SCSL CLAIMS EXPERIENCE
@ 31/12/97

Percentage Breakdown of Claims by Number and Quantum
(& Overall Loss Ratio)

	<u>1988</u> %		<u>1989</u> %	
Loss Ratio	99		131	
	No	QU	No	QU
S/Survey	40.22	34.31	30.30	23.88
P/Man	7.08	7.90	7.93	7.50
Auct	1.18	0.23	0.89	0.20
Arch	9.08	12.75	7.66	10.52
QS	4.65	6.33	5.88	8.43
Fee Rec	5.76	0.75	6.70	1.09
Est Agency	4.72	7.80	4.24	1.30
Val	23.99	28.99	31.05	45.18
Misc	3.32	0.94	5.35	1.90

	<u>1990</u>		<u>1991</u>	
	%		%	
Loss Ratio	339		369	
	No	QU	No	QU
S/Survey	22.78	8.59	19.99	6.29
P.Man	6.53	4.19	6.63	2.01
Auc	0.45	0.03	0.48	0.11
Arch	5.36	1.64	2.41	2.09
QS	5.08	6.62	3.63	2.34
Fee Rec	9.17	0.49	6.95	0.47
Est Agency	3.18	0.23	3.47	1.29
Val	40.92	75.15	47.78	79.42
Misc	6.53	3.06	8.66	5.98

RMF/DB
5/5/98

SCSL CLAIMS EXPERIENCE
@ 31/12/97

Percentage Breakdown of Claims by Number and Quantum
(& Overall Loss Ratio)

	<u>1992</u> %		<u>1993</u> %	
Loss Ratio	277		122	
	No	QU	No	QU
S/Survey	17.03	3.90	23.38	6.71
P/Man	6.86	3.70	9.25	4.85
Auct	0.60	-	0.90	0.01
Arch	2.33	0.32	2.49	4.58
QS	5.12	7.94	4.48	5.22
Fee Rec	6.10	0.30	1.59	0.08
Est Agency	3.18	0.77	4.08	0.37
Val	50.04	82.31	44.18	76.38
Misc	8.74	0.76	9.65	1.80
	<u>1994</u> %		<u>1995</u> %	
Loss Ratio	137		117	
	No	QU	No	QU
S/Survey	26.92	13.22	23.80	10.26
P/Man	5.66	0.31	9.81	1.86
Auct	1.59	-	0.84	-
Arch	0.68	1.73	2.51	0.27
QS	9.95	8.34	3.97	7.00
Est Agency	4.07	0.11	7.52	4.43
Val	38.69	60.33	43.00	68.05
Misc	12.44	15.96	8.55	8.13

RMF/DB
5/5/98

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