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The hierarchy's perceptions of customer satisfaction

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UMI

The Hierarchy's Perceptions of Customer Satisfaction

A Thesis

Presented to

The Faculty of the Department of Communication

San Jose State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

by

Joseph G. T. Salisbury

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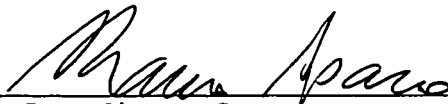
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ABSTRACT

THE HIERARCHY'S PERCEPTIONS OF CUSTOMER SATISFACTION

by Joseph G.T. Salisbury

Within most hierarchical organizations, upper management is limited in its interaction with the customer. This lack of contact creates a communication gap between upper management and the customer. As a result, top management is forced to rely on middle management and front line employees for customer related information. According to Vertical Communication Theory, the majority of this information will be distorted, or even omitted before reaching top management.

The current study represents a first attempt to measure message distortion between an organizational hierarchy and its customers within the context of customer satisfaction. Toward this end, five levels of management and non-management personnel in a mid-size organization were asked to predict levels of customer satisfaction. These scores were statistically compared to the organization's customer satisfaction survey. Contrary to past results and Vertical Communication Theory, this research indicates that there is little difference in predicting accuracy between the five hierarchical levels of management.

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Chapter I

Introduction

Since the industrial revolution, organizations have been set up so that communication passes through various hierarchical levels of management (Danseareau & Markham, 1987). Within this traditional framework, problems related to vertical communication arise. Message distortion is one of these problems. The goal of this research is to identify and measure distortions or gaps in communication between employees of an organization and its customers. This study represents a first attempt to measure message distortion between an organizational hierarchy and its customers. Towards this end, five levels of management and non-management employees in a mid-size organization were asked to predict various levels of customer satisfaction. In addition, customers of this organization were asked to report their level of satisfaction. Employee-reported scores were compared by hierarchical level to customer scores. The difference in scores constituted the communication "gap" or a lack in communication. The larger the score, the greater the gap between hierarchical levels and the customer.

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In many organizations, management is limited in its interaction with the customer; in fact often there is no contact at all. It might be assumed that this lack of contact forces upper management to rely on information from middle or lower level managers who often distort upward bound messages (Danseareau & Markham, 1987; Glausser, 1984; Jablin, 1979; O'Reilly, 1978; O'Reilly & Roberts, 1974; & Read, 1962). According to Rolf (1992), this secondary information may be insufficient for critical problem solving or decision making. The communication gap between upper management and the customer can also create inferior information for decision making that is essential to organizational maintenance and growth.

Based on past vertical communication research, which suggests that very little important customer related information will be passed upward to top management (O'Reilly & Roberts, 1974), it would be expected that lower level employees would be better predictors of customer satisfaction because they engage in more communication with the customer. Because upper managers are usually the decision makers, their distance from the customer may be a problem. This traditional hierarchical structure seems to contribute to communication problems. Moreover, this

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message distortion may also compromise opportunities for corrective customer feedback to reach decision making management.

Organization of the Study

Chapter I begins by introducing the foundation and purpose of the study. Specifically, chapter 1 discusses: (1) the implications of vertical communication distortion between management and non-management personnel and, (2) problems these vertical gaps present for decision making management. The second half of this chapter contains a review of the literature within the areas of vertical communication, customer "voice" and customer satisfaction. This review specifically presents the history and foundation upon which customer satisfaction research is based as well as the theoretical implications of vertical communication within an organization. Theoretical assumptions are also discussed with respect to both hypotheses.

Chapter II provides a description of the methodology used in testing the employees' abilities to predict customer satisfaction. The questionnaire and test used to measure each dependent variable are addressed in terms of their construction, reliability, and external validity.

Chapter III includes a summary of the results and data analyses performed within the study.

Chapter IV presents the conclusion and discussion section which includes recommendations for future research in customer satisfaction and vertical communication.

Literature Review

The purpose of this study was to identify gaps in communication between upper-management and non-management personnel within the contextual framework of an already existing customer satisfaction program. To fully understand the theoretical implications of such a study, the following section will review the relevant literature on (1) voice and customer satisfaction, and (2) vertical communication.

Voice and Customer Satisfaction

By the mid 1950's in the fields of industrial psychology and personnel management, the term satisfaction became a "hot" topic of investigation. At this time, satisfaction first became a variable in empirical studies. According to Wilton and Nicosia (1986), during this early period of exploration, Lazarsfeld's seminal review of applied social science research suggested that explorations

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of applied behavioral research (i.e., satisfaction studies) were few and deserved far more scientific consideration and future study. In response to Lazarsfeld's call for research, much attention has been given to applied behavioral studies, which includes customer satisfaction.

"By the mid-sixties, modern consumer behavior had evolved from an underground status to a highly visible discipline, both professionally and academically" (Wilton & Nicosia, 1986, p.5). While scholars initiated research in this area, there was no real break-through until the mid-seventies when post purchase behavior became a topic of investigation.

The 1970's were by far the most important decade for the development of customer focused corporations. Hirschman's Exit Voice and Loyalty (1970), initiated this customer focused organizational philosophy as he discussed the importance of "customer voice" in maintaining a successful corporation. He proceeded to discuss the options a customer had when there were problems with various aspects of an organization or its products or services. Exit, voice and loyalty became the factors Hirschman utilized in assessing the future success of an organization.

According to Hirschman (1970), exit was defined as cases in which "some customers stopped buying the firm's products or some members just left the organization" (p.4). The results of this option are easily evidenced: "revenues eventually drop; membership declines; and management is impelled to search for ways and means to correct whatever faults have led to exit" (Hirschman, 1970, P.4). Voice, on the other hand, was the instance where "the firm's customers express their dissatisfaction directly to management or to some other authority to which management is subordinate or through general protest addressed to anyone who cares to listen" (Hirschman, 1970, p.4). In this case, management is able to identify the problem and search for a possible cure. This concept of customer voice became the focal point for those interested in a consumer sensitive organization. Loyalty was then described as "the extent to which customer-members are willing to trade off the certainty of exit against the uncertainties of an improvement in the deteriorated product" (Hirschman, 1970, p. 77). Due to this phenomenon, loyalty keeps customers from leaving the organization and therefore encourages the voice option. As Hirschman discusses the importance of "customer voice" he clearly identifies the connection between customer

satisfaction concerns and those of the field of communication. More specifically, he addresses the correlation between successful organizational communication and the ability to satisfy specific customer requirements.

Studies emphasizing voice (Gordon, Infante, & Gram, 1988; Stohl & Jennings, 1988) usually do so within the context of "employee" voice. Since Hirschman's theory includes "customer voice," it makes sense to import this concern to communication studies as well.

In 1980 Hirschman suggested turning the cost of voice into a benefit as he said, "While normally felt as a chore or cost which one tries to minimize or shirk, the activities connected with voice can on occasion become a highly desired end in itself." (p.432). He went on to say, "This means that voice can be expected to play a role in relation to those goods and in particular those dimensions of goods and services that have a strong public interest component" (Hirschman, 1980, p.434).

Ideas such as Hirschman's (1980) became the cornerstone for what we know today as a consumer-focused organization. These firms pay a great deal of attention to seeing that each customer is satisfied with every aspect of their corporate relationship. Klein (1980), in a reflection on

Exit Voice and Loyalty, identifies this literature as a critical first step in strengthening the opportunities for the voice option to be utilized by individual consumers.

Since the mid-eighties customer satisfaction has been the primary focus of many corporations internationally. Goodman (1989) defines customer satisfaction as "the state in which customer needs, wants and expectations, are met or exceeded, resulting in repurchase and continuing loyalty" (p.37). Hirschman (1970) notes that Simon suggested that "organizations usually aim at no more than a satisfactory rather than the highest rates of profit" (p.11).

Today, many corporations seek to improve the business process through conducting satisfaction research. Peterson & Wilson (1989) discuss a poll conducted in 1989 by Chief Executive in which 90% of the responding firms had customer satisfaction reflected in their mission statements. From this study we can surmise that corporations seek to balance profit margin and customer satisfaction.

Customer satisfaction is also a concern among those in the recent "quality" movement. "Quality today is defined by the customer"(Miller, 1992, p.4). Miller (1992) feels that the challenge corporations are faced with is to determine whether or not their customers are satisfied with the

company's policy, products or service. Today, customer service strategies are prominent in most strategic organizational policies. Evidence suggests that products superior in quality and service produce higher levels of customer satisfaction. Therefore, superior products and services result in greater financial profits (Daniel, 1992).

According to Thompson, DeSouza, and Bradley (1985), the Profit Impact of Marketing Strategy (PIMS) model of the Strategic Planning Institute shows a strong correlation between a business's profitability and the perceived quality of its products and services. From these strategic plans, we have a customer-centered strategic planning process which assumes that market share is built one satisfied customer at a time. Placing the customer at the center of the planning process means that the customer must constantly change with the organization. What customers do and think become important variables in the strategic planning process causing the organization to change due to customer input.

Listening and adjusting to customer opinions ultimately affects the future success of an organization. Without return business, most firms will not survive. While organizations in recent decades have implemented various methods to observe, monitor and measure customer

perceptions, there seems to be no one universally accepted methodology (Pangan, 1984). According to Garvin (1987), there have been eight critical dimensions used as a framework for the strategic analysis of customer satisfaction: 1) performance, 2) features, 3) reliability, 4) conformance, 5) durability, 6) serviceability, 7) aesthetics and 8) overall perceived quality. These concepts are used as variables to interpret customers' feelings and concerns amounting to specific levels of customer satisfaction.

While the above eight categories are crucial in measuring customer satisfaction, perceived quality may be the most important characteristic in maintaining current customers. Because consumers do not always have complete information about a product's attributes, indirect measures may be the only means for comparing brands.

> Reputation is the primary stuff of perceived
> quality. Its power comes from an unstated
> analogy: that the quality of products today is
> similar to the quality of products yesterday, or
> the quality of goods in a new product line is
> similar to the quality of a company's
> established products (Garvin, 1987, p.107).

Defining the elements of customer satisfaction is only the first step in actually uncovering the consumer's needs, wants, or perceptions. Measuring customer satisfaction begins a complex series of statistical events which lead to conclusions about the customer population of a specific organization. Measuring customer satisfaction levels should allow an organization to: 1) know how well the business process is working; 2) know where to make changes to create improvements, and 3) determine if the changes led to improvements.

Once the questionnaire is designed and the data is collected and analyzed, a benchmark study is established from which future results can be compared. From this initial study as well as subsequent ones, customer requirements are identified and tracked through a variety of methods. The purpose of such programs is to allow the firm a macro view of the customer's voice. This macro view allows the organization to generalize the research findings so that an overall customer profile is created. In order to obtain a micro view of the organization's customers, open-ended questions are administered within the survey instrument to find out what specific customers think about products or service. These ongoing customer satisfaction

programs provide a look at the trends, problems, and needs
of the customer over a period of time, enabling a firm to
monitor its own progress, service, and perceived levels of
customer satisfaction. These methods can be applied to both
product and service industries.

Headley and Choi (1985) suggest that the application of
some basic ideas from statistical control philosophies can
improve service quality. They go on to say that "the
identification and analysis of gaps in perceptual
differences between customers and service providers is
discussed as a method for implementing a statistical control
philosophy in a service setting" (Headley & Choi, 1985,
p. 5). For the purposes of this research, a similar gap
analysis was used to identify the distortion between actual
customer satisfaction scores and the employee's perceptions
of customer satisfaction.

Vertical Communication

Vertical communication is communication that moves up
and down the lines of authority. Instructions move down,
while information moves up to upper level management
(Simpson, 1965). When two individuals on the same level
communicate, they are supposed to do it indirectly. Simpson

(1965) explains "If Supervisor A must communicate with Supervisor B, the communication goes up one chain from A, then down another to B, with their common superior linking them at the top" (p.746). According to this method there is minimal direct contact between equals except for informal talk. Classically, organizations are designed so that information is to be sent up the hierarchical chain of command until it reaches the proper executive.

In a situation where front line employees (those in direct contact with the customer) are sending information upward regarding the specific wants or needs of the client, a variety of factors such as distortion and omission could impair this upward message until it becomes almost worthless. Danseareau and Markham (1987) identify upward distortion as "the propensity of persons of lower hierarchical rank to distort messages transmitted to a person of higher organizational levels" (p. 346). This distortion has been related to several superior and subordinate characteristics. Among these characteristics are message factors, relational issues, and organizational variables. Findings also show that subordinates often hesitate to communicate upward information that is unfavorable or negative to themselves (see Glausser 1984;

Jablin, 1979). The problems stemming from such hesitation

will negatively affect any corporation, specifically those

which are customer focused.

Read (1962) addresses motivational and attitudinal

factors which affect the accuracy with which members at one

administrative level communicate upward to a higher level.

Looking at three major industrial firms in the United

States, Read set out to prove that the greater the influence

the upward mobility subordinate perceived his superior to

have, the greater would be the subordinate's tendency to

withhold problem-related information (Read, 1962).

The results of this study supported the predicted

negative relationship between mobility and accuracy of

upward communication. In sum, the results of Read's study

(1962) produced two major findings; (1) the stronger the

mobility needs among executives, the less accurately they

communicate problem related information; and (2) the

possibility of upward advancement in the hierarchy will

cause message distortion when the message can be interpreted

negatively towards the sender. Therefore, one can say that

internal motives and attitudes within an organization's

membership will affect the way these members exchange work-

related information with each other. Stated differently,

vertical communication will be distorted in instances where the sender's message can be interpreted as negative by the receiver.

Rosen and Tesser (1970) address the "MUM" effect in their study on the communication of undesirable information. This experiment consisted of respondents making paired-comparisons on a number of dimensions of men's deodorants. While completing this task, subjects were exposed to a message which told a single subject to call home immediately for some very bad or good news. When the subject returned the dependent measure consisted of whether or not he/she conveyed all or part of the message, and whether he/she explained this message spontaneously or after a probe. A post-experimental questionnaire was finally administered and the purpose of the study was explained to the subjects.

The results of this research indicate that information considered to be "noxious" to a particular person or group have little chance of being communicated (Rosen & Tesser, 1970, p. 253). As predicted, respondents communicated more good news than bad. Therefore, this research suggests that individuals will be reluctant to communicate undesirable information which may somehow effect the immediate relationship between the sender and receiver.

Message distortion can be intentional or unintentional (Cohen, 1958; Kelley, 1951; Rosen & Tesser, 1970). Breed (1955) notes that "distortion usually involves omission, differential selection, and preferential placement rather than prevarication" (p.328). Based on these premises, vertical communication research, and the impact of trust on the flow of communication, O'Reilly and Roberts (1974) examined the distortion of vertical and horizontal messages within an organization. Unlike Read's (1962) research which addressed motivational and attitudinal factors in relation to message distortion, this study focused on the selective filtration or omission as a mechanism for distortion.

The results of O'Reilly and Robert's (1974) research supported or partially supported several of the hypotheses. Specifically these results suggest that: 1) unfavorable and unimportant information is held back from upper levels of management in hierarchical organizations; 2) more favorable information is passed upward than downward; 3) when the sender trusts the receiver more negative information will be communicated upward.

From this conclusion we can see that trust influences upward information filtration more than lateral or downward filtration. Interestingly, this research serendipitously

discovered that more total information is passed horizontally than vertically. This finding challenges the assumption that hierarchies are effective in influencing communication to move up and down the chain of command.

While O'Reilly and Roberts' findings (1974) clearly show that information favorable to the sender is more likely to move upward, the converse of this statement is also true, that is, unfavorable information does not move upward. When the variable "trust" is added, message distortion significantly dampens. Thus, unfavorable, important information has a greater probability of being communicated upward when the subordinate has a greater level of trust in the superior. Finally, if information reflects unfavorably on the sender, the results indicate that there is a high probability of the message being distorted or withheld.

In a follow up study by O'Reilly (1978), two more hypotheses were advanced. Hypothesis 1 states that under conditions in which the sender has high trust in the receiver: more favorable-unimportant information will be leveled or suppressed than under conditions of low trust; and more unfavorable-important information will be sharpened than under conditions of low trust (O'Reilly, 1978). This hypothesis addresses the extreme conditions in which trust

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affects information flow. Hypothesis 2 states that under conditions in which the information flow is upward: more favorable-unimportant information will be sharpened than when the information flow is lateral or downward; and more unfavorable-important information will be leveled than when information flow is lateral or downward (O'Reilly, 1978). While the leveling of information refers to keeping information from upper levels of hierarchy, sharpening information means to overemphasize certain information, usually reflecting favorably on the sender.

The results of O'Reilly's (1978) research suggests that there is a bias towards screening unfavorable information and sharpening favorable information sent upward by members of an organizational hierarchy. By comparing the laboratory and field results it is clear that "the external validity of the findings is supported, showing trust as highly related to the use of distortion-producing mechanisms by senders" (O'Reilly, 1978, p.188).

In an organizational experiment which analyzed the content of messages written by subordinates to superiors, Krivonos (1982) discovered that unfavorable situations lead to greater message distortions than did favorable situations. Participants were presented with four stimulus

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situations and then asked to write a message to their supervisors. Results indicate that when the situation places the subordinate in an unfavorable light, the subordinate is more likely to distort that information into a more favorable message (Krivonos, 1982). These results were specifically related to task oriented situations. Krivonos (1982) posits that these distortions were directly related to the power of the superior to reward or punish the subordinate.

Krivonos (1982) further suggests that power to reward or punish has become the motivational force causing subordinates to distort unfavorable messages, suggesting that O'Reilly's (1978) results may have, in part, been a function of the power superiors have over subordinates. Campbell (1958) has also concluded that distortions are particularly likely when the superior has important power over the subordinate. Clearly, research suggests that interpersonal conditions such as power issues may contribute to vertical message distortion (Campbell, 1958; Rosen & Tesser, 1970; Krivonos, 1982).

Gaines (1980) also addresses the problem of upward message distortion by examining three factors thought to distort upward-bound messages: job situation; trust in the

immediate supervisor; and personal ambition. Gaines (1980) suggests the relationship between superiors and subordinates may be tempered by trust and personal aspirations. Hypothesis 1 stated: Job situation, trust, and ambition account for significant variance in projected frequency of upward communication. Hypothesis 2 stated: Job situation, trust, and ambition account for significant variance in the number of upward communications distorted by employees.

Gaines (1980) surveyed college freshmen for test development purposes. Organizational members were then surveyed according to the pretest results. The purpose of the pretest was to identify job related situational problems within an industrial organization. Thirty participants were asked to complete a questionnaire attempting to identify day-to-day job-related problems. The questionnaires were content analyzed and categorized according to various job-related situations. Results indicate that the most frequent job-related problems in industrial organizations are associated with poor inter-organizational communication. More specifically, upward message distortion was identified as being problematic to industrial organizations.

In a follow up study by Gaines (1980) using the identified situational problems, routine narratives were

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created to be used in a posttest-only controlled laboratory experiment. The sum was calculated for each distortion response and a list of assertions which might be distorted was created.

Next, a representative and stratified sample of 40 employees were taken from an organization. The laboratory setting was constructed within the organization as participants were assigned to treatment (problem) or control (neutral) situations during work hours (Gaines, 1980). Participants who received the treatment were presented with the narrative description of the problem discovered by the pretest. The control group received a description of the neutral situation, also uncovered by the pretest. Subjects were then asked to read the narratives and (1) indicate whether or not they would choose to inform their supervisor of the situation, (2) write a memo as though they were informing their superior of the narrative situation, (3) indicate how much trust they had in their supervisor, and (4) state their degree of ambition (Gaines, 1980).

While hypothesis 1 was not supported, hypothesis 2 was accepted. From these results it can be concluded that: (1) job situation, trust, and ambition do not adequately explain the projected frequency with which employees communicate

upward, but they do account for some message distortion; (2) the more trust and ambition people have, the less they are compelled to communicate routine messages upward; (3) withholdings are the most prevalent type of distortion; and (4) the more trust and ambition subjects have, the less they are compelled to withhold problems from superiors (Gaines, 1980).

Studies in vertical communication suggest that upward message distortion has been a problem in hierarchical organizations. Many times numerous factors such as trust, message content, individual aspirations, and power issues may effect the accuracy of vertical communication. From the above studies in vertical communication there is sufficient research to support the following statements: (1) the upward flow of communication will be distorted when message content can be interpreted as reflecting negatively on the sender; (2) perceptions of the receiver as having a great deal of influence or power can also be a source of message distortion; (3) trust in superiors will result in the upward relay of more important information; (4) more information is passed laterally or downward than upward; and (5) withholdings are the most prevalent form of vertical message distortion.

Studies by O'Reilly and Roberts (1974), O'Reilly (1978) and Cohen (1958), address the implications of vertical communication but do so within an experimental framework, independent of an actual organization. Gaines (1980) successfully incorporated power and vertical communication research but also utilized college freshmen within her pre-testing sample. Both Read (1962) and Krivonos (1982) chose to examine vertical communication distortion within an actual organizational setting. Read (1962) examined vertical message distortion within actual organizations in relation to trust and influence. He measured upward message distortion in relationship to the subordinate's perception of his/her supervisor. This research looks at an actual organization, unlike the above-mentioned studies, and illustrates the complexities of vertical communication in a true to life setting. Read (1962) deals with only one aspect of message congruence. However, there is agreement on the importance of specific issues raised by employees and their bosses. Krivonos (1982) also looks at hierarchical message distortion within an actual organization, but does so within the context of written communication.

Research in the area of customer satisfaction has defined and outlined how to measure and implement strategies

to assure and measure the levels of customer satisfaction
(Evelyn & De Carlo, 1992; Garvin, 1987; Miller, 1992).
Vertical communication research still holds that upward
message distortion is an ongoing problem in hierarchical
organizations and is in strong need of further analysis and
exploration (Cohen, 1958; Glausser, 1984; Jablin, 1979;
Kelley, 1951; O'Reilly & Roberts, 1974; O'Reilly, 1978;
Read, 1962).

Justification

While there has been a great deal of communication
research conducted within the superior-subordinate context,
a close look at the above research shows that there has been
sparse empirical research done specifically in the area of
upward communication. Within the past decade no new
research has been conducted. While more recent studies by
Danseareau & Markham (1987) and Glausser (1984) lay out the
theoretical implications of vertical communication, they do
not add to the corpus of empirical studies. In spite of
this recent lack of interest, the issue is central to
organizational communication study and is covered in almost
all of the organizational text books.

Previous studies have not involved the customer in relation to vertical message distortion. The majority of vertical communication research studies have consisted of theoretical debate and controlled laboratory experiments. This is true in spite of Hirschman's (1970) concern that "the voice option enables management to search for the causes and possible cures of customer's dissatisfaction" (p.5). Monitoring the customer's voice allows an organization to change and better satisfy the needs of the customer. The purpose of this study was to: (1) for the first time, study vertical communication theory within the context of customer satisfaction and customer voice; and (2) conduct an empirical study on a topic typified by laboratory simulations and theoretical musings.

Hypotheses

Today, most organizations designate specific departments to address customer concerns, problems, and complaints. Typically these departments are known as technical support, customer service, or customer care departments. Rarely is management required to communicate directly with the customer. For the majority of upper managers; job responsibilities; decision making; and time

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constraints limit opportunities for customer contact; many
times there is no contact at all. Because upper-management
has little opportunity to engage in contact with the
customer, hypothesis 1 addresses customer contact.

H1:   The amount of communication between non-management

personnel (lower level employees) and customers

is greater than that of upper management

personnel and customers in terms of both hours per

week and days per week in contact with customers.

According to studies in vertical communication,
Hypothesis I posits that non-management personnel should be
better predictors of customer satisfaction because these
non-management employees engage in more verbal customer
contact. Without customer contact, how can upper-management
make decisions which ultimately affect the organization's
customers? Upper management has traditionally been the
decision maker within the organization. Therefore, their
distance from the customer may become a problem. Because of
this distance, upper management is forced to rely on
information from middle or lower management, who tend to
restrict or distort upward messages. In summation, the

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above argument postulates that as employee contact increases with the customer, so will the ability to predict customer satisfaction. Formally, hypothesis 2 predicts:

H2: Lower level employees will be better predictors of customer satisfaction than upper-level management as measured by (a) gap scores, and (b) their scores on the customer satisfaction quiz.

It is a premise of this research that as the communication gap between employee personnel and the customers decreases the ability of employees to predict customer perceptions will increase. Therefore, as the contact with the customer increases (independent variable), so will the ability to accurately predict the levels of customer satisfaction (dependent variable). The accuracy in predicting such levels should be reflective of how far removed the subject is from the customer. The higher the subject is in the hierarchy, the further he/she is from the customers voice. Therefore hypothesis 2 is based on the assumption that the higher the individual is on the hierarchical chain of command the less he/she is in contact with the customer. Front line employees (those in contact

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with the customer) should be better able to predict levels of customer satisfaction than upper management who are several hierarchical steps removed from the same customer. Hence, without communicating with the customer, upper management may be unable to accurately predict customer satisfaction or address critical customer concerns.

Chapter II

Methods and Procedures

Research Methodology

This chapter presents a description of the research methodology, including the creation of the customer satisfaction index, the employee questionnaire and quiz, sample population selection, and data collection.

Research Site

This study was conducted in a mid-size telecommunications corporation in southern California with approximately 700 employees. The corporation has been providing customers with cellular service for the past 12 years. For the past four years this organization has implemented a customer satisfaction program which measures specific aspects of customer satisfaction ranging from product reliability to the servicing of the product. The organization has five hierarchical levels of management within its organizational structure. Operationally, the hierarchical line of authority begins with vice presidents and directors followed by middle managers, supervisors,

customer relations staff, and clerical assistants. Each

level received equal representation in this study.

Customer Satisfaction Index

The first group of participants consisted of customers

from the telecommunications corporation. Results from a

pre-existing Customer Satisfaction survey were gathered and

tabulated. The customer surveys were distributed by mail

along with each customers monthly billing statement.

Customers responded to the self-administered survey and

returned it along with their monthly bill. The response

rate for this survey was approximately 22%.

Using a four point Likert type scale, participants

(customers) were asked to rate thirteen dimensions of

organizational quality as related to their own experiences

(See Appendix 1) for a copy of the questionnaire). Each

respondent was asked to report his/her perception/attitude

on a four point scale with 1 representing "very

dissatisfied" and 4 representing "very satisfied." There

were 889 respondents. Mean scores for each of the thirteen

items were tabulated and averaged to produce a 13 item

customer satisfaction index with satisfactory reliability

(Cronbach's alpha= .97). The data gathered from these

customers represents the current state of customer
satisfaction within the organization.

Employee Perceptions of Customer Satisfaction: The Questionnaire

Next, the employee questionnaire was administered by
telephone to the second group of participants during normal
business hours. Employees from each hierarchical level
comprised this stratified sample. Participants were chosen
systematically from an organizational list provided by the
organization. Every other name from the list was asked to
participate in the study for levels 1, 2, and 3. For levels
4 and 5, each employee was asked to participate due to their
small population sizes.

The first 13 of the 53 questions were identical to the
organization's customer satisfaction survey (Cronbach's
alpha = .78) (See Appendix 2 for a description of the
questionnaire). Employees were asked to respond to these
thirteen questions as though they were customers of the
organization. For the purpose of comparison, a four point
scale similar to that of the organizations customer
satisfaction survey was employed. Questions were answered

on a scale from 1 to 4 scale with 1 representing "very satisfied" and 4 representing "very dissatisfied."

Employee responses were statistically compared to the actual customer responses. The "gap" for each item became the difference between the customer's mean score for an item and an employee's estimate of the mean. This was then used as a measure of the ability of the organization's employees to predict the specific levels of Customer Satisfaction.

Question 14 asked for the employee's job title. Question 15 asked if the employee had seen a copy of the customer satisfaction report. Question 16 asked if the employee's department was notified of its individual customer satisfaction rating. The following two questions identified how much verbal communication each employee had with the average customer. Question 17 asked how many hours per week respondents were in verbal contact with the customer. Question 18 asked how many days per week respondents were in verbal contact with the customer.

Calculation of Customer / Employee Gap Scores

The difference between one communicator's understanding and the prediction of that understanding by a second communicator constitutes the communication gap. The

measurement of this gap is the difference in mean scores between specific levels of customer satisfaction and predictions of these levels by particular employee groups.

Responses to the first 13 items on the employee questionnaire were tabulated according to hierarchical level. For each level scores were summed and a mean "gap" score was then calculated for each of the five levels. These results provide a measure of each level's ability to predict organizational customer satisfaction. Level one consists of Executive Assistants and clerical employees (n = 10). Level two employees were labeled "front line" because they were in direct contact with the customer as a primary function of their job description (n = 16). Supervisors who directly managed level two comprised level three (n = 8). Level four consisted of Middle Managers (n = 9). Level 5 consisted of Directors and Vice Presidents (n = 9).

The differences between like variables (i.e., satisfaction with product reliability) on the two instruments constituted the "communication gap" between employee groups and the customers surveyed. This analysis was computed for both individual items and group scores. The difference in scores for the 13 items between the employee predicted scores and the customer satisfaction

survey were added. This index became the unit for
comparison. Thus, the larger the number, the greater the
gap.

Employee Perceptions of Customer Satisfaction: The Quiz

The remaining 34 questions of the employee
questionnaire comprised the customer satisfaction quiz.
Multiple choice questions similar to those asked in the
organization's Customer Satisfaction survey were created and
administered along with the questionnaire providing a second
measure of the employees ability to predict customer
satisfaction. Quiz scores were calculated for each employee
participant and hierarchical level.

Chapter III

Data Analysis and Results

This section reports the results of the statistical analyses performed.

Data Analysis

The questionnaire and quiz were coded and analyzed using NCSS, a statistical computing program. The level of significance for all computations in this study was set at $\alpha = .05$.

To determine whether there was a difference in the amount of customer contact (Hypothesis 1) among the five hierarchical levels, analyses of variance were employed for questions 17 and 18 (days and hours in contact with the customer). Correlation analyses were also employed to determine the extent to which employees as a whole were able to predict levels of customer satisfaction with respect to days and hours per week in contact with the customer. This allowed for an analysis of the relationship between the amount of employee customer contact and the ability to predict customer satisfaction.

To examine the differences in the ability to predict
customer satisfaction among the five hierarchical levels
(Hypothesis 2), an analysis of variance was performed using
the customer/employee "gap" and customer satisfaction "quiz"
data. A Chi-square distribution was also computed to
identify differences among levels with respect to viewing
the customer satisfaction report. The purpose of this
analysis was to see if exposure to the customer satisfaction
report influenced the employee's ability to predict
satisfaction levels.

Hypothesis I: Customer Contact

As predicted, an ANOVA identified significant
differences in the 5 hierarchical levels with respect to
hours per week in contact with the customer [F (4,52) =
28.46, p < .0000]. These significant results support
Hypothesis 1. Table 1 presents hours per week in contact
with the customer by level.

The 5 hierarchical levels also differed significantly
with respect to number of days per week in contact with the
customer [F (4,52) = 4.26, p < .0050]. These results
provide further support for Hypothesis 1. Days per week in
contact with the customer by level is presented in Table 2.

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Hypothesis II: The Ability to Predict Customer Satisfaction

The results did not support Hypothesis 2 in that mean "gap" scores did not differ among the five hierarchical levels. The mean gap score was 7.81. These scores ranged from Supervisors who scored 7.23 to Middle Managers who scored 8.36. These scores do not differ significantly among the five levels of management at the .05 confidence level (F < 1, ns). Table 3 presents an ANOVA table for employee "gap" scores. Table 4 presents the customer and employee results for each of the 13 satisfaction items.

These results suggests that, within this organization, the ability to predict customer satisfaction is not reflective of the amount of individual customer contact. Therefore, customer related information may be communicated to employees through an alternative medium. In this case, the organization's customer satisfaction survey results may have allowed employees to understand the customers satisfaction levels regardless of actual customer contact.

The Customer Satisfaction Report

Question 15 asked who had seen the Customer Satisfaction Report. The higher the managerial level the

greater the number of respondents who had seen the report.

A Chi-square distribution was computed for each level.

These scores indicate significant differences among levels

$[\chi^2(4,52) = 16.2, \underline{p} < .05]$. Table 5 presents the percent

of employees who had seen the customer satisfaction report

by level.

Results from question 15 may provide some insight as

to why customers were able to predict levels of

satisfaction regardless of individual customer contact.

Hierarchical members may have been able to predict customer

satisfaction in contradiction to hypothesis 2 due to their

exposure to the bi-monthly customer satisfaction report.

Question 15 suggests that as employees move up the

hierarchical ladder and reduce customer contact, their

exposure to the customer satisfaction report increases.

Therefore within this organization employees receive

customer related information from either actual customer

contact or the customer satisfaction report.

The Customer Satisfaction Quiz

The 35 item quiz (See Appendix 2) was another

measurement of the employees familiarity with the customer.

The employees answered an average of 11 items

correctly. For examining quiz score differences among the 5 levels, an ANOVA was computed (See Table 6). No significant differences between groups was found at the .05 confidence level ($\underline{F} < 1$, ns).

Results from the quiz suggest that while hierarchical members were successful in predicting levels of customer satisfaction, they were less successful in responding to the customer quiz. The most likely explanation for these quiz scores may have been the inability to pre-test the quiz instrument. If pre-testing was possible, modifications in the test may have been made to improve the instruments reliability (Cronbach's alpha = .43).

Chapter IV

Discussion and Conclusions

The main purpose of this study was to identify gaps in communication between upper-management and non-management personnel within the contextual framework of a pre-existing Customer Satisfaction Program. Specifically, the study aimed to determine if upper-level employees were able to predict levels of customer satisfaction as well as lower level (front line) employees.

Hypothesis 1 was confirmed and defined who was in direct contact with the customer. It stated that the amount of customer contact between hierarchical levels is varied such that, lower level employees have more customer contact than upper management personnel. Therefore, the higher the subject is in the hierarchy, the less he/she was in actual contact with the customers.

Based on past vertical communication research and upward message distortion, Hypothesis 2 postulated: "Lower level employees will be better predictors of customer satisfaction than upper-level management." Assuming upward distortion from front-line employees to top management, the accuracy in predicting levels of customer satisfaction

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should have been reflective of how far removed the subject was from the customer. However, these results indicate that there is little difference in predicting accuracy between the five hierarchical levels.

Top management's ability to predict levels of customer satisfaction may be explained by either the positive response bias associated with satisfaction research, or the presence of the customer satisfaction program's results. According to Devlin, Dong and Brown (1994), satisfaction research typically contains a high degree of positive response bias. In this case, management may have also been influenced by this bias resulting in greater top box responses. Since the nature of satisfaction research seems to encourage high end responses, the positive response bias may therefore explain the employees ability to predict levels of satisfaction regardless of customer contact. Within this study, customers reported that they were very satisfied with the product and service provided by the organization. Similarly, employee responses consisted of very satisfied or top box scores in support of the positive response bias. The sense is that, in general, satisfaction responses are favorable.

While the positive response bias may have contributed to the findings of this study, management's ability to predict customer satisfaction was most likely due to the presence of the customer satisfaction survey results. As contact with the customer decreased, exposure to the satisfaction report increased. Therefore, the majority of employees in this organization either receive customer related feedback directly from the customer or from the customer satisfaction report.

Effects related to either customer contact or report access were most likely negated as higher organizational level employees who engage in little actual customer contact receive the customer satisfaction report as a supplement to customer contact. Customer feedback from both sources (customer contact and the customer satisfaction report) may have enabled this organization's employees to accurately predict levels of customer satisfaction in contradiction to hypothesis 2.

While this research only rejected one of the two null hypotheses, this might be explained by the presence of the customer satisfaction research report. According to hypothesis 2, upper management has very little contact with the customer. Due to this lack of direct communication,

theory suggests upper management should not be accurate
predictors of customer satisfaction. In this case, however,
messages related to customer feedback travel a new path to
top management. Unlike the traditional path in which
messages related to the customer are processed through the
various hierarchical levels, customer feedback is obtained
and passed on directly to upper management via customer
satisfaction studies. This new vehicle surpasses the
traditional hierarchical message path by utilizing a two
step process in which feedback goes directly from the
customer to upper management. This provides the
organizations decision makers with reliable customer related
information free of organizational distortion, filtration or
omission.

Limitations of the study

Measuring message distortion within the context of
customer satisfaction brings about several theoretical and
methodological implications. While organizational members
were successfully able to predict levels of satisfaction, it
should be noted that in general, employees were not as
successful in responding to the customer quiz. Respondents
were only able to answer an average of 11 of the 35 items

(31%) correctly (See Table 5). Since this quiz was developed exclusively from the organization's customer satisfaction survey, employees who have seen the customer satisfaction report should have been able to score better than those employees who have not seen the report. One explanation for these poor scores may be related to the construction of the instrument. Due to organizational constraints, the quiz was unable to undergo pre-testing. If pre-testing was possible, modifications in the test could have been made to improve the instruments reliability.

Even though the test instrument did not provide a reliable second measure of the employees ability to predict customer satisfaction, the following three questions, which relate to basic customer issues, should have elicited a greater number of correct responses. Question 20 asked employees in which area would the greatest number of customers express dissatisfaction. Only 34% of employees correctly responded that billing was the greatest concern for customers. The majority of respondents (55%) reported that Customer Care was the greatest customer concern. Question 21 asked respondents to report which products were owned by the majority of customers. Once again only 28% reported the correct answer (hand held portables). Question

24 asked employees to report the average customer income.
Only 18% chose the correct response ($100,000 per/year).

The above findings suggest that even with customer
related feedback, via the customer satisfaction study
report, top management was unable to: (1) accurately assess
current customer concerns; (2) profile their customer base;
or (3) identify which products are used by the majority of
their customers. While 100% of members at the executive
level reported that they had seen the customer satisfaction
report, their responses were no better than lower level
employees who have not seen the report. How then was
management able to predict levels of customer satisfaction
without understanding basic customer issues?

It may be that managers were able to accurately predict
satisfaction levels by merely reviewing the executive
summary of the bi-monthly customer satisfaction research.
Since this summary changes slightly and fails to report
demographic information, management may make reading this
report a low priority assuming the results remain
consistent. This may explain why management was able to
predict satisfaction levels without understanding basic
customer demographics.

While it was predicted that management would be unable to identify key customer concerns, it was assumed that front line employees would be able to identify these concerns due to their frequent interactions with the customer. It seems as though proximity had little effect on being able to identify customer concerns as all levels of respondents had equal difficulty answering the same questions. If in fact proximity to the customer did not improve the employee's ability to understand the customer, these results may lend support for conducting systematic customer satisfaction research in an attempt to better understand customer concerns throughout the entire organization.

The results to questions 20, 21, and 24 pose fundamental questions of satisfaction research. The purpose of this organization's customer satisfaction program was to monitor customer satisfaction in an attempt to keep top management informed of fluctuating customer concerns. Within this organization, employees were able to predict customer satisfaction levels but unable to identify basic customer demographics and concerns. Taking this into account, how beneficial is this organization's satisfaction research?

These findings also suggest that this organization may be focusing its efforts on low priority issues rather than key drivers of satisfaction as managers were unable to identify the most critical dissatisfier (monthly billing) of customer satisfaction. Therefore, low priority satisfaction issues may have been mistakenly identified by management as those areas critical to improving overall satisfaction levels.

Measurement Concerns

According to Devlin, Dong, and Brown (1994), four point satisfaction measurements like those used in this research have been found to have a positive response bias and poor discriminating power. Satisfaction measurements have been typically skewed toward the "top box" or positive end of the satisfaction scales. Additionally, this bias may have contributed to the employees ability to predict customer satisfaction. In this case, employees may not understand the customer as well as the 13 item quiz indicates. Future studies in satisfaction research may therefore consider addressing the positive response bias related to employees predictions of customer satisfaction.

Cybernetics and Future Research

Since both cybernetics and satisfaction studies are concerned with the analysis of customer feedback, future studies may also consider utilizing a cybernetic model as a functional model for satisfaction research. According to Weiner (1961), cybernetics is the science and control of communication. Within an organizational setting, cybernetics focuses on regulation, the control of communication, and the analysis of feedback. Cybernetics also deals with the ways systems gauge their effect and make necessary adjustments (Littlejohn, 1992).

The basic cybernetic process consists of a sensor, a comparitor, and an activator. The sensor's function is to provide feedback to the comparitor, which makes judgments on the operations of the system. The comparitor then provides the activator with information vital to change the process or outputs from the system (Littlejohn, 1992).

In the same way, satisfaction research attempts to gather feedback from the customer (sensor). This information is then analyzed by organizational members or consultants (comparitor) and recommendations are then made to top management (activator). These recommendations

typically attempt to change the state of the organization that produced a particular level of customer satisfaction.

Using the cybernetic model in future satisfaction research may allow this topic of investigation to expand and develop beyond the analysis of customer feedback. The cyclical nature of the cybernetic process may encourage this body of research to investigate beyond gathering and analyzing satisfaction data to exploring how organizations use this information to improve both the business process and levels of customer satisfaction.

Future studies involving satisfaction research may choose to include in-depth qualitative research. The purpose of this critical first step would be to identify those particular dimensions of customer satisfaction most relevant to the customer in addition to those dimensions identified by the organization. In this way, those variables directly affecting customer satisfaction become the measured variable.

Future research may also attempt to analyze both internal and external communication at various organizational levels in an attempt to identify message distortion by analyzing actual communication. This qualitative approach would provide actual communication

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variations or distortions as both internal and external
messages are transmitted throughout the organization.

Finally, it should be noted that there has been very
little empirical research in vertical communication and
upward message distortion specifically within the past
decade. Today, new managerial philosophies and technologies
have restructured the traditional organizational hierarchy.
Message flow has changed and now travels through more
technological channels (i.e., e-mail, conference calls,
telecommunication networks, the Internet). While these new
technologies have become an important part of corporate
communication, how have they affected vertical
communication? Have these new vehicles reduced message
distortion or contributed to an existing problem? Future
research addressing vertical communication and message
distortion should therefore include an analysis of these new
technologies and approaches. Unlike past research, future
studies might also be conducted in actual organizations
improving the generalizability of the research. One
specific topic might address the communication of "quality"
within an actual organization. This study might track
actual quality related messages throughout the organization
internally as well as externally. New technological

vehicles for communication (i.e., telecommunications

networks, e-mail) should be observed and vertical

communication may then be analyzed within this new context.

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Appendix 1

Customer Satisfaction Survey

Please respond to the following questions so our organization can better serve you in the future. The following questions can be answered on a scale of 1 - 4 with 1 representing very satisfied and 4 representing very dissatisfied.

very satisfied 1	somewhat satisfied 2	somewhat dissatisfied 3	very dissatisfied 4

1. The overall experience with the company.

   1 2 3 4

2. The selling skills and professionalism of the sales representative.

   1 2 3 4

3. The installation and programming of the product.

   1 2 3 4

4. The quality of the equipment.

   1 2 3 4

5. The follow up and service after the sale.

   1 2 3 4

6. The courtesy you are treated with each time they call.

   1 2 3 4

7. The assistance provided by the Customer Service Representatives.

   1 2 3 4

8. The format and ease of understanding the
   monthly bill.

   1 2 3 4

9. The accuracy of the monthly bill.

   1 2 3 4

10. The systems accessibility.

    1 2 3 4

11. The systems transmission quality. (Are their
    conversations constantly clear.)

    1 2 3 4

12. The systems coverage(geographically).

    1 2 3 4

13. The overall value of service.

    1 2 3 4

Appendix 2

Employee Quiz

INTRODUCTION

Hello, my name is _____ and I'm calling as a part
of a Customer Satisfaction Program Audit.
- The purpose of the Audit is to find out if information
  about the customer is getting through to all
  employees.
- The interview will take about 10 minutes.
- Your responses will be kept confidential and you will
  remain completely anonymous.
- Do you have any questions?

The first questions can be answered on a scale of
1 - 4. please respond as if you were the typical
customer.

very satisfied	somewhat satisfied	somewhat dissatisfied	very dissatisfied
1	**2**	**3**	**4**

1. The overall experience with the company.

   1 2 3 4

2. The selling skills and professionalism of the
   sales representative.

   1 2 3 4

3. The installation and programming of the product.

   1 2 3 4

4. The quality of the equipment.

   1 2 3 4

5. The follow up and service after the sale.

   1 2 3 4

6. The courtesy you are treated with each time they call.

   1 2 3 4

7. The assistance provided by the Customer Service
   Representatives.

   1 2 3 4

8. The format and ease of understanding the
   monthly bill.

   1 2 3 4

9. The accuracy of the monthly bill.

   1 2 3 4

10. The systems accessibility.

    1 2 3 4

11. The systems transmission quality. (Are their
    conversations constantly clear.)

    1 2 3 4

12. The systems coverage(geographically).

    1 2 3 4

13. The overall value of service.

    1 2 3 4

14. Your job title is _____.

15. Was the Customer Satisfaction report circulated to you?
    1. Yes
    2. No

16. Is your department as a whole notified of its Customer
    Satisfaction rating?
    1. Yes
    2. No

17. How many **hours** a week are you in verbal contact with
    customers _____?

18. How many **days** a week are you in verbal contact with
    customers _____?

19. Which area would the customer say has slipped recently
    in satisfaction?
    1. Sales Follow-up
    2. Billing Accuracy
    3. Transmission Quality
    4. Equipment Quality

20. In which area will the greatest number of customers
    express dissatisfaction?
    1. Monthly Billing
    2. Customer Care
    3. System Performance
    4. The Purchase of their product

21. The majority of products owned are
    1. Mobile Phones
    2. Hand Held Portables
    3. Transportable Phones

22. The largest number of customers are
    1. Self Employed
    2. Managers/Professionals/Executives
    3. Craftsmen
    4. Technical Sales Personnel

23. What age are most customers?
    1. 55+
    2. 45-54
    3. 35-44
    4. 18-34

24. The most common customer income is
    1. Over $100,000
    2. $76-100,000
    3. $51-75,000
    4. $36-50,000

25. Over the last 6 months what % of customers switched to
    the competitor?
    1 2.2%
    2. 12.4%
    3. 21%
    4. 4.4 %

26. Air time lately has
    1. Increased
    2. Decreased
    3. Stayed the Same

27. Over the last 6 months customer satisfaction is
    1. increasing among users.
    2. decreasing among users.
    3. not changing

28. Which of these areas will the greatest number of
    customers experience satisfaction?
    1. Customer Care
    2. System Performance
    3. Installation and Programming
    4. Monthly Billing

29. Which of these areas would the most customers satisfied
    with?
    1. Transmission Quality
    2. Accessibility
    3. Coverage

30. In terms of Customer Service which area would the most
    customers be satisfied with?
    1. Courtesy of CSR's
    2. Quality of assistance.

31. In terms of purchasing a cellular phone, which area
    would the most customers be most dissatisfied with?
    1. Equipment Quality
    2. Follow-up after the sale
    3. Installation and Programming
    4. Sales and skill of representative

32. Generally most customers would fall in this Air-Time
    category.
    1. 292+ Minutes Per month
    2. 120-292 minutes per month
    3. 37-120 minutes per month

33. Which group would include the fewest number of dissatisfied customers?
      The group using the system:
   1. 0-36 min
   2. 37-.120.5 min
   3. 120.6-292 min
   4 292+ min

34. During which season do customers have the least air time?
   1. Spring
   2. Summer
   3. Winter
   4. Fall

35. Customers would say problems with Installation and Programming are
   1. Common
   2. Occasional
   3. Almost non-existent

36. Customers would say problems with Coverage are
   1. Common
   2. Occasional
   3. Almost non-existent

37. Which area of business do the majority of customers belong to?
   1. Corporate Business sector
   2. Media Communications
   3. Insurance
   4. Real Estate
   5. Construction

38. Which of the following best describes the typical customer?
   1. Management
   2. Sales
   3. Self Employed
   4. Craftsmen
   5. Housewife

39. Are customers more satisfied with
    1. their systems performance
    2. the accuracy of their monthly bill
    3. the service care they receive

40. Generally speaking, customers would say they are
    1. Very satisfied
    2. Somewhat Satisfied
    3. Somewhat Dissatisfied
    4. Very Dissatisfied

41. Customers feel that Equipment Quality is
    1. superior to the Transmission Quality
    2. superior to Installation and Programming
    3. superior to Billing Format

42. Customers feel that
    1. Coverage and Transmission Quality are poor
    2. Equipment quality is poor
    3. The skill of the sales representatives poor
    4. The installation and programming of new systems is
     poor

43. Customers typically have been
    1. Dissatisfied with service
    2. Dissatisfied with Transmission Quality
    3. Dissatisfied with installation
    4. Dissatisfied with the service representatives

44. The biggest problem for customers is
    1. Service after the sale
    2. Coverage
    3. Equipment quality
    4. Monthly Billing

45. Typically customers feel that System Performance is
    better than
    1. billing format
    2. customer care
    3. courtesy of the service representatives
    4. System Performance is better than none of the above

46. The installation and programming of new systems has
    1. never been a problem for customers
    2. recently become a problem for customers
    3. always been a problem

47. The service provided by the sales people has
    historically been
    1. excellent
    2. good
    3. fair
    4. poor

48. The accessibility of phone systems is
    1. a problem
    2. not a problem
    3. was once a problem but is not now

49. Which category generates the most complaints?
    1. Pricing issues
    2. Blockage problems
    3. Billing
    4. Dropped Calls

50. Roaming complaints are
    1. common
    2. occasional
    3. Almost non-existent

51. Positive billing comments are
    1. common
    2. occasional
    3. Almost non-existent

52. Customers complain more about billing problems than
    1. coverage issues
    2. Transmission issues
    3. Pricing issues
    4. Blockage Complaints

53. What percent of customers would say they need an
    additional rate plan
    1. 76-100%
    2. 51-75%
    3. 26-50%
    4. 0-25%

Table 1

Analysis of Variance for Hours per Week in Contact with the
Customer by Organizational Level

Source	df	Sum-Squares	Mean Square	F	
Between groups	4	12516.64	3129.15	28.46	0.00
Within groups	47	5168.44	109.96		

Note. The difference among groups is statistically
significant at the .05 confidence level (F = 28.46, p =
.0000, df = 4).

Table 2

Analysis of Variance for Days per Week in Contact with the
Customer by Organizational Level

Source	df	Sum-Squares	Mean Square	F	
Between Groups	4	62.70	15.67	4.26	0.005
Within groups	47	172.80	3.67		

Note. The difference among groups is statistically
significant at the .05 confidence level (F = 4.26,
p = .0050, df = 4).

Table 3

Analysis of Variance for Communication Gap Scores Among

Customers by Organizational Level

Source	df	Sum-Squares	Mean Square		F
Between groups	4	5.43	1.35	.54	0.7043
Within groups	47	117.33	2.49		

Note. No significant differences among groups was found at the .05 significance level (F = .54, p = .7043, df = 4).

Table 4

Scores for the 13 item satisfaction measure

		Customers n = 889	Level 1 n = 10	Level 2 n = 16	Level 3 n = 8	Level 4 n = 8	Level 5 n = 9
Q.1	M	1.70	1.50	1.90	1.80	2.20	2.00
	SD	0.48	0.52	0.61	0.46	0.44	0.30
Q.2	M	1.70	2.00	2.40	2.00	2.60	1.90
	SD	0.61	0.81	0.80	0.53	0.72	0.60
Q.3	M	1.80	1.80	2.00	1.60	2.50	2.30
	SD	0.48	0.63	0.68	0.51	0.5	0.66
Q.4	M	1.60	1.40	1.30	1.00	1.80	1.40
	SD	0.48	0.51	0.44	0.00	0.44	0.48
Q.5	M	2.10	1.70	2.10	2.30	2.60	2.30
	SD	0.65	0.67	0.80	0.70	0.48	0.70
Q.6	M	1.50	1.70	1.70	1.50	2.30	2.10
	SD	0.81	0.82	0.47	0.53	0.86	0.72
Q.7	M	1.60	1.80	1.80	1.50	2.20	1.80
	SD	0.64	0.78	0.57	0.53	0.83	0.50
Q.8	M	1.50	1.70	1.90	2.00	1.80	1.70
	SD	0.86	0.67	1.06	0.75	0.83	0.66

Q.9	M	1.60	1.60	1.50	1.10	1.60	1.60
	SD	0.69	0.96	0.73	0.35	0.72	0.66
Q.10	M	2.00	2.00	1.60	1.80	1.70	2.00
	SD	0.49	0.94	0.61	0.70	0.50	0.48
Q.11	M	2.10	1.80	1.60	1.60	2.20	1.20
	SD	0.77	0.63	0.51	0.51	0.66	0.70
Q.12	M	2.10	1.30	1.40	1.50	1.40	1.20
	SD	0.58	0.48	0.50	0.75	0.52	0.44
Q.13	M	1.60	1.40	1.40	1.50	1.30	1.30
	SD	0.55	0.69	0.61	0.75	0.50	0.50

Note. The above are mean scores for each level.

Table 5

Employees Who Have Seen the Customer Satisfaction Report

	Number of Employees Who Have Viewed the Report	Percent of Employees Who Have Viewed the Report
Level 1	2	20%
Level 2	6	38%
Level 3	6	75%
Level 4	6	67%
Level 5	9	100%

Note. Percentages were calculated according to the total number of participants for each level.

Table 6

Analysis of Variance for Employee Customer Quiz Scores by
Organizational Level

Source	df	Sum-Squares	Mean Square	F	
Between groups	4	50.02	12.50	1.30	0.28
Within groups	47	450.64	9.58		

Note. No significant differences among groups was found at
the .05 significance level (F = 1.30, p = .2821, df = 4).