AN INVESTIGATION OF THE PERCEPTION OF DELIVERED QUALITY AT DIFFERENT LEVELS OF ORGANIZATIONAL HIERARCHY IN SERVICES

DISSERTATION

Presented to the Graduate Council of the
University of North Texas in Partial
Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

By

Juliet M. Getty, B.B.A., M.S.
Denton, Texas

December, 1993

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The overall purpose of this research was to add to existing theory of quality pertaining to the service provider's perception of quality. Quality in the service industry is difficult to assess because of the intangible, heterogeneous and labor intensive nature of services. In addition, personnel have varying perceptions of delivered quality based on their position within the organizational hierarchy.

This study enhanced the Service Quality Model developed by Zeithaml, Berry, and Parasuraman (1988). An additional gap ("gap 6") was hypothesized and investigated. This gap describes the differences in perceived delivered quality by employees at different organizational levels (e.g., managerial, supervisory, and non-management employees) across different market segments. The researcher proposed that "gap 6" has a significant impact on total perceived delivered quality.

The survey instrument addressed five dimensions of overall quality: tangibles, reliability, responsiveness,

assurance, and empathy. The survey was administered to employees from hotels representing three market segments located within the same metropolitan area and managed by the same company.

A 3 X 3 factorial design was used with three organizational levels (managers, supervisors, and hourly employees) and three lodging market segments (luxury, business-traveller, and long-term/suite). Data analyses included descriptive statistics, analysis of variance (ANOVA), and Tukey's Multiple Comparison Test.

The findings have identified interactions between organizational levels and property types in determining gaps between the levels of perceived delivered quality. It was found that non-management employees of business-traveller properties exhibit a higher level of perceived delivered quality than their counterparts at luxury and long-term/suite properties. Additionally, managers and supervisors exhibited opposite patterns.

Possible implications for the results included (1) distance of employee from customer, (2) stress level of supervisors, and (3) challenges faced due to high turnover. The results of this research build upon existing service quality theory and contribute to a body of knowledge that has previously been developed from the customer's perspective.

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CHAPTER I

OVERVIEW OF THE STUDY

Introduction

United States industries have been facing a crisis in quality since the early 1970s. Competition in the world marketplace has put pressure on U.S. businesses to improve their quality position. Customers throughout the world are demanding higher quality in the products and services they buy and use, and they will purchase these products and services from all over the globe.

The marketing concept focuses on the ability of a business to satisfy its customers. Satisfied customers are necessary for a company to remain viable and quality issues are intimately connected to customer satisfaction. Although company executives are concerned with quality (Perlman 1990), they do not assume a strong leading role in setting quality policy (Ryan 1992). According to an American Society for Quality Control/Gallup Survey (1992), only 45% of executives report that they frequently engage in discussions of quality issues. Most company executives take a reactive posture toward quality problems and are opposed to quality plans that involve strategic planning for quality. This after-the-fact stance can be expensive. Quality related costs accumulate from inefficient

productivity, wasted supplies, loss of customer goodwill and ultimately, a lowering of employee morale (Pitman 1992). The eventual outcome of these negative effects is a loss of competitive advantage (White and Holder 1992). It is understandable that many companies fear investing in quality efforts, especially in times of economic recession. This is due to the perception that there will not be a good return on such an intangible investment. However, *Training* (1991) quoted Crosby's statement that "even in a recession, if you are giving your customers exactly what they want, you don't have much worry about losing business."

Quality control did not always have a customer perspective. Originally performed one piece at a time, the quality control function later developed into a mass manufacturing inspection procedure. Specialized machinery developed in the early 1900s enabled machining operations to be performed with a high degree of precision. By the 1920s, quality control was viewed as a separate management division. It was "limited to inspection and to such activities as counting, grading, and repair. Troubleshooting was considered beyond the reach of the average inspection department" (Garvin 1988, p. 6).

This focus remained throughout manufacturing industries for several decades. Inspection techniques were improved with the advent of statistical controls, sampling procedures, and acceptable quality levels (developed during

World War II). It was not until the 1950s that the concept of quality assurance was introduced. Quality planning was expanded to include quantifying costs of quality, total quality control, reliability engineering, and zero defects (Garvin 1988).

Juran (1951) examined the costs associated with quality control procedures. He quantified a means for managers to decide how much to invest in quality improvement to reduce losses due to poor quality. He referred to this as the "cost of quality." This is a strategy to evaluate the different elements associated with producing a product. Cost of quality has four elements: prevention (training and designing), appraisal (identification and inspection), internal failure (prior to delivery rework), and external failure (customer complaint or warranty cost). By increasing prevention costs, the costs of the other three elements decrease. Consequently, the total cost of producing a quality product decreases. The idea is to shift the costs of failure to prevention to reduce the overall cost of poor quality.

"Total Quality Control" was an extension of Juran's work. Originally proposed by Feigenbaum (1977), total quality control examined the process a product undergoes, from design to consumer. The new aspects of this quality concept were the selection of vendors and concern with customer satisfaction. In the midst of the Juran and

Feigenbaum era another quality discipline emerged known as reliability engineering. This approach emphasized probability theory and statistics to assure that a product would perform well over time (Boehm 1963). This, like total quality control, involved the prediction and reduction of failure rates so that defects can be prevented rather than repaired. Reliability engineering was based upon Deming's work (1938), where he developed a means of incorporating numerical observations into statistical equations to solve production problems. Deming's (1938) statistical approach to total quality control has continued over the years since he was successful in revealing that productivity and quality improves as variation is reduced.

During the 1960s, the concept of "zero defects" emerged. Its origin lies with a missile manufacturing firm that had used standard inspection procedures to assure quality products (Halpin 1966). This process had proved successful until a large order of missiles needed to be produced ahead of schedule. Consequently, little time was available for rework. This resulted in a managerial decision to instruct employees to build the missiles exactly right the first time. The resulting program was called zero defects which emphasized the identification of problems at their source.

In relatively recent years, quality planning has been recognized as a management function. The original

inspection perspective of quality involved a reactive position. Today, quality management significantly contributes to the overall strategic planning process. Quality issues are incorporated into all operations of a firm including purchasing, engineering, logistics, and even marketing research.

Much confusion still exists concerning operationalizing quality. Quality involves more than simply making a product that is reliable and free from defects (Takeuchi and Quelch 1983). It can also mean that the customer is satisfied and finds value in the product. Managers from different functions each view the concept from a different perspective and the result is miscommunication and endless debate. In addition, service companies do not rely on the same tools to measure quality as manufacturing firms since their resources are, to a large extent, people not machines. Tools such as statistical process control and online analysis are used to analyze specifications and methods of manufacturing (Scott 1991). Such vehicles have little applicability to service processes. Since people are involved in the delivery of services, concerns such as better recruitment procedures, better remuneration, and better training are critical to improving service quality (Powderly and MacNulty 1990).

Quality in the service industry is more challenging to assess because of three features that are unique to services -- *intangibility, heterogeneity, and inseparability of*

production and consumption (Parasuraman, Zeithaml, and Berry 1985). In services, it is performance that is sold, not a product that can be taken home and examined. Secondly, it is difficult, if not impossible, to establish standards that all service providers can follow. Most services are labor intensive, resulting in a variety of services offered under one roof, by a multitude of personalities. Thirdly, services are produced and consumed simultaneously. The moment of the service encounter is where quality is either considered present or absent (Bitner, Booms, and Tetreault 1990).

Employees who have contact with the customer in many respects represent the entire company. They have control over the level of delivered service quality (Crosby, Evans, and Cowles 1990). Therefore, standards of service delivery need to be created and conformance to those standards enforced (Hall 1990). The true measurement of quality can be assessed from two perspectives: the customers' perception of how well the service is being delivered and the consistency with which the delivered standards are performed.

Quality is a multidimensional concept that can neither be simply defined, nor easily measured. This is especially apparent in the service industry. The quality-management focus has been placed on technological advances rather than on customer-service improvements (Barsky and Dittman 1990).

Tangible factors have received most of the emphasis rather than the human interaction that takes place in service delivery. Bowen (1990) emphasized this when he identified several aspects of service-employees that differ from those in manufacturing. Employees of manufacturing firms are often production-oriented; they are concerned with specific tasks and rewards are based on output where units produced are more significant than the ultimate satisfaction of the end-user (Crosby 1979; Deming 1986; Feigenbaum 1977; Juran 1951). On the other hand, Bowen (1990) explained that in services, the emphasis is on human contacts. First, services involve face-to-face encounters. Relationships are formed between the employee and customer and this relationship becomes an object of value. Second, customer-contact personnel often have multiple roles. Service employees are involved in both performing the service operation and marketing the service through their behavior. They are equated with the service itself (Lovelock 1991). Third, the leadership style of management influences the attitudes and behaviors of employees. Service employees who believe that management is concerned with meeting their needs tend to be more responsive to the needs of the customer. Fourth, the intangible nature of service output makes the control of employee behavior difficult. Services are not possessed as something tangible would be; the performance of those supplying the service determines its

quality. Consequently, a significant relationship exists between employee attitudes and customer satisfaction (Lovelock 1991).

The delivery of services poses several challenges. First, service employees, regardless of their job descriptions, are capable of either carrying out a customer's request or finding the right person who can. In other words, they often fill multiple roles. Secondly, the leadership style of service managers greatly affects the attitude of the employees, which directly affects the impressions made on customers. Finally, since the quality of service performed is strongly tied to the employees' attitude, the intangible nature of the service makes its consistent delivery difficult to achieve.

United States services face many economic threats in the 1990s (Hennessey 1992). An overabundance of companies offering the same service, reduced customer loyalty, foreign investors, and economic recession have forced service providers to compete for their market position. Attempts to gain customer loyalty have been made through promotional programs where one company tries to outperform another through the use of give-aways, future-purchase incentives, memberships, etc. However, these programs are becoming a costly, vicious cycle. With each visit, customers expect more extras in exchange for their business. Many services are finding that it is best to strive for brand loyalty in

this competitive environment. Dev and Ellis (1991) suggested that three determining factors lead to brand loyalty: incentives (i.e., convenience, provisions, courtesies), individual attention (i.e., caring for needs as they arise, monitoring satisfaction, and accommodating customers' individual preferences), and recognition (i.e., addressing customers by name, building long-term relationships, making certain that customers' expectations are met). Nevertheless, obtaining brand loyalty in recent years has been difficult. Consequently, some service providers are resorting to price competition to attract business (Hennessey 1992). The challenge, therefore, is how to do more for the customer with less revenue using quality management efforts.

Quality management should not be limited to services that target customers looking for luxury. Companies that serve all economic levels need to understand that meeting their customers' needs is what constitutes quality. Gilmore (1974) defined quality as "the degree to which a specific product satisfies the wants of a specific consumer." A Buick may be a high quality automobile but it is in a very different price range than a BMW and yet the BMW is also a high quality product. By the same token, a company offering economy services can provide as high a level of quality service as can a luxury service-provider. The measure of quality is how it is perceived by each customer at each

company. Service quality is interactive, flowing between the customer and the service provider (Swartz and Brown 1989). The quality of a service company must be initiated within that company. The services that each company offers are designed for customers' needs and their ability to pay for them (Lewis and Nightingale 1991). This assessment of needs involves clearly defining the customer segment since different segments have different perceptions of quality (Monoky 1991).

Running a successful business can be a complex operation and the executive needs reliable measures of performance. Typically, service establishments rely on customer comments to improve their service (Lewis and Nightingale 1991). However, good service to customers (external customers) begins by providing good service to the employees (internal customers) (Crawford and Getty 1991). Once employees feel valued, they are capable of delivering quality service. Therefore, the perception of delivered quality from the employees' perspective is critical to the success of the quality management effort and it becomes the first step in assessing delivered service quality.

Employees at different organizational levels are assumed to receive the same message concerning how a quality service should be delivered. However, the *perception* of delivered quality varies from one organizational level to another. Triandis (1959) stressed this concept when he

studied upper-level managers, lower-level managers, and clerks. He concluded that the most significant contributor to the perception of a job is the *level* of the job. It has been shown that perceptual distortions exist between superiors and their subordinates and these differences in perception adversely affect organizational performance (Webber 1970). Furthermore, the perceived differences in jobs not only exist from rank-and-file positions to managerial positions, but also from lower management positions to upper-level positions (Porter and Lawler 1965). These findings suggest that employees' perceptions should be investigated based on their position within the organizational structure.

Purpose of the Research Study

This study investigates the provider's perception of delivered quality and builds upon existing quality theory that has previously been examined from the customer's perspective. It provides an assessment of how well quality services are delivered, by assessing the perception of the level of delivered quality at various organizational levels.

The first focus of this study is on management's, supervisors', and non-management employees' perception of delivered quality. This aspect of the study is especially significant since quality efforts within organizations typically start at the top. The message is then communicated downward through the organization's structure.

The person who most often has contact with the customer, the non-management employee, is the last person to receive the quality message. Unfortunately, that message may have been perceived differently by those along the path from top to bottom.

Since different establishments have different target market segments, this study secondly provides a means of assessing quality that can be interpreted for different target markets. This was accomplished by examining three separate markets, each with a different customer base, that are all managed by the same company.

The final focus of this study is the dimensions of perceived delivered quality. Delivered quality comprises the sum of many isolated incidences within a service encounter. These occurrences can be considered tangible or intangible. Emphasis is placed on separating tangible from intangible quality dimensions in order to provide clear directions for managers. Thus, effective strategies can be made with a higher degree of predictability. Tangible dimensions relate to the appearance of the physical facilities, equipment, personnel, and communication materials (Zeithaml, Parasuraman, and Berry 1990). These areas are considered important by most service customers (McCleary and Weaver 1992). The intangible dimensions leading to quality perception are many. Zeithaml, Parasuraman, and Berry (1990) listed such areas as the

ability to perform the promised service dependably and accurately, the willingness to help customers and provide prompt service, the possession of the required skills and knowledge to perform the service, and politeness, respect, consideration, and friendliness of personnel. The development of standards for these intangible quality factors is difficult. They are even more difficult to assess and measure.

To summarize, the specific research questions addressed in this study are:

1. Are there differences between different market segments in perceived delivered quality for each organizational level?

2. Does perceived delivered quality differ between managers, supervisors, and non-management employees for each market segment?

3. How strongly does perceived delivered quality relate to tangible and intangible dimensions for each organizational level and market segment?

Scope and Limitations

The scope of this study is confined to one company's operations. Therefore, the generalizability of the results to other lodging companies is difficult. In addition, this study is confined to a large metropolitan area which compromises the generalizability to other areas of the country.

Significance of the Study

Quality is the wave of the future for the service industry. How to accurately assess the progress of quality management efforts is a crucial question. This study allows executives to determine several aspects of their quality efforts. Communication effectiveness, utilization of quality tools, consistency of quality standards, variations between divisions with different customer markets, and perceptions of quality delivered at different employee levels are addressed. The results of this study promote intelligent strategic decision-making and overall quality improvement for the service industry.

Plan of the Study

This study is organized into five chapters. The first chapter introduces the reader to the background and development of quality issues. It also provides insight into the purpose, research questions, and the scope and limitations of the study. In Chapter 2 the definition of quality and perceptual differences between organizational levels are researched through examining relevant literature. The model and general hypotheses are discussed in this chapter. Chapter 3 presents the development of the research instrument. The null hypotheses, description of the data, and complete methodology of the research study are discussed. The reader will find the results of the statistical analyses in Chapter 4. Chapter 5 includes

conclusions, recommendations, and managerial implications of the research results.

Summary of Chapter 1

This chapter introduces the reader to the concept of quality in the service industry by following the development of quality management issues. In addition, the problem addressed by this study, its significance to the industry, the research questions, and scope and limitations are detailed.

CHAPTER 2

REVIEW OF THE LITERATURE, MODEL, AND HYPOTHESES

Introduction

If asked to define quality, one could start with Gilmore (1974), "Quality means general excellence, and when applied to consumer goods, implies excellence in the properties [the consumer] wants and expects in the product; e.g., appearance, ruggedness, taste, performance and potency" (p. 16). However, from a more transcendental approach, quality can be viewed as a simple, unanalyzable property that people learn to recognize only through experience. Examples include art, music, and the performing arts (Garvin 1984). Malcolm (1964) emphasized that quality is an individualized concept where all one ever sees when looking at a thing is part of one's own brain. Crosby (1972) made the point that nothing is more misunderstood than quality. He stressed that while quality is an issue that most people advocate, its definition is elusive.

The purpose of the literature review is twofold: (1) to examine the quality concept from all perspectives, and (2) to describe the perceptual differences that exist between employees at varying organizational levels. The goal of this chapter is to emphasize the multi-faceted nature of quality. The approach will be to evaluate quality from two

distinct directions -- quality as seen from the viewpoint of the *consumer*, and of the *provider*. Since the focus of this research study is based on the service provider's perspective, more emphasis will be placed on this section in order to provide a thorough theoretical background for this empirical research. Additionally, this chapter will discuss the differing perceptions of delivered quality between management and subordinates.

The consumer-oriented viewpoint addresses the expectations from the product and therefore, will briefly describe quality from the individual's perspective. The provider-oriented viewpoint will address the aspects of quality that relate to the design, development, and delivery of the product or service.

Providers of products and services should be as concerned about quality as are users. Even though quality can be considered subjective, commitment to it is critical to success (White and Holder 1992). Virtually every industry in America is making quality its top priority (Jensen 1991). Much of this attention has been prompted by better-educated consumers, world-class quality competition, and a litigation-prone society that has demanded better quality for the dollar (Diminnie 1989; Hamel and Prahalad 1991). However, a multitude of products and services exists, many within the same industry, with distinctive quality characteristics. Plsek (1987) illustrated this by

comparing two automobiles such as Mercedes and Ford Mustang, each marketed to entirely different segments of the population and both considered "high quality." The American Society for Quality Control (1987) recognized this distinction when it defined quality in a broad, non-quantitative, descriptive sense -- "quality is the degree of excellence whereby products or services may be ranked against others on a relative basis for a selected subset of features and characteristics, which is referred to as relative quality in this standard" (p.1).

Consumer-Oriented Viewpoint of Quality

When a consumer is asked the meaning of quality, the response is often, "quality is getting what you paid for." In other words, product quality is equated with *value*. However, one elusive concept is defined using another term that has as many possible meanings. "Quality and value are indistinct and elusive constructs that often are mistaken for imprecise adjectives like goodness, or luxury, or shininess, or weight" (Crosby 1979, p. 17). Fallon (1972) warned against confusing value with worth since the term "worth" has no relationship to economics whereas "value" must consider costs. He used the example of the air we breathe as having great worth, but no economic value. From this perspective Aristotle named several classes of value including economic, moral, aesthetic, social, political, religious, and judicial value (Mudge 1971). Economic value

has the closest connection to "quality" since it divides a product's value into four components: (1) use value -- characteristics that achieve work or service; (2) esteem value -- what makes ownership of an object desirable; (3) cost value -- the total production of costs incurred for labor, material, and overhead; and (4) exchange value -- properties of a product that lead to the possibility of attaining other items in trading. What Aristotle was describing has been referred to today in other terms such as (1) a "value-based" approach to quality (Garvin 1984) where the worth of an item is weighed in relation to its price. The level of affordability will dictate the level of perceived quality; or (2) an "exchange value" (Fallon 1972) where the consumer compares the amount of "utility received to the utility relinquished;" or (3) "product value" (Fallon 1972) that is similar to Garvin's definition since it describes the relationship of worth to the amount of money a consumer wants to spend.

Another approach to defining quality in terms of value is "fitness for use" (Juran and Gryna 1988). A product must have utility; it must be suitable and useful for a given condition (Fallon 1972; Maynes 1976). The word "quality" has meaning only to the extent that the item to which it is applied has usage (Lewis 1950; Mynard and Nolen 1950). In this regard, a product can have worth that is not necessarily related to monetary costs. It can provide the

user with qualities that enhance esteem, increase social usefulness, or even create sentimental value.

Bolton and Drew (1991) attempted to differentiate between value and quality by evaluating customers' assessment of telephone service. They found that while service value was positively related to service quality, they were not identical constructs. They concluded that perceived service value was a more meaningful and comprehensive measure of customers' overall evaluation of service quality.

The overall value of a service or product is influenced by several characteristics. These include price, packaging, brand, store image, advertising, word-of-mouth reports, and past purchase experience (Jacoby, Olson, and Haddock 1971). These features can solely influence quality perception or they can interact (Render and O'Connor 1976; Wheatley and Chiu 1977). It is the provider's role to match the product features with the customer's viewpoint of quality.

Provider-Oriented Viewpoint of Quality

Product Provider

There are fewer and fewer U.S. industries that operate domestically, exclusively. United States industries are globalizing and understanding that concern with quality issues is essential to survival (Byrne 1992; Karabatsos 1987). The consumerist movement, an increase in product liability costs, and a demand for more stringent safety

requirements have put the responsibility for quality on the provider (Feigenbaum 1977). The goal is one of achieving customer satisfaction (Donnelly 1991; Gilmore 1974; Watson, 1963). Desjardins (1989) defined customer satisfaction as giving customers what they need, when they need it. The individual needs of the consumer were also emphasized when Olson (1986) described a company that wanted to develop the world's best dog food. The company engaged state-of-the-art expertise, equipment and marketing techniques. The product still failed since it was discovered that dogs did not like it. Olson's point was that the satisfaction of the "ultimate customer" should be the main focus of any successful business.

Providers of products want to satisfy their customers so that they can be profitable. The quality of a product is based upon the customer's judgement. Satisfying the customer is usually accomplished through the development of basic quality principles. Those principles may be loosely defined ranging from, "quality is selling merchandise and not having it returned" (Diminnie 1989, p. 17) to the "zero-defect" concept proposed by Crosby (1972). Crosby (1979) later defined quality as "meeting requirements." Crosby's quality philosophy and achievement methodology has been adopted by many prominent companies (Boghossian 1988). His quality concepts are the following:

(1) Quality means conformance to requirements;
(2) Quality can be measured by its costs;

> (3) The goal of quality is to meet the requirements 100% -- no defects; and
> (4) Quality is the responsibility of all.

His view is one of four views that dominate the manufacturing literature. Juran and Gryna (1988) described quality as "fitness for use." Deming (1982; 1986) measured quality in terms of the amount of variation in output and decreasing error rates. Feigenbaum (1986) viewed quality as an all-encompassing task:

> Quality is not a department, but a process that extends throughout all functions of an organization; is effective only to the degree that it provides quality improvement participation for every member of the organization; must be customer-oriented and user-oriented rather than merely internally technically oriented; brings new quality technology to the organization -- not merely the reshuffling of old techniques; is the most cost-effective way to productivity; and must be managed as directly and effectively as technology, production, installation and finance are managed (p. 18).

Smith (1986) saw a common thread in all of these points of view. Quality has been described as "getting things right" (Cravens et al. 1988; Smith 1986; Watson, 1963). This depends on the objectives of the provider, the people within the organization, and the situation. Nevertheless, the results must meet the needs of all participants in the quality effort as well as the needs of the final consumer. The point worth emphasizing is that managers, not workers, have ultimate control over the outcome of quality endeavors (Smith 1986; Strickland 1988). Many managers think that their role is to set targets and enforce progress; that the

outcome of quality lies with the person operating the equipment. But in the quality arena, this type of thinking may be imprudent and ultimately, self-defeating. To take this idea a step further, many experts feel that quality is the responsibility of the entire organization (Cravens et al. 1988; Crosby 1979; Deming 1982; Feigenbaum 1986; Watson, 1963). Total quality control, according to Feigenbaum (1986), is a shared responsibility.

Consumers are inclined to focus on the end product when discussing quality (Dhrymes 1971; Feigenbaum 1986; Mills 1987). Their concern lies in how well the product works, how well it is made, etc. The product manufacturer, however, has a much broader perspective. This is what the total quality concept is all about. Total quality encompasses every act, transaction, piece of information or labor that goes into manufacturing a product. In other words, the quality surge is all-encompassing, placing as much emphasis on the receptionist who answers the phone, or the assembly line employee, as the general manager. In spite of all this effort, people will make mistakes but total quality is concerned with meeting customer standards, not perfection (Mills 1987).

In an effort to establish specific standards it became necessary to define each aspect of the product's characteristics. Garvin (1987) developed several dimensions of quality that were aimed at isolating particular

attributes of the overall quality experience. One of these dimensions, *performance*, refers to the measurable operating characteristics of a product. Tellis and Gaeth (1990) felt that performance was the critical factor when defining quality.

A product's *features* could be described as the "bells and whistles" of the product that supplement the basic functioning of the product. A product's *reliability* is determined by the likelihood of it breaking down within a predetermined period of time. Morgan (1985) emphasized reliability as the attribute that customers seem to want most. According to Gedye (1968), reliability refers to the likelihood that a product will give satisfactory service and not break down or fail prematurely under indicated or reasonable operating conditions. Reliability should be considered a facet of quality, rather than something distinct.

Two other dimensions included in Garvin's quality definition are *durability* and *serviceability*. Durability refers to the usefulness of a product for a reasonable period of time. Serviceability has to do with the competence and ease of repair when the product needs servicing. This dimension, while important from the manufacturer's perspective, tends to be more subjective and not easily measured in quantitative terms.

Cost of quality

U.S. manufacturing firms believe that "quality is costly" (Chase and Acquilano 1981; Hall 1980; Kiechel 1981; Reitsperger and Daniel 1990). This assumption is based on the impression that higher quality dictates the use of more expensive components, greater advertising and promotion efforts (Farris and Reibstein 1979), and necessitates an increased sales force.

To the contrary, Crosby (1979) contends that quality is free. However, it is not instantaneously free. After the initial investment, according to Karabatsos (1987), the payback is rapid in most instances so that quality can be considered almost free. Furthermore, quality is more than free because the payback results in much more than what was put into it. This was further supported by Phillips, Chang, and Buzzell (1983) in a study that indicated that product quality had a positive effect on market position without the involvement of higher direct costs or marketing expenditures.

Juran and Gryna (1988) suggested that quality involves two types of costs: avoidable costs and unavoidable costs. Avoidable costs result from defective products which lead to scrapped material, increased labor for repair work, and in the long run, customer complaints. Unfortunately, the management strategy of many companies is reactive wherein deficiencies in quality are fixed after the customer

complains (Pitman 1992; Plsek 1987). This is a costly approach. Unavoidable costs should be viewed in terms of prevention. If a reactive pose is taken, costs from scrap, rework, warranties, inspection, and testing can, in many cases, exceed 15 percent of sales (Clawson 1970; Crosby 1972; Smith 1986; Vansina 1990). However, a proactive stance can, in many instances, reduce these costs substantially. This represents a convincing reason for making significant changes.

Starr (1972) has stated that since costs have been known to rise steeply with increasing quality specifications, it is not always in the consumer's interest to have a large number of quality control procedures incorporated into the manufacturing process. Instead, a product-replacement warranty would be preferred. Many experts feel that the consumer assumes that better quality implies higher costs for the manufacturer (Katona 1972). This is an erroneous notion. In order to implement quality without enormous added costs, pre-established specifications should be built into the process (Porter 1991; Vansina 1990). In this context, quality leads to cost savings. The confusion for many lies in the difference between the words "quality" and "grade." Grade depicts extra features intended to satisfy additional needs, and it is expected that including these features will involve more costs (American Society for Quality Control 1987). Quality, on

the other hand, can exist with or without those extra features; it merely refers to satisfying needs. Efforts made to do things right the first time, without the need for repair or replacement can cut costs considerably (Geyde 1968).

Service Provider

Service organizations include hotels, restaurants, bars, banks, medical service including hospitals and nursing homes, day care centers for children or for the elderly, wholesale and retail establishments, railways, carriers of motor freight, barges, intercity transportation of passengers, local transportation of passengers, insurance companies, sales, printing, news service, software, maintenance of copying machines, computers, typewriters, automobiles, medical equipment, painting and maintenance of buildings, offices and homes, construction, laundry and dry cleaning, government agencies, and educational institutions. All of these have unique challenges in their pursuit of quality. Services require a different approach to the place, product, price, and promotion strategy used for product development (Lovelock 1991). Service delivery requires face-to-face encounters where personnel fill multiple roles. The attitude exhibited during these encounters influences the attitude of the customers as well (Bowen 1990). This is especially significant in high

customer-contact services such as health care and hospitality (Jensen 1991; Shriver 1988).

Woodside (1991) suggested that service quality needs to be defined from both a micro and a macro perspective. Micro quality refers to tangible specifics such as cleanliness of a hospital room, temperature of food served, or reservations honored on time. The macro level, however, examines the overall performance of a service and how it compares to a competitor's.

Perhaps the major difference between services and manufacturing is that services offer an intangible product (Zeithaml, Parasuraman, and Berry, 1985) that is consumed as it is produced (Regan 1963). In addition, there is no separation between the producer and seller requiring the consumer to interact with the same entity throughout the entire production process (Upah 1980). During the creation of the service, a "performance" occurs where the provider has a captive audience (Crosby, Evans, and Cowles 1990; Deming 1982). This characteristic is unique to services.

Services are heterogeneous. There exists a high potential for variability in the performance of services. Changeable conditions abound during service transactions due to the sheer number of transactions made directly with the customer that usually involve handling and rehandling of huge numbers of small items, and concern small amounts of money (Deming 1982). The quality of these interactions can

vary depending on the employee, the customer, the management, the resources, and the day to day variations in circumstances, leading to an extremely large number of ways to make errors (Deming 1982; Simmerman 1992; Zeithaml, Parasuraman, and Berry 1985).

Perceived quality of services

In services, quality is determined at the point of the service encounter (Bitner, Booms, and Tetreault 1990; Takeuchi and Quelch 1983). "The salesperson is the company," according to Crosby, Evans, and Cowles (1990, p. 68). In other words, the service salesperson is often times the only contact both during and after the purchase. Therefore, this employee has control over the level of service quality delivered. Crosby (1979) refers to this concept as "relationship quality."

A model developed by Parasuraman, Zeithaml and Berry (1985) presupposes a close relationship between service encounter satisfaction and perceived service quality, but, according to Bitner (1990), empirical research to substantiate this relationship is lacking. She felt that there are many other factors, in addition to service encounter satisfaction, that can influence perceived service quality such as, experiences with competing services, perceptions of industry quality standards, word-of-mouth recommendations, and level/type of advertising. Nevertheless, she and others (Bitner, Booms, and Tetreault

1990) concurred with Parasuraman, Zeithaml, and Berry in that the connection between the service provider and the customer is of paramount importance in how quality is perceived.

Perceived quality of services has some characteristics that are unique. Service quality measures how well the service level delivered matches customer expectations. Customer expectations can reflect what a customer wants, what a customer is willing to accept, and what level of service a customer believes is likely to occur (Zeithaml, Berry, and Parasuraman 1993). Delivered service quality means conforming to customer expectations on a consistent basis (Lewis and Booms 1983). Lehtinen (1986) explained that (1) service quality is experienced during a specific situation and moment; (2) service quality is judged differently depending on an individual's background and education; and (3) service quality is often revealed to a consumer in terms of small details.

There have been several approaches to delineating the dimensions of service quality. Gronroos (1984) described service quality in terms of functional quality and technical quality. Functional quality refers to the way consumers are influenced by HOW they receive a service. Technical quality refers to WHAT consumers are getting. Lehtinen (1986) feels that Gronroos' interpretation of service quality fails to see the whole picture. In Lehtinen's opinion, service

quality is highly integrated with the total conceptual framework of service operations. Service quality can even be defined in terms of how well the elements in the service system function and interconnect. Donnelly (1991) described these "connections" as continuums of customer satisfiers and customer dissatisfiers. Rather than the typical satisfaction-dissatisfaction dichotomy, customer satisfaction can range from high to low along its own continuum, while the same can be said for customer dissatisfaction.

Lehtinen (1986) described three quality dimensions: physical quality, corporate (or institutional) quality, and interactive quality. Physical quality, which includes the physical aspects of the service is analogous to the tangible dimension created by Parasuraman, Zeithaml, and Berry (1985). Corporate (or institutional) quality refers to a company's image or identity. Interactive quality looks at the personal contact that exists between service employees and customers.

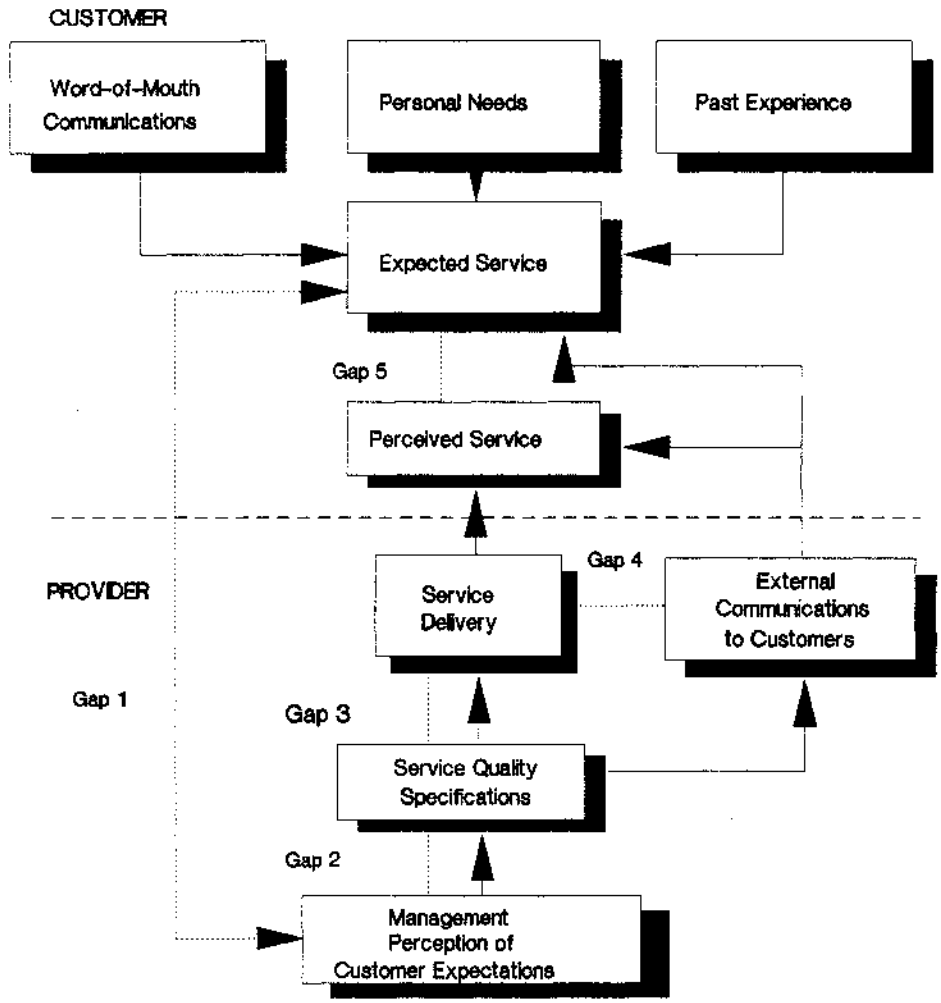
Zeithaml, Berry, and Parasuraman (1988) developed a service quality model depicted in Figure 1. It specifies five gaps that exist between the service provider and the customer that can lead to a decrease in the customer's perception of quality:

> **Gap 1:** Difference between customer expectations and management perceptions of customer expectations.

Gap 2: Difference between management perceptions of customer expectations and service quality specifications.
Gap 3: Difference between service quality specifications and the service actually delivered.
Gap 4: Difference between service delivery and what is communicated about the service to customers (p. 35).
Gap 5: Difference between customers' expectations and perceived service.

Figure 1

Service Quality Model



Perceived service quality was defined as the difference between consumer expectations and perceptions. Parasuraman, Zeithaml, and Berry (1988) then developed a scale known as SERVQUAL that captured their concept of service quality in five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. The focus of most of the items in the scale was on the human interaction element of service delivery. This emphasis was deemed important because it was felt that the way a consumer judges the overall excellence of a service will determine the level of perceived quality (Zeithaml 1988). Headley and Choi (1992) suggested that the identification and analysis of gaps in perceptual differences between service customers and service providers are useful in developing a statistical control philosophy for services. They felt that gap analysis provides excellent information for management and front-line service employees and can serve as a starting point for analyzing complex service processes.

The use of gap analysis to explain service quality perception has been disputed by Cronin and Taylor (1992). Gap analysis, in their opinion, suggests that the difference between consumers' expectations about a service provider's performance and the consumers' assessment of the actual performance drives the perception of service quality. They suggested that this paradigm is flawed. Consequently, they developed a scale known as SERVPERF that measures quality as

an attitude. Carman (1990) further emphasized that little if any evidence exists to support this expectations-performance gap as the underlying basis for measuring service quality. Recently, Babakus and Boller (1992) criticized the SERVQUAL instrument stating that the operationalization of service quality on the basis of gap scores is a major problem in the measurement of the quality construct. Saleh and Ryan (1991) concurred when they were unable to duplicate the SERVQUAL model in a study based on hospitality guests.

Consumers of services take risks. This is due to the intangible nature of services. Turley (1990) explored the degree to which consumers perceive various services as being quality-risk purchases. Quality-risk refers to a service's potential to disappoint consumers by not meeting their minimum quality standards (Peterson and Wilson, 1985). Turley (1990) evaluated eighteen services according to their level of perceived quality-risk and found that all of the services were perceived as being high in perceived quality-risk. He concluded that the results of this study should alert service managers to this problem. Deming (1982) warned service operators that they must be concerned with quality otherwise business tends to wander to the lowest bidder; low quality and high cost being the unfortunate result.

Dimensions of service quality

Service quality needs to be defined in a way that can aid management decisions (Allin and Gibson 1988; Gronroos 1984). Academicians and practitioners alike have developed descriptions of the components, or dimensions of service quality. Sekaran and Wagner (1980) connected the service quality concept with having a "sense of competence." Their study involved two cultures -- service employees in the U.S. were compared to comparable service employees in India. Improved performance was exhibited by people from both countries when they expressed a sense of competence in their jobs. The authors concluded that meaningfulness of work was the single most important contributor to a sense of competence.

Service quality belongs to a broader concept termed "relationship quality" (Crosby 1979). A later study confirmed the need for relationship quality in a life insurance purchase setting (Crosby, Evans, and Cowles 1990). The authors used the insurance industry as their experimental setting since they felt that selling life insurance was strongly related to the salesperson's ability to project trustworthiness and competence. Crosby's viewpoint was similarly described by Lehtinen and Lehtinen (1982) who described "interactive quality" as the two-way flow which occurs between the customer and the service provider.

Service quality can be viewed as a multifaceted concept consisting of ten dimensions: access, communication, competence, courtesy, credibility, reliability, responsiveness, security, tangibles and understanding/ knowing the customer (Parasuraman, Zeithaml, and Berry 1988). Others have used these concepts to describe quality determinants using different terms such as physical, interactive, and corporate quality (Lehtinen and Lehtinen 1982), technical and functional quality (Gronroos 1984), as well as process and outcome quality (Berry, Zeithaml, and Parasuraman 1985).

Implementation of service quality

In most cases, the first service employee encountered by the customer makes the greatest impression. This places the responsibility of delivering quality service on the employee. Wasmer and Bruner (1991) recognized this fact when they developed a method for identifying segments within the service organization that could be the target of internal marketing strategies. These marketing techniques were geared toward the organization's "internal customers" -- its employees. One way to encourage performance of employees is to empower them with the ability to do whatever is necessary to satisfy the customer.

The phrase, "conformance to standards" is often used when describing quality. Typical of manufacturing firms, this approach has now been adopted by the service industry.

This approach to quality is essential and fundamental to the concept of service quality (Aquilina 1989; Glover 1988; Hall 1990). Service delivery must be consistent with standards. Bowen and Lawler (1992) referred to this as a "production-line" approach where there is a strong set of organizational rules and may contradict the empowerment philosophy. The appropriate strategy, they suggested, is one that focuses strictly on the needs of the customer. "Certain customer segments are just looking for cheap, quick, reliable service. They do want quality -- a warm hamburger rather than a cold one. But they are not necessarily expecting tender loving care. These customers prefer a production-line approach" (p. 37). If, however, the employees are expected to be problem-solvers, management needs to hire employees capable of such performance; typically employees who have high growth and social needs and have strong interpersonal skills.

When a group of hoteliers were asked for their definitions of quality (Hall 1990), their replies consisted of comments such as, "outstanding service," "the finest food," or the "best accommodations." Superlatives such as these cannot be defined since they are relative to the type of business and the expectations of the customers. Some managers feel that quality is offering more than is expected. Hall explained that this viewpoint, though initially appealing, has little value when examined more

closely. He suggested that one consider the situation where a customer is treated to a special amenity. The customer receives more than expected; at least during this encounter. Unfortunately, the next time will not be as impressive unless some added feature or give-away is offered. The manager who uses this approach is on a never ending, expensive spiral. The only solution is strict adherence to predetermined standards that provide the customer with a consistent level of service quality (Hall 1990; Hume 1992). Determining how well a standard is being met requires quantitative as well as qualitative measurements. Quality factors such as friendliness and cleanliness are more difficult to measure (Brown 1988; Barsky and Dittmann, 1990). Nevertheless, measurement guidelines can be defined and standardized.

There remains skepticism regarding the value of quality assurance programs in many services. Many service operators are uncertain about whether the investment involved in starting and maintaining a quality assurance program will provide an adequate return. Studies have shown, however, that the positive changes exhibited in employee turnover, enthusiasm, communication, and job satisfaction make it worth the investment (Sekaran and Wagner 1980; Walker and Salameh 1990). Most service managers realize the value of quality assurance endeavors in keeping customers and making them into better customers (Hall 1990).

The "doing it right the first time" approach can be carried to extremes and lead to problems. This is because things do not always go according to plan during service delivery. Even the best services will make mistakes, often in front of the customer. The only recourse an employee has is to make an attempt to recover the customer's trust. This may involve "breaking the rules;" something that many managers stress not to do. The concept of "zero defects" may not be appropriate for some aspects of the service encounter (Hart, Heskett, and Sasser 1990) since management is dealing with human beings, who are fallible and capable of reacting in a variety of ways depending on the circumstances (Brown 1988).

Communication between employees and management must be clear and yet flexible (Burton 1991; Lehtinen 1986; Martin 1992). "Unlike manufacturers that can adjust the inputs and machinery until products are uniformly perfect, service companies cannot escape variation. Factors like the weather and the customers themselves are beyond a company's control" (Hart, Heskett, and Sasser 1990, p. 150). Barsky and Dittman (1990) advocated what they call "Theory S: Total Customer Service." This involves a training program for employees to help them anticipate and respond to the customer's needs. The integral element of this philosophy is the eradication of all rules and policies that are obstacles to customer satisfaction, and the realization that

what management perceives as quality service may not align with the employee's perception of quality service.

Perception Differences Within an Organization

The concept of perception and its importance

Perception involves translating the external, physical world into an internal, mental picture. The perception process is composed of three basic functions: sensing a stimulus in the external world, selecting and attending to certain stimuli, and interpreting the stimuli to give them meaning (Wilkie 1990). Within the function of sensation, there exists an absolute and a differential sensory threshold. The absolute threshold is defined as the minimum amount of a stimulus that can be detected. Humans have limited sensory abilities when compared to other living species (Smith 1984).

The differential threshold refers to the ability to detect changes in stimuli. Small differences may not be recognized at all. Weber's law describes this threshold as the minimum actual change in a stimulus that can be detected as change. He discovered that as stimulus intensity gets larger, it takes more of a change in the stimulus to be detected as a change. In the service industry, this concept is useful. Executives are able to lower costs by offering less while maintaining prices at a constant level. The

change is enough to save the company money and still go undetected by the customer (Britt 1975).

Stimuli that can be detected are interpreted to provide meaning. This interpretation is referred to as a perceptual inference. In a broad sense, an inference is an impression formed based on other information, e.g., if a person's name is John, the person is likely to be male; if a service is expensive, it is likely to be of high quality (Wilkie 1990). Though an inference may be logical to an individual, it may not be correct. It may also differ from one individual to another.

Perception at different levels of organizational hierarchy

The importance of perception has been well established in the psychology literature. Several studies have been performed that examine how individuals make inferences and how these inferences affect judgments and decision-making ability (Chattopadhyay and Alba 1988; Dolinsky and Feinberg 1986; Higgins and Bargh 1987). Consequently, they can influence how individuals feel about their jobs. Employees make inferences about the positions held within an organization. The organizational level of the individual may determine to a significant extent a person's perception of the job (Greyser 1980; Hamner and Tosi 1974; Schuler 1975; Szilagyi, Sims, and Keller 1976; Webster 1981). Organizational hierarchy is a fundamental characteristic of organizations and the position within that hierarchy has

been shown to have strong psychological implications for individual organization members (Porter and Lawler 1965; Tannenbaum 1968).

Lazarus and Folkman (1984) described the perceptual differences that exist between personnel levels during organizational restructuring. For example, they found that managers perceive a higher level of control than lower level personnel. Managerial level employees look for information and respond to feedback to a greater extent than lower level employees who may tend to distance themselves in order to avoid potential threats. According to Olson and Tetrick (1988), organizational restructuring is perceived differently by varying personnel levels within the organizational hierarchy. They found that role clarity and satisfaction with leader behavior was greater for lower employee levels.

Leigh and Futrell (1985) investigated the perceptions of social power, control, organizational climate, and job satisfaction at varying organizational levels. They found that the higher the position in the hierarchy, the more satisfied people were and their perceptions of their jobs were more favorable. Greenberger, Strasser, and Lee (1988) corroborated this perceptual inference by showing that lower level employees' perceptions of personal control influence their attempts to increase control when control is reduced. Furthermore, their perception of control is influenced by

their supervisors' and managers' leadership style. Leader behaviors have been shown to influence employee perceptions of the work environment (Endler and Magnusson 1976).

Stoltenberg, Solomon, and Odgen (1986) investigated the degree of agreement between supervisors and supervisees in their perceptions of trainee's development level. They found that supervisees tend to rate themselves as more developed than do their supervisors. Therefore, the supervisees preferred more autonomy. The supervisors, on the other hand, preferred to maintain a more structured environment. These results were not surprising since much research has shown that supervisor and subordinates do not have the same perceptions of the communication occurring between them (Read 1962; Webber 1970). Hatfield, Huseman and Miles (1987) tested whether superiors and subordinates have different perceptions of the verbal recognition given by the superior. They found that the two groups do not perceive the communication occurring between them in the same manner.

Consequently, the delivery of quality within services can be perceived differently depending on employees' level within the organizational hierarchy. Their perception of control, organizational climate, and role in the organization is influenced by the position held. These differences become more significant in the service industry because services are labor intensive. Therefore, the

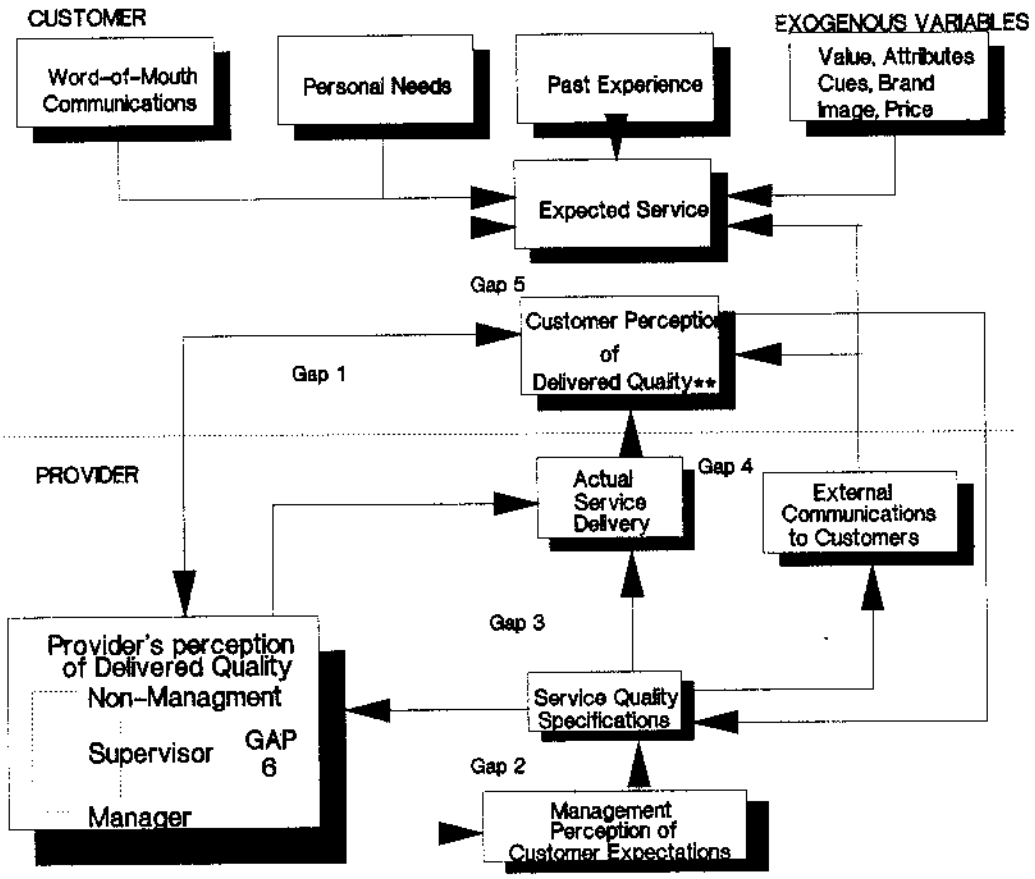
quality of service delivery is influenced by the performance of individual employees throughout all organizational levels.

Revised Model

Based on this review of the literature, the Service Quality Model has been revised. This revised model is shown in Figure 2.

Figure 2

Revised Service Quality Model



** In Figure 1, this item was labeled, "Perceived Service"

The new model emphasizes several points. First, the customer's expectation of service is further influenced by several exogenous variables. These variables include value, attributes, cues, brand, image, and price. The literature supports the notion that these variables contribute to the overall definition of quality service.

Second, service delivery was relabeled *actual* service delivery since the researcher is making a distinction between actual and perceived delivered quality. The actual service delivery influences the customer's perception of delivered quality (previously labeled "perceived service"). While this does not significantly change the original model, it clarifies the researcher's intent of adding an additional "gap" to the model.

A sixth "gap" is included in this revised model. The literature has revealed that the perception of quality is subject to change as the message travels downward from managers to supervisors to non-management employees. The provider's perception of delivered quality (comprised of all three organizational levels) is influenced by the service quality expectations, which ultimately affects the actual service delivery. Therefore, within the provider's perspective, "gap 6" has a significant impact on actual service delivery.

"Gap 6" and the customer's perception of delivered quality are thought to influence one another. The

literature explains that the customer can develop an image of quality from the behavior of the provider and the provider, in turn, reacts to the customer. A feedback loop exists where the resulting customer perception alters the service quality specifications, which changes the provider's perception of delivered quality and the process begins once again.

This research did not attempt to study the model as a whole, but rather focused specifically on the provider's perception of delivered quality for managers, supervisors, and non-management employees ("gap 6"). This will be addressed in Chapter 3.

General Hypotheses

Three general hypotheses were tested. The first hypothesis refers to the level of total perceived delivered quality at different organizational levels. The literature supports the notion that the service provider's perception of delivered quality is influenced by the process of quality management. Such a process begins with the management level and travels throughout the organization until the service is delivered to the consumer. This research shows that a "perceived delivered quality gap" exists between managers, supervisors, and non-management employees.

The second hypothesis refers to the level of total perceived delivered quality offerings. The research proposes that since each offering is concerned with meeting

the needs of its target market, the provider's perception of quality delivery will be different for each market segment.

The third hypothesis concerns the five dimensions of total perceived delivered quality (e.g., tangibles, reliability, responsiveness, assurance, and empathy). It is proposed that organizational levels and target markets will influence these dimensions separately since they are components of TOTAL PERCEIVED DELIVERED QUALITY. The literature supports the idea that delivered quality is a multidimensional construct including a tangible dimension and four intangible dimensions (reliability, responsiveness, assurance, and empathy). These dimensions, when combined, provide a larger perspective of the total perceived delivered quality.

Conclusions

The concept of quality can be viewed from one of two positions. It can be approached from a *consumer's* perspective or a *provider's* perspective. Consumer perceptions of quality are subjective and individual. This presents the provider of products and services with a great challenge. Consumers are constantly bombarded with information (mostly incomplete) about products, and they make quality assessments based on a multitude of product cues.

Providers are concerned with meeting their customers' needs and many go to great lengths to incorporate quality

philosophies and technology into their production processes. However, they generally define quality in terms of objective or actual characteristics (i.e., standards for production, performance, design and durability).

Service providers have unique challenges in their delivery of quality. They require face-to-face encounters where personnel fill multiple roles. Service personnel perceive their environment differently depending on the position held within the organizational hierarchy. This difference in perception may influence the delivery of service quality.

Summary of Chapter 2

This chapter reviewed the literature that addresses the quality construct. Quality was defined from two major perspectives, the consumer-oriented viewpoint and the provider-oriented viewpoint. The consumer-oriented viewpoint relates perception of quality to value, product attributes, product cues, image, price, and brand name. The provider-oriented viewpoint includes statistical process control, standards, costs of quality, value engineering, country-of-origin, and implementation of quality management programs. Additionally, quality literature was reviewed from the service provider's perspective.

The psychology literature provided insight into how perceptions vary between personnel at different organizational levels. Individual inferences affect

judgments and decision-making ability. Consequently, the level of delivered quality may be perceived differently at each position within the organizational hierarchy.

Chapter 3 will state the research objectives, the hypotheses tested, outline and discuss the methodology, specify a model, operationalize the quality construct, and review the sample.

CHAPTER 3

METHOD OF STUDY

Introduction

This chapter describes the hypotheses of the study and the methodology used to collect and analyze the data. The research objectives, rationale of the hypotheses, sample population, development and description of the survey instrument, and the methodology of its operationalization are described. The chapter concludes with a detailed discussion of the statistical analyses to be employed.

Research Objectives

There are three objectives for this study:

1. To identify differences in total perceived delivered quality at different organizational levels.
2. To identify differences in total perceived delivered quality between different target markets at each organizational level.
3. To identify differences in the five dimensions of total perceived delivered quality between target markets and organizational levels.

These objectives were chosen because they provide an assessment of what perceived level of quality service is being delivered by each personnel level, for different

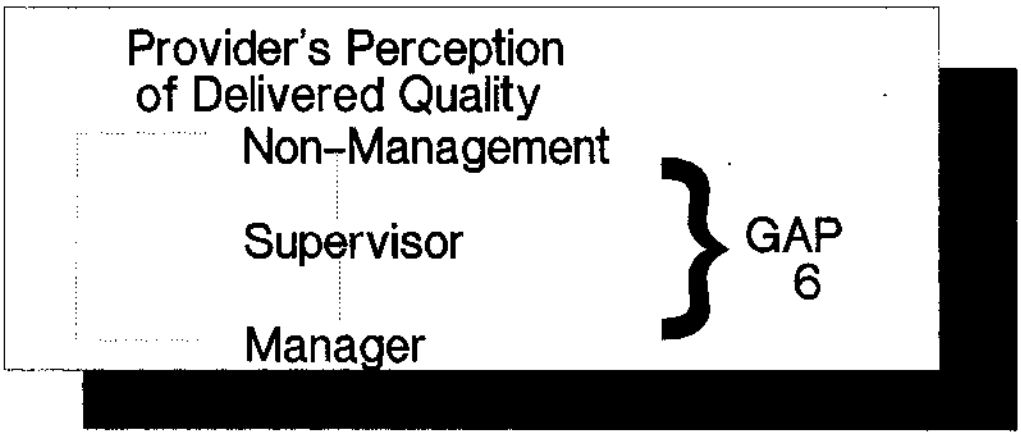
target markets. This information provides a significant contribution to the services quality literature.

Rationale of the Hypotheses

The hypotheses concern the different perceptions that exist between organizational levels (e.g., manager, supervisor, and non-management employees). The researcher proposes that a sixth "gap" needs to be added to the service quality model. This gap represents the differences that may exist between the levels of perceived delivered quality expressed by managers, supervisors, and non-management employees. This addition to the existing service quality theory was depicted in Figure 2 and isolated for emphasis in Figure 3. In addition, the amount of variance contributed by each quality dimension (tangibles, reliability, responsiveness, assurance, and empathy) is compared to the total perceived delivered quality.

Figure 3

"Gap 6" in the Service Quality Model



All hypotheses are stated in the null form. The intent is for the researcher to reject the null hypothesis, thereby implying that significant differences do exist between the sample populations (McClave and Benson 1982).

There are eight null hypotheses for this research study. The justification for the hypotheses has been presented in chapter 1. The literature review (chapter 2) laid the foundation for these hypotheses.

The first hypothesis relates to the level of PERCEIVED DELIVERED QUALITY in relation to organizational level. There are three organizational levels (managers, supervisors, and non-management employees). Managers are considered salaried, upper-level management; supervisors are paid an hourly wage and have subordinates; and non-management employees are also paid an hourly wage, with no subordinates. Quality management practices typically are initiated at the top of an organization. The managers' job is to relay the philosophy and techniques to lower managerial levels (supervisors) and finally to the non-management employee. The results indicate the efficiency of this process for different market segments. Figure 4 and Figure 5 illustrate the combinations examined.

The second hypothesis involves the level of PERCEIVED DELIVERED QUALITY in relation to market segments. Its purpose is to examine whether, in fact, a difference exists between different market segments.

Figure 4

TOTAL PERCEIVED DELIVERED QUALITY
between organizational levels

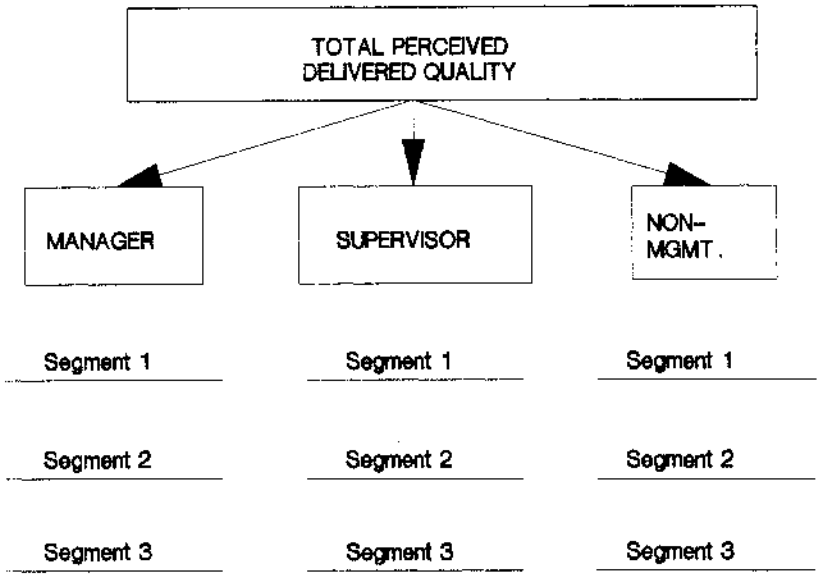
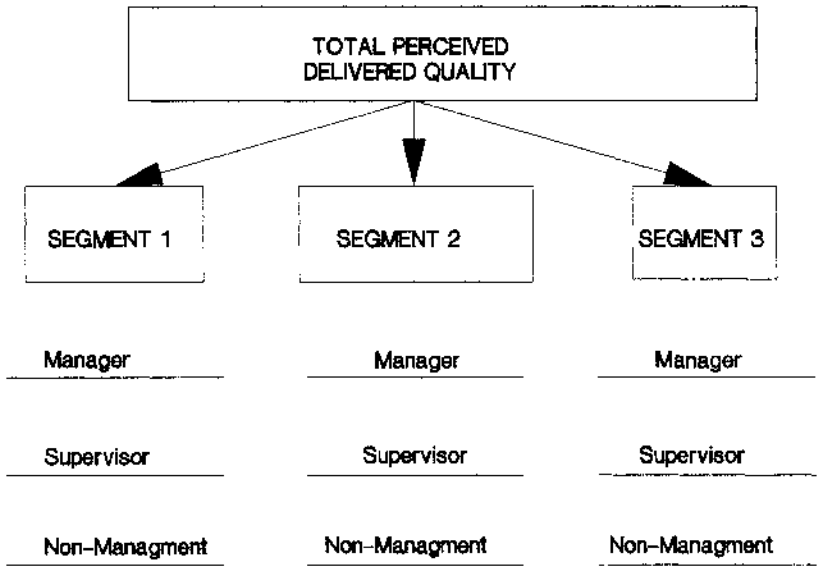


Figure 5 illustrates the combinations to be examined.

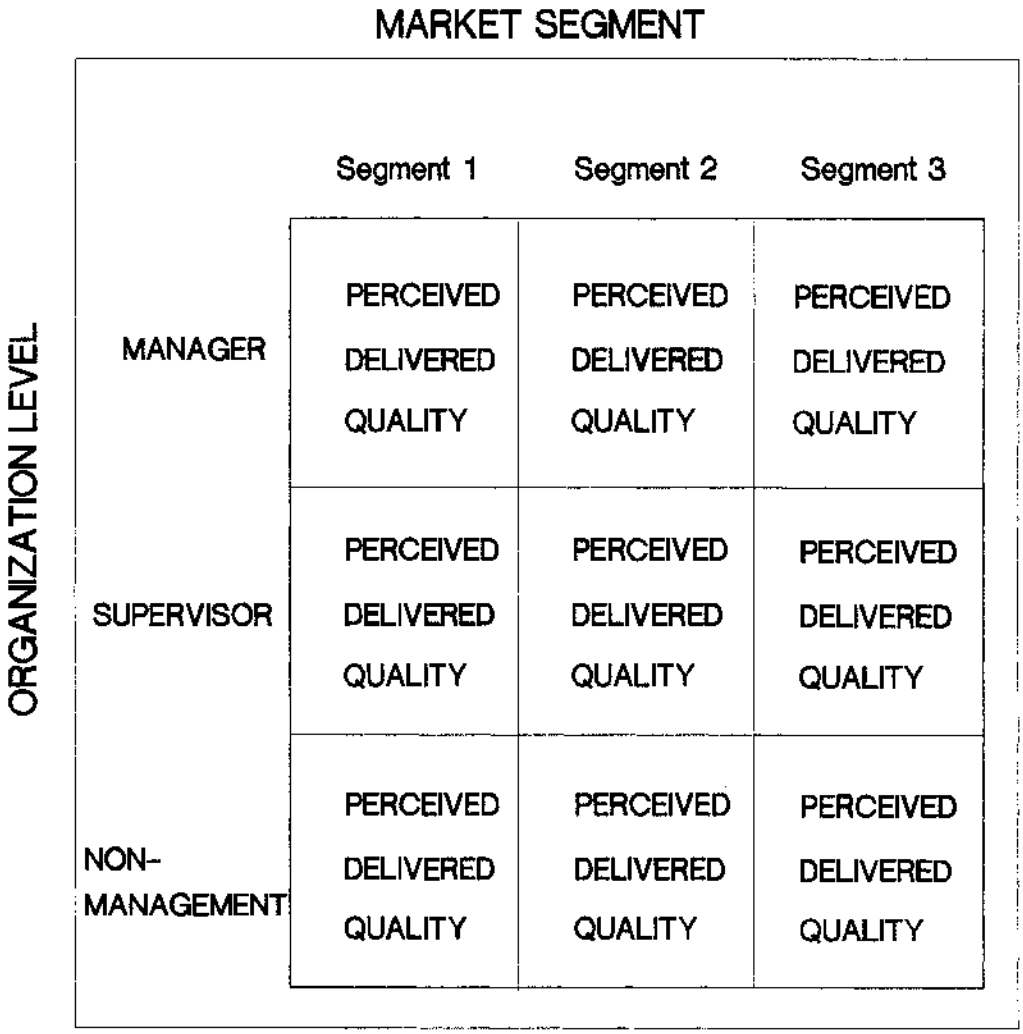
Figure 5
TOTAL PERCEIVED DELIVERED QUALITY between market segments



The third hypothesis describes the interactions that may exist between organizational level and market segment. In order for the main effects to be examined separately, there should be no interaction. Since this study involves three organizational levels and three market segments, the model is a 3 X 3 factorial design as shown in Figure 6.

Figure 6

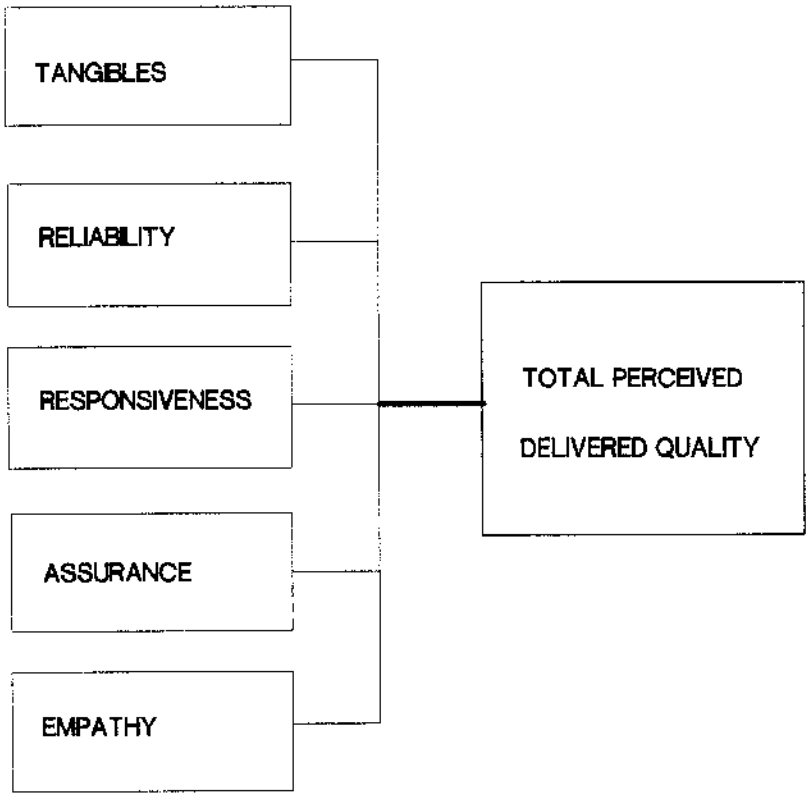
TOTAL PERCEIVED DELIVERED QUALITY --
3 X 3 Factorial Model Design



Hypotheses four through eight involve the examination of each separate dimension of TOTAL PERCEIVED DELIVERED QUALITY in relation to market segment and organizational level. The researcher proposes that the five dimensions will not all be the same for each market segment and organizational level, thereby substantiating the need for expressing total delivered quality as a multidimensional concept. The relationship of the dimensions to TOTAL PERCEIVED DELIVERED QUALITY is illustrated in Figure 7.

Figure 7

Dimension Relationships to TOTAL PERCEIVED DELIVERED QUALITY



Research Instrument

The research instrument used in this study, "The Provider's Lodging Quality Perception Profile," was modeled after the SERVQUAL instrument (Parasuraman, Zeithaml, and Berry 1988) and was shown to be reliable and valid (Cronbach's alpha levels ranged from .87 to .90) using Churchill's (1979) paradigm for developing better measures of marketing constructs. The statements were worded similarly to those of SERVQUAL except they specifically address items related to lodging establishments. The development of the SERVQUAL scale began with ten dimensions that were narrowed down to a five dimension scale that has provided a basis for measuring service quality (Zeithaml, Parasuraman, and Berry 1990). SERVQUAL is broad in its scope so that it can be applied to a wide range of service industries. Parasuraman, Berry, and Zeithaml (1991) have continued to refine the instrument and have replicated it in several different customer samples. They have consistently supported its reliability, face validity, and predictive/ concurrent validity. Consequently, SERVQUAL has been adapted for several service industries such as health care (Mangold and Babakus 1991), travel and tourism (Fick and Ritchie 1991), and professional services (Bojanic 1992). The five dimensions and their surrogates are shown in Table 1.

TABLE 1

DIMENSIONS OF SERVICE QUALITY AND THEIR SURROGATES

DIMENSION	SURROGATES
TANGIBLES	* Facilities are visually appealing. * Equipment is modern. * Written materials (e.g., pamphlets, brochures, statements) are appealing and easy to understand. * Facilities are clean. * Employees are neat and well-groomed.
RELIABILITY	* Tasks are performed on time and correctly. * Employees show a sincere interest in solving problems. * High standards are exhibited. * Service is fast and efficient.
RESPONSIVENESS	* Employees respond promptly to customer requests. * Employees are attentive to customer needs. * Customers are made to feel special.
ASSURANCE	* Employees possess required skills and knowledge. * Employees are polite and courteous. * Customers are provided with a safe environment.
EMPATHY	* Customers receive individual attention. * Managers are available if a customer has a problem. * Employees exhibit understanding if a problem exists.

The procedures outlined by Churchill (1979) were followed in order to develop the PROVIDER'S LODGING QUALITY PERCEPTION PROFILE. Table 2 provides a schematic of the steps used in this process.

TABLE 2

DEVELOPMENT OF THE
"PROVIDER'S PERCEPTION PROFILE OF LODGING QUALITY"

Churchill's Procedures (1979)	Steps in Instrument Development
1. Specify Domain	Literature Search
2. Generate Sample of Items	a. Consulted Written Materials b. Interviewed Consumers and Lodging Professionals
3. Collect Data	Administered 70-item instrument to hotel employees
4. Purify Measure	Three step procedure: a. Cronbach's Alpha b. Corrected Item-Total Correlations c. Factor Analysis
5. Assess Reliability	a. Cronbach's Alpha b. Corrected Item-Total Correlations
6. Assess Validity	a. Evaluation of instrument by faculty members b. Crosstabulations c. Factor Analysis
7. Establish Norms	Examined total distribution of scores

Reliability was assessed using Cronbach's alpha. Alpha values ranged from .93 to .97. The resulting survey consists of 50 items encompassing the same five dimensions of perceived delivered quality as those included in SERVQUAL. The number of items for each dimension is depicted in Table 3. The instrument is shown in Appendix A.

TABLE 3

NUMBER OF ITEMS FOR EACH
PERCEIVED DELIVERED QUALITY DIMENSION

Dimension	Number of Items
TANGIBLES	13
RELIABILITY	9
RESPONSIVENESS	10
ASSURANCE	9
EMPATHY	9
TOTAL	50

Each statement of the survey is followed by a scale that is 10 centimeters in length anchored at "strongly disagree" to "strongly agree." This scale was modeled after the "graphic rating scale" described by Churchill (1977, p. 338). The respondents indicate their rating by placing a mark (e.g., "X") at the appropriate point on the line that runs from one extreme of the attribute to the other. The value is then determined by measuring the length of the line from the left origin to the marked position. The advantage of using this scale is it provides an opportunity to make fine distinctions.

Sample

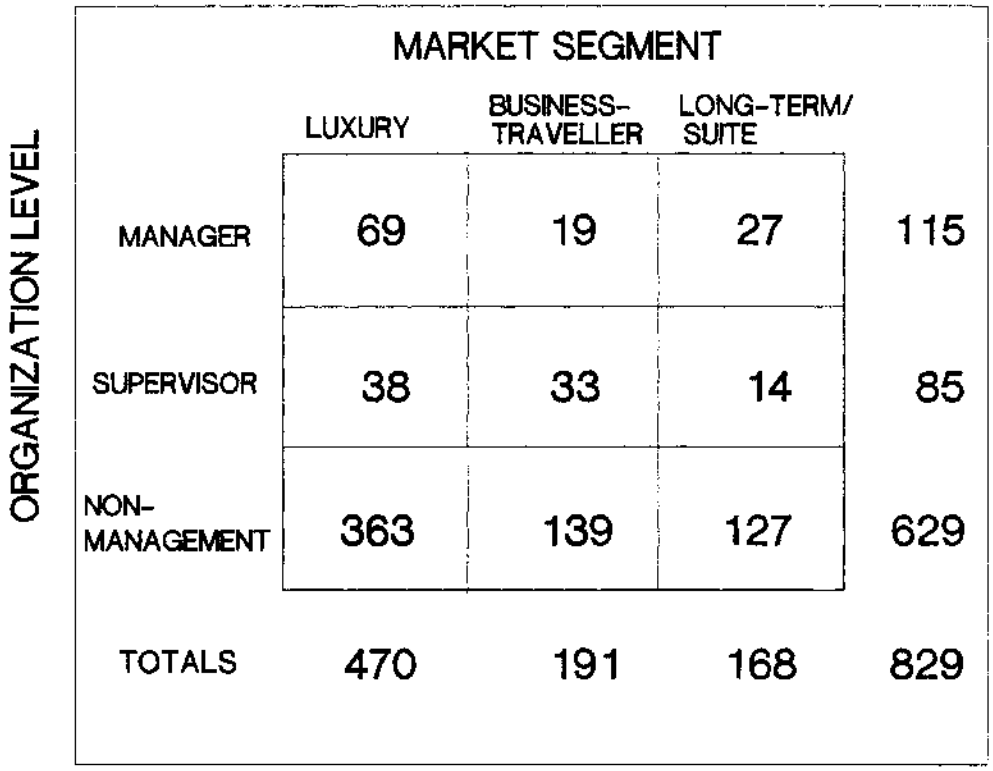
The data for this study were collected from three organizational levels at three lodging property types. The

property types were chosen because they are all products of one hotel company and therefore, are subject to the same managerial style. All properties are located within a large metropolitan area. Three luxury properties, five business-traveller properties, and five long-term/suite properties were surveyed. A non-probability sampling technique was implemented. The population sample represents a purposive sample (Churchill 1977) which was "hand-picked" since they are expected to be representative of properties within the area surveyed. This purposive sample includes hotel properties that are subject to the same management directives and represent the same quality standards. The use of purposive samples is supported because such samples are characterized by use of judgment and a deliberate effort to choose a representative sample that meets the research requirements (Kerlinger 1986). Since these properties are all managed by the same regional executives, they serve the research purpose of examining delivered, as opposed to desired quality standards. It is believed that they represent the population of interest.

The respondents consisted of employees at the managerial, supervisory, and non-management levels. The study was limited to English-speaking persons only to avoid having to translate the instrument, which could result in invalid results. The total sample population is depicted in Figure 8.

Figure 8

Population Size Each
Market Segment/Organizational Level Cell



Managerial and supervisory positions represent a smaller percentage of the totals. This is a realistic condition in lodging establishments. The researcher expected to obtain a 30 percent or higher response rate, which is consistent with studies of this type (Babakus and Mangold 1992; Parasuraman, Berry, and Zeithaml 1991).

Methodology

Two weeks prior to the distribution of the questionnaire (see Appendix A), the general managers at each

property were contacted by the regional office and provided with a description of the research study. The following points were emphasized: (1) the purpose of the study, (2) the protection of employees' anonymity, and (3) the short amount of time it would take to complete (approximately 10 minutes).

A packet of materials was delivered by the researcher to the general manager of each property. This packet included the following items: (1) cover letter to each respondent, (2) survey instrument, and (3) a stamped, self-addressed envelope for the return of the instrument. In addition, the general manager received memoranda to be distributed one week, and then two weeks later to remind individual respondents to complete the survey.

Statistical Analyses

A three by three factorial design was implemented in this study to simultaneously exam the effects of two independent variables, market segment and organizational level, on total perceived delivered quality. There are several reasons why a factorial design is suitable. First, it allows for the examination of possible interactions between factors. Second, it saves time and effort since all of the observations are employed to study the effect of each of the factors. And third, the conclusions derived have broader applications than two one-factor designs since each

factor is studied with varying combinations of the other factors.

The statistical analyses included an analysis of variance to determine whether significant differences exist between main effects. A multiple range test was performed to determine which levels within treatments differ from one another.

The dimensions of TOTAL PERCEIVED DELIVERED QUALITY were analyzed through ANOVA in order to identify the relationships that exist between market segments and organizational levels for each dimension. This provided further insight into the multidimensionality of the quality construct.

Null Hypotheses

The following null hypotheses were proposed:

Ho: 1 For each market segment, no significant difference exists in TOTAL PERCEIVED DELIVERED QUALITY between:

1.1 managers and supervisors.

1.2 managers and non-management employees.

1.3 supervisors and non-management employees.

Quality management efforts begin at the top of an organization and the information flows downward to non-management employees. This process occurs with all types of establishments, therefore, hypothesis 2:

Ho: 2 For each organizational level, no significant difference exists in TOTAL PERCEIVED DELIVERED QUALITY between properties with:

2.1 luxury accommodations and business-traveller accommodations.

2.2 luxury accommodations and long-term suite accommodations.

2.3 business-traveller accommodations and long-term/suite accommodations.

Quality can be considered high at each property if it satisfies the wants of the intended customer base.

Ho: 3 No significant interaction exists between market segment and organizational level in determining the TOTAL PERCEIVED DELIVERED QUALITY.

The literature, as previously reviewed, acknowledges that tangibles, reliability, responsiveness, assurance, and empathy are dimensions that contribute to perceived delivered quality. The literature further supports the concept that the tangible dimension is considered the most important factor in perceived quality. Intangible dimensions (reliability, responsiveness, assurance, and empathy) are emphasized to increase the perceived level of luxury of delivered service (Edwards 1992; Lewis and Nightingale 1991).

Ho: 4a For the TANGIBLES dimension, no significant difference exists for each market segment, between:

4a.1 managers and supervisors.

4a.2 managers and non-management employees.

4a.3 supervisors and non-management employees.

Ho: 4b For the TANGIBLES dimension, no significant difference exists for each organizational level, between properties with:

4b.1 luxury accommodations and business-traveller accommodations.

4b.2 luxury accommodations and long-term suite accommodations.

4b.3 business-traveller accommodations and long-term/suite accommodations.

Ho: 4c For the TANGIBLES dimension, no significant interaction exists between market segment and organizational level.

Ho: 5a For the RELIABILITY dimension, no significant difference exists for each market segment, between:

5a.1 managers and supervisors.

5a.2 managers and non-management employees.

5a.3 supervisors and non-management employees.

Ho: 5b For the RELIABILITY dimension, no significant difference exists for each organizational level, between properties with:

5b.1 luxury accommodations and business-traveller accommodations.

5b.2 luxury accommodations and long-term suite accommodations.

5b.3 business-traveller accommodations and long-term/suite accommodations.

Ho: 5c For the RELIABILITY dimension, no significant interaction exists between market segment and organizational level.

Ho: 6a For the RESPONSIVENESS dimension, no significant difference exists for each market segment, between:

6a.1 managers and supervisors.

6a.2 managers and non-management employees.

6a.3 supervisors and non-management employees.

Ho: 6b For the RESPONSIVENESS dimension, no significant difference exists for each organizational level, between properties with:

6b.1 luxury accommodations and business-traveller accommodations.

6b.2 luxury accommodations and long-term suite accommodations.

6b.3 business-traveller accommodations and long-term/suite accommodations.

Ho: 6c For the RESPONSIVENESS dimension, there is no significant interaction between market segment and organizational level.

Ho: 7a For the ASSURANCE dimension, there is no significant difference for each market segment, between:

7a.1 managers and supervisors.

7a.2 managers and non-management employees.

7a.3 supervisors and non-management employees.

Ho: 7b For the ASSURANCE dimension, no significant difference exists for each organizational level, between properties with:

7b.1 luxury accommodations and business-traveller accommodations.

7b.2 luxury accommodations and long-term suite accommodations.

7b.3 business-traveller accommodations and long-term/suite accommodations.

Ho: 7c For the ASSURANCE dimension, no significant interaction exists between market segment and organizational level.

Ho: 8a For the EMPATHY dimension, no significant difference exists for each market segment, between:

8a.1 managers and supervisors.

8a.2 managers and non-management employees.

8a.3 supervisors and non-management employees.

Ho: 8b For the EMPATHY dimension, no significant difference exists for each organizational level, between properties with:

8b.1 luxury accommodations and business-traveller accommodations.

8b.2 luxury accommodations and long-term suite accommodations.

8b.3 business-traveller accommodations and long-term/suite accommodations.

Ho: 8c For the EMPATHY dimension, no significant interaction exists between market segment and organizational level.

Summary of Chapter 3

The research objectives, the null hypotheses, and the rationale for these hypotheses were presented in this chapter. The instrument and its development were discussed. In addition, the sample selection, methodology, and statistical analyses were addressed. The following chapter will present the research findings of the study.

CHAPTER 4

ANALYSIS AND RESEARCH FINDINGS

Introduction

This chapter presents the statistical analyses of the data as they relate to the revised service quality model and the resulting hypotheses. However, prior to the statistical analyses of the data, the data collection procedure and the sample characteristics will be discussed.

Data Collection and Sample Characteristics

Data collection was accomplished by means of a non-probability sampling technique. The survey instrument was delivered to thirteen lodging establishments representing three target markets: luxury, business-traveller, and long-term/suite properties. The surveys were administered to employees from three organizational levels: managerial, supervisory, and non-management personnel. A total of 829 surveys were delivered and 412 usable instruments were returned, for an overall response rate of almost 50 percent. The number of respondents for each property type - organizational level cell is shown in Table 4. The response rate for each cell ranges from 39 percent for non-managerial personnel of luxury properties to 76 percent for supervisory personnel of business-traveller properties.

TABLE 4

NUMBER OF RESPONDENTS AND RESPONSE PERCENTAGE FOR EACH CATEGORY

	LUXURY	BUSINESS-TRAVELLER	LONG-TERM/SUITE	TOTALS
MANAGER	67% 46	68% 13	70% 19	68% 78
SUPERVISOR	58% 22	76% 25	71% 11	68% 58
NON-MANAGEMENT	39% 141	53% 74	48% 61	44% 276
TOTALS	44% 209	59% 112	54% 91	50% 412

The sample's demographics shown in Tables 5 through 10 are consistent with demographic profiles of people employed in the hospitality industry (Tabacchi, Krone, and Farber 1990). Table 5 indicates that the sample workforce consists of 56 to 66 percent female.

TABLE 5

PERCENTAGE OF MALES AND FEMALES IN EACH PROPERTY

PROPERTY TYPE	MALES	FEMALES
LUXURY	34%	66%
BUSINESS-TRAVELLER	37%	63%
LONG-TERM/ SUITE	44%	56%

Table 6 reveals that the majority of females hold supervisory and non-managerial positions whereas 51 percent of the managerial positions are held by males.

TABLE 6

PERCENTAGE OF MALES AND FEMALES FOR EACH ORGANIZATIONAL LEVEL

ORGAN. LEVEL	MALES	FEMALES
MANAGER	51%	49%
SUPERVISOR	43%	57%
NON-MGMT.	32%	68%

The educational level of employees for all property types is shown in Table 7. The majority of employees of luxury and business-traveller properties have had some college whereas the majority of long-term/suite employees have only graduated from high school.

TABLE 7

EDUCATIONAL LEVEL OF EMPLOYEES IN EACH PROPERTY TYPE

PROPERTY TYPE	< 12 YEARS %	HIGH SCHOOL %	SOME COLL. %	COLLEGE GRAD. %	GRAD. DEG. %
LUXURY	4	24	42	28%	2%
BUSINESS-TRAVELLER	15	28	35	20%	2%
LONG-TERM/SUITE	21	35	29	15%	0%

Tables 8 and 9 depict the age and experience levels of employees. The majority of employees are between 25 and 31 years of age and have had no more than 3 years experience in the hospitality industry.

TABLE 8

AGE LEVEL OF EMPLOYEES IN EACH PROPERTY TYPE

PROPERTY TYPE	18-24 %	25-31 %	32-38 %	39-45 %	46+ %
LUXURY	27	33	20	12	8
BUSINESS-TRAVELLER	35	38	19	4	4
LONG-TERM/SUITE	22	45	18	6	9

TABLE 9

YEARS OF EXPERIENCE IN THE HOSPITALITY INDUSTRY FOR EACH PROPERTY TYPE

PROPERTY TYPE	0-3 YRS %	4-7 YRS %	8-11 YRS %	12+ YRS %
LUXURY	39	28	18	15
BUSINESS-TRAVELLER	52	33	9	6
LONG-TERM/ SUITE	51	31	9	9

However, while employees have limited experience within the hospitality industry, Table 10 reveals that managers and supervisors tend to have more experience than non-managerial personnel.

TABLE 10

YEARS OF EXPERIENCE IN THE HOSPITALITY INDUSTRY FOR EACH ORGANIZATIONAL LEVEL

PROPERTY TYPE	0-3 YRS %	4-7 YRS %	8-11 YRS %	12+ YRS %
MANAGER	19	35	22	24
SUPERVISOR	36	36	19	9
NON-MGMT.	54	28	11	7

Statistical Methodology

The predominant statistical tool utilized in this study was a factorial analysis of variance (ANOVA). Factorial ANOVA has several advantages. First, it allows for the simultaneous control of two variables. Second, it is more precise than one-way ANOVA. Third, it permits the study of the interactive effects of independent variables on dependent variables (Kerlinger 1986). This analytical tool requires that the variables vary independently or interact with each other to produce variation in a dependent variable. This allows for the simultaneous working of two independent variables and their influence on the dependent

variable. An interaction between these two variables means that the influence of one independent variable on a dependent variable depends on the level of another independent variable. For example, independent variable A is effective in one direction at independent variable B_1, but is effective in the other direction at B_2. In other words, $A_1 > A_2$ at B_1, but $A_1 < A_2$ at B_2 (Kerlinger 1986).

Hypothesis Testing

This section presents the results from the statistical analyses used to analyze the model and corresponding hypotheses. The first null hypothesis, Ho: 1, states that for each market segment, there is no significant difference in TOTAL PERCEIVED DELIVERED QUALITY between (1) managers and supervisors, (2) managers and non-management employees, and (3) supervisors and non-management employees. The second null hypothesis, Ho: 2, states that for each organizational level, there is no significant difference in TOTAL PERCEIVED DELIVERED QUALITY between properties with (1) luxury accommodations and business-traveller accommodations, (2) luxury accommodations and long-term/suite accommodations, and (3) business-traveller accommodations and long-term/suite accommodations. The mean values for each property type and organizational level, where QUALITY is the dependent variable, are shown in Table 11. Those mean values that are not significantly different from one another are given the same letter

TABLE 11
MEAN QUALITY VALUES FOR EACH PROPERTY TYPE AND ORGANIZATIONAL LEVEL

		PROPERTY TYPE		
		Luxury	Business-Traveller	Long-Term/ Suite
ORGANI-ZATIONAL LEVEL	Manager	8.10^{ABCF}	7.62^{A}	8.46^{BDG}
	Supervisor	8.45^{CDE}	7.92^{A}	8.86^{DE}
	Non-Mgmt.	7.95^{A}	8.66^{DE}	8.37^{EFG}

^{ABCDEFG} Means with the same letter superscript are not significantly different ($p \leq .05$).

superscript. For example, managers of luxury properties have a mean value of 8.10, which is not significantly different ($p \leq .05$) from managers of business-traveller properties, with a mean value of 7.62. Consequently, both mean values are given the same letter superscript.

The results of the analysis of variance of this dependent variable are shown in Table 12. There exists a significant interaction ($p = .007$) between property type (luxury, business-traveller, and long-term/suite) and organizational level (manager, supervisor, and non-management). Consequently, the third null hypothesis, Ho: 3, which states that there is no significant interaction between market segment (property type) and organizational level in determining the TOTAL PERCEIVED DELIVERED QUALITY,

TABLE 12

ANALYSIS OF VARIANCE

3 x 3 FACTORIAL DESIGN: THREE PROPERTY TYPES AND THREE ORGANIZATIONAL LEVELS

DEPENDENT VARIABLE: **TOTAL PERCEIVED DELIVERED QUALITY**

Source	Sums of Squares	DF	Mean Square	F	Sig. of F
Main Effects					
PROP-TYPE	13.855	2	6.928	3.995	.019
ORG. LEVEL	.757	2	.378	.218	.804
Inter-action	24.749	4	6.199	3.575	**.007**
Error	698.749	403	1.734		
Total	738.818	411	1.798		

can be rejected. The main effects referred to in null hypotheses 1 and 2 will not be interpreted since there is a significant interaction between them. It is not appropriate to explain the main effects under this circumstance because the main effects are not constant. Instead, they vary according to the variables that interact with them (Kerlinger 1986). This is particularly true when the interaction is disordinal. The disordinal nature of the main effects can be seen by examining the mean values previously shown in Table 11. Main effects are said to be disordinal when the means crisscross. In other words, the

first independent variable is effective in one direction at the first level of the second independent variable, but is effective in the other direction at the next level of the second independent variable (Kerlinger 1986). The results indicate that managers and supervisors have a high level of perceived delivered QUALITY at the luxury and long-term/suite properties whereas both exhibit a lower level of perceived delivered QUALITY at business-traveller properties. Non-management employees exhibit the opposite trend. They have the highest level of perceived delivered QUALITY for the business-traveller properties.

The remaining sets of hypotheses examine the dimensions of total perceived delivered QUALITY. These dimensions include TANGIBLES, RELIABILITY, RESPONSIVENESS, ASSURANCE and EMPATHY. A factorial analysis of variance was performed using each one of these dimensions as the dependent variable in order to examine the effect of organizational level and property type on the perceived delivery of each dimension.

The fourth hypothesis is divided into three parts. The first part, Ho: 4a, states: For the TANGIBLES dimension, there is no significant difference for each market segments, between (1) managers and supervisors, (2) managers and non-management employees, and (3) supervisors and non-management employees.

The second part, Ho: 4b, states: For the TANGIBLES dimension, there is no significant difference for each

organizational level, between properties with (1) luxury accommodations and business- traveller accommodations, (2) luxury accommodations and long-term/suite accommodations, and (3) business-traveller accommodations and long-term/suite accommodations.

Both of these portions examine total perceived delivered TANGIBLES in relation to the main effects, organizational level and property type. The third part of this hypothesis, Ho: 4c, states: For the TANGIBLES dimension, there is no significant interaction between market segment (property type) and organizational level.

The mean values for the TANGIBLES dimension of total perceived delivered QUALITY are shown in Table 13.

TABLE 13
MEAN TANGIBLES VALUES FOR EACH PROPERTY TYPE AND ORGANIZATIONAL LEVEL

		PROPERTY TYPE		
		Luxury	Business-Traveller	Long-Term/Suite
ORGANIZATIONAL LEVEL	Manager	7.97	7.74	8.22
	Supervisor	8.35	7.82	8.10
	Non-Mgmt.	7.82	8.34	8.16

The mean values ranged from 7.74 to 8.35 and were not significantly different from one another.

The results of the factorial analysis of variance are shown in Table 14. There were no significant differences between organizational levels. Consequently, Ho: 4a cannot be rejected. Additionally, property types did not differ significantly. Therefore, Ho: 4b cannot be rejected. Finally, there was no significant interaction between the main effects. As a result, the researcher failed to reject Ho: 4c.

TABLE 14

ANALYSIS OF VARIANCE

3 x 3 FACTORIAL DESIGN: THREE PROPERTY TYPES AND THREE ORGANIZATIONAL LEVELS

DEPENDENT VARIABLE: **TOTAL PERCEIVED DELIVERED TANGIBLES**

Source	Sums of Squares	DF	Mean Square	F	Sig. of F
Main Effects					
PROP-TYPE	6.462	2	3.231	1.652	.193
ORG. LEVEL	.038	2	.019	.010	.990
Inter-action	13.172	4	3.293	1.683	.153
Error	788.363	403	1.956		
Total	808.217	411	1.966		

The fifth set of hypotheses contains the following sections. Ho: 5a states: For the RELIABILITY dimension, there is no significant difference for each market segment, between (1) managers and supervisors, (2) managers and non-management employees, and (3) supervisors and non-management employees.

Ho: 5b, states: For the RELIABILITY dimension, there is no significant difference for each organizational level, between properties with (1) luxury accommodations and business-traveller accommodations, (2) luxury accommodations and long-term/suite accommodations, and (3) business-traveller accommodations and long-term/ suite accommodations.

Hypotheses 5a and 5b examine total perceived delivered RELIABILITY in relation to the main effects, organizational level and property type. Ho: 5c, states: For the RELIABILITY dimension, there is no significant interaction between market segment (property type) and organizational level.

Table 15 displays the mean RELIABILITY values for each property type and organizational level cell. Cells with mean values that are not significantly different from a particular cell are given the same letter superscript. For example, managers of business-traveller properties have a mean value of 7.43 that is not significantly different from managers of luxury properties with a mean value of 7.95.

TABLE 15

MEAN RELIABILITY VALUES FOR EACH PROPERTY TYPE AND ORGANIZATIONAL LEVEL

		PROPERTY TYPE		
		Luxury	Business-Traveller	Long-Term/ Suite
ORGANI-ZATIONAL LEVEL	Manager	7.95^{AB}	7.43^{A}	8.19^{BCD}
	Supervisor	8.33^{BD}	7.81^{ACE}	8.65^{DF}
	Non-Mgmt.	7.67^{A}	8.37^{D}	8.03^{BEF}

^{ABCEDF} Means with the same letter superscript are not significantly different ($p \leq .05$).

However, their value of 7.43 is significantly different from managers of long-term/suite properties with a mean value of 8.19.

Table 16 contains the results of the factorial analysis of variance used to test these hypotheses. A significant interaction exists (p=.022) between property type and organizational level on the level of perceived delivered RELIABILITY. Accordingly, Ho: 5a and 5b will not be examined and Ho: 5c will be rejected.

The next set of hypotheses contains the same sections. Ho: 6a states: For the RESPONSIVENESS dimension, there is no significant difference for each market segment, between (1) managers and supervisors, (2) managers and non-

TABLE 16

ANALYSIS OF VARIANCE

3 x 3 FACTORIAL DESIGN: THREE PROPERTY TYPES AND THREE ORGANIZATIONAL LEVELS

DEPENDENT VARIABLE: **TOTAL PERCEIVED DELIVERED RELIABILITY**

Source	Sums of Squares	DF	Mean Square	F	Sig. of F
Main Effects					
PROP-TYPE	10.303	2	5.152	2.442	.088
ORG. LEVEL	1.788	2	.894	.424	.655
Inter-action	24.513	4	6.128	2.905	**.022**
Error	850.196	403	2.110		
Total	887.823	411	2.160		

management employees, and (3) supervisors and non-management employees.

Ho: 6b, states: For the RESPONSIVENSS dimension, there is no significant difference for each organizational level, between properties with (1) luxury accommodations and business-traveller accommodations, (2) luxury accommodations and long-term/suite accommodations, and (3) business-traveller accommodations and long-term/suite accommodations. Hypotheses 6a and 6b examine total perceived delivered

RESPONSIVENESS in relation to the main effects, organizational level and property type.

Ho: 6c, states: For the RESPONSIVENESS dimension, there is no significant interaction between market segment (property type) and organizational level. The statistical results shown in Tables 17 and 18 are similar to those shown previously. A significant interaction ($p = .003$) exists between property type and organizational level. The researcher therefore will not examine the main effects and rejects null hypothesis 6c.

TABLE 17
MEAN RESPONSIVENESS VALUES FOR EACH PROPERTY TYPE AND ORGANIZATIONAL LEVEL

		PROPERTY TYPE		
		Luxury	Business-Traveller	Long-Term/ Suite
ORGANI-ZATIONAL LEVEL	Manager	8.31^{AB}	7.56^{C}	8.70^{ADF}
	Supervisor	8.75^{AE}	8.02^{BC}	9.40^{DE}
	Non-Mgmt.	8.24^{BF}	8.89^{DEG}	8.59^{AG}

^{ABCDEFG} Means with the same letter superscript are not significantly different ($p \leq .05$).

Total perceived delivered ASSURANCE is the fourth dimension of total perceived delivered QUALITY. This

TABLE 18

ANALYSIS OF VARIANCE

3 x 3 FACTORIAL DESIGN: THREE PROPERTY TYPES AND THREE ORGANIZATIONAL LEVELS

DEPENDENT VARIABLE: TOTAL PERCEIVED DELIVERED RESPONSIVENESS

Source	Sums of Squares	DF	Mean Square	F	Sig. of F
Main Effects					
PROP-TYPE	10.860	2	5.430	2.451	.087
ORG. LEVEL	2.737	2	1.369	.618	.540
Inter-action	36.772	4	9.193	4.149	.003
Error	892.867	403	2.216		
Total	943.858	411	2.296		

dimension is referred to in null hypotheses 7a, 7b, and 7c.

Ho: 7a states: For the ASSURANCE dimension, there is no significant difference for each market segment, between 1) managers and supervisors, (2) managers and non-management employees, and (3) supervisors and non-management employees.

Ho: 7b, states: For the ASSURANCE dimension, there is no significant difference for each organizational level, between properties with (1) luxury accommodations and business- traveller accommodations, (2) luxury

accommodations and long-term/suite accommodations, and (3) business-traveller accommodations and long-term/suite accommodations.

Ho: 7c, states: For the ASSURANCE dimension, there is no significant interaction between market segment (property type) and organizational level. The mean values of the ASSURANCE dimension are shown in Table 19.

TABLE 19
MEAN ASSURANCE VALUES FOR EACH PROPERTY TYPE AND ORGANIZATIONAL LEVEL

		PROPERTY TYPE		
		Luxury	**Business-Traveller**	**Long-Term/ Suite**
ORGANI-ZATIONAL LEVEL	**Manager**	8.05^{ABC}	7.56^{AD}	8.75^{EFGH}
	Supervisor	8.14^{BEH}	7.91^{ABD}	9.08^{FI}
	Non-Mgmt.	7.78^{BG}	8.88^{HI}	8.50^{CFH}

^{ABCEDFGHI} Means with the same letter superscript are not significantly different ($p \leq .05$).

The analysis of variance shown in Table 20 indicates a significant interaction ($p = .003$) between the main effects. They follow the same pattern as the other dependent variables with significant interaction between main effects. Therefore, the main effects will not be considered and Ho: 7c will be rejected.

TABLE 20

ANALYSIS OF VARIANCE

3 x 3 FACTORIAL DESIGN: THREE PROPERTY TYPES AND THREE ORGANIZATIONAL LEVELS

DEPENDENT VARIABLE: **TOTAL PERCEIVED DELIVERED ASSURANCE**

Source	Sums of Squares	DF	Mean Square	F	Sig. of F
Main Effects					
PROP-TYPE	48.146	2	24.073	10.54	.000
ORG. LEVEL	.547	2	.274	.62	.887
Inter-action	37.875	4	9.469	4.15	.003
Error	920.518	403	2.284		
Total	1007.144	411	2.450		

The last set of null hypotheses examines total perceived delivered EMPATHY. The null hypothesis, Ho: 8a, states: For the EMPATHY dimension, there is no significant difference for each market segment, between (1) managers and supervisors, (2) managers and non-management employees, and (3) supervisors and non-management employees.

Ho: 8b, states: For the EMPATHY dimension, there is no significant difference for each organizational level, between properties with (1) luxury accommodations and business-traveller accommodations, (2) luxury accommodations

and long-term/suite accommodations, and (3) business-traveller accommodations and long-term/suite accommodations.

Hypotheses 8a and 8b examine total perceived delivered EMPATHY in relation to the main effects, organizational level and property type. Ho: 8c, states: For the EMPATHY dimension, there is no significant interaction between market segment (property type) and organizational level. The results shown in Tables 21 and 22 indicate a significant interaction ($p = .016$) between the main effects. Consequently, null hypotheses 8a and 8b are not considered and null hypothesis 8c can be rejected.

TABLE 21
MEAN EMPATHY VALUES FOR EACH PROPERTY TYPE AND ORGANIZATIONAL LEVEL

		PROPERTY TYPE		
		Luxury	Business-Traveller	Long-Term/Suite
ORGANIZATIONAL LEVEL	Manager	8.27^{AB}	7.74^{A}	8.53^{BCE}
	Supervisor	8.69^{BDF}	8.10^{AC}	9.32^{D}
	Non-Mgmt.	8.28^{AB}	8.93^{DE}	8.67^{EF}

^{ABCEDF} Means with the same letter superscript are not significantly different ($p \leq .05$).

Interaction Between Main Effects

A significant interaction exists between property type and organizational level for total perceived delivered

TABLE 22

ANALYSIS OF VARIANCE

3 x 3 FACTORIAL DESIGN: THREE PROPERTY TYPES AND THREE ORGANIZATIONAL LEVELS

DEPENDENT VARIABLE: **TOTAL PERCEIVED DELIVERED EMPATHY**

Source	Sums of Squares	DF	Mean Square	F	Sig. of F
Main Effects					
PROP-TYPE	11.498	2	5.749	2.594	.076
ORG. LEVEL	4.705	2	2.352	1.061	.347
Inter-action	27.274	4	6.818	3.076	.016
Error	893.265	403	2.217		
Total	937.672	411	2.281		

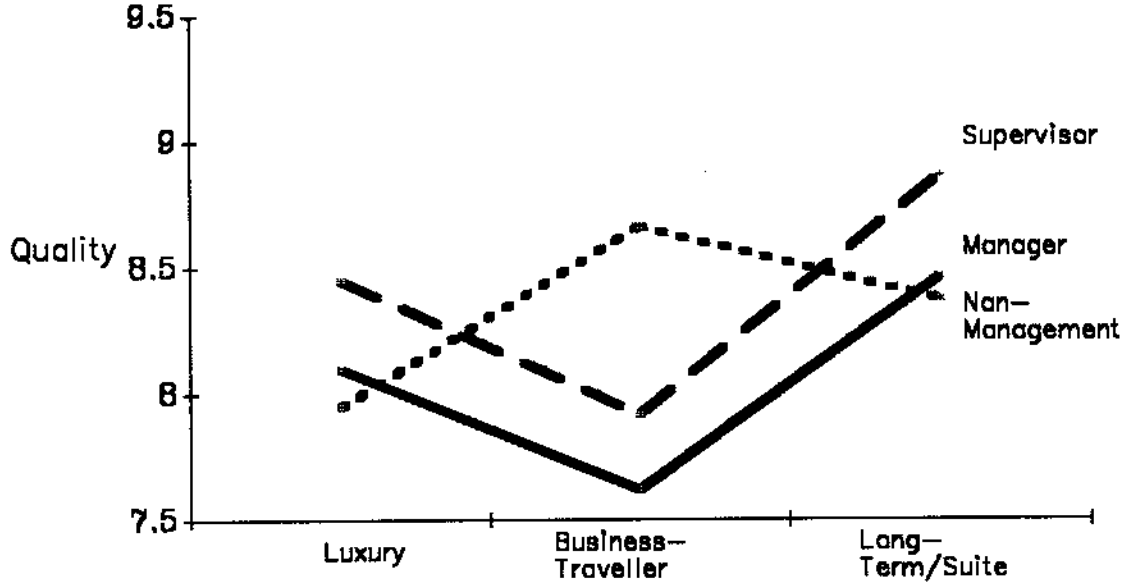
QUALITY, total perceived delivered RELIABILITY, total perceived delivered RESPONSIVENESS, total perceived delivered ASSURANCE, and total perceived delivered EMPATHY. The relationships that exist between property type and organizational level for each of these dependent variables are shown in Figures 9 through 13. These graphs are plots of the mean cell values shown in Tables 11, 13, 15, 17, 19, and 21. Part A of all five graphs reveals similar trends.

In all cases, non-management employees exhibited trends opposing those of managerial and supervisory personnel.

FIGURE 9

INTERACTION WITH QUALITY AS THE DEPENDENT VARIABLE

A: Interaction Between Organizational Level and Property Type



B: Interaction Between Property Type and Organizational Level

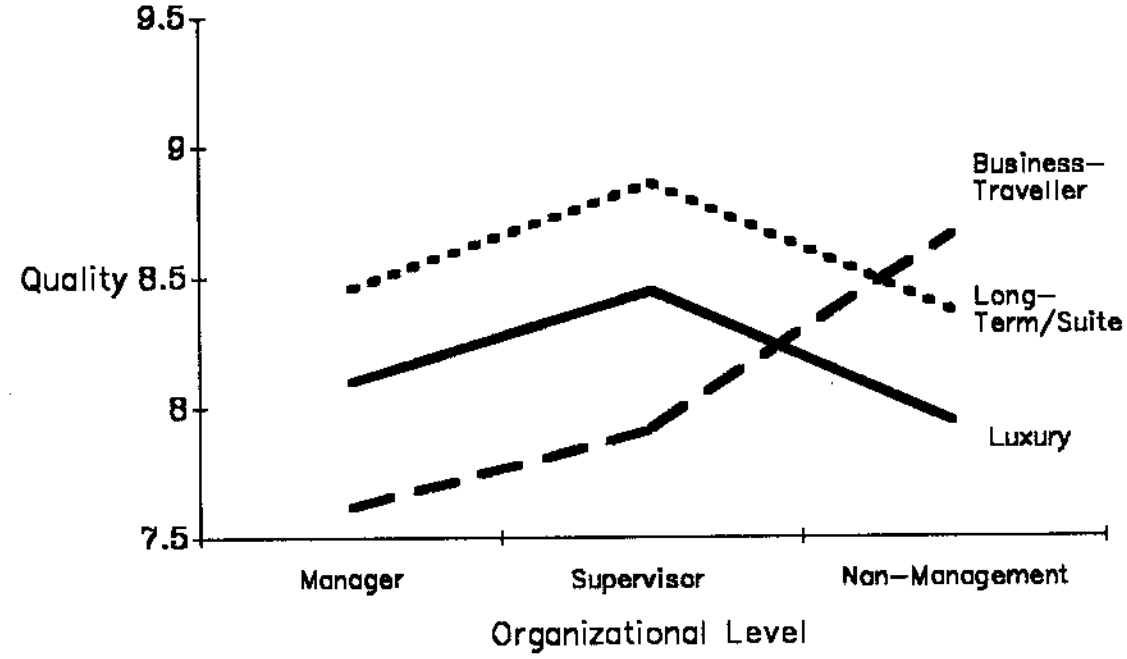
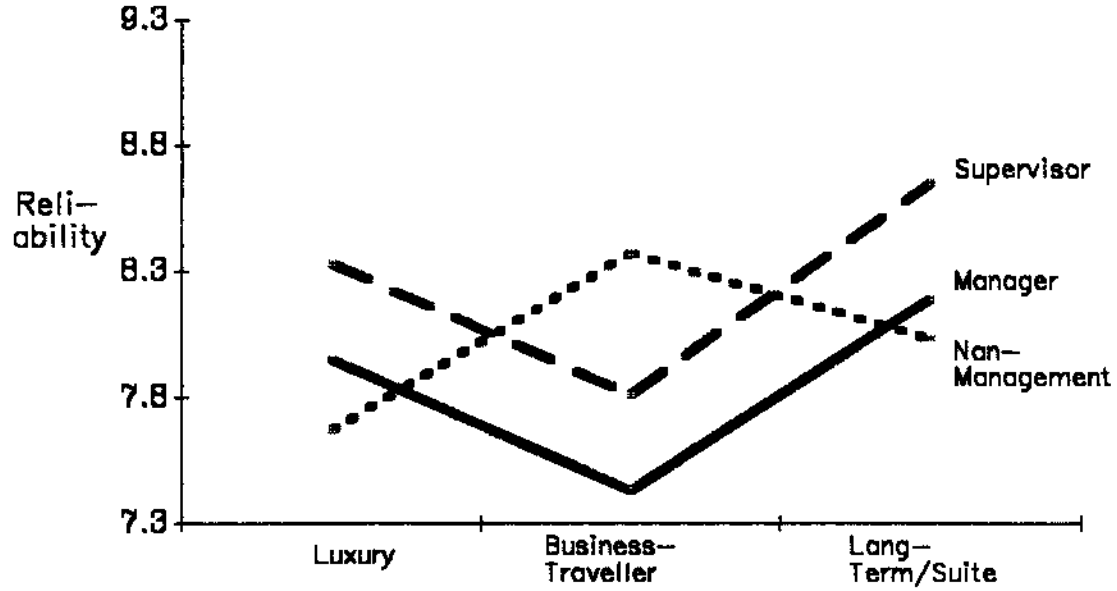


FIGURE 10

INTERACTION WITH RELIABILITY AS THE DEPENDENT VARIABLE

A: Interaction Between Organizational Level and Property Type



B: Interaction Between Property Type and Organizational Level

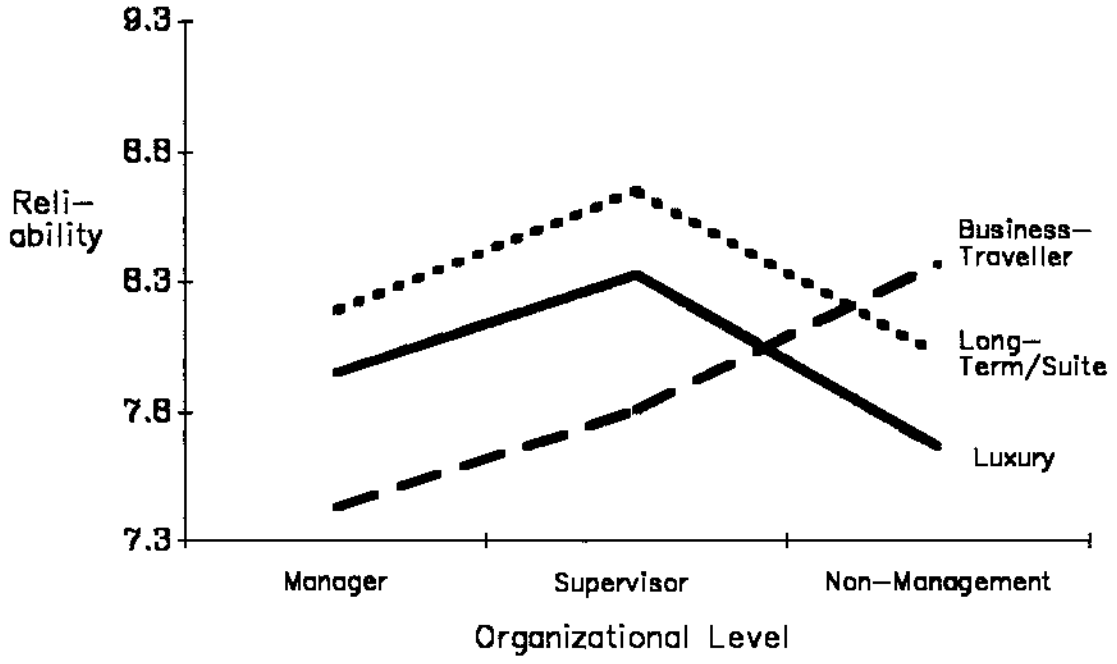
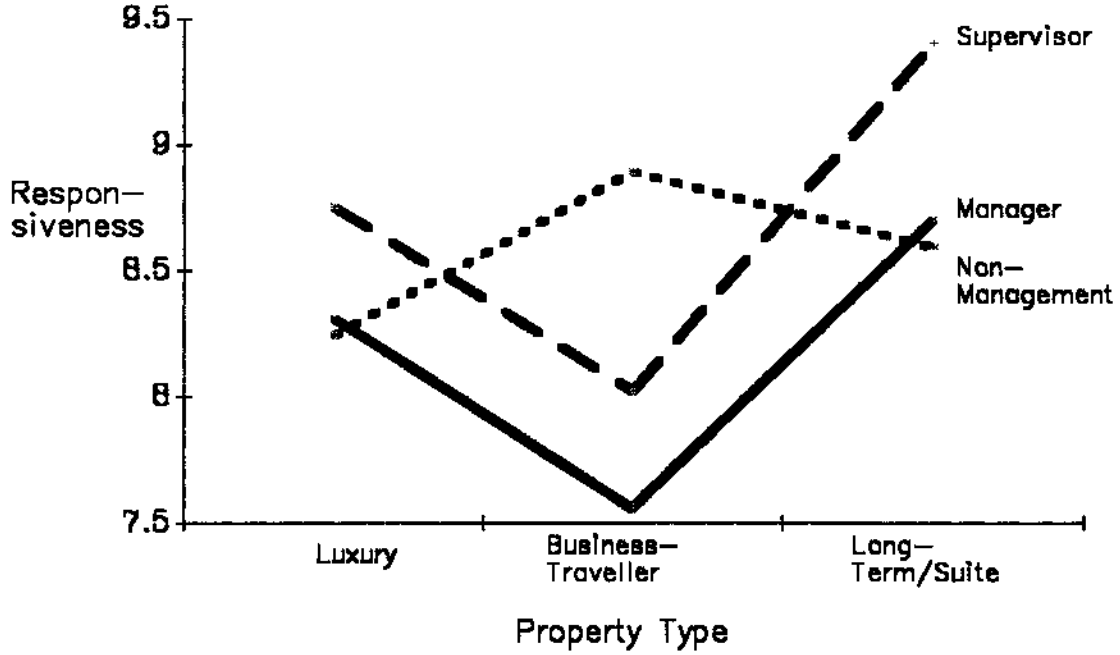


FIGURE 11

INTERACTION WITH **RESPONSIVENESS** AS THE DEPENDENT VARIABLE

A: Interaction Between Organizational Level and Property Type



B: Interaction Between Property Type and Organizational Level

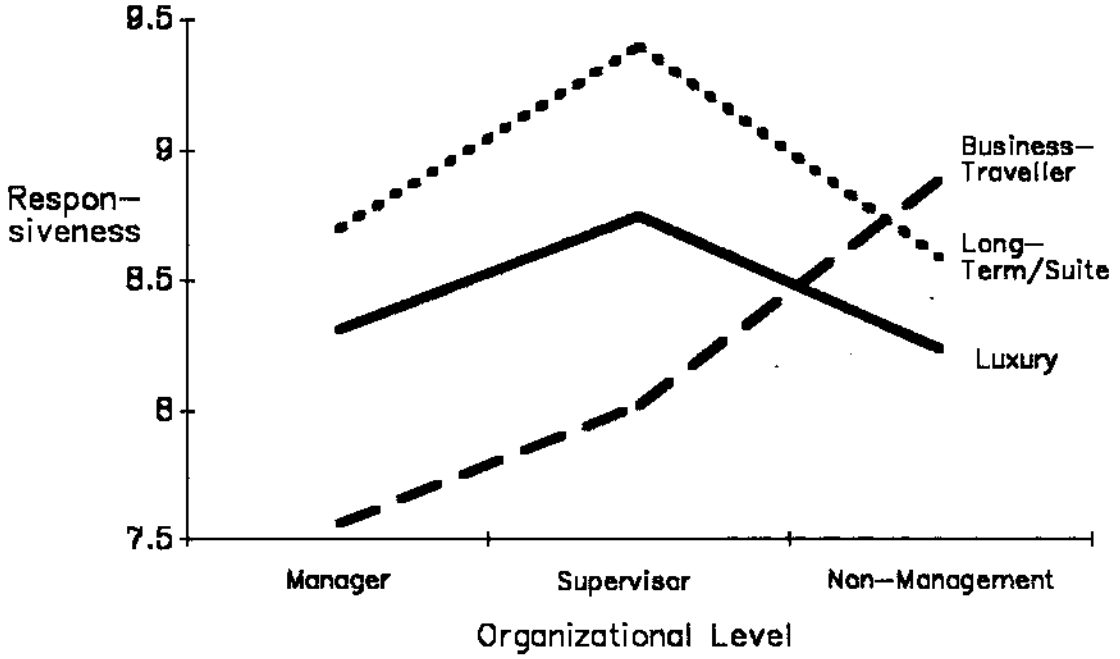
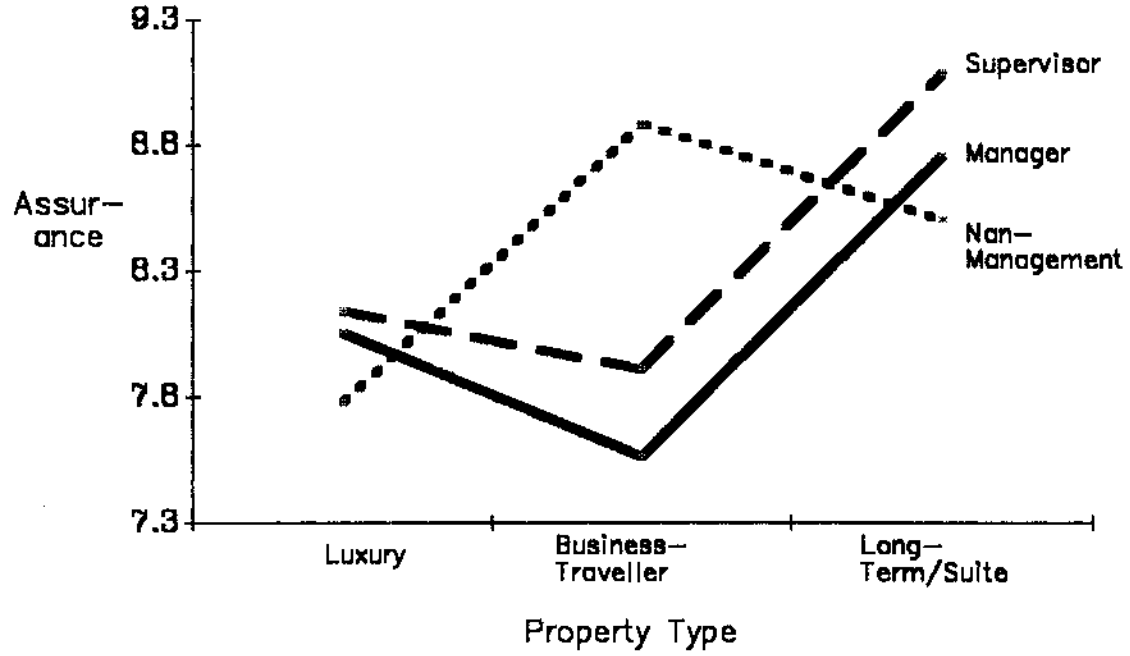


FIGURE 12

INTERACTION WITH **ASSURANCE** AS THE DEPENDENT VARIABLE

A: Interaction Between Organizational Level and Property Type



B: Interaction Between Property Type and Organizational Level

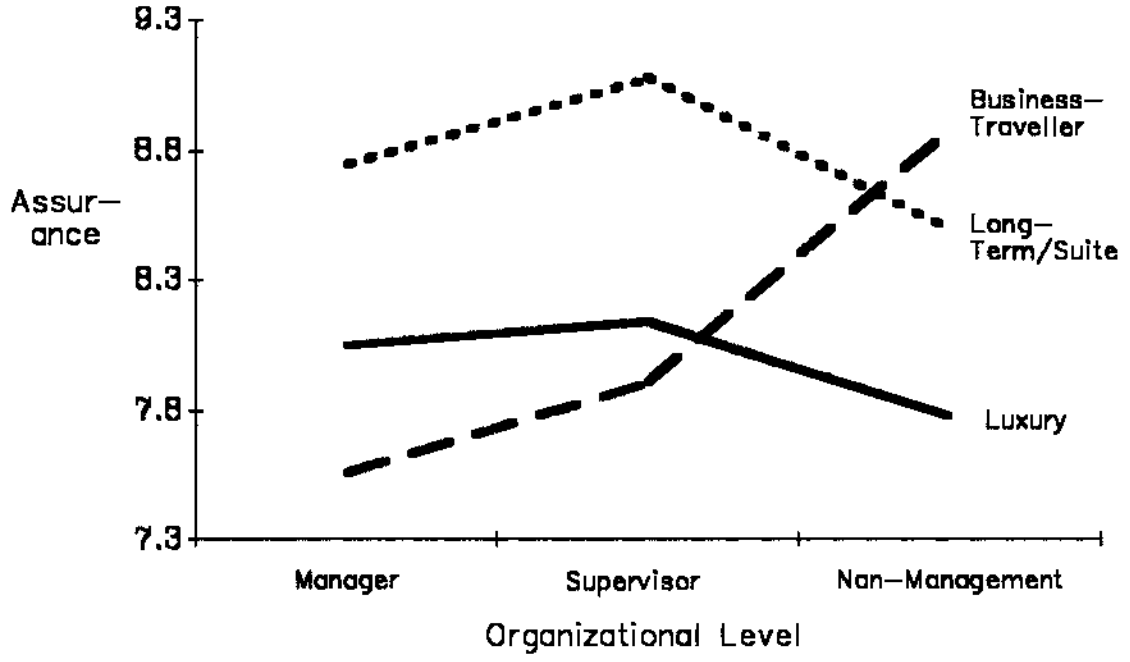
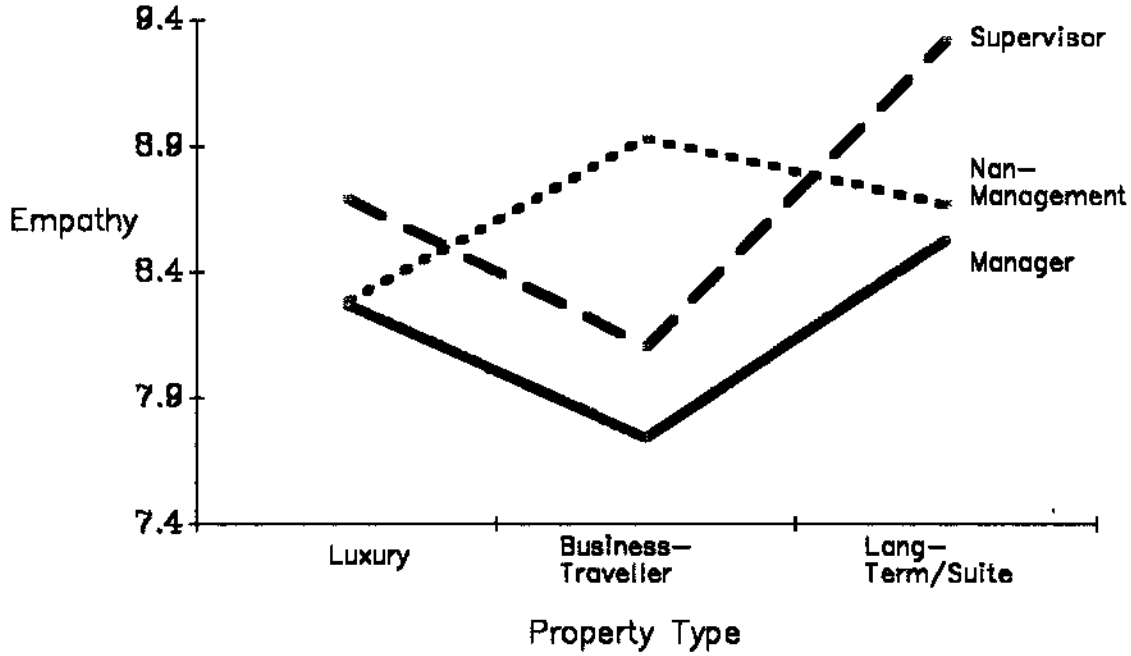


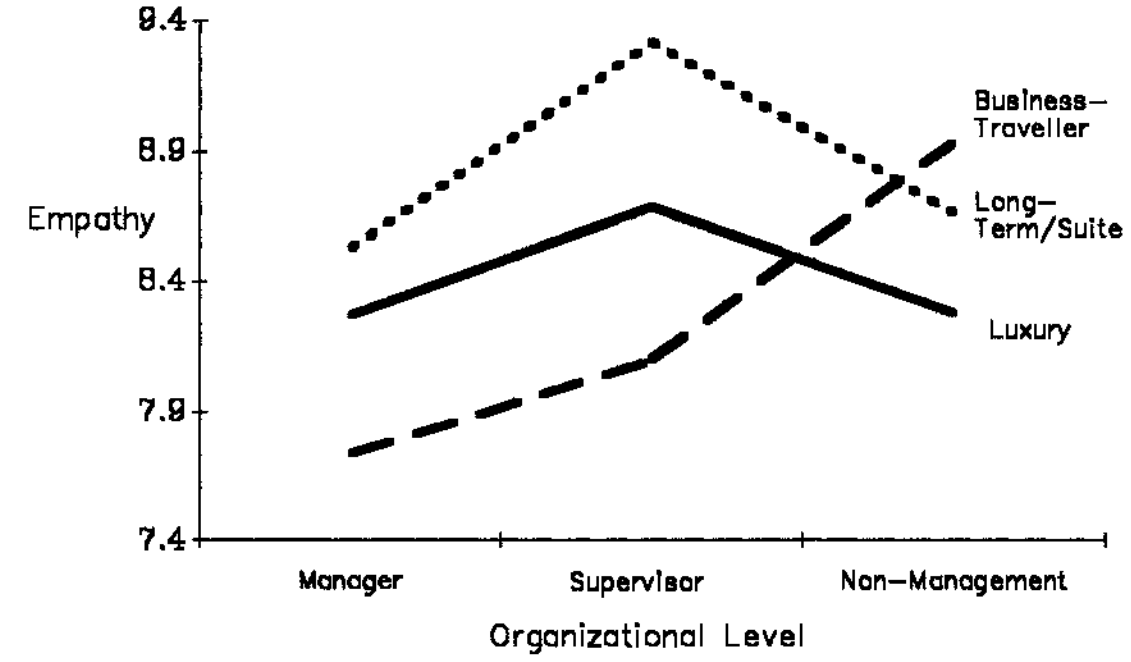
FIGURE 13

INTERACTION WITH **EMPATHY** AS THE DEPENDENT VARIABLE

A: Interaction Between Organizational Level and Property Type



B: Interaction Between Property Type and Organizational Level



Non-management employees of business-traveller properties showed the highest level of the dependent variable whereas managers and supervisors experienced the lowest level for this property type. Non-management employees of luxury properties had the lowest levels of the dependent variable (except in the case where the dependent variable was perceived level of delivered EMPATHY) whereas supervisors had the highest level of the dependent variable.

Part B of all five graphs plots the same data with the x-axis changed to organizational level instead of property type. These figures reveal that business-traveller properties employ managers that show the lowest level of perceived delivered QUALITY and its dimensions. Supervisors of these properties exhibit *higher* levels than managers, but non-management personnel show a sharper rise in their level of the dependent variables for business-traveller properties. Luxury and long-term/suite properties follow patterns similar to one another along the three organizational levels.

The next step in the analysis was the performance of multiple comparison tests. These tests are used to determine which population means were different. The Tukey procedure is appropriate for two-factor studies with unequal sample sizes where there are a large number of comparisons (Neter, Wasserman, and Kutner 1990). The formulas used for this procedure are as follows:

(1) $T = \frac{1}{\sqrt{2}} q(1 - \alpha;\ ab,\ n_t - ab)$

where T = Tukey's constant
α = .05
a = number of levels in factor 1
b = number of levels in factor 2
n_t= total number of responses

(2) $s^2(\hat{D}) = MSE \left(\frac{1}{n_{ij}} + \frac{1}{n_{i'j'}} \right)$

where $\hat{D}$ = the difference between cell means
$s^2(\hat{D})$ = the variance of $\hat{D}$
MSE = mean square error
n_{ij} = number of responses in the first cell of the comparison
$n_{i'j'}$ = number of responses in the second cell of the comparison

(3) Confidence Interval of population means = $\hat{D} \pm Ts$

where $s = \sqrt{s^2}$, or the standard deviation

A 3 X 3 factorial design produces 36 possible combinations. These combinations were calculated for the five dependent variables mentioned above that produced a significant interaction between main effects. The confidence intervals calculated are shown in Appendix B. If the confidence interval includes zero, the two population means are said to not differ. If both ends of the interval are positive, then one population mean is said to be higher than the other. If both ends of the interval are negative, then one population mean is said to be lower than the other (Neter, Wasserman, and Kutner 1990).

Tables 23 through 27 illustrate the relationships that have been shown to exist between population mean values of the dependent variable for all property type-organizational level cell comparisons. The column and row values are the mean values for each property type-organizational level cell combination. A "+" symbol indicates that the column population mean is higher than the row population mean. A "-" symbol indicates that the column population mean is lower than the row population mean.

All five dependent variables have the same relationship between the following property type - organizational level cell comparisons:

(1) Managers of long-term/suite properties (Q13, RL13, RS13, A13, and E13) exhibit a *higher* level of perceived delivered QUALITY, RELIABILITY, RESPONSIVENESS, ASSURANCE, and EMPATHY, respectively, than managers of business-traveller properties (Q12, RL12, RS12, A12, and E12).

(2) Supervisors of luxury properties (Q21, RL21, RS21, A21, AND E21) exhibit a *higher* level of perceived delivered QUALITY, RELIABILITY, RESPONSIVENESS, ASSURANCE, and EMPATHY, respectively, than managers of business-traveller properties (Q12, RL12, RS12, A12, and E12).

(3) Supervisors of long-term/suite properties (Q23, RL23, RS23, A23, AND E23) exhibit a *higher* level of perceived delivered QUALITY, RELIABILITY, RESPONSIVENESS,

TABLE 23

RELATIONSHIP BETWEEN POPULATION MEAN VALUES OF QUALITY FOR ALL PROPERTY TYPE - ORGANIZATIONAL LEVEL CELL COMPARISONS

Key: Q_{11} : Managers of Luxury properties
Q_{12} : Managers of Business-Traveller properties
Q_{13} : Managers of Long-Term/Suite properties

Q_{21} : Supervisors of Luxury properties
Q_{22} : Supervisors of Business-Traveller properties
Q_{23} : Supervisors of Long-Term/Suite properties

Q_{31} : Non-management employees of Luxury properties
Q_{32} : Non-management employees of Business-Traveller properties
Q_{33} : Non-management employees of Long-Term/Suite properties

The symbol, "+" indicates that the column population mean is higher than the row population mean.

The symbol, "−" indicates that the column population mean is lower than the row population mean.

	Q_{11}	Q_{12}	Q_{13}	Q_{21}	Q_{22}	Q_{23}	Q_{31}	Q_{32}	Q_{33}
Q_{11}						+		+	
Q_{12}			+	+		+		+	+
Q_{13}					−		−		
Q_{21}					−		−		
Q_{22}						+		+	+
Q_{23}							−		
Q_{31}								+	+
Q_{32}									
Q_{33}									

TABLE 24

RELATIONSHIP BETWEEN POPULATION MEAN VALUES OF RELIABILITY FOR ALL PROPERTY TYPE - ORGANIZATIONAL LEVEL CELL COMPARISONS

Key: RL_{11} : Managers of Luxury properties
RL_{12} : Managers of Business-Traveller properties
RL_{13} : Managers of Long-Term/Suite properties

RL_{21} : Supervisors of Luxury properties
RL_{22} : Supervisors of Business-Traveller properties
RL_{23} : Supervisors of Long-Term/Suite properties

RL_{31} : Non-management employees of Luxury properties
RL_{32} : Non-management employees of Business-Traveller properties
RL_{33} : Non-management employees of Long-Term/Suite properties

The symbol, "+" indicates that the column population mean is higher than the row population mean.

The symbol, "−" indicates that the column population mean is lower than the row population mean.

	RL_{11}	RL_{12}	RL_{13}	RL_{21}	RL_{22}	RL_{23}	RL_{31}	RL_{32}	RL_{33}
RL_{11}						+		+	
RL_{12}			+	+		+		+	+
RL_{13}							−		
RL_{21}					−		−		
RL_{22}						+		+	
RL_{23}							−		
RL_{31}								+	+
RL_{32}									−
RL_{33}									

TABLE 25

RELATIONSHIP BETWEEN POPULATION MEAN VALUES OF RESPONSIVENESS FOR ALL PROPERTY TYPE - ORGANIZATIONAL LEVEL CELL COMPARISONS

Key: RS_{11} : Managers of Luxury properties
RS_{12} : Managers of Business-Traveller properties
RS_{13} : Managers of Long-Term/Suite properties

RS_{21} : Supervisors of Luxury properties
RS_{22} : Supervisors of Business-Traveller properties
RS_{23} : Supervisors of Long-Term/Suite properties

RS_{31} : Non-management employees of Luxury properties
RS_{32} : Non-management employees of Business-Traveller properties
RS_{33} : Non-management employees of Long-Term/Suite properties

The symbol, "+" indicates that the column population mean is higher than the row population mean.

The symbol, "−" indicates that the column population mean is lower than the row population mean.

	RS_{11}	RS_{12}	RS_{13}	RS_{21}	RS_{22}	RS_{23}	RS_{31}	RS_{32}	RS_{33}
RS_{11}		−				+		+	
RS_{12}			+	+		+	+	+	+
RS_{13}					−				
RS_{21}					−		−		
RS_{22}						+		+	+
RS_{23}							−		−
RS_{31}								+	+
RS_{32}									
RS_{33}									

TABLE 26

RELATIONSHIP BETWEEN POPULATION MEAN VALUES OF ASSURANCE FOR ALL PROPERTY TYPE - ORGANIZATIONAL LEVEL CELL COMPARISONS

Key: A_{11} : Managers of Luxury properties
A_{12} : Managers of Business-Traveller properties
A_{13} : Managers of Long-Term/Suite properties

A_{21} : Supervisors of Luxury properties
A_{22} : Supervisors of Business-Traveller properties
A_{23} : Supervisors of Long-Term/Suite properties

A_{31} : Non-management employees of Luxury properties
A_{32} : Non-management employees of Business-Traveller properties
A_{33} : Non-management employees of Long-Term/Suite properties

The symbol, "+" indicates that the column population mean is higher than the row population mean.

The symbol, "−" indicates that the column population mean is lower than the row population mean.

	A_{11}	A_{12}	A_{13}	A_{21}	A_{22}	A_{23}	A_{31}	A_{32}	A_{33}
A_{11}			+			+		+	
A_{12}			+	+		+	+	+	+
A_{13}					−				
A_{21}						+			
A_{22}						+		+	+
A_{23}							−		
A_{31}								+	+
A_{32}									
A_{33}									

TABLE 27

RELATIONSHIP BETWEEN POPULATION MEAN VALUES
OF **EMPATHY** FOR ALL PROPERTY TYPE - ORGANIZATIONAL LEVEL
CELL COMPARISONS

Key: E_{11} : Managers of Luxury properties
E_{12} : Managers of Business-Traveller properties
E_{13} : Managers of Long-Term/Suite properties

E_{21} : Supervisors of Luxury properties
E_{22} : Supervisors of Business-Traveller properties
E_{23} : Supervisors of Long-Term/Suite properties

E_{31} : Non-management employees of Luxury properties
E_{32} : Non-management employees of Business-Traveller properties
E_{33} : Non-management employees of Long-Term/Suite properties

The symbol, "+" indicates that the column population mean is higher than the row population mean.

The symbol, "-" indicates that the column population mean is lower than the row population mean.

	E_{11}	E_{12}	E_{13}	E_{21}	E_{22}	E_{23}	E_{31}	E_{32}	E_{33}
E_{11}						+		+	+
E_{12}			+	+		+		+	+
E_{13}						+			
E_{21}					-				
E_{22}						+		+	+
E_{23}							-		-
E_{31}								+	+
E_{32}									
E_{33}									

perceived delivered QUALITY, RELIABILITY, RESPONSIVENESS, ASSURANCE, and EMPATHY, respectively, than managers of both luxury and business-traveller properties (Q12 & Q13, RL12 & RL13, RS12 & RS13, A12 & A13, and E12 & E13).

(4) Supervisors of long-term/suite properties (Q23, RL23, RS23, A23, and E23), exhibit a *higher* level of perceived delivered QUALITY, RELIABILITY, RESPONSIVENESS, ASSURANCE and EMPATHY, respectively, than supervisors of business-traveller properties (Q22, RL22, RS22, A22, and E22).

(5) Non-management employees of luxury properties (Q31, RL31, RS31, A31, and E31) exhibit a *lower* level of perceived delivered QUALITY, RELIABILITY, RESPONSIVENESS, ASSURANCE, and EMPATHY, respectively, than supervisors of long-term/suite properties (Q23, RL23, RS23, A23, and E23).

(6) Non-management employees of business-traveller properties (Q32, RL32, RS32, A32, and E32) exhibit a *higher* level of perceived delivered QUALITY, RELIABILITY, RESPONSIVENESS, ASSURANCE, and EMPATHY, respectively, than managers of business-traveller properties (Q12, RL12, RS12, A12, and E12) and non-management employees of luxury properties (Q31, RL31, RS31, A31, and E31).

(7) Non-management employees of long-term/suite properties (Q33, RL33, RS33, A33, and E33) exhibit a *higher* level of perceived delivered QUALITY, RELIABILITY, RESPONSIVENESS, ASSURANCE, and EMPATHY, respectively, than

managers of business-traveller properties (Q12, RL12, RS12, A12, and E12).

Several comparisons varied from one dependent variable to another. The results of these comparisons are as follows:

(1) Managers of long-term/suite properties (A13) exhibit a *higher* level of perceived delivered ASSURANCE than managers of luxury properties (A11).

(2) Supervisors of business-traveller properties (Q22 & RS22) exhibit a *lower* level of perceived delivered QUALITY and perceived delivered RESPONSIVENESS than managers of both business-traveller (Q12 & RS12) and long-term/suite properties (Q13 & RS13).

(3) Supervisors of business-traveller properties (A22) exhibit a *lower* level of perceived delivered ASSURANCE than managers of long-term/suite properties (A13).

(4) Supervisors of business-traveller properties (E22) exhibit a *lower* level of perceived delivered EMPATHY than supervisors of luxury properties (E21).

(5) Supervisors of long-term/suite properties (A23) exhibit a *higher* level of perceived delivered ASSURANCE than supervisors of luxury properties (A21).

(6) Supervisors of long-term/suite properties (E23) exhibit a *higher* level of perceived delivered EMPATHY than managers of long-term/suite properties (E13).

(7) Non-management employees of luxury properties (Q31 & RL31) exhibit a *lower* level of perceived delivered QUALITY and perceived delivered RELIABILITY than supervisors of luxury properties (Q21 & RL21) and managers of long-term/suite properties (Q13 & RL13).

(8) Non-management employees of luxury properties (RS31 & A31) exhibit a *higher* level of perceived delivered RESPONSIVENESS and perceived delivered ASSURANCE than managers of business-traveller properties (RS12 & A12).

(9) Non-management employees of luxury properties (RS31) exhibit a *lower* level of perceived delivered RESPONSIVENESS than supervisors of luxury properties (RS21).

(10) Non-management employees of business-traveller properties (RL32, RS32, A32, & E32) exhibit a *higher* level of perceived delivered RELIABILITY, RESPONSIVENESS, ASSURANCE, and EMPATHY (but not overall QUALITY) than managers of luxury properties (RL11, RS11, A11 & E11) and supervisors of business-traveller properties (RL22, RS22, A22, & E22).

Non-management employees of long-term/suite properties exhibit the most variation among the five dependent variables in the following ways:

(1) Their (Q33) perception of delivered QUALITY is *higher* than managers of luxury properties (Q11).

(2) Their (RL33) perception of delivered RELIABILITY is *higher* than non-management employees of luxury properties

(RL31) and *lower* than non-management employees of business-traveller properties (RL32).

(3) Their (RS33) perception of delivered RESPONSIVENESS is (a) *higher* than supervisors (RS22) but *lower* than non-management employees of business-traveller properties (RS32), (b) *lower* than supervisors of long-term/suite properties (RS23), and (c) *higher* than non-management employees of luxury properties (RS31).

(4) Their (A33) perception of delivered ASSURANCE is *higher* than supervisors of business-traveller properties (A22) and *higher* than non-management employees of luxury properties (A31).

(5) Their (E33) perception of delivered EMPATHY is (a) *higher* than managers (E11) and non-management employees of luxury properties (E31), (b) *higher* than supervisors of business-traveller properties (E22), and (c) *lower* than supervisors of long-term/suite properties (E23).

This completes the analysis of the proposed model and the resulting hypotheses in which the level of perceived delivered quality and five dimensions of this variable were analyzed in relationship to organizational level and property type. This analysis specified the dependent variable that did not vary with the main effects. In addition, it was determined that the independent variables interacted with one another. Consequently, the main effects

were not considered. The proposed model, while still applicable, will be expanded to include this interaction.

Summary of Chapter 4

This chapter dealt with the testing of the null hypotheses concerning the effects of property type and organizational level on perceived delivered QUALITY and those dimensions that comprise this construct. The manner in which each hypothesis was addressed is summarized in Table 28.

TABLE 28

OUTCOME OF THE HYPOTHESES

HYPOTHESIS	REJECTED	FAILED TO REJECT	NOT EXAMINED
Ho: 1			X
Ho: 2			X
Ho: 3	X		
Ho: 4a 4b 4c		X X X	
Ho: 5a 5b 5c	 X		X X
Ho: 6a 6b 6c	 X		X X
Ho: 7a 7b 7c	 X		X X
Ho: 8a 8b 8c	 X		X X

There were six dependent variables, QUALITY, TANGIBLES, RELIABILITY, RESPONSIVENESS, ASSURANCE, AND EMPATHY that were analyzed using a 3 X 3 factorial ANOVA design. This analysis revealed that the main effects interacted with one another for all of the dependent variables except TANGIBLES. Consequently, it was not appropriate to consider the main effects separately. The significant interactions were further analyzed using Tukey's multiple comparison procedure. These comparisons indicated which population means for the property type - organizational level cells were different from one another. The next chapter, Chapter 5, will include a review of this study, an expanded version of the originally proposed model, conclusions, managerial implications, and areas for future research.

CHAPTER 5

SUMMARY AND CONCLUSIONS

Introduction

This chapter will summarize the purpose of the research and the methodology used. An expanded version of the model shown in Chapter 2 will be presented and discussed along with an analysis of the results and conclusions. Finally, managerial implications and suggestions for future research will be reviewed.

Summary

The purpose of this research was to investigate the provider's perception of delivered quality and contribute to a body of knowledge that has usually been examined from the customer's perspective. The study provided an assessment of how well quality services are delivered, by assessing the perception of the level of delivered quality at various organizational levels and market segments.

There were six dependent variables under study. Total perceived delivered QUALITY was the primary dependent variable comprising five dimensions -- TANGIBLES, RELIABILITY, RESPONSIVENESS, ASSURANCE, and EMPATHY. These dimensions were treated individually as dependent variables. There were two independent variables, organizational level and property type (market segment), each with three levels,

creating a 3 X 3 factorial design. Eight null hypotheses regarding the effect of organizational level and property type on perceived delivered quality and its dimensions were tested.

A non-probability, purposive sample, drawn from one hotel chain within the same metropolitan area was utilized to produce data for this research. Three luxury properties, five business-traveller properties, and five long-term/suite properties were surveyed. The respondents consisted of managerial, supervisory, and non-managerial employees. A sample of 412 respondents provided usable data for this study, representing a 50% overall response rate. Response rates for individual organizational level - property type combinations varied from as low as 39% to as high as 76%. An unequal number of respondents was allocated to each cell since managerial and supervisory positions represent a smaller percentage of the totals. However, the sample size provided a significant opportunity to produce meaningful results.

Expanded Model

All of the null hypotheses testing differences between main effects were not considered in the results where there was a statistically significant interaction between the main effects. Managers, supervisors, and non-management personnel perceived the level of delivered quality differently depending upon the market segment under

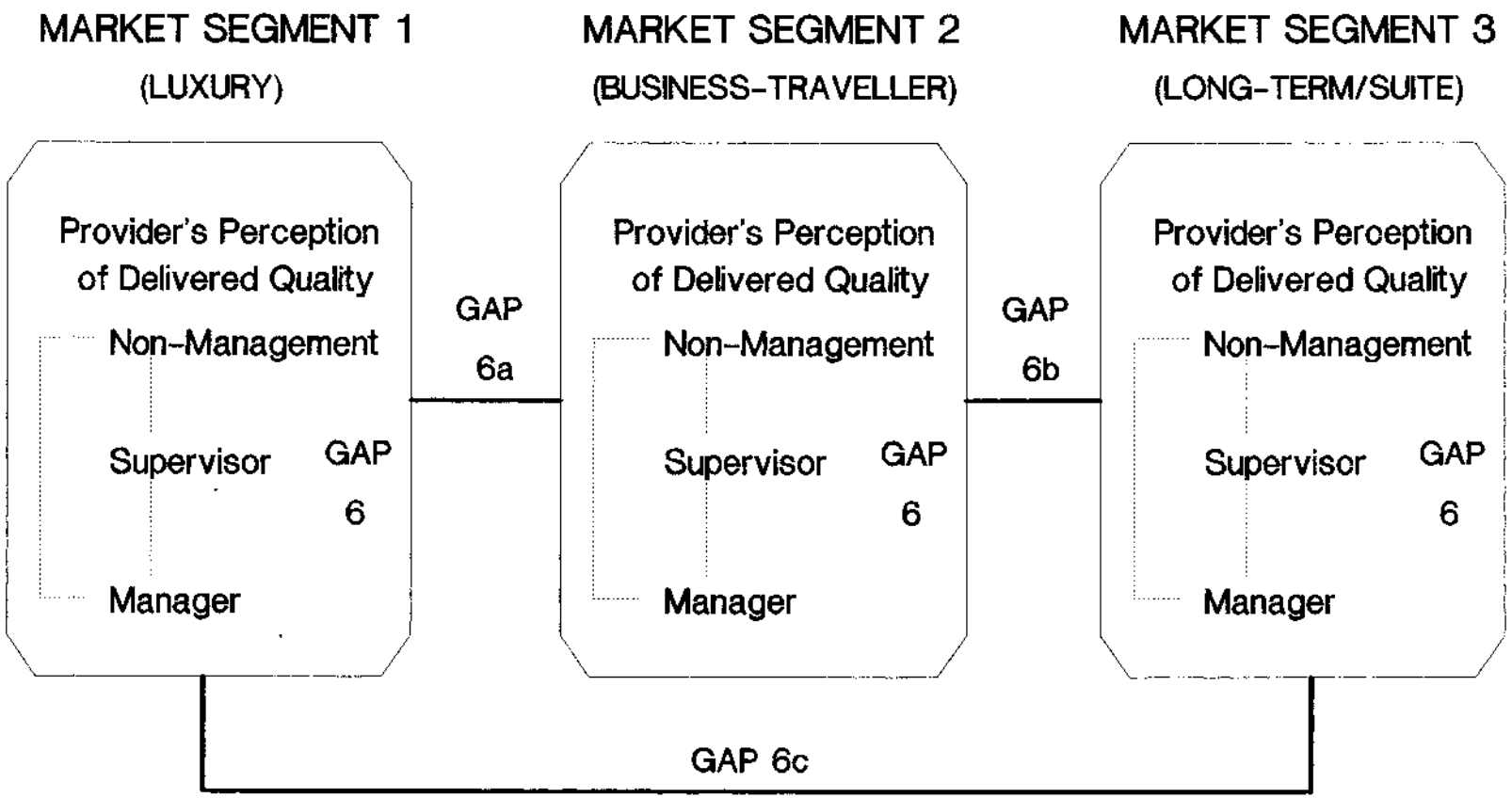
consideration. Consequently, the "Gap 6" that was proposed to exist (see Figure 3) needs to be expanded into a model that illustrates this interaction. This model is depicted in Figure 14 where "Gap 6" is divided into "Gaps 6a, 6b, and 6c". This expanded model still takes into account the gap that may exist between the levels of perceived delivered quality expressed by managers, supervisors, and non-management employees. In addition, potential gaps can occur between any organizational level across market segments. The results of this research revealed that numerous gaps in the level of perceived delivered quality (as well as the other dimensions) exist between managers, supervisors, and non-management employees within and between market segments.

Analysis of Results and Conclusions

The only dependent variable that did not vary with changes in property type and organizational level was TANGIBLES. This dimension refers to areas that are normally expected in a quality property such as cleanliness, comfort, room items (telephone, TV, air-conditioning, etc.) in good working order, enough towels, soap, etc. Once they are provided, they are taken for granted and more emphasis would logically be placed upon the intangibles such as the employees' attitudes, willingness to respond to requests, knowledgeability of the hotel and its surroundings, and their ability to be sensitive to the guests' needs. As in

FIGURE 14

EXTENDED MODEL OF GAP 6



Maslow's Need Hierarchy (1954), the need for a comfortable physical environment must be met prior to the need for belonging, love, and self-esteem. Once the lower level needs are met, they are no longer actively sought and attention is then paid to higher order needs. These higher level needs are more difficult to provide and consequently, variations in the perception of their delivery are more likely.

Data tabulated in Tables 23 through 27 (in Chapter 4) are applied to the expanded model of Gap 6 via Figures 15 through 18. Before describing each new figure, it is important to explain the terminology utilized. Each gap is depicted by an arrow that has a "high" and a "low" end. This implies that the level of perceived delivered quality (and other dimensions, as indicated) is high for one organizational level and low for the other. The letters shown above each arrow indicate the dependent variables that are accounted for within the gap. These dependent variables include QUALITY (Q), RELIABILITY (RL), RESPONSIVENESS (RS), ASSURANCE (A), and EMPATHY (E). In some cases, the phrase, "All 5" is used. This indicates that all five of the dependent variables are affected. Please note that the dimension, TANGIBLES, in not included in these results since the results revealed that organizational level and property type did not have a significant impact on the level of perceived delivered TANGIBLES.

The first illustration is shown in Figure 15 where gaps exist between the same organizational level (i.e., managers to managers, supervisors to supervisors, and non-management to non-management personnel) across market segments. The following statements, previously addressed in Chapter 4, are depicted in this figure:

(1) Managers of long-term/suite properties exhibit a *higher* level of perceived delivered QUALITY, RELIABILITY, RESPONSIVENESS, ASSURANCE, and EMPATHY than managers of business-traveller properties.

(2) Managers of long-term/suite properties exhibit a *higher* level of perceived delivered ASSURANCE than managers of luxury properties.

(3) Supervisors of business-traveller properties exhibit a *lower* level of perceived delivered EMPATHY than supervisors of luxury properties.

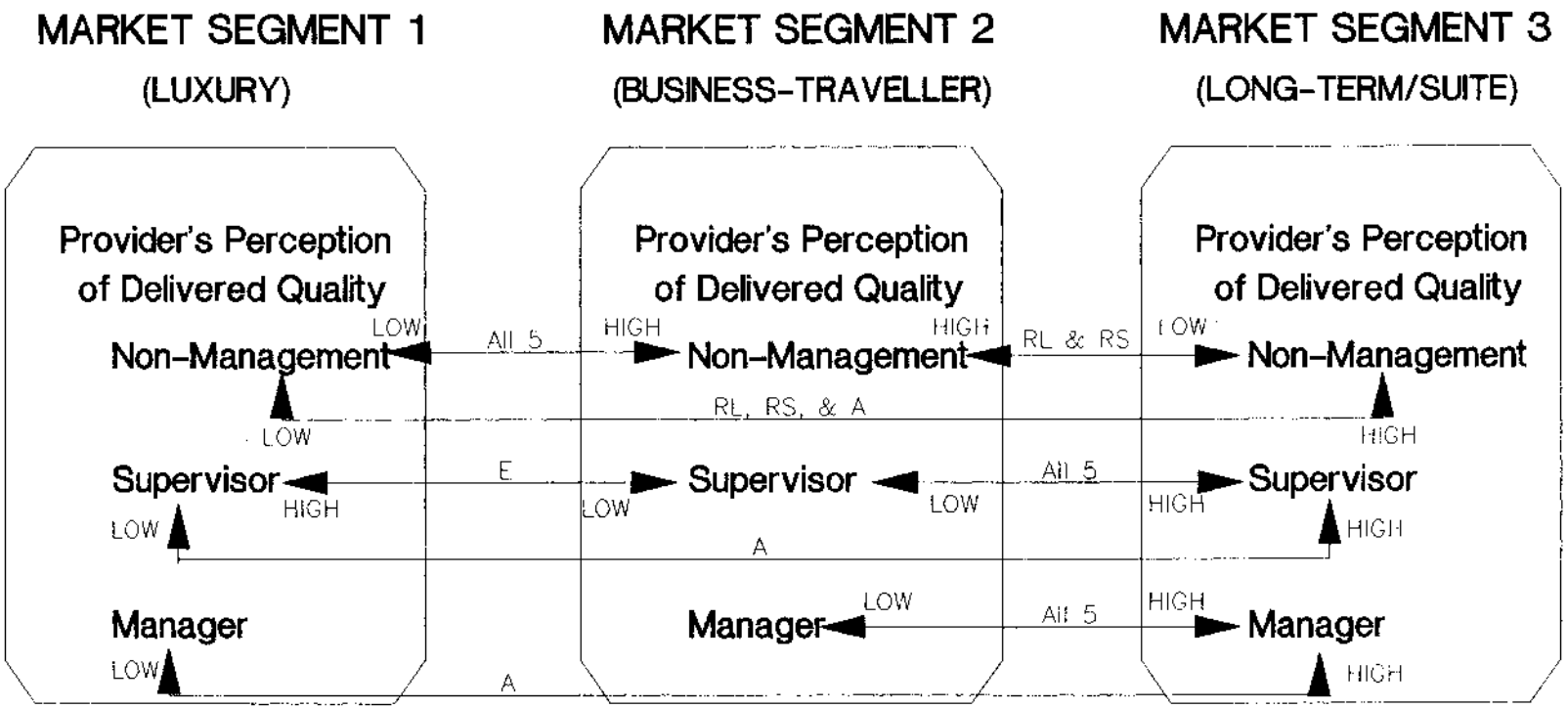
(4) Supervisors of long-term/suite properties exhibit a *higher* level of perceived delivered QUALITY, RELIABILITY, RESPONSIVENESS, ASSURANCE, and EMPATHY than supervisors of business-traveller properties.

(5) Non-management employees of business-traveller properties exhibit a *higher* level of perceived delivered QUALITY, RELIABILITY, RESPONSIVENESS, ASSURANCE, and EMPATHY than non-management employees of luxury properties.

FIGURE 15

GAPS BETWEEN THE SAME ORGANIZATIONAL LEVEL

ACROSS MARKET SEGMENTS



(6) Non-management employees of long-term/suite properties perceived delivered RELIABILITY as *higher* than non-management employees of luxury properties and *lower* than non-management employees of business-traveller properties.

Interpretation of Figure 15

Non-management personnel of business-traveller properties have a higher perception of their delivery of overall quality than their counterparts in luxury properties. This finding is logical when one looks at the size and number of employees at each property type. Luxury properties need to hire hundreds of hourly employees due to the large size of the property, the large number of guests needing to be served, and the multitude of services offered under one roof. The challenges involved in training these individuals are many. Resources such as time, funds, and personnel are stretched to their limits, so much of the "training" is accomplished by merely allowing the new employee to "shadow" or follow a more experienced employee. This issue is further complicated by the temporary hiring of hourly employees to meet seasonal surges in occupancy. Often, employees are hired on only a few hours notice. Training is extremely limited in these cases.

Business-traveller properties are considerably smaller and offer far fewer services than luxury hotels. The non-management employees are highly visible and receive considerable attention from management. The atmosphere,

according to one general manager, is "like being part of a family." It is reasonable to assume that non-management employees at these properties would have a higher perception of their quality delivery than their equals in the larger, luxury properties. The resulting data confirm this assumption.

It was also found that non-management personnel at business-traveller properties have a higher perception of quality delivery than those same personnel at long-term/suite properties. However, the dimensions affected are only RELIABILITY and RESPONSIVENESS. To explain this phenomenon, it is important to understand the managerial styles at these two property types. Long-term/suite properties have a higher ratio of managers to hourly employees (27/127 = .213) than business-traveller properties (19/139 = .137). Consequently, the hourly employees of long-term/suite establishments are more supervised and are given less freedom in making decisions. Business-traveller properties, on the other hand, give their non-management employees more responsibilities and more empowerment to make decisions. This may account for the gap in RELIABILITY AND RESPONSIVENESS. Delivery of the RELIABILITY dimension of quality involves performing tasks correctly, showing a sincere interest in solving problems, and exhibiting high standards. Employees who exhibit RESPONSIVENESS respond promptly to customer requests, make customers feel special,

and are attentive to customer needs. The goal of both property types is one of delivering quality service, however, employees who are more strictly supervised have been shown to take less pride and interest in their work (Bowen and Lawler 1992). As a result, their perception of these quality dimensions is low.

There is another reason for a low level of RESPONSIVENESS among long-term/suite hourly employees. Employees at these properties have extremely limited contact with the guests. Guests stay at these properties for an average of 11 days and live in apartment-like dwellings that can be entered from the outside. They generally have little reason to enter the lobby area and most communication with housekeeping, for example, is done by leaving a note for special needs (such as amenities, shopping, and other services). Since employees rarely interact with the guests, they have little reason to develop their delivery of RESPONSIVENESS.

Supervisors and managers among the three property types also differ with their respective counterparts in their perceptions of delivered quality. Their perceptions followed a pattern opposite to non-management employees. Managers and supervisors of long-term/suite properties perceived a higher level of delivered quality and its dimensions than their counterparts at business-traveller properties. The reasons for this can be explained in the

same way as non-management employees were explained. In other words, managerial and supervisory personnel have more control at these properties. They also have more contact with the guest than non-managerial employees have.

Supervisors of luxury properties exhibited a lower level of perceived delivered EMPATHY than supervisors of business-traveller properties. The EMPATHY dimension refers to the ability to provide the customer with individual attention and exhibit understanding if a problem exists. This gap in perceived delivery can be explained by the stress level that supervisors experience in full-service, luxury hotels. They have the responsibility of carrying out their manager's expectations through efficient management of their subordinates. They are encouraged to empower their employees and include them in decision-making processes. Nevertheless, the supervisors are held accountable for their subordinates' actions. The pressure of being in the middle may take its toll on the supervisors' performance (Brownell 1991).

Managers of long-term/suite properties exhibited a higher level of perceived delivered ASSURANCE than managers of luxury properties. A manager who provides ASSURANCE to the guests possesses the required skills and knowledge to perform the job, is polite and courteous, and provides the guest with a safe environment. Managers of luxury properties may have difficulty in all of these areas.

First, required skills and knowledge usually are acquired through training and experience. Managers in luxury properties typically stay in a particular position for no more than one to two years. They are then transferred upward or laterally (usually to a different property) and must take on the responsibilities of a new position for which they have had little to no training. Managers at smaller, long-term/suite properties, typically remain in that position for several years and "grow-up" with the property.

Second, there are more managers at any given luxury property than there are at a long-term/suite property. Consequently, the potential for personality differences is greater. Being polite and courteous to one's internal customers may be more challenging in this environment. In addition, the social distance that exists between managers at luxury properties contributes to this discrepancy (Aldrich 1979).

Finally, providing a safe environment for the guest is more difficult at a large property. Managers of luxury hotels face serious security problems due to the number of employees and guests, size of the property, and diversity of services provided. The lower perception of how well this aspect of EMPATHY is delivered is supported by the data.

Supervisors of long-term/suite properties also have a higher level of perceived delivered ASSURANCE than

supervisors of luxury properties. The explanation for this discrepancy is similar to the reasons given for managers of these two properties. In addition, supervisors have little policy-making authority and may feel inadequate in providing this quality dimension.

Gaps that exist between managers and non-management personnel across and within market segments are illustrated in Figure 16. This interpretation is based on the following statements (previously mentioned in Chapter 4):

(1) Non-management employees of business-traveller properties exhibit a *higher* level of perceived delivered QUALITY, RELIABILITY, RESPONSIVENESS, ASSURANCE, and EMPATHY than managers of business-traveller properties.

(2) Non-management employees of long-term/suite properties exhibit a *higher* level of perceived delivered QUALITY, RELIABILITY, RESPONSIVENESS, ASSURANCE, and EMPATHY than managers of business-traveller properties.

(3) Non-management employees of luxury properties exhibit a *higher* level of perceived delivered RESPONSIVENESS and ASSURANCE than managers of business-traveller properties.

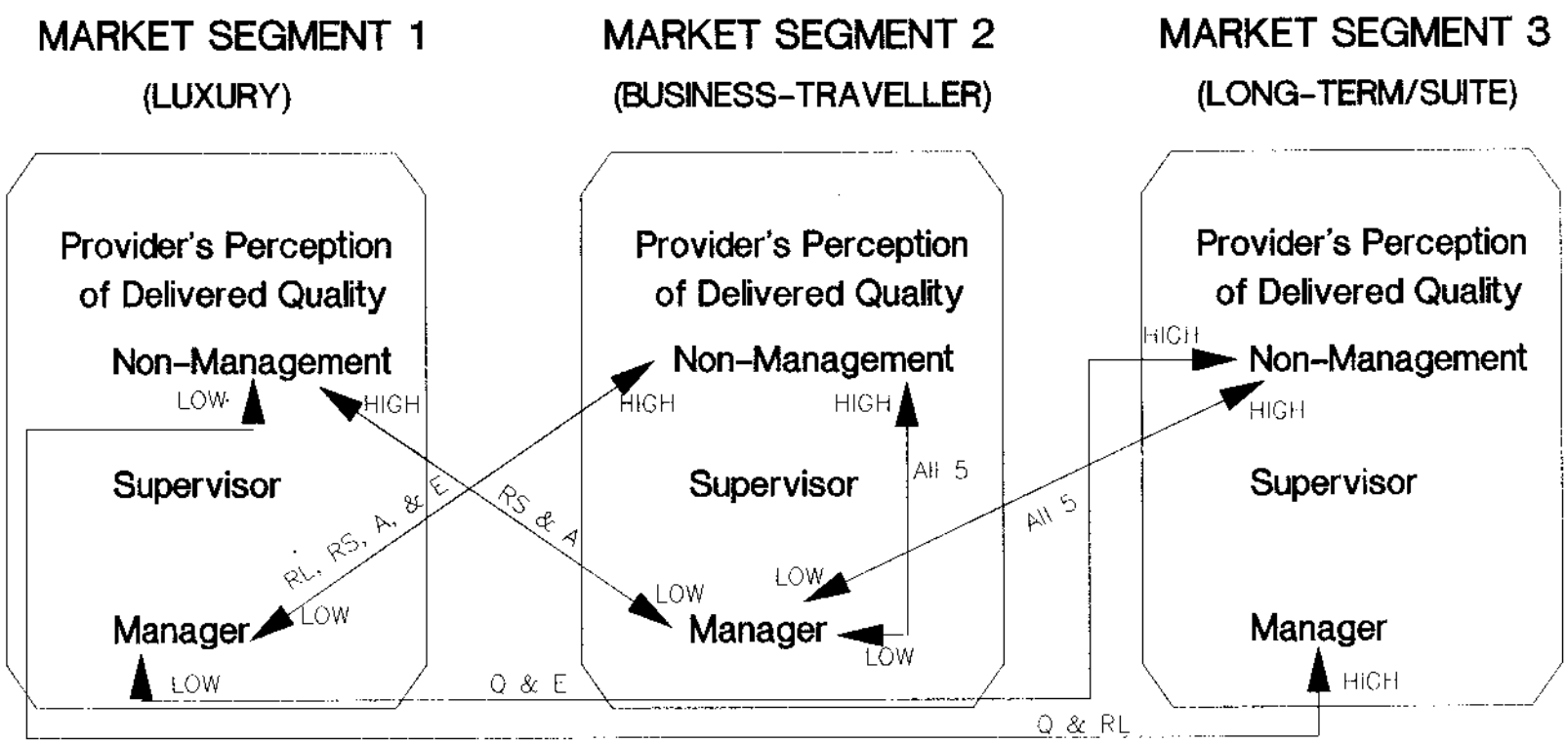
(4) Non-management employees of long-term/suite properties exhibit a *higher* level of perceived delivered QUALITY than managers of luxury properties.

(5) Non-management employees of business-traveller properties exhibit a *higher* level of perceived delivered

FIGURE 16

GAPS BETWEEN MANAGERS AND NON-MANAGEMENT PERSONNEL

ACROSS AND WITHIN MARKET SEGMENTS



RELIABILITY, RESPONSIVENESS, ASSURANCE, and EMPATHY (but not overall QUALITY) than managers of luxury properties.

Interpretation of Figure 16

All of the gaps shown in this figure can be explained by the relative distance of each organizational type from the customer. The data seem to support the idea that the closer an employee is to the customer, the higher the perception of delivered quality. This distance indicates the level of involvement with the delivery of the service (Voss et al. 1985).

Managers of business-traveller properties have a lower perception of delivered quality than non-management personnel within the same property type. This may be due to the fact that managers of business-traveller properties empower their non-management employees with the responsibility of satisfying the guests. As a result, managers of business-traveller properties concentrate on coaching and distance themselves from the guest. This distance can lead to uncertainty about the delivered quality.

These same managers also perceive delivered quality to be lower than the perceptions of non-management employees at the other two property types (luxury and long-term/suite). In addition, managers at luxury properties have a lower perception of delivered quality than non-management personnel at both business-traveller and long-term/suite

properties. This discrepancy between managers and non-management personnel may be due to the managers' attempt to maintain high standards and the faith they must place in their hourly employees to carry out those standards.

This management style is prevalent in the luxury and business-traveller segments. However, managers of long-term/suite properties maintain more control and contact with the customer. Therefore, they exhibit a higher level of perceived delivered quality than non-management personnel in luxury properties. The non-management personnel at long-term/suite properties also perceive the delivery of quality to be higher than managers at luxury properties for the same reason. These hourly employees have less control over their work environments but are still closer to the customer than managers of other property types.

Gaps have also been shown to exist between managers and supervisors across and within market segments. These gaps are shown in Figure 17 and are based on the following statements:

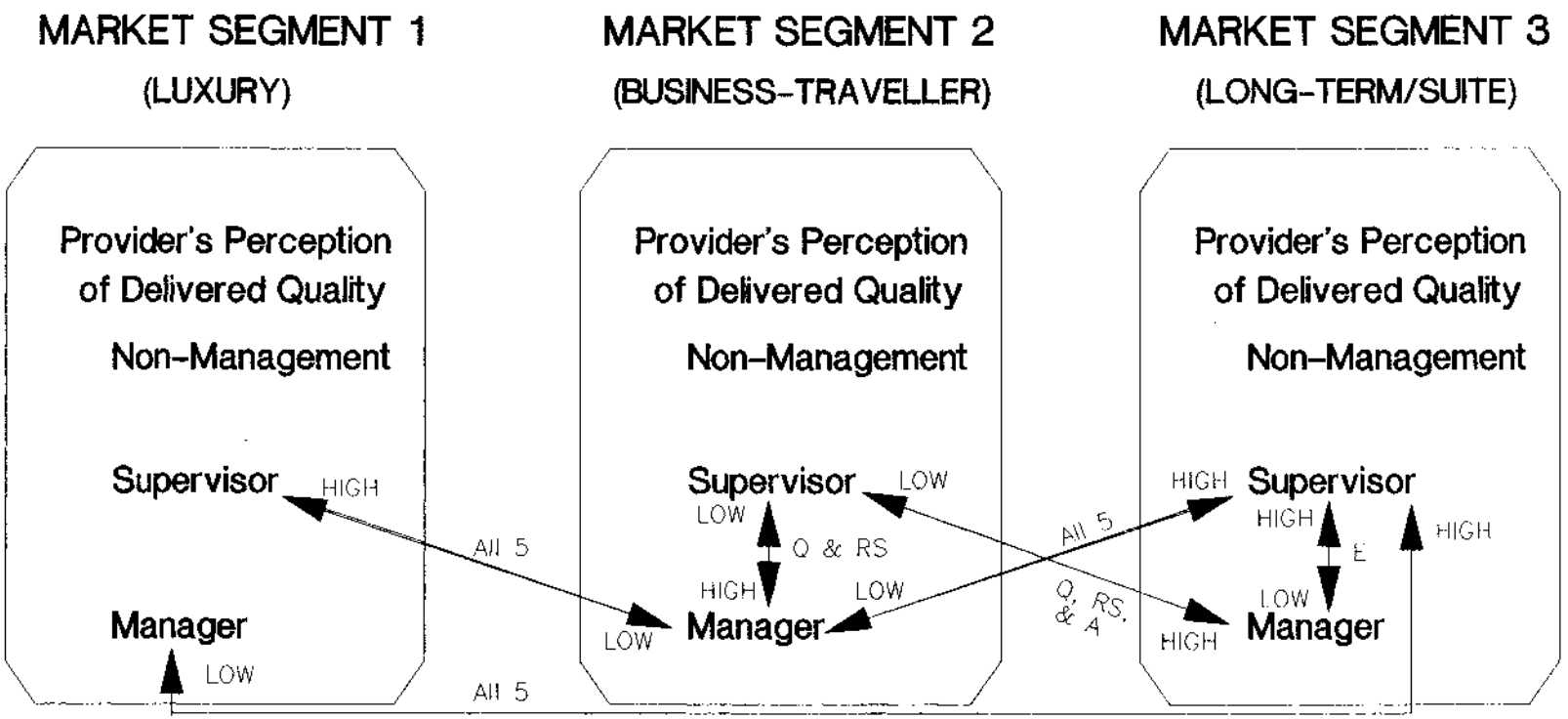
(1) Supervisors of luxury properties exhibit a *higher* level of perceived delivered QUALITY, RELIABILITY, RESPONSIVENESS, ASSURANCE, and EMPATHY than managers of business-traveller properties.

(2) Supervisors of long-term/suite properties exhibit a *higher* level of perceived delivered QUALITY, RELIABILITY,

FIGURE 17

GAPS BETWEEN MANAGERS AND SUPERVISORS

ACROSS AND WITHIN MARKET SEGMENTS



RESPONSIVENESS, ASSURANCE, and EMPATHY than managers of both luxury and business-traveller properties.

(3) Supervisors of long-term/suite properties exhibit a *higher* level of perceived delivered EMPATHY than managers of long-term/suite properties.

(4) Supervisors of business-traveller properties exhibit a *lower* level of perceived delivered QUALITY and RESPONSIVENESS than managers of both business-traveller and long-term/suite properties.

(5) Supervisors of business-traveller properties exhibit a *lower* level of perceived delivered ASSURANCE than managers of long-term/suite properties.

Interpretation of Figure 17

The gaps that exist between supervisors and managers within the same property type exhibit opposite trends when comparing business-traveller properties to long-term/suite properties. Supervisors of long-term/suite properties have a higher perception of delivered EMPATHY than their managers. In other words, they feel that they provide customers with individual attention and understanding. While few in number, supervisors of this property type do have a somewhat closer connection to the guest. The business-traveller properties, however, employ supervisors that exhibit a lower level of perceived delivered quality than their managers. This can be justified by the higher

stress level inherent in their position (Reynolds and Tabacchi 1993).

Managers of business-traveller properties exhibit a lower level of perceived delivered quality than supervisors of both luxury and long-term/suite properties. This follows the same pattern shown in Figure 16 where managers were compared to non-management employees. Again, the explanation for these differences lies in the fact that managers have less contact with the customer than supervisors. Their challenge is to reduce the unpredictability of the service encounter. The supervisors have a more direct influence on the customers' perception of delivered quality. The feedback they receive from customers, in turn, elevates their own perceptions of delivered quality (Voss et al. 1985).

Finally, Figure 18 represents the gaps that exist between supervisors and non-management personnel across and within market segments and was developed from the following statements:

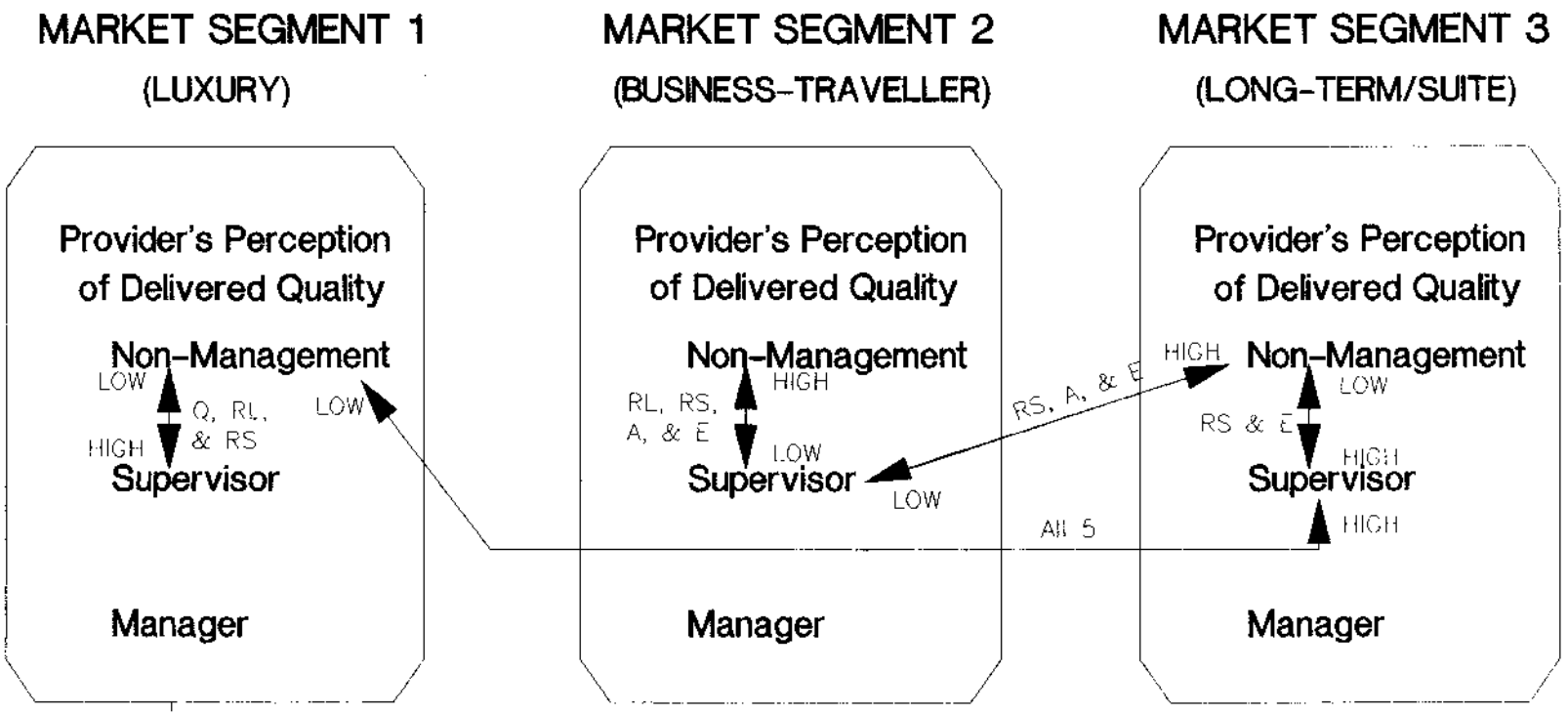
(1) Non-management employees of luxury properties exhibit a *lower* level of perceived delivered QUALITY, RELIABILITY, RESPONSIVENESS, ASSURANCE, and EMPATHY than supervisors of long-term/suite properties.

(2) Non-management employees of luxury properties exhibit a *lower* level of perceived delivered QUALITY and

FIGURE 18

GAPS BETWEEN SUPERVISORS AND NON-MANAGEMENT PERSONNEL

ACROSS AND WITHIN MARKET SEGMENTS



RELIABILITY than supervisors of luxury properties and managers of long-term/suite properties.

(3) Non-management employees of luxury properties exhibit a *lower* level of perceived delivered RESPONSIVENESS than supervisors of luxury properties.

(4) Non-management employees of business-traveller properties exhibit a *higher* level of perceived delivered RELIABILITY, RESPONSIVENESS, ASSURANCE, and EMPATHY (but not overall QUALITY) than supervisors of business-traveller properties.

(5) Non-management employees of long-term/suite properties exhibit a *higher* level of perceived delivered RESPONSIVENESS, ASSURANCE and EMPATHY than supervisors of business-traveller properties.

(6) Non-management employees of long-term/suite properties exhibit a *lower* level of perceived delivered RESPONSIVENESS and EMPATHY than supervisors of long-term/suite properties.

Interpretation of Figure 18

Supervisors of business-traveller properties have a lower perception of delivered quality than non-management employees within the same property type. This pattern is similar to that shown in Figure 16 where managers and non-management employees were compared. The gap in Figure 18 can be explained similarly. Non-management employees have extensive contact with the guests and are empowered to make

decisions on their own without prior consultation with a supervisor. The data support the idea that their proximity to the guest results in a higher perception of delivered quality. In addition, these supervisors have a lower perception of delivered quality than non-management personnel at long-term/suite properties. This gap is assumed to exist due to the high performance pressure that they experience.

Supervisors of long-term/suite properties exhibit a higher level of perceived delivered quality than non-management employees within this property type. The explanation for this situation follows that of previous sections where it was explained that non-management employees of long-term/suite properties have less personal contact with guests since guests typically consider the property as an "apartment-like" living arrangement.

Supervisors of luxury properties exhibit a higher level of perceived delivered quality than non-management employees within the same property type. At first glance, this seems inconsistent with prior patterns where it was expected that employees closest to the guest exhibit higher perceptions of delivered quality. However, this apparently reversed circumstance is understandable since luxury properties have a higher percentage of turnover and temporary non-management personnel than the other property types. In addition, the supervisors of long-term/suite properties exhibit a similar

gap between non-management personnel at luxury properties. The relatively secure atmosphere of the long-term/suite properties and the temporary nature of non-management employees at luxury properties may account for this difference.

Managerial Implications of the Results

Most of the gaps revealed from this study involve the perception of delivered overall quality. In other words, all five of the dependent variables (e.g., QUALITY, RELIABILITY, RESPONSIVENESS, ASSURANCE, and EMPATHY) were affected. In many cases, however, ASSURANCE and/or EMPATHY were the only variables affected. These dimensions of quality are more difficult to achieve. ASSURANCE, for example, implies that the employee is not only knowledgeable and courteous but also inspires trust and confidence. EMPATHY requires providing individualized attention in a caring, understanding manner. These characteristics of service quality delivery are difficult to teach. They are generally sought after during the interviewing process.

The results of this study influence the following suggestions for lodging managers:

1. Managers of luxury and long-term/suite properties are succeeding in conveying the quality message to their supervisors and should continue to emphasize quality principles.

2. Supervisors of luxury and long-term/suite properties need to be aware that their non-managerial personnel perceive delivered quality at a much lower level. They can approach this situation in one of two ways. First, they must determine whether or not their subordinates are correct in their perceptions. If they are correct, appropriate changes (e.g., brainstorming, defining customer needs, examination of processes, attainment of additional resources and training, etc.) need to be made to improve quality delivery. Second, if non-managerial employees' perceptions do not indicate the actual situation, supervisors need to become more involved in developing a more cohesive effort to improve delivered quality.

3. Managers and supervisors of business-traveller properties are either, (1) less involved in the delivery of quality services than their counterparts at other property-types, or (2) more critical of their performance than their counterparts, resulting in a lower perception of delivered quality. Cross-property awareness programs may provide added insight for managers' and supervisors' roles in the delivery of quality services.

4. Managers and supervisors of business-traveller properties tend to distance themselves from the actual delivery process and may need to spend more time observing front-line employees in action. They should also consider

working alongside their subordinates to better understand and appreciate their roles in service delivery.

5. Non-management employees of business-traveller properties are treated more like "family" and are generally more pleased with their jobs. This would suggest that increased trust and empowerment has led to better quality delivery. Other property-types can benefit from this approach.

6. Supervisors of luxury properties exhibit limited ability to provide the customer with individual attention and understanding. Their focus tends to be directed toward their superiors to ensure a smooth operation rather than meeting the specific needs of the guest. They leave the treatment of guests to their subordinates. This stressful "in the middle" position can be alleviated through joint seminars with their superiors and subordinates that focus on customer relations.

7. An effort should be made to reduce turnover. The approaches to this problem are many. Some possible routes can include (1) empowerment, (2) flexible work schedules, (3) profit-sharing, (4) career progression, and (5) opportunities to further education and training.

8. Seasonal fluctuations in workforce levels require a creative training approach that may include training videos, question/answer sessions with a panel of experts, and written checklists that provide specific illustrations.

9. Lodging managers should spend more time in each position to attain more expertise. In addition, a longer tenure would create more accountability for their performance and decisions. This would allow for increased stability and consistent delivery of standards. Promotions, therefore, could be based on merit increases rather than movement to open positions at other properties.

Use of the lodging industry as a research setting provided a typical example that can be applied to other service industries whose goals are to deliver quality services. There are several implications that can be implied from the resulting data. These include:

1. An organization should first develop its own loyalties between its managers, supervisors, and non-managerial employees. This creates a cohesive foundation that meets the organization's mission. Once this is achieved, multiple organizations within the same company can share lessons learned, which would build on rather than fragment the organizations' structure.

2. Middle management is pressured to sustain operations which dilutes the focus toward customer service. These individuals are in the precarious position of trusting their hourly employees to delivery the high quality standards demanded of them by their managers. They are ultimately held accountable for the outcome with the customer. Consequently, their perception of delivered

quality may be lower than the perception of supervisors in less stressful work environments. Therefore, upper management must create an atmosphere where all employees, including supervisors, can center their efforts toward achieving their mission -- satisfying the customer.

3. Organizational levels closest to the customer have the highest perception of delivered quality. Organizational levels furthest from the customer are concerned with providing a work environment that permits the delivery of quality services. They have indirect contact with customers and are therefore, more uncertain of the delivered quality.

4. Empowerment, while a worthwhile goal, must include supervision to prevent uncertainty in employee performance. Empowerment without this guidance gives the employee a feeling of insecurity and lack of direction.

5. When a short employment tenure exists, there is a lack of identification with the organization's purpose and goals. Non-management employees of industries plagued by high turnover typically have lower perceptions of delivered quality. This consequence may be due to poor attitude, minimal training, and lack of incentives. Service companies that provide a sense of belonging, (such as the business-traveller properties used in this study) tend to employ non-management personnel who take pride and responsibility in their performance. As a result, their perception of delivered quality is higher.

Suggestions for Future Research

Organizations that practice quality management techniques generally assume that the perception of delivered service quality is consistent from one organizational level to the next. This study revealed inconsistencies between organizational levels. Exploration of the reasons for these differences would prove useful. Future research could focus on causes such as stress, turnover, and the degree of employee-customer contact.

Service companies with the same brand name are expected provide the same level of quality service. Unfortunately, each establishment is dependent on its employees. Even though management directives are developed from the corporate offices, interpretation of those policies is subject to the human element. Future studies in this area would evaluate this problem and perhaps lead to developing means of maintaining standards.

The perceived delivery of specific quality dimensions (i.e., tangibles, reliability, responsiveness, assurance, and empathy) has been shown to vary from one organizational level to another. Future studies would be beneficial where individual quality dimensions are examined in depth. This research could provide reasons why people exhibit one dimension more strongly than another.

The lodging industry was utilized in this study because of its extreme heterogeneity and labor intensive structure.

This may have accounted for the multitude of gaps in perceived delivered quality. Other service industries such as restaurants, health care, and educational institutions have similar challenges. In hospitals and universities, for example, employees having direct contact with the customer tend to have a higher educational level. This difference could possibly lessen the degree of variation between organizational levels. Consequently, this research study should be replicated in these, and other service industries.

In view of the fact that interest in quality service delivery is so keen in today's competitive environment, it is hoped that this dissertation represents a significant contribution toward the understanding of potential service quality gaps and encourages further research on the subject.

APPENDIX A

RESEARCH INSTRUMENT

PROVIDER'S LODGING QUALITY PERCEPTION PROFILE

Instructions: The following statements reflect your impressions of the hotel where you are employed. For each statement, please indicate the extent of your feelings about your property. Place an "X" along the line to indicate your views of each statement as it relates to your property. An "X" on the far left indicates that you "strongly disagree" with the statement and an "X" on the far right indicates that you "strongly agree" with the statement. If a statement does not apply, please leave it blank.

Check-out procedures are easy for the guests to understand.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

The front desk is visually appealing.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

The associates have clean, neat uniforms.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

The guest room furnishings meet the guests' needs.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

The mechanical/electrical equipment (TV, radio, telephone, air conditioning, lights, elevators, etc.) is modern.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Room service offers a good variety of menu items.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

The gift-shop is pleasant and attractive.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Written materials provided throughout the hotel are visually appealing.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

The outdoor surroundings are visually attractive.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

The hotel is bright and well lighted.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Furnishings throughout the hotel are appealing.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

The hotel is adequately maintained.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

The hotel is clean.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Guest rooms are ready as promised.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Mechanical/electrical equipment (TV, radio, air conditioning, lights, elevators, etc.) work properly.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Room service orders are taken correctly.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Room service bills are computed correctly.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Room service is prompt.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Charges are accurate at check-out.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Associates do what they say they will do.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

If a guest has a problem associates show a sincere interest in solving it.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

The standard of service is high.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Reservationists offer available options.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Check-in and/or check-out procedures are fast and efficient.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

The amount of time the guest is kept waiting is kept to a minimum.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Associates greet guests with a smile.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Associates are attentive to guests' needs.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Associates respond promptly to guests' requests.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Informative written information about the hotel is provided.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

The guest is made to feel special.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

This hotel feels like home for the guests.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Associates take the steps necessary to solve the guests' problems.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Associates are knowledgeable of the services offered.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Associates are knowledgeable about local places of interest.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Reservations are recorded accurately.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Associates are able to accurately answer the guests' questions.
Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

The hotel provides a safe environment.

Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Associates are consistently courteous.

Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Managers are frequently seen throughout the hotel.

Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Associates are committed to doing a good job.

Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Guests get what they pay for.

Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

The facilities (health club, recreational facilities, meeting rooms, banquet halls, etc.) are conveniently located.

Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Guests are kept informed of any changes in plans (meeting rooms, menu, time changes, etc.) that may occur.

Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Guests receive individual, undivided attention at the front desk.

Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Reservationists make an effort to find out guests' particular needs.

Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

A manager or supervisor is available if a guest has a problem.

Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Associates pay attention to guests' needs.

Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Associates are eager to please guests.

Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Associates are understanding of any problems guests may have.

Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

Associates at this hotel <u>listen</u> to the guests.

Strongly Disagree ---|---|---|---|---|---|---|---|---|--- **Strongly Agree**

FOR THE FOLLOWING QUESTIONS, PLEASE PLACE A CHECK MARK NEXT TO THE APPROPRIATE ANSWER:

What is your position with this property?

_____ Management
_____ Supervisor
_____ Non-Management Associate

How many subordinates do you have? _____

How many years experience do you have in the hotel, restaurant, or related industry? _____

Gender: _____ Male _____ Female

Education:

_____ Fewer than 12 years (did not graduate from High School)
_____ 12 years (High School graduate)
_____ 14 years (some college)
_____ 16 years (college degree)
_____ Master's degree
_____ Doctoral degree
_____ Other _____

Age:

_____ 18-24	_____ 25-31	_____ 32-38
_____ 39-45	_____ 46-51	_____ 52-58
_____ 59-65	_____ 66+	

THANK YOU FOR YOUR TIME!

APPENDIX B

CONFIDENCE INTERVALS OF POPULATION MEAN VALUES

CONFIDENCE INTERVALS OF POPULATION MEAN VALUES
USING TUKEY'S MULTIPLE COMPARISON PROCEDURE

DEPENDENT VARIABLE: QUALITY

Key: Q_{11} : Managers of Luxury properties
Q_{12} : Managers of Business-Traveller properties
Q_{13} : Managers of Long-Term/Suite properties

Q_{21} : Supervisors of Luxury properties
Q_{22} : Supervisors of Business-Traveller properties
Q_{23} : Supervisors of Long-Term/Suite properties

Q_{31} : Non-management employees of Luxury properties
Q_{32} : Non-management employees of Business-Traveller properties
Q_{33} : Non-management employees of Long-Term/Suite properties

CELLS COMPARED	CONFIDENCE INTERVAL	DIFFERENCE
$Q_{11} - Q_{12}$	$-.50 \leq \mu_{Q11}-\mu_{Q12} \leq .60$	NONE
$Q_{11} - Q_{13}$	$-.84 \leq \mu_{Q11}-\mu_{Q13} \leq .12$	NONE
$Q_{12} - Q_{13}$	$-1.47 \leq \mu_{Q12}-\mu_{Q13} \leq -.21$	$\mu_{Q12} < \mu_{Q13}$
$Q_{21} - Q_{22}$	$.02 \leq \mu_{Q21}-\mu_{Q22} \leq 1.04$	$\mu_{Q21} > \mu_{Q22}$
$Q_{21} - Q_{23}$	$-1.06 \leq \mu_{Q21}-\mu_{Q23} \leq .24$	NONE
$Q_{22} - Q_{23}$	$-1.57 \leq \mu_{Q22}-\mu_{Q23} \leq -.31$	$\mu_{Q22} < \mu_{Q23}$
$Q_{31} - Q_{32}$	$-.96 \leq \mu_{Q31}-\mu_{Q32} \leq -.46$	$\mu_{Q31} < \mu_{Q32}$
$Q_{31} - Q_{33}$	$-.69 \leq \mu_{Q31}-\mu_{Q33} \leq -.15$	$\mu_{Q31} < \mu_{Q33}$
$Q_{32} - Q_{33}$	$-.01 \leq \mu_{Q32}-\mu_{Q33} \leq .59$	NONE
$Q_{11} - Q_{21}$	$-.80 \leq \mu_{Q11}-\mu_{Q21} \leq .10$	NONE
$Q_{11} - Q_{31}$	$-.15 \leq \mu_{Q11}-\mu_{Q31} \leq .45$	NONE
$Q_{21} - Q_{31}$	$.10 \leq \mu_{Q21}-\mu_{Q31} \leq .90$	$\mu_{Q21} > \mu_{Q31}$
$Q_{12} - Q_{22}$	$-.90 \leq \mu_{Q12}-\mu_{Q22} \leq .30$	NONE
$Q_{12} - Q_{32}$	$-1.57 \leq \mu_{Q12}-\mu_{Q32} \leq -.51$	$\mu_{Q12} < \mu_{Q32}$
$Q_{22} - Q_{32}$	$-1.14 \leq \mu_{Q22}-\mu_{Q32} \leq -.34$	$\mu_{Q22} < \mu_{Q32}$

DEPENDENT VARIABLE: QUALITY (continued)

CELLS COMPARED	CONFIDENCE INTERVAL	DIFFERENCE
$Q_{13} - Q_{23}$	$-1.06 \leq \mu_{Q13}-\mu_{Q23} \leq .26$	NONE
$Q_{13} - Q_{33}$	$-.37 \leq \mu_{Q13}-\mu_{Q33} \leq .55$	NONE
$Q_{23} - Q_{33}$	$-.08 \leq \mu_{Q23}-\mu_{Q33} \leq 1.06$	NONE
$Q_{11} - Q_{22}$	$-.25 \leq \mu_{Q11}-\mu_{Q22} \leq .61$	NONE
$Q_{11} - Q_{33}$	$-.61 \leq \mu_{Q11}-\mu_{Q33} \leq .07$	NONE
$Q_{11} - Q_{23}$	$-1.35 \leq \mu_{Q11}-\mu_{Q23} \leq -.17$	$\mu_{Q11} < \mu_{Q23}$
$Q_{11} - Q_{32}$	$-.89 \leq \mu_{Q11}-\mu_{Q32} \leq -.23$	$\mu_{Q11} < \mu_{Q32}$
$Q_{21} - Q_{12}$	$.22 \leq \mu_{Q21}-\mu_{Q12} \leq 1.44$	$\mu_{Q21} > \mu_{Q12}$
$Q_{21} - Q_{13}$	$-.56 \leq \mu_{Q21}-\mu_{Q13} \leq .54$	NONE
$Q_{21} - Q_{32}$	$-.63 \leq \mu_{Q21}-\mu_{Q32} \leq .21$	NONE
$Q_{21} - Q_{33}$	$-.14 \leq \mu_{Q21}-\mu_{Q33} \leq .30$	NONE
$Q_{31} - Q_{22}$	$-.35 \leq \mu_{Q31}-\mu_{Q22} \leq .41$	NONE
$Q_{31} - Q_{13}$	$-.94 \leq \mu_{Q31}-\mu_{Q13} \leq -.08$	$\mu_{Q31} < \mu_{Q13}$
$Q_{31} - Q_{12}$	$-.18 \leq \mu_{Q31}-\mu_{Q12} \leq .84$	NONE
$Q_{31} - Q_{23}$	$-1.46 \leq \mu_{Q31}-\mu_{Q23} \leq -.36$	$\mu_{Q31} < \mu_{Q23}$
$Q_{12} - Q_{23}$	$-1.99 \leq \mu_{Q12}-\mu_{Q23} \leq -.52$	$\mu_{Q12} < \mu_{Q23}$
$Q_{12} - Q_{33}$	$-1.28 \leq \mu_{Q12}-\mu_{Q33} \leq -.22$	$\mu_{Q12} < \mu_{Q33}$
$Q_{22} - Q_{13}$	$-1.07 \leq \mu_{Q22}-\mu_{Q13} \leq -.01$	$\mu_{Q22} < \mu_{Q13}$
$Q_{22} - Q_{33}$	$-.87 \leq \mu_{Q22}-\mu_{Q33} \leq -.03$	$\mu_{Q22} < \mu_{Q33}$
$Q_{32} - Q_{13}$	$-.25 \leq \mu_{Q32}-\mu_{Q13} \leq .65$	NONE
$Q_{32} - Q_{23}$	$-.76 \leq \mu_{Q32}-\mu_{Q23} \leq .36$	NONE

CONFIDENCE INTERVALS OF POPULATION MEAN VALUES
USING TUKEY'S MULTIPLE COMPARISON PROCEDURE

DEPENDENT VARIABLE: RELIABILITY

Key: RL_{11} : Managers of Luxury properties
RL_{12} : Managers of Business-Traveller properties
RL_{13} : Managers of Long-Term/Suite properties

RL_{21} : Supervisors of Luxury properties
RL_{22} : Supervisors of Business-Traveller properties
RL_{23} : Supervisors of Long-Term/Suite properties

RL_{31} : Non-management employees of Luxury properties
RL_{32} : Non-management employees of Business-Traveller properties
RL_{33} : Non-management employees of Long-Term/Suite properties

CELLS COMPARED	CONFIDENCE INTERVAL	DIFFERENCE
RL_{11} - RL_{12}	$-.09 \leq \mu_{RL11}-\mu_{RL12} \leq 1.13$	NONE
RL_{11} - RL_{13}	$-.77 \leq \mu_{RL11}-\mu_{RL13} \leq .29$	NONE
RL_{12} - RL_{13}	$-1.45 \leq \mu_{RL12}-\mu_{RL13} \leq -.07$	$\mu_{RL12} < \mu_{RL13}$
RL_{21} - RL_{22}	$.04 \leq \mu_{RL21}-\mu_{RL22} \leq 1.08$	$\mu_{RL21} > \mu_{RL22}$
RL_{21} - RL_{23}	$-1.03 \leq \mu_{RL21}-\mu_{RL23} \leq .39$	NONE
RL_{22} - RL_{23}	$-1.54 \leq \mu_{RL22}-\mu_{RL23} \leq -.14$	$\mu_{RL22} < \mu_{RL23}$
RL_{31} - RL_{32}	$-.98 \leq \mu_{RL31}-\mu_{RL32} \leq -.42$	$\mu_{RL31} < \mu_{RL32}$
RL_{31} - RL_{33}	$-.65 \leq \mu_{RL31}-\mu_{RL33} \leq -.14$	$\mu_{RL31} < \mu_{RL33}$
RL_{32} - RL_{33}	$.01 \leq \mu_{RL32}-\mu_{RL33} \leq .59$	$\mu_{RL32} > \mu_{RL33}$
RL_{11} - RL_{21}	$-.88 \leq \mu_{RL11}-\mu_{RL21} \leq .12$	NONE
RL_{11} - RL_{31}	$-.05 \leq \mu_{RL11}-\mu_{RL31} \leq .61$	NONE
RL_{21} - RL_{31}	$.22 \leq \mu_{RL21}-\mu_{RL31} \leq 1.10$	$\mu_{RL21} > \mu_{RL31}$
RL_{12} - RL_{22}	$-1.04 \leq \mu_{RL12}-\mu_{RL22} \leq .28$	NONE
RL_{12} - RL_{32}	$-1.52 \leq \mu_{RL12}-\mu_{RL32} \leq -.36$	$\mu_{RL12} < \mu_{RL32}$
RL_{22} - RL_{32}	$-1.01 \leq \mu_{RL22}-\mu_{RL22} \leq -.11$	$\mu_{RL22} < \mu_{RL32}$

DEPENDENT VARIABLE: RELIABILITY (continued)

CELLS COMPARED	CONFIDENCE INTERVAL	DIFFERENCE
RL_{13} - RL_{23}	$-1.19 \leq \mu_{RL13}-\mu_{RL23} \leq .27$	NONE
RL_{13} - RL_{33}	$-.35 \leq \mu_{RL13}-\mu_{RL33} \leq .67$	NONE
RL_{23} - RL_{33}	$-.01 \leq \mu_{RL23}-\mu_{RL33} \leq 1.25$	NONE
RL_{11} - RL_{22}	$-.34 \leq \mu_{RL11}-\mu_{RL22} \leq .62$	NONE
RL_{11} - RL_{33}	$-.46 \leq \mu_{RL11}-\mu_{RL33} \leq .30$	NONE
RL_{11} - RL_{23}	$-1.35 \leq \mu_{RL11}-\mu_{RL23} \leq -.05$	$\mu_{RL11} < \mu_{RL23}$
RL_{11} - RL_{32}	$-.78 \leq \mu_{RL11}-\mu_{RL32} \leq -.06$	$\mu_{RL11} < \mu_{RL32}$
RL_{21} - RL_{12}	$.22 \leq \mu_{RL21}-\mu_{RL12} \leq 1.58$	$\mu_{RL21} > \mu_{RL12}$
RL_{21} - RL_{13}	$-.46 \leq \mu_{RL21}-\mu_{RL13} \leq .74$	NONE
RL_{21} - RL_{32}	$-.51 \leq \mu_{RL21}-\mu_{RL32} \leq .43$	NONE
RL_{21} - RL_{33}	$-.18 \leq \mu_{RL21}-\mu_{RL33} \leq .78$	NONE
RL_{31} - RL_{22}	$-.56 \leq \mu_{RL31}-\mu_{RL22} \leq .28$	NONE
RL_{31} - RL_{13}	$-.99 \leq \mu_{RL31}-\mu_{RL13} \leq -.05$	$\mu_{RL31} < \mu_{RL13}$
RL_{31} - RL_{12}	$-.32 \leq \mu_{RL31}-\mu_{RL12} \leq .80$	NONE
RL_{31} - RL_{23}	$-1.58 \leq \mu_{RL31}-\mu_{RL23} \leq -.38$	$\mu_{RL31} < \mu_{RL23}$
RL_{12} - RL_{23}	$-2.01 \leq \mu_{RL12}-\mu_{RL23} \leq -.43$	$\mu_{RL12} < \mu_{RL23}$
RL_{12} - RL_{33}	$-1.19 \leq \mu_{RL12}-\mu_{RL33} \leq -.01$	$\mu_{RL12} < \mu_{RL33}$
RL_{22} - RL_{13}	$-.97 \leq \mu_{RL22}-\mu_{RL13} \leq .21$	NONE
RL_{22} - RL_{33}	$-.68 \leq \mu_{RL22}-\mu_{RL33} \leq .24$	NONE
RL_{32} - RL_{13}	$-.32 \leq \mu_{RL32}-\mu_{RL13} \leq .32$	NONE
RL_{32} - RL_{23}	$-.90 \leq \mu_{RL32}-\mu_{RL23} \leq .34$	NONE

CONFIDENCE INTERVALS OF POPULATION MEAN VALUES
USING TUKEY'S MULTIPLE COMPARISON PROCEDURE

DEPENDENT VARIABLE: RESPONSIVENESS

Key: RS_{11} : Managers of Luxury properties
RS_{12} : Managers of Business-Traveller properties
RS_{13} : Managers of Long-Term/Suite properties

RS_{21} : Supervisors of Luxury properties
RS_{22} : Supervisors of Business-Traveller properties
RS_{23} : Supervisors of Long-Term/Suite properties

RS_{31} : Non-management employees of Luxury properties
RS_{32} : Non-management employees of Business-Traveller properties
RS_{33} : Non-management employees of Long-Term/Suite properties

CELLS COMPARED	CONFIDENCE INTERVAL	DIFFERENCE
RS_{11} - RS_{12}	$.13 \leq \mu_{RS11}-\mu_{RS12} \leq 1.37$	$\mu_{RS11} > \mu_{RS12}$
RS_{11} - RS_{13}	$-.93 \leq \mu_{RS11}-\mu_{RS13} \leq .15$	NONE
RS_{12} - RS_{13}	$-1.85 \leq \mu_{RS12}-\mu_{RS13} \leq -.43$	$\mu_{RS12} < \mu_{RS13}$
RS_{21} - RS_{22}	$.15 \leq \mu_{RS21}-\mu_{RS22} \leq 1.31$	$\mu_{RS21} > \mu_{RS22}$
RS_{21} - RS_{23}	$-1.38 \leq \mu_{RS21}-\mu_{RS23} \leq .08$	NONE
RS_{22} - RS_{23}	$-2.10 \leq \mu_{RS22}-\mu_{RS23} \leq -.66$	$\mu_{RS22} < \mu_{RS23}$
RS_{31} - RS_{32}	$-.93 \leq \mu_{RS31}-\mu_{RS32} \leq -.37$	$\mu_{RS31} < \mu_{RS32}$
RS_{31} - RS_{33}	$-.65 \leq \mu_{RS31}-\mu_{RS33} \leq -.05$	$\mu_{RS31} < \mu_{RS33}$
RS_{32} - RS_{33}	$-.04 \leq \mu_{RS32}-\mu_{RS33} \leq .64$	NONE
RS_{11} - RS_{21}	$-.95 \leq \mu_{RS11}-\mu_{RS21} \leq .07$	NONE
RS_{11} - RS_{31}	$-.27 \leq \mu_{RS11}-\mu_{RS31} \leq .41$	NONE
RS_{21} - RS_{31}	$.06 \leq \mu_{RS21}-\mu_{RS31} \leq .96$	$\mu_{RS21} > \mu_{RS31}$
RS_{12} - RS_{22}	$-1.14 \leq \mu_{RS12}-\mu_{RS22} \leq .22$	NONE
RS_{12} - RS_{32}	$-1.92 \leq \mu_{RS12}-\mu_{RS32} \leq -.74$	$\mu_{RS12} < \mu_{RS32}$
RS_{22} - RS_{32}	$-1.33 \leq \mu_{RS22}-\mu_{RS32} \leq -.41$	$\mu_{RS22} < \mu_{RS32}$

DEPENDENT VARIABLE: RESPONSIVENESS (continued)

CELLS COMPARED	CONFIDENCE INTERVAL	DIFFERENCE
RS_{13} - RS_{23}	$-1.45 \leq \mu_{RS13}-\mu_{RS23} \leq .05$	NONE
RS_{13} - RS_{33}	$-.41 \leq \mu_{RS13}-\mu_{RS33} \leq .63$	NONE
RS_{23} - RS_{33}	$.16 \leq \mu_{RS23}-\mu_{RS33} \leq 1.46$	$\mu_{RS23} > \mu_{RS33}$
RS_{11} - RS_{22}	$-.20 \leq \mu_{RS11}-\mu_{RS22} \leq .78$	NONE
RS_{11} - RS_{33}	$-.67 \leq \mu_{RS11}-\mu_{RS33} \leq .11$	NONE
RS_{11} - RS_{23}	$-1.75 \leq \mu_{RS11}-\mu_{RS23} \leq -.43$	$\mu_{RS11} < \mu_{RS23}$
RS_{11} - RS_{32}	$-.95 \leq \mu_{RS11}-\mu_{RS32} \leq -.21$	$\mu_{RS11} < \mu_{RS32}$
RS_{21} - RS_{12}	$.50 \leq \mu_{RS21}-\mu_{RS12} \leq 1.88$	$\mu_{RS21} > \mu_{RS12}$
RS_{21} - RS_{13}	$-.57 \leq \mu_{RS21}-\mu_{RS13} \leq .67$	NONE
RS_{21} - RS_{32}	$-.62 \leq \mu_{RS21}-\mu_{RS32} \leq .34$	NONE
RS_{21} - RS_{33}	$-.33 \leq \mu_{RS21}-\mu_{RS33} \leq .65$	NONE
RS_{31} - RS_{22}	$-.21 \leq \mu_{RS31}-\mu_{RS22} \leq .65$	NONE
RS_{31} - RS_{13}	$-.94 \leq \mu_{RS31}-\mu_{RS13} \leq .02$	NONE
RS_{31} - RS_{12}	$.11 \leq \mu_{RS31}-\mu_{RS12} \leq 1.25$	$\mu_{RS31} > \mu_{RS12}$
RS_{31} - RS_{23}	$-1.78 \leq \mu_{RS31}-\mu_{RS23} \leq -.54$	$\mu_{RS31} < \mu_{RS23}$
RS_{12} - RS_{23}	$-2.65 \leq \mu_{RS12}-\mu_{RS23} \leq -1.03$	$\mu_{RS12} < \mu_{RS23}$
RS_{12} - RS_{33}	$-1.63 \leq \mu_{RS12}-\mu_{RS33} \leq -.43$	$\mu_{RS12} < \mu_{RS33}$
RS_{22} - RS_{13}	$-1.28 \leq \mu_{RS22}-\mu_{RS13} \leq -.08$	$\mu_{RS22} < \mu_{RS13}$
RS_{22} - RS_{33}	$-1.04 \leq \mu_{RS22}-\mu_{RS33} \leq -.10$	$\mu_{RS22} < \mu_{RS33}$
RS_{32} - RS_{13}	$-.32 \leq \mu_{RS32}-\mu_{RS13} \leq .70$	NONE
RS_{32} - RS_{23}	$-1.15 \leq \mu_{RS32}-\mu_{RS23} \leq .13$	NONE

CONFIDENCE INTERVALS OF POPULATION MEAN VALUES
USING TUKEY'S MULTIPLE COMPARISON PROCEDURE

DEPENDENT VARIABLE: ASSURANCE

Key: A_{11} : Managers of Luxury properties
A_{12} : Managers of Business-Traveller properties
A_{13} : Managers of Long-Term/Suite properties

A_{21} : Supervisors of Luxury properties
A_{22} : Supervisors of Business-Traveller properties
A_{23} : Supervisors of Long-Term/Suite properties

A_{31} : Non-management employees of Luxury properties
A_{32} : Non-management employees of Business-Traveller properties
A_{33} : Non-management employees of Long-Term/Suite properties

CELLS COMPARED	CONFIDENCE INTERVAL	DIFFERENCE
A_{11} - A_{12}	$-.14 \leq \mu_{A11}-\mu_{A12} \leq 1.12$	NONE
A_{11} - A_{13}	$-1.25 \leq \mu_{A11}-\mu_{A13} \leq -.15$	$\mu_{A11} < \mu_{A13}$
A_{12} - A_{13}	$-1.91 \leq \mu_{A12}-\mu_{A13} \leq -.47$	$\mu_{A12} < \mu_{A13}$
A_{21} - A_{22}	$-.36 \leq \mu_{A21}-\mu_{A22} \leq .82$	NONE
A_{21} - A_{23}	$-1.68 \leq \mu_{A21}-\mu_{A23} \leq -.20$	$\mu_{A21} < \mu_{A23}$
A_{22} - A_{23}	$-1.90 \leq \mu_{A22}-\mu_{A23} \leq -.44$	$\mu_{A22} < \mu_{A23}$
A_{31} - A_{32}	$-1.39 \leq \mu_{A31}-\mu_{A32} \leq -.81$	$\mu_{A31} < \mu_{A32}$
A_{31} - A_{33}	$-1.03 \leq \mu_{A31}-\mu_{A33} \leq -.41$	$\mu_{A31} < \mu_{A33}$
A_{32} - A_{33}	$-.04 \leq \mu_{A32}-\mu_{A33} \leq .80$	NONE
A_{11} - A_{21}	$-.61 \leq \mu_{A11}-\mu_{A21} \leq .43$	NONE
A_{11} - A_{31}	$-.07 \leq \mu_{A11}-\mu_{A31} \leq .61$	NONE
A_{21} - A_{31}	$-.10 \leq \mu_{A21}-\mu_{A31} \leq .82$	NONE
A_{12} - A_{22}	$-1.04 \leq \mu_{A12}-\mu_{A22} \leq .34$	NONE
A_{12} - A_{32}	$-2.01 \leq \mu_{A12}-\mu_{A32} \leq -.63$	$\mu_{A12} < \mu_{A32}$
A_{22} - A_{32}	$-1.43 \leq \mu_{A22}-\mu_{A32} \leq -.51$	$\mu_{A22} < \mu_{A32}$

DEPENDENT VARIABLE: ASSURANCE (continued)

CELLS COMPARED	CONFIDENCE INTERVAL	DIFFERENCE
A_{13} - A_{23}	$-1.09 \leq \mu_{A13}-\mu_{A23} \leq .43$	NONE
A_{13} - A_{33}	$-.28 \leq \mu_{A13}-\mu_{A33} \leq .78$	NONE
A_{23} - A_{33}	$-.08 \leq \mu_{A23}-\mu_{A33} \leq 1.24$	NONE
A_{11} - A_{22}	$-.21 \leq \mu_{A11}-\mu_{A22} \leq .79$	NONE
A_{11} - A_{33}	$-.67 \leq \mu_{A11}-\mu_{A33} \leq .11$	NONE
A_{11} - A_{23}	$-1.76 \leq \mu_{A11}-\mu_{A23} \leq -.42$	$\mu_{A11} < \mu_{A23}$
A_{11} - A_{32}	$-.96 \leq \mu_{A11}-\mu_{A32} \leq -.20$	$\mu_{A11} < \mu_{A32}$
A_{21} - A_{12}	$.49 \leq \mu_{A21}-\mu_{A12} \leq 1.89$	$\mu_{A21} > \mu_{A12}$
A_{21} - A_{13}	$-.58 \leq \mu_{A21}-\mu_{A13} \leq .68$	NONE
A_{21} - A_{32}	$-.63 \leq \mu_{A21}-\mu_{A32} \leq .35$	NONE
A_{21} - A_{33}	$-.34 \leq \mu_{A21}-\mu_{A33} \leq .66$	NONE
A_{31} - A_{22}	$-.22 \leq \mu_{A31}-\mu_{A22} \leq .66$	NONE
A_{31} - A_{13}	$-.95 \leq \mu_{A31}-\mu_{A13} \leq .03$	NONE
A_{31} - A_{12}	$.10 \leq \mu_{A31}-\mu_{A12} \leq 1.26$	$\mu_{A31} > \mu_{A12}$
A_{31} - A_{23}	$-1.79 \leq \mu_{A31}-\mu_{A23} \leq -.53$	$\mu_{A31} < \mu_{A23}$
A_{12} - A_{23}	$-2.66 \leq \mu_{A12}-\mu_{A23} \leq -1.02$	$\mu_{A12} < \mu_{A23}$
A_{12} - A_{33}	$-1.64 \leq \mu_{A12}-\mu_{A33} \leq -.42$	$\mu_{A12} < \mu_{A33}$
A_{22} - A_{13}	$-1.29 \leq \mu_{A22}-\mu_{A13} \leq -.07$	$\mu_{A22} < \mu_{A13}$
A_{22} - A_{33}	$-1.05 \leq \mu_{A22}-\mu_{A33} \leq -.09$	$\mu_{A22} < \mu_{A33}$
A_{32} - A_{13}	$-.33 \leq \mu_{A32}-\mu_{A13} \leq .71$	NONE
A_{32} - A_{23}	$-.85 \leq \mu_{A32}-\mu_{A23} \leq .45$	NONE

CONFIDENCE INTERVALS OF POPULATION MEAN VALUES
USING TUKEY'S MULTIPLE COMPARISON PROCEDURE

DEPENDENT VARIABLE: EMPATHY

Key: E_{11} : Managers of Luxury properties
E_{12} : Managers of Business-Traveller properties
E_{13} : Managers of Long-Term/Suite properties

E_{21} : Supervisors of Luxury properties
E_{22} : Supervisors of Business-Traveller properties
E_{23} : Supervisors of Long-Term/Suite properties

E_{31} : Non-management employees of Luxury properties
E_{32} : Non-management employees of Business-Traveller properties
E_{33} : Non-management employees of Long-Term/Suite properties

CELLS COMPARED	CONFIDENCE INTERVAL	DIFFERENCE
E_{11} - E_{12}	$-.09 \leq \mu_{E11}-\mu_{E12} \leq 1.15$	NONE
E_{11} - E_{13}	$-.80 \leq \mu_{E11}-\mu_{E13} \leq .28$	NONE
E_{12} - E_{13}	$-1.50 \leq \mu_{E12}-\mu_{E13} \leq -1.08$	$\mu_{E12} < \mu_{E13}$
E_{21} - E_{22}	$.01 \leq \mu_{E21}-\mu_{E22} \leq 1.17$	$\mu_{E21} > \mu_{E22}$
E_{21} - E_{23}	$-1.36 \leq \mu_{E21}-\mu_{E23} \leq .10$	NONE
E_{22} - E_{23}	$-1.94 \leq \mu_{E22}-\mu_{E23} \leq -.50$	$\mu_{E22} < \mu_{E23}$
E_{31} - E_{32}	$-.93 \leq \mu_{E31}-\mu_{E32} \leq -.37$	$\mu_{E31} < \mu_{E32}$
E_{31} - E_{33}	$-.69 \leq \mu_{E31}-\mu_{E33} \leq -.09$	$\mu_{E31} < \mu_{E33}$
E_{32} - E_{33}	$-.08 \leq \mu_{E32}-\mu_{E33} \leq .60$	NONE
E_{11} - E_{21}	$-.93 \leq \mu_{E11}-\mu_{E21} \leq .09$	NONE
E_{11} - E_{31}	$-.35 \leq \mu_{E11}-\mu_{E31} \leq .33$	NONE
E_{21} - E_{31}	$-.04 \leq \mu_{E21}-\mu_{E31} \leq .86$	NONE
E_{12} - E_{22}	$-1.04 \leq \mu_{E12}-\mu_{E22} \leq .32$	NONE
E_{12} - E_{32}	$-1.78 \leq \mu_{E12}-\mu_{E32} \leq -.60$	$\mu_{E12} < \mu_{E32}$
E_{22} - E_{32}	$-1.42 \leq \mu_{E22}-\mu_{E32} \leq -.24$	$\mu_{E22} < \mu_{E32}$

DEPENDENT VARIABLE: EMPATHY (continued)

CELLS COMPARED	CONFIDENCE INTERVAL	DIFFERENCE
E_{13} - E_{23}	$-1.54 \leq \mu_{E13}-\mu_{E23} \leq -.04$	$\mu_{E13} < \mu_{E23}$
E_{13} - E_{33}	$-.66 \leq \mu_{E13}-\mu_{E33} \leq .38$	NONE
E_{23} - E_{33}	$.0018 \leq \mu_{E23}-\mu_{E33} \leq 1.298$	$\mu_{E23} > \mu_{E33}$
E_{11} - E_{22}	$-.32 \leq \mu_{E11}-\mu_{E22} \leq .66$	NONE
E_{11} - E_{33}	$-.79 \leq \mu_{E11}-\mu_{E33} \leq -.01$	$\mu_{E11} < \mu_{E33}$
E_{11} - E_{23}	$-1.71 \leq \mu_{E11}-\mu_{E23} \leq -.39$	$\mu_{E11} < \mu_{E23}$
E_{11} - E_{32}	$-1.03 \leq \mu_{E11}-\mu_{E32} \leq -.29$	$\mu_{E11} < \mu_{E32}$
E_{21} - E_{12}	$.26 \leq \mu_{E21}-\mu_{E12} \leq 1.64$	$\mu_{E21} > \mu_{E12}$
E_{21} - E_{13}	$-.46 \leq \mu_{E21}-\mu_{E13} \leq .78$	NONE
E_{21} - E_{32}	$-.72 \leq \mu_{E21}-\mu_{E32} \leq .24$	NONE
E_{21} - E_{33}	$-.47 \leq \mu_{E21}-\mu_{E33} \leq .51$	NONE
E_{31} - E_{22}	$-.25 \leq \mu_{E31}-\mu_{E22} \leq .61$	NONE
E_{31} - E_{13}	$-.73 \leq \mu_{E31}-\mu_{E13} \leq .23$	NONE
E_{31} - E_{12}	$-.03 \leq \mu_{E31}-\mu_{E12} \leq 1.11$	NONE
E_{31} - E_{23}	$-1.66 \leq \mu_{E31}-\mu_{E23} \leq -.42$	$\mu_{E31} < \mu_{E23}$
E_{12} - E_{23}	$-2.39 \leq \mu_{E12}-\mu_{E23} \leq -.77$	$\mu_{E12} < \mu_{E23}$
E_{12} - E_{33}	$-1.53 \leq \mu_{E12}-\mu_{E33} \leq -.33$	$\mu_{E12} < \mu_{E33}$
E_{22} - E_{13}	$-1.03 \leq \mu_{E22}-\mu_{E13} \leq .17$	NONE
E_{22} - E_{33}	$-1.04 \leq \mu_{E22}-\mu_{E33} \leq -.10$	$\mu_{E22} < \mu_{E33}$
E_{32} - E_{13}	$-.11 \leq \mu_{E32}-\mu_{E13} \leq .91$	NONE
E_{32} - E_{23}	$-1.03 \leq \mu_{E32}-\mu_{E23} \leq .25$	NONE

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