

**MEASURING EMPLOYEE ATTITUDES
TOWARD THEIR PHYSICAL ENVIRONMENT**

by

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I. INTRODUCTION

Architecture may be defined as the manipulation of forms and materials for the creation of physical environments conducive to its users. However, many spaces appear to be designed arbitrarily, forcing the user to conform to what is there. This does not necessarily imply that the architect has no regard for the needs and desires of the users, but rather, he often assumes what these needs and desires are without first substantiating and testing his set of assumptions.

The lack of congruency between needs and users seems to be especially prevalent in the design of work environments. Often times, the architect will design work environments emphasizing those aspects, functional or aesthetic, which he considers important to the employee. Although it is impossible to design work environments that are totally conducive to whomever may use them, it should be possible to determine which features in the work environments various employee groups feel are important and therefore should be emphasized.

The physical environment, according to Herzberg, is a potential dissatisfier. Very few attempts have been made to

obtain employee responses toward their physical environment,¹ and thus, methods for obtaining information are not well established in the design fields. If the worker's environment is not congruous with his needs, the frustrations can interfere with productivity and job satisfaction, contributing to excessive turnover.² Thus, the designing of work environments better suited to employee needs are important in preventing job dissatisfaction.

This particular study will evaluate the questionnaire as a potential instrument through which to measure employee attitudes about their physical environment. The questions were derived from extensive interviews and standard social science procedures were followed in the development and administration of the instrument.

The case chosen for the study is the convention hotel. The history of the industry was explored as well as interviews and on site observations conducted by the researcher prior to the development of the questionnaire. The convention hotels were selected as appropriate for the evaluation procedure measuring employee attitudes toward their physical environment because:

¹One such study is the State of California Health and Welfare Agency, Department of Health, Space Planning and Environmental Analysis by Daniel, Mann, Johnson, and Mendenhall, 1976.

²Frederick Herzberg, The Motivation to Work, John Wiley & Sons, New York, 1959.

1--Hotels experience an unusually high labor turnover rate;

2--A wide range of occupations are employed by the convention hotels; and,

3--Convention hotels are the fastest growing sector of the lodging industry.

The analysis of the questionnaire established relationships between features considered important in the work environment and the various employee groups in the hotel for use as guidelines in the design of work environments.

II. BACKGROUND

Hotel Types

There are four major classifications of hotels. The first classification is the "commercial" hotel. This hotel is normally located in an urban center and caters to the needs of the businessman. The atmosphere is very formal and efficient service is stressed. Its guests are of a transient nature, the average length of stay being two to three days.

The second type, the "motel-motor" hotel, is easily visible from the road and serves the automobile patron. It is generally regarded as a quick stopping-over place for the traveller. The atmosphere tends to be relaxed and informal.

The third classification, the "resort" hotel, is situated in a scenic or historic area and provides relaxation, recreation, and comfort to its guests. The average length of stay ranges anywhere from one week to several months, and very often, its guests combine business with the recreational activities available.

The fourth classification is the "convention" hotel, established in the late 1960's when incentives for group travelling (air travel and accommodation discounts for groups, tax deductions for business conventions, etc.)

became more and more prevalent. The convention hotel is generally built about the highly lucrative and highly vied for group business of the combined businessman and vacationer. The convention hotel is usually located in a principal population, trade, or resort center. This classification includes many resort and commercial hotels which have the staff (sales, promotion, catering, etc.) and facilities (meeting rooms, banquet halls, etc.) available to attract and handle large groups of people.

Whereas a large portion of the commercial, resort, and motel-motor hotels are independently owned and operated, the majority of convention hotels are franchised by the larger hotel chain owners. Advertising costs, additional payroll expenses, and the large amounts of space needed to accommodate the various activities of the convention hotel are just some of the factors which make it unfeasible for the smaller, independently owned hotel to actively compete in this market.

These parameters, however, have not handicapped the growth of convention hotels. As shown in Table 1, the number of convention hotels has increased approximately 4.5% per year, in spite of the 1.7% yearly decrease in the number of lodging establishments. Similarly, the number of employees in the convention hotel sector has steadily risen. In 1977, it comprised 25.9% of the lodging industry's work

TABLE 1

COMPARATIVE GROWTH OF THE CONVENTION HOTEL
AND THE LODGING INDUSTRY IN THE UNITED STATES

	<u>NUMBER OF ESTABLISHMENTS</u>			<u>AVERAGE % CHANGE</u>	
	1972	1976	1977	1972-77	1976-77
Convention Hotel ¹	875 (2.1%) •	1005 (2.7%)	1072 (2.9%)	+4.5	+6.7
Lodging Industry	40,837 ²	37,825 ³	37,410 ³	-1.7	-1.1

	<u>NUMBER OF EMPLOYEES</u>			<u>AVERAGE % CHANGE</u>	
	1972	1976	1977	1972-77	1976-77
Convention Hotel ⁴	167,125 (23.5%)	191,955 (24.2%)	204,752 (25.9%)	+4.5	+6.7
Lodging Industry	711,051 ²	792,000 ³	792,000 ³	+2.3	0.0

•% of lodging industry

¹American Hotel and Motel Association, Hotel-Motel Redbook, 1972, 1975, and 1976 Editions, New York.

²US Department of Commerce, Bureau of the Census, 1972 Census of Selected Service Industries: Hotels, Motels, Trailering Parks, and Camps, Washington, DC: Government Printing Office 1972.

³American Hotel and Motel Association, Statistical Information Division, 888 7th Ave, New York, April 1978.

⁴Estimated figures based upon an average of 191 employees per convention hotel. The Average number of employees figure is derived from percentages presented by Donald E. Lundberg, The Hotel and Restaurant Business, Cahners Books, Boston 1974, p. 23.

force. Convention hotels have become a more dominant part of the lodging industry; as long as group travelling remains attractive, continued growth is predicted.³

History

Hotels are generally speculative investments, built and operated for profit. Traditionally, profit margins have been based upon the prevailing high level of consumer spending and the availability of low cost labor⁴. Hotel managements have capitalized upon this by allocating large amounts of money to the creating and sustaining of environments conducive to the anticipated needs of potential patrons while at the same time, allocating minimal expenditures to the non-public, non-revenue producing back-of-the-house work areas. This arrangement had resulted in a constant and substantial earnings ratio between the dollars received from sales and the dollar spent on labor.

³James Grant, "The Inn Group: Prospects for the Lodging Trade are Good But Not Great," BARRONS, February 6, 1978; Laventhol & Horwath, U.S. Lodging Industry, 1977 Edition, Philadelphia 1977; James Meagher, "Up, Up, and Away: Airline Revenues, Earnings are Winging to New Highs," BARRONS January 9, 1978.

⁴Edward A. Kazarian, Work Analysis and Design for Hotels, Restaurants, and Institutions, The Avi Publishing Co., Westport, Conn. 1969, p. 4.

However, in the late 1950's, there was a rapid decrease in consumer spending and a subsequent increase in labor costs.⁵ Profits diminished and hotel managers analyzed their operations more critically. Guest room rentals continued to provide the largest source of income at 55-60%, but, labor expenditures of 45-50%⁶ negated large profits. Consequently, hotel managements found it increasingly necessary to concern themselves with minimizing labor related expenses (wages, salaries, productivity, and turnover).

Attempts to minimize labor costs in the hotel industry largely began in the early 1960's. Initially, studies have explored and stressed increased employee work efficiency and productivity. Based upon time-motion studies of industry workers,⁷ hotel managements standardized work techniques and procedures as well as illumination, noise, and color intensity levels. However, as labor costs continued to increase, it became increasingly important to fully analyze the various factors influencing labor expenditures.

In the 1970's, the studies expanded to include analysis of the human factor, in particular, job satisfaction. Hotel

⁵Itid. Labor costs were escalating 1-2% faster than total sales per year.

⁶Laventhol and Horwath, U.S. Lodging Industry, 1977, Phil, Penn, p. 15.

⁷F. Taylor (1880), L. & F. Gilbreth (1900), A. Morganson (1930).

managements sought to determine employee needs and desires and their responses to various physical and mental environments. Extensive studies concentrating upon improved organizational set-up, employee/employer relationships, and managerial policy implementation address elements surrounding employee satisfaction in the mental environment.*

Attempts to analyze employee satisfaction to the physical environment, on the other hand, are still in their formative stages. Generally, these approaches involve evcking employee identification and evaluation of elements contributing to job satisfaction.

*Several sources are: M. J. Boella, Personnel Management in the Hotel and Catering Industry, Barrie & Jenkins Ltd., London 1974; M. M. Gruneberg, Job Satisfaction--A Reader, The MacMillan Press, London 1976; F. Herzberg, et al., The Motivation to Work, John Wiley & Sons, Inc., New York 1959; E. A. Kazarian, Work Analysis and Design for Hotels, Restaurants, and Institutions, The Avi Publishing Co., Inc., Westport, Conn 1969; D. Lundberg and J. P. Armatas, The Management of People in Hotels, Restaurants, and Clubs, Third Edition, William C. Brown Co., Publishers, Dubuque, Iowa 1974; W. Scholz, Profitable Hotel/Motel Management, Prentice Hall, Inc., Englewood Cliffs, NJ 1975; H. Witzky, Modern Hotel-Motel Management Methods, Ahrens Publishing Co., Inc., New York 1964.

Job Satisfaction

Job satisfaction ensues from the fulfilling of intrinsic and extrinsic needs. Intrinsic needs revolve about the desire for personal growth in one's occupation. Of importance are achievement, recognition, responsibility, participation, and advancement. Generally termed "motivators", these factors influence job performance and attitude.

Extrinsic needs address the expectations of employees in terms of job context. Acceptable salary, company policy, technical competence, interpersonal relations, and working conditions constitute contextual elements. "Hygienic" in nature, fulfillment of these factors lead to the prevention of job dissatisfaction. Realization of extrinsic needs is important for it serves as a base from which intrinsic needs evolve. This is not to say that hygienic factors must be satisfied before motivating factors can operate, but rather, deterioration of hygienic factors below certain acceptance levels evoke responses of dissatisfaction, inhibiting feelings of satisfaction or personal growth.⁹

⁹Michael Gruneberg, Job Satisfaction--A Reader, The MacMillan Press, London 1976; Donald Lundberg and James Armatas, The Management of People in Hotels, Restaurants, and Clubs, Third Edition, William C. Brown Co., Publishers, Dubuque, Iowa 1974.

Feelings of dissatisfaction contribute towards excessive turnover. Thus, by gaining a better understanding of those factors, turnover may be minimized.

Labor Turnover

Labor turnover is measured as the percentage of the ratio of total number of separations (quits, discharges, and layoffs) to average number of employees in a given period. While a 12-20% turnover is generally expected, because of unavoidable separations (illness, marriage, retirement, moving, etc.) a national average annual turnover of 120% is not uncommon to the hotel industry.¹⁰

Turnover is costly. Those factors contributing to the total expense of turnover are as follows:¹¹

1--Recruitment: newspaper and advertising costs.

2--Induction: clerical help, interviewer's time, department head's time, stationery, costs of checking references, and physical examinations.

3--Training: time of trainer, cost of training material, and supervisor's time.

¹⁰Donald E. Lundberg and James P. Armatas, The Management of People in Hotels, Restaurants, and Clubs, Third Edition, William C. Brown Publishers, Dubuque, Iowa. 1974, p. 38.

¹¹Ibid.

4--Production: losses involved while new employees learn to perform efficiently; losses entailed by other employees in having to work with or teach new employees; loss of patronage because of poor service; and, loss of production between decision to quit and actually quitting.

5--Breakage: breakage of dishes, and equipment due to lack of skill.

6--Accident: higher accident rates of unskilled employees reflected in direct or indirect workmen's compensation insurance cost.

7--Overall: breakdown of social organization which is reflected in overall loss of morale and efficiency.

Thus, turnover costs may range anywhere from five dollars for a kitchen helper to several thousand for a top executive. The estimated turnover cost per employee is \$250; with a workforce of say, 200 employees, and a turnover of approximately 75%, this represents a cost of about \$37,500 per year. In the convention hotel sector where approximately 26% of the industry's work force are employed in 3% of the lodging establishments, a reduction in turnovers results in significant savings for the convention hotel.

Turnovers usually occur in the first few weeks of employment. Approximately 75% of the turnovers take place

among employees who have been working less than six months, a period when relationships have not been fully developed. Thus, if an employee could become productive and satisfied within this period, the likelihood of retaining a good, stable employee would be greatly increased.

Summary

Profits in the hotel industry have traditionally resulted from the high level of consumer spending and the low cost of labor. As the roles slowly reversed in the late 1950's, hotel managements began to critically analyze their operations in attempt to minimize labor expenditures. Initially, studies stressed increased employee efficiency and productivity. As labor costs continued to escalate, however, the studies expanded to analyze job satisfaction.

Job satisfaction ensues from the fulfilling of intrinsic needs (achievement, responsibility, participation, and recognition) and extrinsic needs (salary, company policy, interpersonal relations, and working conditions). Whereas the fulfillment of intrinsic needs influence job performance and attitude, the realization of extrinsic needs lead to the prevention of job dissatisfaction. Feelings of dissatisfaction inhibit positive responses to the job and contribute to excessive turnover.

Extensive studies have concentrated upon fulfilling employee satisfaction in terms of improved organizational set-ups, employee/employer relationships, and managerial policy implementation. Attempts to analyze employee satisfaction to the physical environment, on the other hand, are still in their formative stages. It is being suggested that a more complete understanding of the physical environment may help minimize turnover.

The questionnaire has been selected as the method to determine employee identification and evaluation of those features contributing to job satisfaction.

III. THE QUESTIONNAIRE

This study attempted to explore the questionnaire as a potential instrument through which to measure employee attitudes about their physical environment with the assumption that a better understanding of these attitudes could result in better congruency between the employee and his work environment. Figure 1 shows the procedure used to gain this understanding.

To accomplish this, a questionnaire directed towards the employees of convention 2 hotels was developed. Before elaborating upon the phases involved in this development, I would like to state my reasons for selecting the questionnaire as the instrument for measuring employee attitudes.

1--Accessibility of information: a questionnaire is able to ask specific questions about the various elements to collect information and attitudinal responses which may not be obtainable via observation of the situation.

2--Accuracy of information: in a questionnaire, all of the respondents are asked the same question, in the same manner, minimizing the amount of interviewer biasing.

3--Ease of analysis: a questionnaire can be structured to provide multiple-choice answers which can be easily coded for analysis.

4--Ease of distribution: questionnaires can be phrased to address a wide range of people, allowing it to be broadly distributed regardless of the location or occupation of the respondent.

The Development of the Questionnaire

The development of the questionnaire has been three-fold.

- Phase 1. Observation and Description of the Situation
- Phase 2. Writing of Questions
- Phase 3. Finalizing of Questionnaire

PHASE 1. Observation and Description of the Situation

Pursuant to a general literature review, interviews and tours of various convention hotels were conducted to gain a general understanding of the employees present physical work environment and the labor turnover situation.

The hotels visited were: 1--Continental Plaza, Chicago; 2--Hyatt Regency O'Hare, Chicago; 3--O'Hare Hilton, Chicago; 4--The Palmer House, Chicago; 5--Pick-Congress Hotel, Chicago; 6--Ala Moana Hotel, Honolulu; 7--Cinerama Reef Hotel, Honolulu; 8--Kahala Hilton, Honolulu; and, 9--Sheraton-Waikiki, Honolulu.

TIME LINE & PHASES

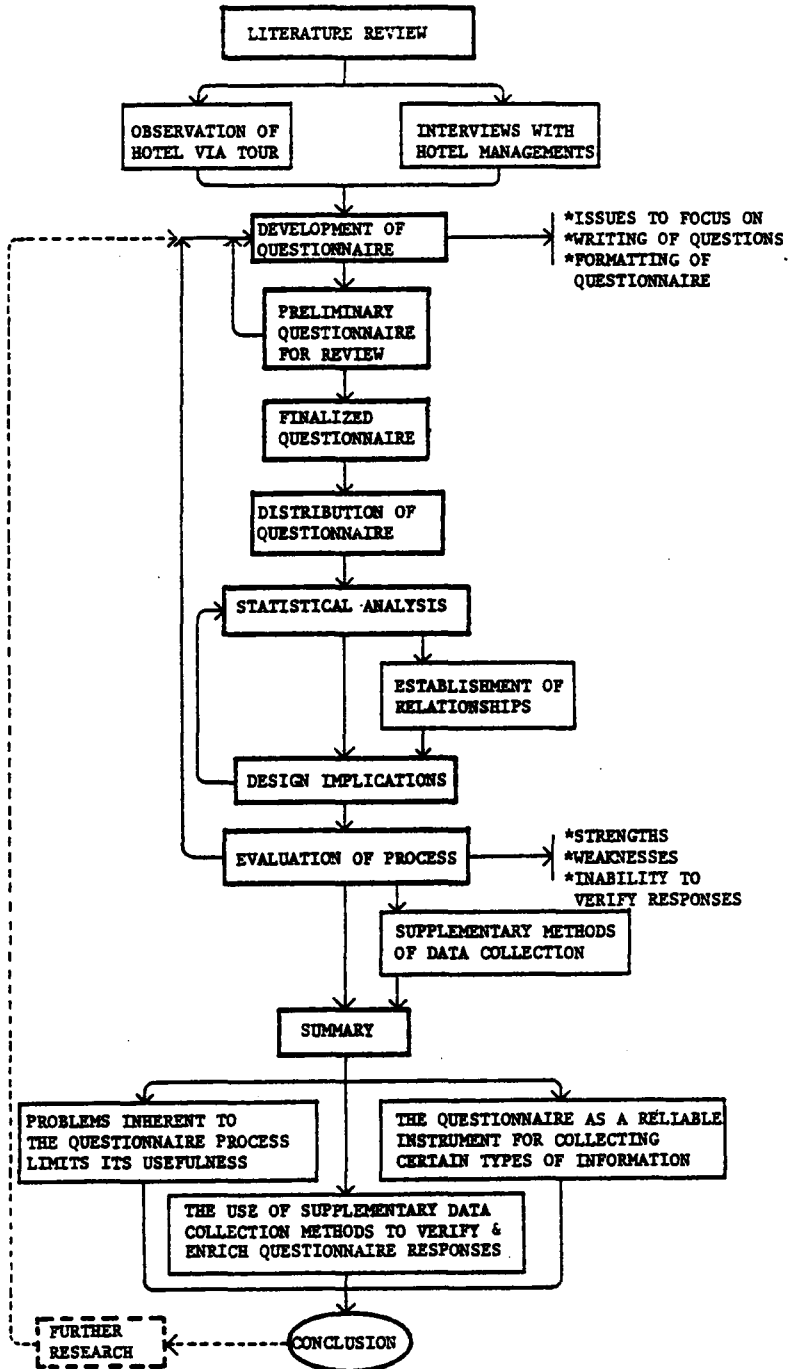
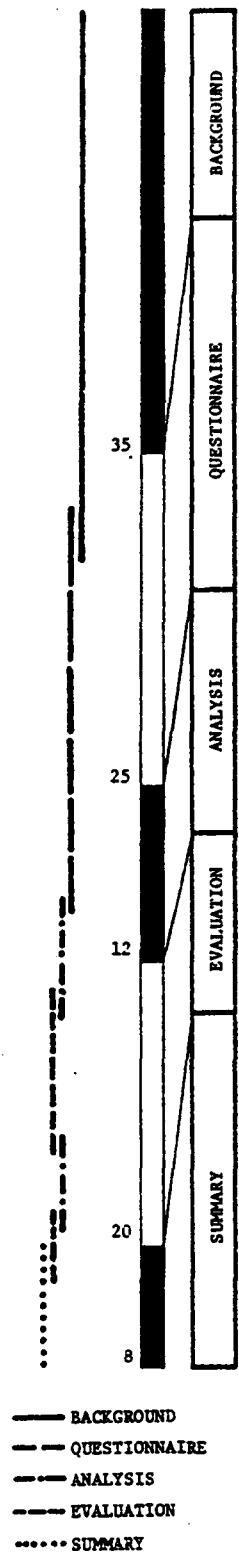


Figure 1. Research Procedure Guideline

These convention hotels were selected on the basis of: one, their affiliation with a major hotel chain; and, two, their size (over 700 rooms)--the exception being Kahala Hilton with 372 rooms. This hotel was included because it is the only Hilton International Company Hotel in the United States.

The following interview is representative of those conducted with various hotel managements. Appendix A contains the other interviews conducted.

KAHALA HILTON HOTEL
5000 Kahala Avenue
Honolulu Hawaii 96816
(808) 734-2211

Hans Weishaupt
General Manager

DATA

Built: 1963
Architects: Killingsworth, Brady, Smith and Assoc.
Number of rooms: 372
Affiliation: Hilton International Company

EMPLOYEES

The labor turnover rate at the Kahala Hilton is approximately 60% and is far below the national average of 120%. Mr. Weishaupt attributed this to Kahala Hilton's consistent occupancy rate. Like the other hotels in Hawaii, Kahala Hilton is not subjected to the fluctuating occupancy rates faced by those of the continental United States.

At present, employee wages and benefits account for approximately 38% of the hotel's total expenditures; this amount is expected to increase steadily in the future.

Mr. Weishaput cited two ways to help curb excessive employee expenditures:

1--the relocating of work areas for a higher degree of efficiency: right now, the highest cost of labor is spent upon the non-productive travel time between different work areas; by minimizing the distance between frequently travelled areas, the employees output could be increased; and,

2--the retaining of trained personnel: it costs approximately twice as much to train a new employee versus keeping the experienced one; this 200% increase is due to the double-teaming required during the training period and the relatively low productivity and inefficiency for the subsequent month or so.

WORK SPACES

Kahala Hilton is planned around a central service core, off of which are generated areas for the guests. Of prime consideration in the design of a hotel is the planned flow of the service core. Basically, the flow at the Kahala Hilton, and all Hilton International Hotels, is such that as goods are received on the dock, wheeled directly into the

respective storage areas, distributed to the various work areas as requested, and prepared as necessary for the guests, there is no change in level--the result being a smoother, more efficient flow. Restaurants and banquet facilities are also located on this level to further enhance the flow. Ordinarily, the location of restaurants or banquet rooms in the basement of a hotel tend to be financial failures for it reinforces what Mr. Weishaupt refers to as "a fear of the threshold".¹² Banquet and restaurant facilities cannot depend solely upon the hotel guests for survival; the patronage of the locals is important. Mr. Weishaupt further recommended that the business offices be located within one floor of the back of the house area in order to maintain efficient communications.

GENERAL COMMENTS

The back of the house is always given low priority when it comes to designing or remodelling hotels. Because this area is not seen by the paying guests, most owners do not put the energy nor the money into its appearance. Contrarily, Mr. Weishaupt feels that the impression an

¹²According to Mr. Weishaupt, the local residents tend to regard hotel premises as being "off-limits" to them and by placing these facilities in an obscure location this attitude is reinforced.

employee forms of the hotel is reflected in the appearance of the back of the house and could influence his work attitude. He, therefore, maintains that, as much as possible, the back of the house, especially the timekeeper's area and halls, should be kept clean.

The locker rooms, lounge areas, and cafeteria serve as general areas of relaxation and comfort; so, they should definitely not be neglected. Despite the lack of funds to remodel the entire back of the house area, these three areas are given prime consideration when money is available.

One of the major problems Mr. Weishaupt sees in the designing of hotels is the inability to build for the future. Large machinery are housed in rooms with exits far too small to allow for easy removal or replacement. What must occur then is the costly destruction of a wall in order to remove the machinery, when it would have been simpler to provide for a sizable exit in the design.

Also, as Kahala Hilton began to accommodate group travellers, the need arose to expand the hotel. The large hotel grounds had given Kahala Hilton the unique situation of being able to expand to accommodate the needed guest rooms and banquet facilities; but, due to lack of initial planning, expansion of the kitchen was prohibited. Had foresight been used, there would not exist the inefficient and very cramped conditions in the kitchen. Building a

secondary kitchen, according to Mr. Weishaupt, is out of the question for he believes in a single, central kitchen; it allows for better control over the flow of food items and cuts down on the number of kitchen employees needed to properly operate the food preparation and service department. Professional cooks are becoming scarce; thus, by limiting the hotel to one kitchen which serves all of the restaurants and banquet rooms, fewer chefs are needed and the termination in employment of a chef would not result in the shutdown of that eating facility. In addition, the space occupied by the support service facilities of a separate kitchen could be tremendous. In the long run, the loss of revenue on these areas could outweigh the income generated by the restaurant. Personally, Mr. Weishaupt prefers to work in a cramped space for he thinks it makes an employee feel more important. The tightness of space signals to the employee the inability of the hotel to add another employee, thus, the burden rests on him to produce more. This crampedness, however, applies as long as the space is efficient.

Summary

A summary of the interviews revealed that a large percentage of the labor turnovers were attributed to

fluctuating occupancy levels in the hotel while the exact causes for the remaining turnovers were uncertain. There exists a consensus among those interviewed, that the physical environment affected job satisfaction as well as productivity and efficiency. However, the degree to which labor turnover was influenced by the physical environment could not be readily determined.

The questionnaire sought to measure employee attitudes toward features in the physical environment to determine which were important in contributing to job satisfaction. Because the number of elements that could be measured were limitless, the interviews were extremely helpful in revealing specific features of the physical environments hotel managements considered essential for the proper and efficient operation of the hotel. The questions then addressed these features in an attempt to measure present satisfaction as well as its importance to various employee groups.

The following were most frequently mentioned as essential factors to consider in the designing of physical work environments:

1--Location: the proximity of various work areas in terms of accessibility and smooth traffic flow. Work areas should be located to allow for quick and efficient movement of people, goods, and services.

2--Spatial qualities: elements that provide for visual privacy, noise isolation, temperature control, etc., were important in ensuring physical comfort.

3--Appearance: the general appearance of the physical environment influenced employee morale.

4--Arrangement: the placement of equipment, furniture, and storage facilities for efficient task performance and ease of movement within areas. Specifically mentioned were the unnecessary clutter and hazards that resulted in the work areas because of ill-planned storage areas for office materials (tax records, employee application, and discharges) and seldomly-used pieces of furniture and equipment.

Based upon these four factors, questions then were generated to measure employee attitudes toward specific elements in the work area, lounge area, locker room, and cafeteria (Figure 2).

PHASE 2. Writing of Questions

Three types of questions were utilized to collect information:

1--Fact questions such as sex, department, and job duties were used to relay data from which general characteristics and tendencies were derived.

	WORK AREA	LOUNGE AREA	LOCKER ROOM	CAFETERIA
LOCATION	THE PROXIMITY OF VARIOUS WORK AREAS FOR ACCESSIBILITY AND SMOOTH TRAFFIC FLOW			
SPATIAL QUALITY	ELEMENTS THAT PROVIDE FOR VISUAL PRIVACY, NOISE ISCLATION, TEMPERATURE CONTROL, ETC.			
APPEARANCE	THE GENERAL APPEARANCE OF THE PHYSICAL WORK ENVIRONMENT			
ARRANGEMENT	THE PLACEMENT OF EQUIPMENT, FURNITURE, AND STORAGE FACILITIES FOR EFFICIENT TASK PERFORMANCE AND EASE OF MOVEMENT			

Figure 2. Factors addressed in the questionnaire

2--Self-perception questions asked the employee to note his/her behavior. The responses revealed existing relationships between various areas as well as the employee's usage of his physical environment.

3--Opinion questions asked the employee to rank or rate specific elements of his work environment. Ranking (first to fifth) established the employee's priorities while rating (very good to very bad) indicated the intensity of feeling. These responses were especially beneficial in revealing employee feelings toward elements in their physical work environment.

This phase was the most difficult because of problems inherent to wording questions. Ambiguity, incompleteness, impreciseness, idioms, jargons, complicated words, and unfair alternatives represent some of the common wording problems that had to be considered in the formation of the questions.

A preliminary questionnaire was distributed to my advisory committee; Mr. Stone, Continental Plaza; and Mr. Weishaupt, Kahala Hilton to review for these problems. The necessary corrections being made, the questionnaire then was finalized.

PHASE 3. Finalizing of Questionnaire

To obtain a large number of completed and returned questionnaires, the questionnaire was carefully formatted. An inherent disadvantage in distributing questionnaires was its small percentage of return. Too often, a questionnaire remains unanswered because it appears complicated or time-consuming. To avoid these pitfalls, the performance criteria for the questionnaire were:

1--Easy readability: instructions were brief, to the point, and consistent throughout the questionnaire. In addition, a limited number of keywords and phrases were used throughout.

2--Easy handling: because a large amount of questions were asked, the questionnaire was divided into four sections: work area, lounge area, locker room, and cafeteria. This allowed the employee to answer just those sections which constitute his/her work environment instead of reading through the entire questionnaire to see which questions apply.

3--Easy answering: responses generally consisted of marking the space which best represented their answer to the question. The categories were defined very clearly, with questions evoking the same type of responses being grouped together.

To further ensure a sizable return, a brief statement indicating the confidentiality of the responses along with a return envelope was included with each questionnaire. A copy of the finalized questionnaire is included in Appendix B.

Distribution and Return of Questionnaire

The finalized questionnaire was administered to employees of seven of the convention hotels interviewed for the collection of data; Pick-Congress Hotel and Cinerama Reef Hotel chose not participate in this study.

Fifty-five questionnaires were distributed to each of these hotels. A list of departments to receive and complete the questionnaire was included (see Table 2) to ensure a representative sampling of the various hotel personnel. Because there are a large number of non-English speaking employees in the hotel industry, a second criterion that the participant read and understand English had been stipulated to guarantee proper completion of the questionnaire.

Of the 385 questionnaires distributed:

1. 71 were returned as extras that could not be delivered.
2. 132 of 40% were completed and returned.
 - a. 72 were returned individually.
 - b. 60 were returned through the hotels.

TABLE 2
QUESTIONNAIRE DISTRIBUTION LIST

<u>DEPARTMENT</u>	<u>NUMBER</u>
Catering, Banquet, and Social Functions	2
Clerical and Secretarial	3
Financial:	
Auditing	2
General Accounting	2
General Cashiering	2
Payroll	2
Food and Beverage:	
Food Preparation	3
Food Storeroom Operations	2
Stewarding and Kitchen Maintenance	3
Front Office:	
Cashiering	2
Clerical	2
Reservations	2
Telephone and Communications	2
General Storeroom Operations	3
Housekeeping	3
Laundry	3
Marketing, Sales Promotion, and Public Relations	2
Purchasing	2
Receiving Operations	2
Repair and Maintenance:	
Building	2
Equipment	2
Grounds	2
Heat, Light, and Power	2

IV. ANALYSIS AND RESULTS

The data in this study were statistically analyzed through the "frequencies", "crosstabs", and "mult response" programs available in SPSS (Statistical Package for the Social Sciences).

Frequencies

To gain an overall view of the employee responses in the questionnaire, the frequencies program was executed. By tallying the number of responses given to each variable, this program was exceedingly helpful in summarizing the distributional characteristics of the data collected. Appendix C displays some of the results.

An initial examination of these results showed that a large number of missing cases were contained in the lounge area and locker room sections. Approximately 65% of the respondents did not complete these two sections. A closer examination of these two sections revealed 47% of the respondents do not use the locker room or have a lounge and the remaining 18% chose not to answer these sections. The lack of responses may be attributed to:

1--a non-representative sampling of the employees;

2--an overall indifference to the lounge area and locker room; and,

3--inaccessibility to the lounge area and locker room.

Of the employees that did respond, these features were generally rated very favorable, implying overall employee satisfaction towards the features provided for them. Because of the limited number of responses, further statistical analysis of these two sections would be misleading. The subsequent analyses conducted in this study concentrated upon the data obtained from the work area and cafeteria sections.

Crosstabs

The crosstabs or cross tabulation program was executed to investigate the joint frequency distribution of cases between two or more classificatory variables. The relationships investigated were between the individual features of the physical environment and the rating it received in terms of the employee's job position or division. These two variables have been selected because:

1--convention hotels are generally comprised of four major divisions (administrative-general, sales and catering, rooms, and food and beverage) under which various departments are classified; and,

2--within each division, there exists a hierarchy of job positions (managerial, supervisory, clerical, and unskilled).

Table 3 shows the general composition of the position and division variables.

By analyzing each item in this manner, it was possible to obtain a better understanding of the specific feelings of these various employee groups. Appendix C contains the derived frequencies.

The mode or most frequent score for each item then was plotted in terms of the position and division variables to comparatively display the feelings of the employee groups. Figures 3 through 6 illustrate the group ratings of the items. These figures show that while the overall employee responses were one of general contentment with their physical environments, there were definite features that certain employee groups feel were poorly provided for; the cross-tab relationships allowed for the quick identification of these poorly rated features and those employee groups that expressed this dissatisfaction. Figure 7 displays the features rated poorly by the various employee groups. This was extremely helpful in focusing upon those specific features of dissatisfaction that needed to be considered in the design of various work environments.

TABLE 3

POSITION AND DIVISION VARIABLE CLASSIFICATIONS

Position

Managerial
 Managers
 Directors
Supervisory
 Assistant Managers
 Supervisors
 Foremen
Clerical
 Secretaries
 Clerks
 Telephone Operators
Unskilled
 Stewards
 Maids
 Janitors

Division

Administrative-General
 Clerical-Secretarial
 Financial
 General Storeroom Operations
 Purchasing
 Receiving Operations
Sales and Catering
 Catering, Banquet, and Social Functions
 Marketing, Sales Promotion, and Public Relations
Rccms
 Front Office
 Housekeeping
 Laundry
 Maintenance and Repair
Food and Beverage

For questions 13 - 38, please rate your work area, in general, by marking the space which comes closest to telling how you feel. If an item does not apply to your work area, please leave it blank.

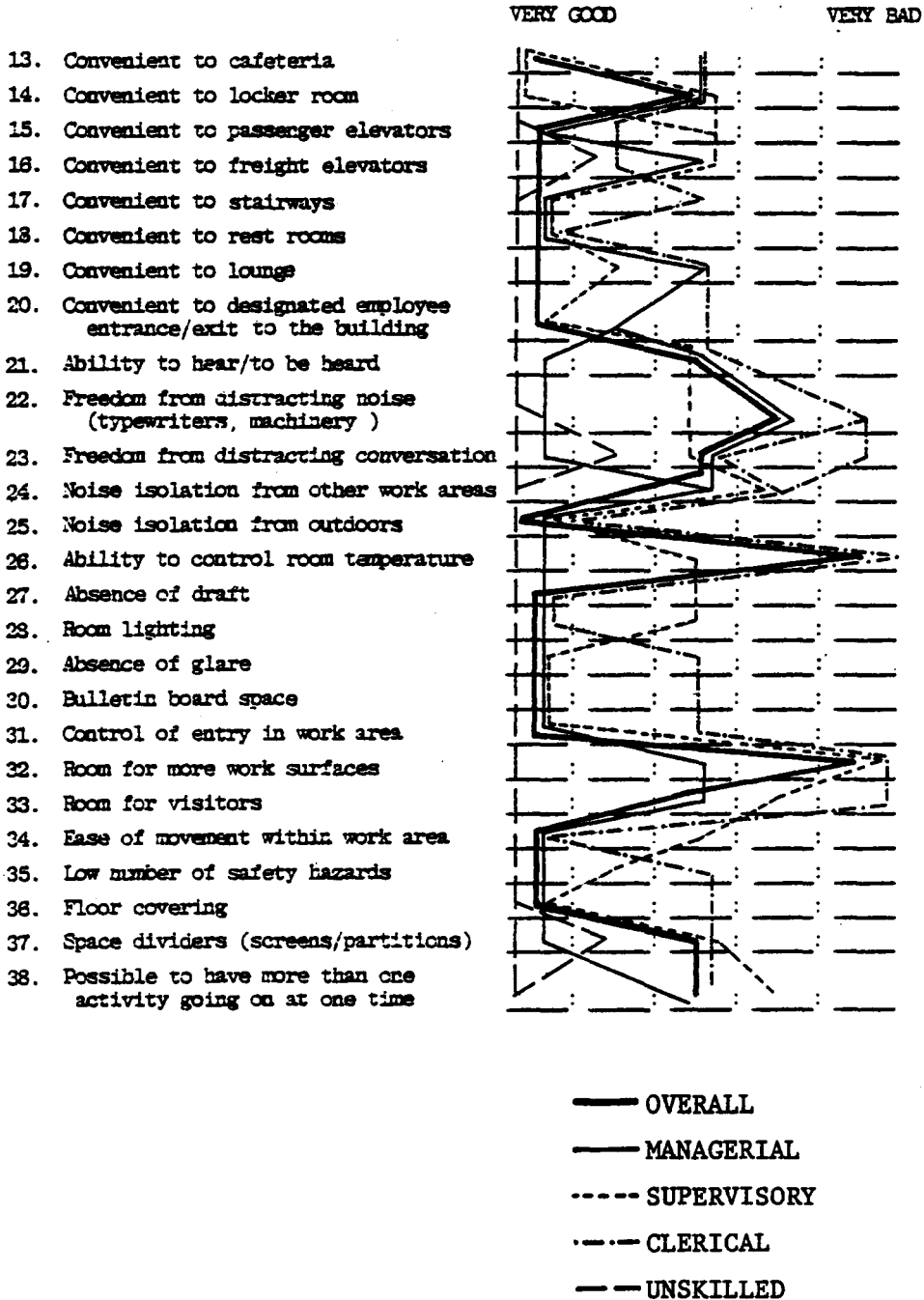
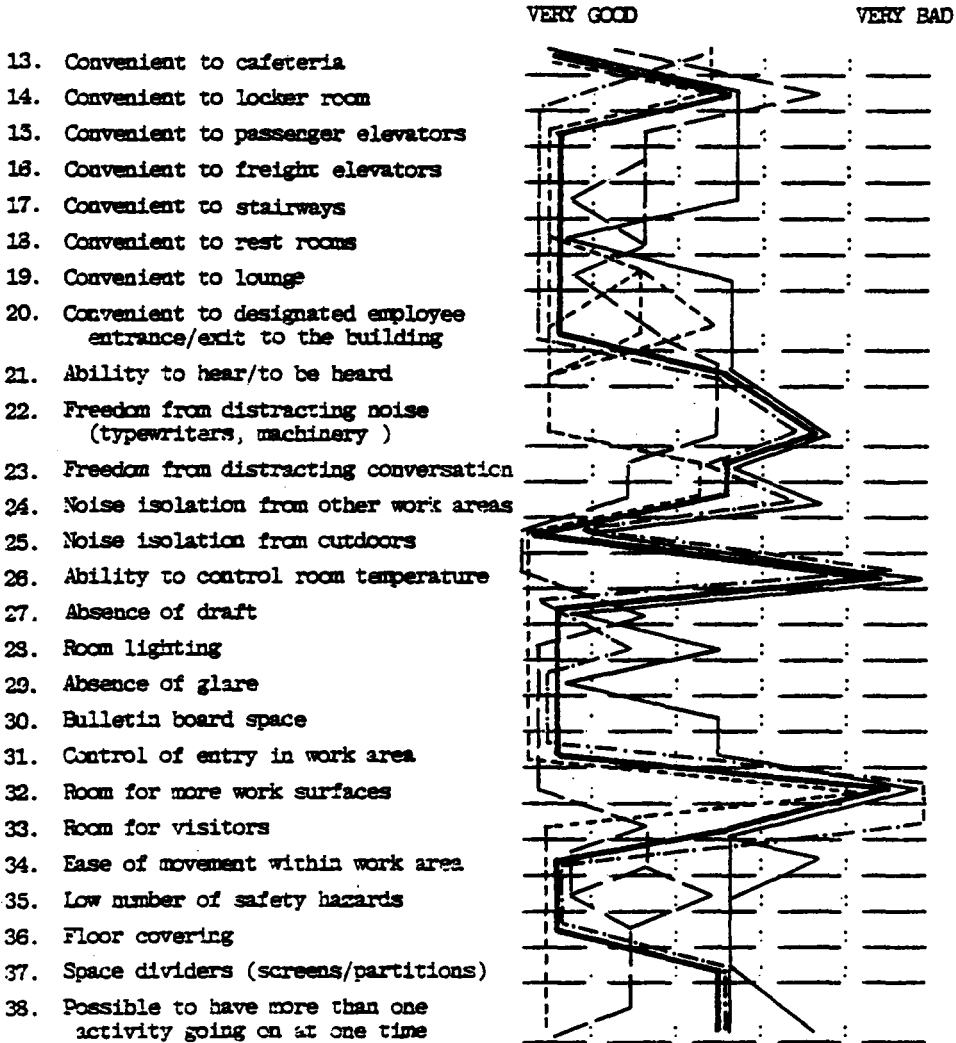


Figure 3. Rating of WORK AREA by Position

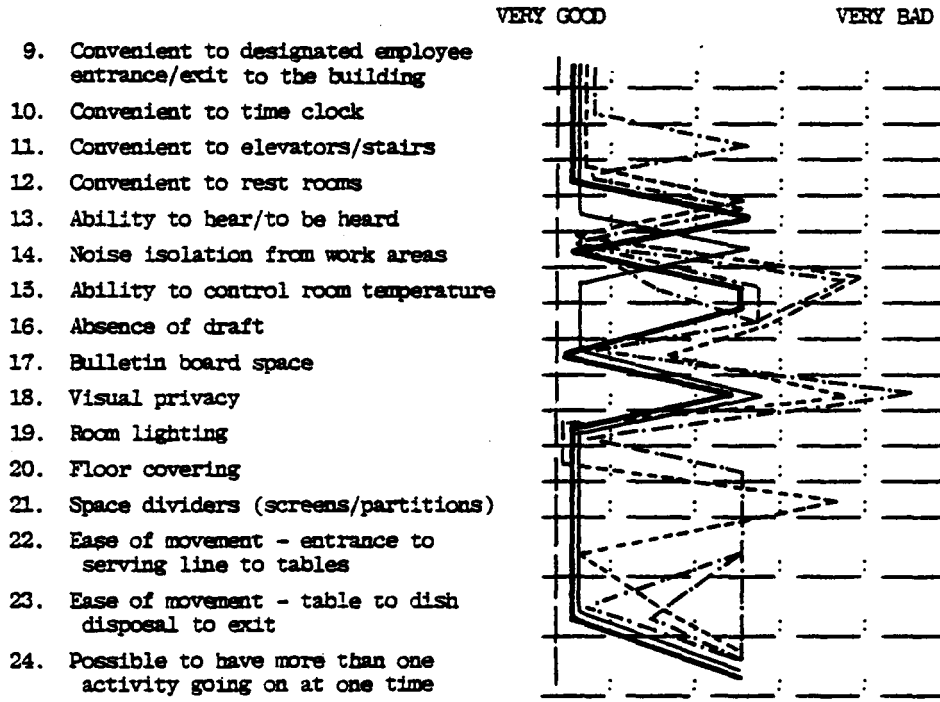
For questions 13 - 38, please rate your work area, in general, by marking the space which comes closest to telling how you feel.
 If an item does not apply to your work area, please leave it blank.



- OVERALL
- - - ADMINISTRATIVE
- · · SALES/CATERING
- · - ROOMS
- - - FOOD/BEVERAGE

Figure 4. Rating of WORK AREA by Division

For questions 9 - 24, please rate your cafeteria by marking the space which comes closest to telling how you feel.
 If an item does not apply, please leave it blank.



——— OVERALL
 ——— MANAGERIAL
 - - - - SUPERVISORY
 · · · · CLERICAL
 - - - UNSKILLED

Figure 5. Rating of CAFETERIA by Position

For questions 9 - 24, please rate your cafeteria by marking the space which comes closest to telling how you feel.
If an item does not apply, please leave it blank.

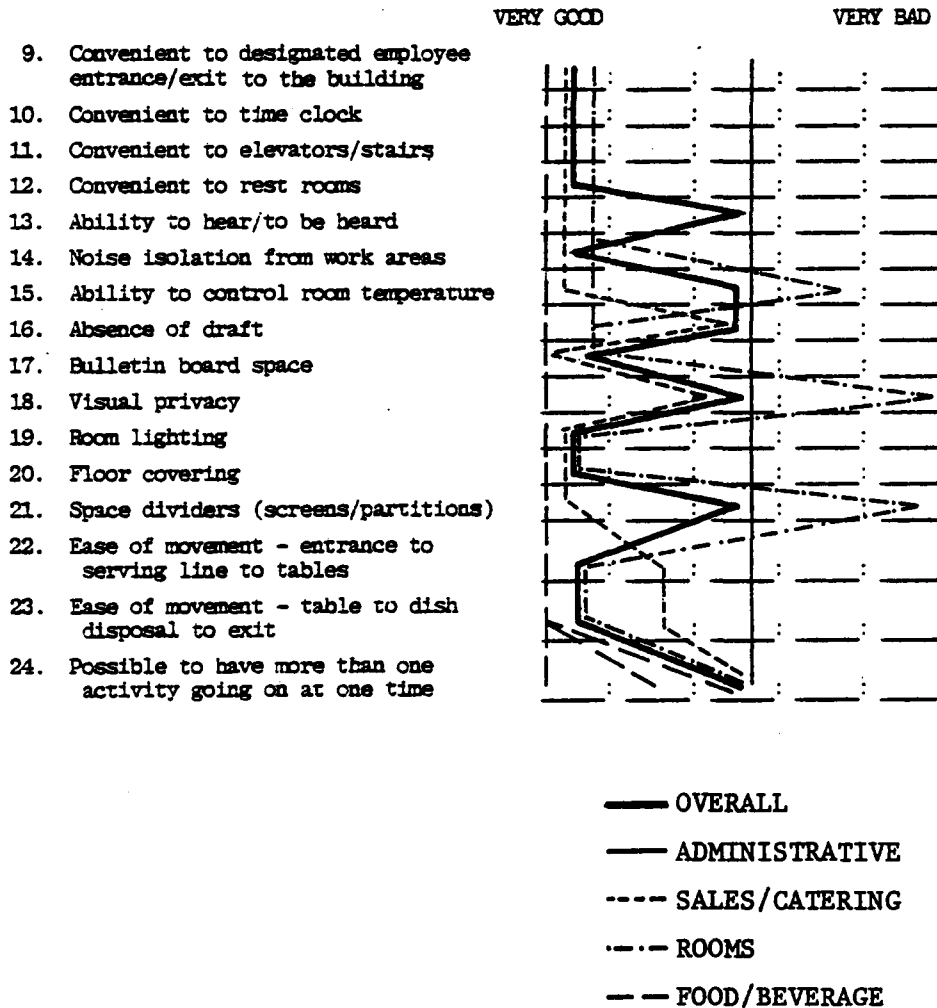


Figure 6. Rating of CAFETERIA by Division

WORK AREA:	MANAGERIAL	SUPERVISORY	CLERICAL	UNSKILLED	ADMINISTRATIVE	SALES/CATERING	ROOMS	FOOD/BEVERAGE	OVERALL
CONVENIENT TO LOCKER ROOM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
FREEDOM FROM DISTRACTING NOISE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
FREEDOM FROM DISTRACTING CONVERSATION	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NOISE ISOLATION FROM OTHER WORK AREAS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ABILITY TO CONTROL ROOM TEMPERATURE	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ROOM FOR MORE WORK SURFACES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ROOM FOR VISITORS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EASE OF MOVEMENT WITHIN WORK AREA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
POSSIBLE TO HAVE MORE THAN ONE ACTIV.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TOTAL NUMBER OF RESPONDENTS:	42	38	42	6	40	18	55	16	

CAFETERIA:	MANAGERIAL	SUPERVISORY	CLERICAL	UNSKILLED	ADMINISTRATIVE	SALES/CATERING	ROOMS	FOOD/BEVERAGE	OVERALL
ABILITY TO CONTROL ROOM TEMPERATURE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VISUAL PRIVACY	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SPACE DIVIDERS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TOTAL NUMBER OF RESPONDENTS:	42	38	42	6	40	18	55	16	

Figure 7. Features rated poorly in the present physical environment

For instance, in Figure 6, "convenient to locker room" is rated very poorly by the food and beverage division. In other words, the location of the locker room relative to the work area of the food and beverage employees is very poor. This implies a relationship between these employees and the locker room. Thus, by designing their work area in close(r) proximity to the locker room, this feeling of dissatisfaction may be minimized.

Multi Response

The multi response or multiple response program provided a mechanism for analyzing questions that allowed for more than one reply. An example is: "Of the items 13-38 above, which five are the most important to you? On the lines below, please write the question number for your first five choices." By combining these five choices into a single variable, it was possible to obtain a count of the number of times each item was mentioned as being important.

This program was conducted to determine the features which were most frequently mentioned as being important or in need of change. Appendix D contains the results of the multi response program.

The items then were ranked according to the number of responses received to discern the employees overall priority

levels in their physical environment. Further, by grouping the items according to the four factors hotel managements considered important in the physical environment (location, spatial quality, appearance, and arrangement), it was possible to see how the factors weighed against one another in terms of being important to the employee in his/her physical environment.

Figures 8 through 11 summarize those features considered important and those desired to be changed. It should be noted that the items were ranked from 1 to 5, corresponding to the five most frequent scores. In many instances, features appeared with the same number because of the identical amount of responses received.

The figures revealed that features related to the spatial quality of the physical environment were most often mentioned as being important and in need of change. This implied a discrepancy between user needs and the provided needs in terms of spatial quality. By focusing upon and evaluating the features that are not being presently provided for, it should be possible to design work environments that are more congruous to user needs.

	MANAGERIAL	SUPERVISORY	CLERICAL	UNSKILLED	ADMINISTRATIVE	SALES/CATERING	ROOMS	FOOD/BEVERAGE	OVERALL
LOCATION:									
Convenient to cafeteria			5	2					
Convenient to locker room				1					
Convenient to passenger elevators				2		4			
Convenient to freight elevators				3				5	
Convenient to stairways				3					
Convenient to rest rooms			3			3			
Convenient to lounge									
Convenient to designated employee entrance/exit to the building				3					
SPATIAL QUALITY:									
Ability to hear/to be heard		5	4			4	4		
Freedom from distracting noise (typewriters, machinery)	3	3	2	3		3	2		2
Freedom from distracting conversation	2	2	4			1	4	4	2
Noise isolation from other work areas	3	2			5	4	5	5	5
Noise isolation from outdoors									
Ability to control room temperature		3	2	3	4		3	2	3
Absence of draft							5		
Possible to have more than one activity going on at one time				3		5		3	
APPEARANCE:									
Room lighting		4	2		2	5			4
Absence of glare									
Bulletin board space									
Floor covering				2					
Space dividers (screens/partitions)									
ARRANGEMENT:									
Control of entry in work area	4	4		3		4		3	
Room for more work surfaces	4	1	5	3	1	4		3	3
Room for visitors	5					4			
Ease of movement within work area	1	3	1		3	2	1	1	1
Low number of safety hazards	4			2					

Figure 8. Important features in the WORK AREA

	MANAGERIAL	SUPERVISORY	CLERICAL	UNSKILLED	ADMINISTRATIVE	SALES/CATERING	ROOMS	FOOD/BEVERAGE	OVERALL
LOCATION:									
Convenient to cafeteria									
Convenient to locker room				3				4	
Convenient to passenger elevators									
Convenient to freight elevators									
Convenient to stairways								5	
Convenient to rest rooms						4			
Convenient to lounge									
Convenient to designated employee entrance/exit to the building				3		4		5	
SPATIAL QUALITY:									
Ability to hear/to be heard	5		4			5	4	4	
Freedom from distracting noise (typewriters, machinery)	2	2	2		2	2	2	3	3
Freedom from distracting conversation	4	3	3		3	2	5	3	4
Noise isolation from other work areas	4	4			4	2		2	5
Noise isolation from outdoors									
Ability to control room temperature	3	4	1			3	1	2	2
Absence of draft								4	
Possible to have more than one activity going on at one time		5		3				3	
APPEARANCE:									
Room lighting		5	5		4	5		4	
Absence of glare								5	
Bulletin board space								5	
Floor covering				2		5		3	
Space dividers (screens/partitions)						4		5	
ARRANGEMENT:									
Control of entry in work area	5	5		3		4		3	
Room for more work surfaces	1	1		3	1	1	3	1	1
Room for visitors	5	5	4		5	5		5	
Ease of movement within work area		5	3	1	2		5	4	
Low number of safety hazards				3				4	

Figure 9. Features desired changed in the WORK AREA

	MANAGERIAL	SUPERVISORY	CLERICAL	UNSKILLED	ADMINISTRATIVE	SALES/CATERING	ROOMS	FOOD/BEVERAGE	OVERALL
LOCATION:									
Convenient to designated employee entrance/exit to the building	5	3				1		4	
Convenient to time clock				2					
Convenient to elevators/stairs	3	1	5			3	4	1	4
Convenient to rest rooms	5	3		1	5	4	5	3	5
SPATIAL QUALITY:									
Ability to hear/to be heard	4	2	1	5	4	3	2	3	2
Noise isolation from work areas	4	5	3	4		2		3	5
Ability to control room temperature		4	4	5	3	5		5	
Absence of draft				5		4			
Visual privacy	5	5		5	5				
Possible to have more than one activity going on at one time				2					
APPEARANCE:									
Bulletin board space				4				3	
Room lighting	3			4	4	3			
Floor covering				5				5	
Space dividers (screens/partitions)								5	
ARRANGEMENT:									
Ease of movement - entrance to serving line to tables	1	1	2	3	1	1	1	2	1
Ease of movement - table to dish disposal to exit	2	2	3	2	2	2	3	3	2

Figure 10. Important features in the CAFETERIA

	MANAGERIAL	SUPERVISORY	CLERICAL	UNSKILLED	ADMINISTRATIVE	SALES/CATERING	ROOMS	FOOD/BEVERAGE	OVERALL
LOCATION:									
Convenient to designated employee entrance/exit to the building		5				3			
Convenient to time clock								3	
Convenient to elevators/stairs		5				2			
Convenient to rest rooms				2					
SPATIAL QUALITY:									
Ability to hear/to be heard		3	1		4	1	2	1	2
Noise isolation from work areas	4		4				4		5
Ability to control room temperature		2	3		3	2	4		4
Absence of draft	3	5	3		5	2	5		
Visual privacy	1	1	2		1	3	1	2	1
Possible to have more than one activity going on at one time		5				4		3	
APPEARANCE:									
Bulletin board space				1				1	
Room lighting	5	5				2			
Floor covering	5	3		2		4			
Space dividers (screens/partitions)	2	4	5		4	4	3	3	3
ARRANGEMENT:									
Ease of movement - entrance to serving line to tables	5	4			2	3		3	
Ease of movement - table to dish disposal to exit		4	4	2	2	4		2	5

Figure 11. Features most desired changed in the CAFETERIA

Design Implications

Although the results of the crosstabs and mult response programs did not arrive at any explicit conclusions regarding the design of physical work environments for hotel employees, they did establish a network of relationships from which general characteristics may be derived.

The crosstab relationships presented a graphic overview of employee ratings of their environments with respect to the various employee groups. This was useful in allowing for the quick identification of the poorly-rated features and those employee groups that expressed this dissatisfaction (such as managerial--freedom from distracting noise; and, supervisory--noise isolation from other work areas and room for more work surfaces). Given this information, the extent to which this feature must be provided then can be determined via the summary of the mult response analysis which is, basically, a priority ranking of the features considered important or in need of change. For example, upon examining Figure 6, it is shown that the clerical staff appeared to be one of the most dissatisfied with their work area. Freedom from distracting noise (typewriters, machinery), freedom from distracting conversation, ability to control room temperature, room for visitors, and noise isolation from other work areas were all rated poorly.

Upon investigating the mult response for the clerical group (Figures 7 and 8), the following information was extracted:

Important Features in the Work Area:

- 1--ease of movement;
- 2--ability to control room temperature, room lighting, and freedom from distracting noise (typewriters, machinery);
- 3--convenient to restrooms;
- 4--ability to hear and freedom from distracting conversation; and,
- 5--convenient to cafeteria and room for more work surfaces.

Features Desired Changed in the Work Area:

- 1--ability to control room temperature;
- 2--freedom from distracting noise (typewriters, machinery);
- 3--freedom from distracting conversation and ease of movement within work area;
- 4--ability to hear and room for more work surfaces; and,
- 5--room lighting.

Thus, by correlating these three derived relationships (Figure 12), it was shown that the ability to control room temperature, freedom from distracting noise and

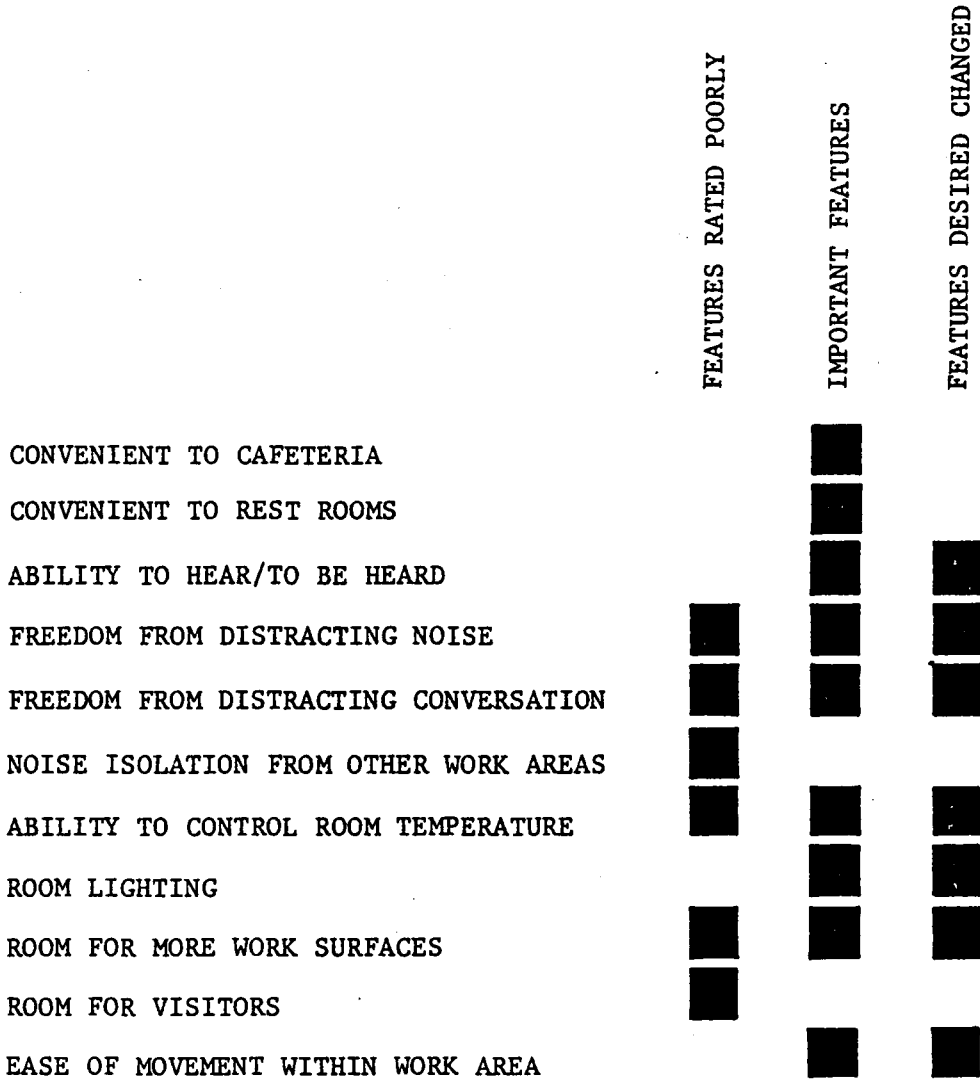


Figure 12. Clerical employee responses to features in the WORK AREA

conversation, and the need for more work surfaces are important features of all three and may, therefore, be considered as priorities in designing clerical spaces; room for visitors and noise isolation from other work areas had lesser precedence.

This example showed how a basic understanding of features considered important to the employee can be used in the design of work environments and how the questionnaire was a highly reliable instrument for obtaining this understanding. The relationships established were not meant to be hard and fast rules, but guidelines to aid in the design of work environments.

The use of an evaluative tool had enormous potential. In occupations such as those in a hotel where the job procedures and tasks are standardized, the ability to measure employee attitudes could allow for the design of more conducive work environments, minimizing the amount of dissatisfaction that occurred.

V. EVALUATION OF STUDY

The premise of this study was that by understanding those elements in the physical work environment considered important to employees, the architect would be better equipped to design work environments that were conducive to the employees needs and desires. The questionnaire as a potential instrument through which to gain this understanding was explored.

Strengths and Weaknesses of Questionnaires

From the results obtained in this study, the questionnaire was a reliable instrument for collecting information concerning attitudes toward the physical environment. Its appropriateness for architectural research in this context was realized from the following strengths:

1--It is economical and efficient. Interviews and observations are time-consuming and often times rambling in terms of the matters discussed or observed. The questionnaire has the ability to focus upon those variables in which the architect is interested. The questionnaire addressed those factors hotel managements considered essential in the physical environments: location, spatial quality, appearance, and arrangement.

2--It allows for the study of needs, values, and attitudes; those feelings within an individual that are not often directly reflected in observable behavior or appearance. In this instance, employees were asked to rank or rate specific features of their work environment. Ranking established the employees priorities and rating indicated the intensity of the responses.

3--It can be administered on almost all segments of the population. The questions were broadly phrased so that it could be answered by any of the employee groups in the hotel industry.

4--It provides for the collection of data from a large number of people in a relatively systematic manner by asking all of the respondents the same questions in the same manner.

5--The data is responsive to statistical analysis, allowing the architect to generalize the information obtained to the population investigated. The questionnaire was structured with multiple-choice questions which then were analyzed using the frequencies, crosstabs, and mult response programs.

Despite these advantages, there are weaknesses inherent to the questionnaire process which limit its usefulness in architectural research:

1--Location of researcher: communications with the participating hotels were limited to telephone conversations and letters.

2--Sample population: the employees questioned were not a representative sampling of the workers. Those queried were largely from the managerial, supervisory, and clerical groups. Only six unskilled workers' responses were received. Thus, the results obtained concerning unskilled workers could not be construed as representative of the hotels interviewed. In addition, the large number of missing or not applicable cases could have been avoided with a broader representation of employees.

3--Return of questionnaire: of the 132 returned questionnaires, 60 were returned through the hotel managements. Because of the uncertainty involved in knowing who would read the responses, the information may or may not have been falsified in order to portray a certain image about oneself.

4--Discrepancies in answers: the questionnaire did not allow the researcher to query specific responses that seemingly contradicted each other. The data had to be accepted, recorded, and analyzed as they appeared on the questionnaire.

5--Biased responses: the features investigated were limited to those hotel managements considered essential in

the physical environment. The very fact that these features were being investigated and others were not influenced the employee's attitude.

In summary, while the questionnaire was a reliable instrument from which data could be collected and characteristics derived, weaknesses inherent to the questionnaire process made it extremely difficult to verify the responses given and understand the context in which the responses were given. The inability to query any discrepancies or unanswered questions forced the researcher to accept, record, and analyze the responses as they appeared on the questionnaire. Thus, the findings derived could only be considered characteristic of the group sampled and not the general population. There did exist, however, other data collection methods which would aid in verifying and enriching the responses when used in conjunction with the questionnaire.

Supplementary Methods of Data Collection

Where the initial interviews and observations of the hotels helped to generate information for the development of the questionnaire, the questionnaire now serves as a pivot from which additional data can be obtained. Other

data collection methods may be implemented to further investigate any items of interest, discrepancies, or unanswered questions. The two supplementary methods being suggested are:

1. direct interviews with the respondents; and,
2. observation of the situation(s) being investigated.

Interviews With Respondents

Interviews allow the investigator to interact with the respondent upon the variables being questioned. This is exceedingly useful in clarifying any discrepancies that occur because of a misunderstanding or misinterpretation of the variable being investigated. In addition, it permits the respondent to volunteer information on a subject without having the restrictions or promptings of multiple-choice responses. The full intensity of the employee's attitude is better understood through interviews.

Observations of the Situation(s) Investigated

Observations permit the investigator to study behavior as it occurs rather than as it is reported. The respondent is not aware of being studied and is therefore less likely to change his responses of behavior. Consequently,

observations can be conducted without affecting the measures being obtained. The weakness of this method is that in observing the phenomena, the investigator becomes removed from the situation being studied. Interpretation of the information is subjected to what the investigator observes, sees, or assumes. Thus, the resulting generalizations are highly problematic.

In summary, the questionnaire as an evaluative tool for measuring employee attitudes about their physical work environments has enormous potential. In convention hotels, where the job procedures and tasks are standardized, the ability to measure employee attitudes may allow for the design of work environments that are more congruous to the employees needs, minimizing the amount of dissatisfaction that may occur.

VI. SUMMARY

This study attempted to evaluate the questionnaire as a potential instrument through which to measure employee attitudes about their physical environments. The case chosen for this study was the convention hotel. As background for the development of the questionnaire, the history of the hotel industry was explored and interviews and observations by the researcher conducted. The interviews were found to be extremely helpful in revealing specific features of the physical environment hotel managements considered essential for the proper and efficient operation of the hotel. The questions then were written, addressing these features, in an attempt to measure employee attitudes toward their physical environment. The analysis of the finalized questionnaire successfully established relationships between features considered important in the work environment and the various employee groups in the hotel for use as guidelines in the design of work environments. Thus, the questionnaire had proven itself to be a reliable instrument through which to measure employee attitudes toward their physical environments.

The problems encountered in this study were largely related to the inability to verify the results derived from the data. For instance, there was no quick and easy method

for substantiating the truth of the responses of a questionnaire returned through the hotel management.

In summary, the problems I encountered with the use of the questionnaire were:

1--The interpretation of words or phrases vary with each individual that there was no direct way to ensure that the same concept was being communicated to all the respondents.

2--The questionnaire could only obtain that information which the respondent was willing or able to report. Responses may be falsified to please the investigator or to portray a certain image about oneself. In addition, the responses obtained were people's reports of their feelings or behaviors and this may or may not coincide with their actual feelings or behaviors.

3-- The questionnaire itself biases responses. The fact that certain variables were being investigated and others were not could influence the respondent's attitudes.

4--The questionnaire did not allow for the interaction of investigator and respondent. The opportunity for elaborating upon certain variables was slim.

It was clear that for the questionnaire to be truly useful for architectural research, it must be supplemented by other methods which help it to gain a more thorough

understanding of the importance of those features contributing to job satisfaction in the physical environment. The potential result of the acquisition of this kind of data may be a physical environment which is more congruous to user needs and desires.

APPENDIX A

A copy of the finalized questionnaire follows.

I am currently working on a study dealing with employee work spaces in hotels, and would very much appreciate your taking the time to fill out this questionnaire. Although it appears to be lengthy, it should only take about 15 minutes of your time to complete.

Your participation is desired and would be very beneficial in helping determine how hotel employees feel about their work area, lounge area, locker room and cafeteria.

Your responses to this questionnaire will remain anonymous. Therefore, please answer every question, giving as accurate and complete an answer as possible. Unless otherwise indicated, only one space should be marked for each multiple choice question.

A return envelope is included to insure your confidentiality. Your promptness in answering and returning this questionnaire would be of a tremendous help.

Sex: M _____ F _____

Position: _____

Department: _____

Job duties: (describe briefly below)

I. WORK AREA

1. What is the approximate size of your work area? _____ square feet

2. Describe the use of your work area:

_____ myself only

_____ shared - different shift

_____ shared - same shift

_____ other: _____

3. What pieces of equipment or furniture do you use in performing your job duties? _____

4. What are the approximate sizes of your immediate work surfaces?

(For examples: table top is 3 ft x 4 ft, 2 shelves each 1 ft x 3 ft)

5. How much room do these surfaces provide in helping you do your job well?

(mark the space on the line that comes closest to your feelings)

too much

too little

_____ : _____ : _____ : _____ : _____

6. Do you need additional space?

always

never

_____ : _____ : _____ : _____ : _____

7. Do you need to have a place for your business contacts (people who visit you at your work area) to sit when speaking with you?

always

never

_____ : _____ : _____ : _____ : _____

For questions 13 - 38, please rate your work area, in general, by marking the space which comes closest to telling how you feel.
 If an item does not apply to your work area, please leave it blank.

	VERY GOOD			VERY BAD					
13. Convenient to cafeteria	_____	:	_____	:	_____	:	_____	:	_____
14. Convenient to locker room	_____	:	_____	:	_____	:	_____	:	_____
15. Convenient to passenger elevators	_____	:	_____	:	_____	:	_____	:	_____
16. Convenient to freight elevators	_____	:	_____	:	_____	:	_____	:	_____
17. Convenient to stairways	_____	:	_____	:	_____	:	_____	:	_____
18. Convenient to rest rooms	_____	:	_____	:	_____	:	_____	:	_____
19. Convenient to lounge	_____	:	_____	:	_____	:	_____	:	_____
20. Convenient to designated employee entrance/exit to the building	_____	:	_____	:	_____	:	_____	:	_____
21. Ability to hear/to be heard	_____	:	_____	:	_____	:	_____	:	_____
22. Freedom from distracting noise (typewriters, machinery)	_____	:	_____	:	_____	:	_____	:	_____
23. Freedom from distracting conversation	_____	:	_____	:	_____	:	_____	:	_____
24. Noise isolation from other work areas	_____	:	_____	:	_____	:	_____	:	_____
25. Noise isolation from outdoors	_____	:	_____	:	_____	:	_____	:	_____
26. Ability to control room temperature	_____	:	_____	:	_____	:	_____	:	_____
27. Absence of draft	_____	:	_____	:	_____	:	_____	:	_____
28. Room lighting	_____	:	_____	:	_____	:	_____	:	_____
29. Absence of glare	_____	:	_____	:	_____	:	_____	:	_____
30. Bulletin board space	_____	:	_____	:	_____	:	_____	:	_____
31. Control of entry in work area	_____	:	_____	:	_____	:	_____	:	_____
32. Room for more work surfaces	_____	:	_____	:	_____	:	_____	:	_____
33. Room for visitors	_____	:	_____	:	_____	:	_____	:	_____
34. Ease of movement within work area	_____	:	_____	:	_____	:	_____	:	_____
35. Low number of safety hazards	_____	:	_____	:	_____	:	_____	:	_____
36. Floor covering	_____	:	_____	:	_____	:	_____	:	_____
37. Space dividers (screens/partitions)	_____	:	_____	:	_____	:	_____	:	_____
38. Possible to have more than one activity going on at one time	_____	:	_____	:	_____	:	_____	:	_____

39. Of the items 13 - 38 above, which five are the most important to you? On the lines below, please write the question number for your first five choices.

first fifth
 _____: _____: _____: _____: _____

40. Of the items 13 - 38 above, which five would you like to see changed the most? On the lines below write the question number for your first five choices.

first fifth
 _____: _____: _____: _____: _____

41. In general, how satisfied are you with the appearance of your work area?

very satisfied not satisfied
 _____: _____: _____: _____: _____

42. Does the appearance of your work area affect how well you do your work?

very much not at all
 _____: _____: _____: _____: _____

43. In general, how satisfied are you with the arrangement of the furnishings in your work area?

very satisfied not satisfied
 _____: _____: _____: _____: _____

44. Does the arrangement of the furnishings in your work area affect how well you do your work?

very much not at all
 _____: _____: _____: _____: _____

Comments on WORK AREA:

II. LOUNGE AREA

1. Is there a lounge area available to you?

_____yes _____no If not, would you like one? _____

(if there is no lounge, skip to next section, LOCKER ROOM)

21. Of the items 8 - 20 above, which five are the most important to you?
On the lines below write the question number for your first five choices.

first fifth
____: ____: ____: ____: ____

22. Of the items 8 - 20 above, which five would you like to see changed the most?
On the lines below write the question number for your first five choices.

first fifth
____: ____: ____: ____: ____

23. In general, how satisfied are you with the appearance of your lounge area?
very satisfied not satisfied

____: ____: ____: ____: ____

24. Does the appearance of your lounge area affect how well you do your work?
very much not at all

____: ____: ____: ____: ____

25. Does the appearance of your lounge area affect the amount of time you spend there?

very much not at all
____: ____: ____: ____: ____

Comments on LOUNGE AREA:

III. LOCKER ROOM

1. If there is a locker room, do you use it?
____yes ____no (if you do not use it, or there is none, skip to next section, CAFETERIA)

For what reasons do you use the locker room. (check all that apply)

____change clothing ____talk only
____rest rooms ____put away personal belongings
____shower ____other: _____

2. Is your locker: too large too small
____: ____: ____: ____: ____

3. What is your average length of stay in the locker room at one time, in minutes ?
- | | | | | | |
|--|-------|-------|-------|-------|------------|
| | 0-5 | 5-10 | 10-15 | 15-20 | 20 or more |
| | _____ | _____ | _____ | _____ | _____ |

For questions 4 - 18, please rate your locker room by marking the space which comes closest to telling how you feel.
If an item does not apply, please leave it blank.

	VERY GOOD				VERY BAD
4. Convenient to time clock	_____	_____	_____	_____	_____
5. Convenient to designated employee entrance/exit to the building	_____	_____	_____	_____	_____
6. Convenient to cafeteria	_____	_____	_____	_____	_____
7. Convenient to stairs	_____	_____	_____	_____	_____
8. Convenient to elevators	_____	_____	_____	_____	_____
9. Ability to hear/to be heard	_____	_____	_____	_____	_____
10. Noise isolation from work areas	_____	_____	_____	_____	_____
11. Ability to control room temperature	_____	_____	_____	_____	_____
12. Absence of draft	_____	_____	_____	_____	_____
13. Bulletin board space	_____	_____	_____	_____	_____
14. Room lighting	_____	_____	_____	_____	_____
15. Floor covering	_____	_____	_____	_____	_____
16. Locker benches	_____	_____	_____	_____	_____
17. Control of entry into locker room	_____	_____	_____	_____	_____
18. Width of aisles	_____	_____	_____	_____	_____

19. Of the items 4 - 18 above, which five are the most important to you?
On the lines below, write the question number for your first five choices.

first			fifth
_____	_____	_____	_____

20. Of the items 4 - 18 above, which five would you like to see changed the most?
On the lines below, write the question number for your first five choices.

first			fifth
_____	_____	_____	_____

21. In general, does the appearance of your locker room affect how well you do your work?

very much			not at all
_____	_____	_____	_____

7. How much privacy do you have in the cafeteria when you use it?

sufficient _____ none
 _____ : _____ : _____ : _____ : _____

8. Do you feel the cafeteria is:

too big _____ too small
 _____ : _____ : _____ : _____ : _____

For questions 9 - 24, please rate your cafeteria by marking the space which comes closest to telling how you feel.
 If an item does not apply, please leave it blank.

	VERY GOOD				VERY BAD
9. Convenient to designated employee entrance/exit to the building	_____	:	_____	:	_____
10. Convenient to time clock	_____	:	_____	:	_____
11. Convenient to elevators/stairs	_____	:	_____	:	_____
12. Convenient to rest rooms	_____	:	_____	:	_____
13. Ability to hear/to be heard	_____	:	_____	:	_____
14. Noise isolation from work areas	_____	:	_____	:	_____
15. Ability to control room temperature	_____	:	_____	:	_____
16. Absence of draft	_____	:	_____	:	_____
17. Bulletin board space	_____	:	_____	:	_____
18. Visual privacy	_____	:	_____	:	_____
19. Room lighting	_____	:	_____	:	_____
20. Floor covering	_____	:	_____	:	_____
21. Space dividers (screens/partitions)	_____	:	_____	:	_____
22. Ease of movement - entrance to serving line to tables	_____	:	_____	:	_____
23. Ease of movement - table to dish disposal to exit	_____	:	_____	:	_____
24. Possible to have more than one activity going on at one time	_____	:	_____	:	_____

25. Of the items 9 - 24 above, which five are the most important to you?
 On the lines below, write the question number for your first five choices.

first _____ fifth
 _____ : _____ : _____ : _____ : _____

APPENDIX B

This section contains the interviews conducted with the various hotel personnel. The write-ups are as follows:

CONTINENTAL PLAZA
909 North Michigan Avenue at Hancock Center
Chicago, Illinois 60611
(312) 943-7200

Bruce L. Stone
Director of Personnel

DATA

Built: 1963, new tower-1974
Architects: not available
Number of rooms: 747
Affiliation: Western International Hotels

EMPLOYEES

A greater percentage of job turnovers occur within the first six months of an employee being hired versus any other period. The most prevalent cause being the employee's job termination by the hotel because of excessive absenteeism and/or tardiness.

The highest rates of turnover are in the dishwashing and housekeeping departments. Job replacements for these two positions are relatively inexpensive and easy to obtain, but then, there exist aftermath expenses such as: training--wages are being paid to the new employee during

this period; and, loss of productivity and efficiency--a new worker is generally slower in performing his duties.

When a skilled personnel terminates his position, efforts are made to advertise the opening, and, this then becomes an additional expense to the training cost or loss of productivity and efficiency.

It costs Continental Plaza an estimated \$250-\$500 to hire and train a new employee.

WORK SPACES

Two important relationships in terms of the location of departments were stressed by Mr. Stone: 1. the closeness of the Payroll office to the Personnel office, and, 2. the placing of the Security office next to the Timekeeper's clock and the designated employee entrance/exit.

The proximity of Personnel to Payroll reinforces the communications which occur so frequently between the two: Payroll must constantly keep an updated account of an employee's status (such as hired, still employed, or terminated, as well as change in hours) in order to properly process his paycheck, and, this can only be done through the expedient conveyance of said information from Personnel. Because changes in status are constantly occurring, Personnel maintains the conveyance of this information via the employee himself. Therefore, in order to ensure the

quick receipt of information, the distance between the two should be as minimal as possible.

The retaining of hotel goods on the premises, as well as the proper punching in and out at the timeclock are two of the more recurrent problems faced by a hotel. These situations, for the most part, have been alleviated by Continental Plaza through the locating of the Security office next to the Timekeeper's clock and the designated employees entrance/exit. Because employees are required to enter and leave via a designated door and punch in and out at the start and end of their work day, it should follow that by grouping these common elements together, security efforts for those problems can be concentrated in one area.

Lockers are provided for the employees and are painted in a variety of colors to brighten up the locker room; neatness and appearance of the locker room are highly stressed.

No rest areas for the housekeeping staff are provided in the original hotel, but, have been constructed on each floor of the new tower built approximately four years ago.

A cafeteria is provided for the convenience of the employees. A section is partitioned off with folding doors for use as a private dining area or meeting room. This section, however, cannot be closed off during the breakfast, lunch, and dinner hours.

GENERAL COMMENTS

Western International Hotels stress the importance of its employees. Unscheduled checks are often made to insure for: employee safety throughout the hotel, proper maintenance of the premises, and overall neatness and physical appearance. Walls in the back of the house areas are generally painted every three to six months; at this time, various colors are experimented with to discover which work well to satisfy both the employees and wear and tear. In addition, the wall color must be coordinated with the wall graphics. Mr. Stone, as well as Continental Plaza, pride themselves on the ability of a new employee and/or visitor to easily refer to the graphics in determining where to go and how to get there.

Proper maintenance of the premise is accomplished through an effective communication system. The sooner a problem is reported, the sooner it gets rectified. Thus, in addition to the inter/intra office memo and telephone, beepers are used to contact various department heads, supervisors, or managers.

HYATT REGENCY O'HARE
River Road at Kennedy Expressway
P.C.Box 66456
O'Hare International Airport
Chicago, Illinois 60666
(312) 696-1234

Edward J. Martin
Director of Personnel

DATA

Built: 1971, addition underway-1978
Architects: John Portman and Associates
Number of rooms: 700 plus an additional 1000
Affiliation: Hyatt Corporation

EMPLOYEES

The annual labor turnover rate at the Hyatt Regency O'Hare is approximately 100%. This is basically attributed to the constantly fluctuating hotel occupancy rate; as occupancy increases, the number of employees needed is proportionately increased and vice versa.

WORK SPACES

The work spaces at Hyatt Regency O'Hare are generated off of a single double loaded corridor which parallels the perimeter of the building. This utilization of a central circulation path allows for the simple and orderly organization of work spaces and places equal emphasis on all of the departments. Because of the importance of this corridor, special efforts are made to keep it clutter-free: linens, food, and paper goods are stored immediately after

receipt; and banquet facilities, carts, and equipment are promptly put away after use.

At present, Hyatt Regency O'Hare has ample space in which to accommodate both items for storage and inventory.

All of the employee work spaces had been designed upon maximum staffing and expansion levels projected by the Hyatt Corporation. The work spaces presently occupy the basement and lobby levels, and storage the eleventh. Support kitchens are located on the second and tenth floors to service the restaurants.

The idea of using a central corridor for circulation space was further carried out in the design of the front desk. Unlike the back of the house, this area proved to be inefficient. Having an uninterrupted walkway behind the front desk meant that items such as keys and messages had to be located below the counter of the front desk. As a result, this produced a front desk which was very long with normally accessible items out of reach. An advantage, however, is better security control. Keys and messages are not displayed, discouraging thieves from entering a guest's room while he is out.

GENERAL COMMENTS

Hyatt Regency O'Hare is currently constructing a 1000 room addition. This addition will simply contain guest

rooms; all support facilities such as housekeeping, food preparation/service, engineering-maintenance and repair, and accounting will remain in the original hotel. Decisions have already been made not to expand upon the kitchen, restaurant, or convention and banquet facilities.

A no growth policy in staffing has already been established so Mr. Martin foresees no problem concerning work space in the near future.

O'HARE HILTON
P. C. Box 66414
O'Hare International Airport
Chicago, Illinois 60666
(312) 686-8000

Amy Burke
Personnel
Mary Scharringhausen
Interviewer, Personnel

DATA

Formerly: O'Hare International Tower
Built: 1973
Architects: C.F. Murphy & Associates
Number of rooms: 888
Affiliation: Hilton Hotels Corporation, since 1974

EMPLOYEES

O'Hare Hilton attempts to classify the various reasons employees give when quitting, but in many instances, none are given. Employees are encouraged to state their reasons for quitting, but if the information is not volunteered, no prodding is done.

O'Hare Hilton has an annual turnover rate of approximately 75%, the national average is 120%. This lower rate may be attributed to Ms Camille Fruzyan's (former Director of Personnel) insistence that all new employees meet her and at least be able to recognize her as a person to go to with their grievances.

WORK SPACES

The O'Hare Hilton is a fairly new hotel, whose facilities have been planned to house the various operations of the convention hotel. As such, there is ample space available to accommodate for the growth of many departments. At present, the space set aside for future growth, located in the basement, is being occupied by various retail concessionaires. As more room is needed by the hotel, these various retail shops can be taken over and converted into work areas.

Although provisions have been made for future expansion of the back of the house, there presently exists a slight shortage of space in the secretarial, clerical, and accounting departments. According to Ms. Burke, there seems to be a general tendency in hotels to underestimate the space required by these departments. Little consideration is given towards providing additional space for the housing of file cabinets and office machinery. To help alleviate

some of the noise from the office machinery and the other departments, moveable partitions have been installed. While these partitions do help separate the secretarial, clerical, and accounting personnel, little has been done in terms of the cramped working conditions within each department. The proximity of co-workers frequently generate complaints pertaining to slacking off on the job and the personal phone calls one receives.

Appearance of work areas is strongly emphasized. Aisles, corridors, and hallways are kept clean and clear of clutter, allowing for a neater, safer environment.

The cafeteria, open 16 hours a day, has become a general meeting place for the employees. Meals are served and managers and supervisors are required to eat in the cafeteria at least once a week in order to familiarize themselves with the employees.

GENERAL COMMENTS

Appearance being an important consideration, O'Hare Hilton re-does its interiors every 3-4 years. During the last re-decoration, Ms. Judie Oesterreich, Administrative Secretary, Sales Department, had the opportunity to select the color schemes for her own office. Ms. Oesterreich is extremely satisfied and feels that the appearance of one's work area does, to a certain degree, affect one's work attitude.

Ms. Scharringhausen had stressed the importance of employee safety. Safety meetings are held once a month, at which time, a rundown is given of the employee and guest accidents for the month and the remedies implemented to correct the causes of accidents in the previous month. Delay in the correction of a dangerous situation is unheard of at O'Hare Hilton. Mr. Montjor, General Manager, believes in promptness, as other employees may also hurt themselves if the situation remains uncorrected. A prime cause of many accidents is the slippery kitchen floor. As a result, many different floor coverings, materials, and textures are constantly being experimented with to determine which is best.

Also discussed at each meeting is a new safety technique, procedure, or precaution an employee could use in an emergency. Ms. Fruzyan advises and demonstrates to the managers the proper preventative measures and they in turn advise their staff.

The importance of safety is just one of the major concerns of Mr. Montjor, a staunch advocate of employee welfare. Hotel employees are the basic life support system of the hotel; they contribute approximately one third of their lives towards the maintaining of the hotel. Thus, Mr. Montjor believes that the hotel is obligated to make the employee feel completely welcomed and comfortable. In

essence, the hotel should become a second home for the employees.

THE PALMER HOUSE
17 East Monroe Street
Chicago, Illinois 60690
(312) 726-7500

George L. Harrington III
Executive Assistant Manager

DATA

Built: 1871, remodelled-1926
Architects: John Mills Van Osdel, Holabird and Roche
Number of rooms: 2100
Affiliation: Hilton Hotels Corporation

EMPLOYEES

The high labor turnover rate is due primarily to the fluctuating occupancy rate of the hotel. To accommodate for the increase in guests registered, additional employees are hired and these are generally in the Janitorial/Housekeeping department. While these temporary employees account for the majority of the turnovers, there is still quite a large number of terminations from the regular employees. Once again, these are in the Janitorial/Housekeeping department. The most prevalent cause being termination by the hotel because of excessive absenteeism and/or tardiness.

If an employee quits voluntarily, the Palmer House tries to inquire for what reason, but in most instances, none is given.

WCEK SPACES

The Palmer House originally built in 1871, was not designed as a convention hotel, but rather, a commercial, luxury hotel geared towards the individual not the group oriented traveller. As such, basic space allowances for services required by convention hotels such as banquet facilities, convention rooms, and sales and catering departments were not considered. In addition, the conversion from a commercial to a convention hotel resulted in the expanded growth of the accounting, reservations, and food and beverage departments. These expansions are being handled in several ways: 1. the department maintains its original location and physical size and additional staff are fitted in; 2. the department keeps its original location but the physical size is increased to handle the additional staff; and, 3. the department is altogether relocated.

In terms of relocating or adding in new departments, guest rooms, storage spaces, or relatively unused back of the house spaces are converted into suitable work areas.

Lounges are located in various areas for the convenience and comfort of the employees.

GENERAL COMMENTS

Many of the work areas at the Palmer House have been remodelled and several departments had the opportunity to design and decorate their own spaces.

The reservations department for Hilton Hotels Corporation had the opportunity to design its own work space to meet the specific needs of the department. Through years of experience, the department head has found that: 1. switchboard operators are better able to concentrate on a single plane directly in front of them rather than on two or more different planes, and, 2. while on duty, an employee is most likely to speak with the co-worker directly beside him, not behind him. Thus, switchboard banks were arranged in rows, facing one direction, to meet the employees needs, to allow for greater efficiency, and to make better use of the space.

In addition, space was allocated for a control booth, office, training and conference room, and a lounge area.

While general satisfaction had been expressed towards the functional layout, there have been some dissatisfactions noted about the blueness of the walls. The blue selected had a lethargic effect on the workers, and during the winter months, the blue seemed to reinforce the cold outside.

At present, the physical size of the reservations department is adequate, but if expansion is required, the department will have to move out of the Palmer House in order to accommodate this need.

The Personnel department had also renovated its own department, but not quite as elaborately. Remodelling had

been in terms of constructing private offices and small meeting and training rooms.

Lounges are located throughout the various work areas for employee comfort and convenience while on duty.

Meal tickets are issued to the employees for use during their shift.

PICK-CONGRESS HOTEL--BEST WESTERN
520 South Michigan Avenue
Chicago, Illinois 60605
(312) 427-3800/3831

Charles Sprague
Director of Housekeeping Services

DATA

Formerly: Chicago Famous Building
Built: 1893, additions-1902, 1907
Architects: Clinton J. Warren, Holabird and Roche
Number of rooms: 1000
Affiliation: Pick Hotels Corporation

EMPLOYEES

Mr. Sprague currently employs 104 regular workers and 17 part-time workers on the housekeeping/janitorial staff. Pick-Congress classifies regular workers as those who have been employed by the hotel for over a year, regardless of the number of hours worked per week. The labor turnover rate for this staff is approximately 75% for those employed less than a year and 35% for those employed over a year.

The high turnover rate during the employee's initial year can be attributed to: temporary hiring because of fluctuating occupancy rates, theft, inefficiency, and excessive absenteeism and/or tardiness. For those employed over a year, termination was normally voluntary with no reason given.

The standard training period for a new housekeeper is 3 to 5 days and consists of teaming a regular employee with a trainee. This doubling of employees for a single job results in a 200% increase in the salaries paid out during the training period for a single job.

The constant hiring of new employees in the housekeeping department is very costly and detrimental to the present employees' morale and work attitudes. Because of poor efficiency and productivity of the new employee during the training period and a week thereafter and the production loss of a regular employee assigned to this trainee, the other employees must compensate for the loss by cleaning more than their quota of assigned rooms without additional increase in hours or pay.

WORK SPACES

The Pick-Congress Hotel had been built in the late 1800's, and at that time, had not been geared to accommodate convention hotel operations. Rapidly expanding departments

such as accounting, food and beverage, sales and catering, and housekeeping are currently being housed in the rarely used and undesired banquet/meeting rooms located in the basement.

Cafeteria space has been provided for the employees in accordance with the union rules, but no meals are served there. Employees must either bring their own lunch or go outside of the hotel to buy it.

The locker rooms had been judged too small by Mr. Sprague for the minimum allowance of 20 square feet per person had not been met. The lockers themselves are fairly old and in poor condition, resulting in numerous complaints regarding theft of personal belongings. Poor lighting in the locker rooms also aid in compounding the theft problem.

In addition to security problems in the locker rooms, the toilet facilities were outdated and highly inefficient and the wooden benches used in place of regular locker/gym room benches were unsanitary as wood breeds bacteria.

The general problem of the hotel, with regard to work spaces, is lack of storage. The housekeeping department handles all of the items to be stored. Because of the lack of any planned storage areas, the items are put wherever there is room. The locating of a specific item, once it has been stored, is then left up to the individual departments. Mr. Sprague's staff will deliver the stored item to wherever

it is desired in the hotel but he will not allow his staff to spend hours at a time locating someone's items.

A vault does exist for the storage of valuable items and Mr. Sprague, himself, has direct control over what is stored or taken out of it.

GENERAL COMMENTS

Mr. Sprague is very concerned about his staff's welfare. Besides improvements in wage earnings and the pension plan, Mr. Sprague would definitely like to see improvements taking place within the Pick-Congress Hotel for the benefit of his employees. He feels that his employees should not have to be subjected to poor facilities when other employees of the hotel are not. The distinct contrast in appearance and condition of the various employee facilities (in particular the lounge areas) is degrading and demoralizing and greatly hampers an employee's positive attitude about the hotel, his job, and most importantly, himself.

In conjunction with the new general manager, plans have been made and the materials ordered for the improvement of the locker rooms.

Currently underway are discussions for new uniforms and the serving of food in the cafeteria.

ALA MOANA AMERICANA HOTEL
410 Atkinson Drive
Honolulu, Hawaii 96814
(808) 955-4811

Melissa J. Fontes
Director of Personnel

DATA

Built: 1970
Architects: John Graham and Co.
Number of rooms: 1193
Affiliation: Americana Hotels

EMPLOYEES

Prior to any discussion, Ms. Fontes gave a general breakdown of the hotel's staffing operations: 1. Rooms division--front desk, reservations, PBX telephone operators, housekeeping, security, maintenance ((general) includes engineering), uniformed services, and social directors; 2. Food and Beverage--services include banquet facilities and restaurants, preparation, and stewards; 3. Administrative and General--executives, accounting, and personnel; and, 4. Sales and Marketing--catering.

The annual labor turnover rate of 50%, at the Ala Moana Hotel, is far below the national average of 120%. This can be largely attributed to Honolulu's tourist industry; the normal peak and low occupancy periods that plague so many of the hotels on the continental United States are virtually non-existent in Hawaii.

Of the terminations that do occur, a large number is in the housekeeping and food and beverage departments. These normally take place prior to the opening of a new hotel and are generally among the more recently hired. The tendency here is for employees to try to establish a position of seniority.

WORK SPACES

Ms. Fontes considered provisions such as one locker per employee, lounge areas, and cafeteria space basic employee amenities which should be provided by the hotel. The size of each space will vary according to the number of employees involved; but, through years of experience in the hotel industry, Ms. Fontes has determined that 10 tables provide ample seating space in the cafeteria and there is no need for a kitchen in the cafeteria unless a cook is to be stationed there.

The grievance expressed by most employees was lack of storage space. Too often this is overlooked and the results are: 1. overspill into the corridors; 2. unnecessary clutter in the work areas; 3. shortage of supplies because of the inability to inventory or stock enough items; and, 4. inefficiency in locating items stored.

The following are some of the frequently neglected storage areas cited by Ms. Fontes:

1. Housekeeping--on each floor, there should be ample storage to keep the cleaning drums and equipment, the five sets (par) of linen required per room, and the necessary paper goods. This dispersment of inventory gives each maid greater control over her general stock, allowing her to report to her supervisor deficiencies in supply. Thus, the large rooms normally required for inventory, stock, and equipment can be reduced.

2. Carpet Storage--matching carpet must be kept on hand to replace the stained or worn out areas. These extra yardages of carpet are normally stored in long rolls. Although these pieces are not used often, they must be readily accessible if needed.

3. Banquet Facilities--seasonal items (holiday table decorations, special occasion linen, and other restaurant or catering motifs) and frequently used items such as banquet tables, chairs, and service bowls must be stored when not in use. It is desirable to store the frequently used items as close as possible to the function room to avoid unnecessary transportation of these heavy and cumbersome items.

4. Food and Beverage--liquor and food should be stored separately whenever possible. Alcoholic beverages require more stringent controls than do food items in terms of who enters the storage area and who removes what. If the wine menus offered by the restaurants are extensive, a separate wine room may be desirable.

5. Office Storage--the various business departments such as clerical, accounting, payroll, and personnel should be provided with storage space within their own work areas for keeping records of the present fiscal and/or annual year, important papers, and continuously-used references. This provision gives each department easy access to those reports needed. In general, the accounting department requires the greatest amount of storage space.

An overall office storage space, shared by all the business departments, is needed. This would be for the housing of past records and legal documents such as tax forms, employee application, and dismissal forms which must be kept until all applicable statute of limitations on each expire.

6. Workshop Storage--provision should be made for the temporary storage of items that need repair but cannot be readily fixed. Ideally, a large enough storage area within the workshop would eliminate the overflow of broken items into the corridor or its being scattered about in different storage spaces.

Ms. Fontes had also discussed two important relationships in terms of location: 1. the placing of the security office by the timekeeper's exit and entry where all employees must enter and leave the hotel through; and, 2.

the locating of the personnel office either in the basement or near a back exit to prevent an applicant from going through the hotel.

GENERAL COMMENTS

The Occupational Safety and Health Administration (OSHA), Equal Employment Opportunity (EEO), and local union regulations presently govern many of the physical conditions within the hotel. Many changes have already been made in order to conform to these rules and Ms. Fontes feels that soon these rules will dictate the design of employee and back of the house areas.

Ms. Fontes feels that many of the problems which occur (space and employment) are because of lack of initial planning. Consideration for the following may help alleviate grievances and extensive remodeling:

1. Before a kitchen is designed, the menu must be known. The types of food served will determine the equipment needed, the size of the kitchen, the layout of various work areas in the kitchen, the size of the food and beverage storage, and the type of food and beverage storage needed. In addition to affecting the kitchen design and food and beverage storage, the menu will dictate the type of service given to the customer and staffing requirements. For example, an elegant French restaurant may employ four

times as many waiters/waitresses and six times as many kitchen help as a coffee shop.

2. The number of maids needed is dependent upon the production quota set for each maid. The quota expectations would be as reasonable as possible, being sure to include the extra time involved in cleaning guest amenities such as louvres, medicine cabinets, and lanais.

3. The accounting system to be used would be determined prior to the designing of the work area and the hiring of the staff. Too often, no thought is given to the consequences involved in switching or expanding systems. For example, a computerized accounting system requires three times as much physical space as a manual system and allowances have to be made for the repairing and removal of machinery.

The accounting system also dictates the storage and purchasing of goods. A centralized system would put the accounting department into the position of being a clearinghouse, in which all purchases, deliveries, and storage items must be requisitioned. This would mean ample space must be provided for goods received and stored.

4. The engineering department's office should be separate from the workshop. The engineering office handles work orders for maintenance, renovations, key control, purchase orders, and material and paint samples whereas the

engineering workshop is basically a storage for paints, pressurized tanks, and small parts. This area is highly combustible and toxic; for safety and health reasons, separation is a must.

5. Frequently neglected is the space necessary to allow for the repairing or expansion of the telephone switchboard bank. This is one of the hardest areas to work with in terms of relocating or expansion because of the many lines (electrical and telephone) involved.

6. The type of laundry services offered should be determined prior to the designing of this work space. An in-house laundry, servicing both the hotel and guests, would mean the purchasing of equipment and the hiring of enough employees to meet the need. In most instances, the providing of laundry services to the guests is non-profitable and all too often, not worth the effort. It is best to limit the laundry services to the hotel itself; basically, the cleaning of linens and uniforms. This way, there is no need to worry about the material content of the fabrics brought to be cleaned and pressed.

Guest laundry can best be handled by sending it out to be cleaned. Thus, the only requirements necessary for this function is the space needed to hang the garments when they are received from the cleaners.

If a in-house laundry for the hotel is desired, provisions should be made for linen chutes, a linen room (for pressing and sorting), and a uniform shop (for repair).

Again, Ms. Fontes feels that foresight is all that is necessary in designing a hotel.

CINERAMA REEF HOTEL
2169 Kalia Road
Hicrolulu, Hawaii 96815
(808) 923-3111

Hark Koppelman
Manager

DATA

Built: 1956
Architect: Roy Kelley
Number of rooms: 900
Affiliation: Cinerama Hawaii Hotels

EMPLOYEES

Mr. Koppelman had stated that the labor turnover rate at the various Cinerama Hawaii Hotels is relatively low as compared with the national average of 120% and attributed this to two factors. One, Cinerama Hawaii Hotels is still a family managed hotel chain with whom many of the employees have been with for years. These employees have established their seniority, and, it is highly unlikely that one would

quit his job and start all over again at another hotel. Two, the job market in Hawaii is quite limited at the time so more and more employees are reluctant to quit their jobs in search of a new one.

WORK SPACES

Mr. Koppelman did not, at this time, consider employee work spaces a priority in the design and operation of the hotel.

GENERAL COMMENTS

Cinerama Hawaii Hotels maintains itself as an economically priced hotel. Thus, in order to obtain a profit, all usable spaces are converted into guest quarters.

The lobby is designed to be as small as possible and is located within view from the hotel's entry. The elevators are then placed adjacent to the lobby. By compacting the normally grandiose size and appearance of the elevator and hotel lobbies, a large amount of valuable revenue producing space is freed up on the ground floor. These spaces can then be leased out to various retailers.

None of the Cinerama Hawaii Hotels have a food and beverage department but they do have restaurant facilities within the hotel. These facilities are leased to individual

restaurant owners with Cinerama Hawaii Hotels receiving a percentage of the gross monthly income. This manner of functioning frees the hotel from concerning itself with the endless details involved in the operation of a restaurant. Like the retail spaces, restaurants facilities are leased out.

SHERATON-WAIKIKI HOTEL
2225 Kalakaua Avenue
Honolulu, Hawaii 96815

Charlton J. Thomas
Executive Assistant Manager.

DATA

Built: 1971
Architects: Wimberely, Whisenand, Allison, & Tong
Number of rooms: 1900
Affiliation: Sheraton Corporation

EMPLOYEES

Mr. Thomas did not have an idea of the annual labor turnover but estimated it to be below the national average of 120%. This is attributed to the tight job situation in Hawaii and the fact that not too many people leave the Islands in search of a new job.

WCFK SPACES

The Sheraton-Waikiki is the largest convention/resort hotel and was the first to incorporate a computerized system into their reservations and accounting departments. Originally, these areas were designed for a manual system, so, when Sheraton-Waikiki converted into using a computerized system, extensive remodeling and relocating of various work areas had to be done. There had been a need to increase the work area due to the equipment involved as well as the additional staff now needed to handle the various operations of the computer.

Work space for the departments displaced by the accounting department were found by converting the dead spaces in the basement into usable office spaces.

The reservations department had been located in the front office area and the expansion of this department resulted in the transformation of retail space into office space.

Should more space be needed, Mr. Thomas foresees further expansion into the retail areas or the smaller banquet/meeting rooms.

At present, storage space for office material is a major, recurrent problem. Because tax records have to be kept for seven years, employment applications for five, and discharges indefinitely, there is a constantly increasing bulk of material that must be continually stored.

There are separate kitchen facilities for each restaurant and another for all of the banquet rooms. Although this arrangement requires more staff and occupies more space, Mr. Thomas feels that it is more functional than a single kitchen for the different restaurants offer different specialties and operated at different times, allowing for the complete shutdown of the kitchen when not in use.

Most of the communications conducted between departments are done via office memos or by telephone so there is no real need to consider the location of the various departments.

GENERAL COMMENTS

The Sheraton-Waikiki Hotel, a Sheraton Corporation Hotel, is an economically priced hotel with a set profit margin that must be met. In a situation such as this where the profit margin is dictated by the occupancy level, every effort must be made to insure guest satisfaction and hopefully a return visit. Often times, the back of the house area will be neglected in order to meet the criteria set by Sheraton Corporation.

APPENDIX C

This section contains the results of the frequencies program (Figures 13 through 18). The total number of responses received for each questionnaire item display the distributional characteristic of the overall sample group.

Position:		missing
		4
Managerial	42	
Supervisory	38	
Clerical	42	
Unskilled	6	
Division:		3
Administrative	40	
Sales/Catering	18	
Rooms	55	
Food/Beverage	16	

I. WORK AREA

2. Describe the use of your work area: 5
- | | |
|-------------------------------|------------------------------------|
| <u>39</u> myself only | <u>31</u> shared - different shift |
| <u>48</u> shared - same shift | <u>9</u> other: _____ |
5. How much room do these surfaces provide in helping you do your job well?
(mark the space on the line that comes closest to your feelings)
- | | |
|--|------------|
| too much | too little |
| <u>2</u> : <u>16</u> : <u>74</u> : <u>16</u> : <u>17</u> | 7 |
6. Do you need additional space?
- | | |
|---|-------|
| always | never |
| <u>31</u> : <u>24</u> : <u>36</u> : <u>21</u> : <u>14</u> | 6 |
7. Do you need to have a place for your business contacts (people who visit you at your work area) to sit when speaking with you?
- | | |
|---|-------|
| always | never |
| <u>31</u> : <u>23</u> : <u>15</u> : <u>17</u> : <u>38</u> | 8 |
8. What is the average number of business contacts you have at one time?
- | | | | | |
|---|-----|-----|-----|-----------|
| 0-1 | 2-3 | 4-5 | 6-7 | 8 or more |
| <u>56</u> : <u>46</u> : <u>9</u> : <u>1</u> : <u>14</u> | 6 | | | |
9. How much privacy do you have when speaking with your contacts?
- | | |
|---|------|
| sufficient | none |
| <u>39</u> : <u>15</u> : <u>12</u> : <u>20</u> : <u>37</u> | 9 |

Figure 13. Frequencies: frequency count for WORK AREA

For questions 13 - 38, please rate your work area, in general, by marking the space which comes closest to telling how you feel.
If an item does not apply to your work area, please leave it blank.

	VERY GOOD				VERY BAD	missing
13. Convenient to cafeteria	<u>44</u>	<u>18</u>	<u>40</u>	<u>9</u>	<u>9</u>	12
14. Convenient to locker room	<u>27</u>	<u>11</u>	<u>33</u>	<u>12</u>	<u>7</u>	42
15. Convenient to passenger elevators	<u>38</u>	<u>28</u>	<u>31</u>	<u>13</u>	<u>9</u>	13
16. Convenient to freight elevators	<u>36</u>	<u>24</u>	<u>33</u>	<u>10</u>	<u>5</u>	24
17. Convenient to stairways	<u>43</u>	<u>26</u>	<u>36</u>	<u>12</u>	<u>5</u>	10
18. Convenient to rest rooms	<u>55</u>	<u>35</u>	<u>19</u>	<u>8</u>	<u>8</u>	7
19. Convenient to lounge	<u>20</u>	<u>13</u>	<u>18</u>	<u>8</u>	<u>4</u>	69
20. Convenient to designated employee entrance/exit to the building	<u>38</u>	<u>32</u>	<u>31</u>	<u>11</u>	<u>8</u>	12
21. Ability to hear/to be heard	<u>28</u>	<u>28</u>	<u>40</u>	<u>14</u>	<u>8</u>	14
22. Freedom from distracting noise (typewriters, machinery)	<u>19</u>	<u>16</u>	<u>29</u>	<u>33</u>	<u>25</u>	10
23. Freedom from distracting conversation	<u>16</u>	<u>20</u>	<u>37</u>	<u>21</u>	<u>28</u>	10
24. Noise isolation from other work areas	<u>24</u>	<u>20</u>	<u>28</u>	<u>26</u>	<u>22</u>	12
25. Noise isolation from outdoors	<u>69</u>	<u>18</u>	<u>15</u>	<u>3</u>	<u>10</u>	17
26. Ability to control room temperature	<u>23</u>	<u>12</u>	<u>23</u>	<u>21</u>	<u>39</u>	14
27. Absence of draft	<u>40</u>	<u>25</u>	<u>21</u>	<u>16</u>	<u>18</u>	12
28. Room lighting	<u>49</u>	<u>28</u>	<u>34</u>	<u>13</u>	<u>3</u>	5
29. Absence of glare	<u>40</u>	<u>25</u>	<u>35</u>	<u>14</u>	<u>6</u>	12
30. Bulletin board space	<u>34</u>	<u>26</u>	<u>31</u>	<u>7</u>	<u>10</u>	24
31. Control of entry in work area	<u>41</u>	<u>24</u>	<u>26</u>	<u>13</u>	<u>15</u>	13
32. Room for more work surfaces	<u>16</u>	<u>16</u>	<u>28</u>	<u>21</u>	<u>36</u>	15
33. Room for visitors	<u>26</u>	<u>10</u>	<u>31</u>	<u>21</u>	<u>22</u>	22
34. Ease of movement within work area	<u>35</u>	<u>21</u>	<u>29</u>	<u>24</u>	<u>16</u>	7
35. Low number of safety hazards	<u>43</u>	<u>29</u>	<u>33</u>	<u>10</u>	<u>6</u>	11
36. Floor covering	<u>43</u>	<u>28</u>	<u>32</u>	<u>11</u>	<u>9</u>	9
37. Space dividers (screens/partitions)	<u>17</u>	<u>14</u>	<u>24</u>	<u>10</u>	<u>14</u>	53
38. Possible to have more than one activity going on at one time	<u>24</u>	<u>17</u>	<u>30</u>	<u>27</u>	<u>14</u>	20
41. In general, how satisfied are you with the appearance of your work area?						
	very satisfied			not satisfied		
	<u>25</u>	<u>34</u>	<u>46</u>	<u>11</u>	<u>12</u>	4
43. In general, how satisfied are you with the arrangement of the furnishings in your work area?						
	very satisfied			not satisfied		
	<u>27</u>	<u>34</u>	<u>38</u>	<u>17</u>	<u>12</u>	4

Figure 14. Frequencies: frequency count for WORK AREA

III. LOCKER ROOM

1. If there is a locker room, do you use it? missing
48 yes 63 no (if you do not use it, or there is none, skip to next section, CAFETERIA) 21

For what reasons do you use the locker room. (check all that apply) avg. 83

35 change clothing 5 talk only
45 rest rooms 23 put away personal belongings
17 shower 1 other: _____

2. Is your locker: too large too small
2 : 7 : 20 : 5 : 10

3. What is your average length of stay in the locker room at one time, in minutes ?
0-5 5-10 10-15 15-20 20 or more
24 : 13 : 7 : _____ : 4 84

For questions 4 - 18, please rate your locker room by marking the space which comes closest to telling how you feel.

If an item does not apply, please leave it blank.

	VERY GOOD					VERY BAD	
4. Convenient to time clock	<u>23</u>	<u>9</u>	<u>8</u>	<u>3</u>	<u>2</u>		87
5. Convenient to designated employee entrance/exit to the building	<u>23</u>	<u>12</u>	<u>5</u>	<u>4</u>	<u>1</u>		87
6. Convenient to cafeteria	<u>27</u>	<u>11</u>	<u>7</u>				87
7. Convenient to stairs	<u>15</u>	<u>10</u>	<u>9</u>	<u>5</u>	<u>2</u>		91
8. Convenient to elevators	<u>19</u>	<u>10</u>	<u>9</u>	<u>4</u>	<u>1</u>		89
9. Ability to hear/to be heard	<u>17</u>	<u>16</u>	<u>8</u>	<u>2</u>			89
10. Noise isolation from work areas	<u>18</u>	<u>14</u>	<u>9</u>	<u>2</u>			89
11. Ability to control room temperature	<u>6</u>	<u>10</u>	<u>6</u>	<u>9</u>	<u>10</u>		91
12. Absence of draft	<u>11</u>	<u>11</u>	<u>8</u>	<u>4</u>	<u>6</u>		92
13. Bulletin board space	<u>8</u>	<u>5</u>	<u>2</u>	<u>11</u>	<u>14</u>		92
14. Room lighting	<u>20</u>	<u>13</u>	<u>11</u>	<u>1</u>			87
15. Floor covering	<u>13</u>	<u>8</u>	<u>16</u>	<u>5</u>	<u>1</u>		89
16. Locker benches	<u>15</u>	<u>14</u>	<u>11</u>	<u>6</u>			86
17. Control of entry into locker room	<u>14</u>	<u>17</u>	<u>9</u>	<u>4</u>	<u>1</u>		87
18. Width of aisles	<u>13</u>	<u>17</u>	<u>11</u>	<u>3</u>	<u>1</u>		87
22. In general, how satisfied are you with the appearance of your locker room?	very satisfied					not satisfied	
	<u>8</u>	<u>13</u>	<u>11</u>	<u>8</u>	<u>4</u>		88

Figure 16. Frequencies: frequency count for LOCKER ROOM

For questions 9 - 24, please rate your cafeteria by marking the space which comes closest to telling how you feel.
If an item does not apply, please leave it blank.

	VERY GOOD			VERY BAD		missing
9. Convenient to designated employee entrance/exit to the building	<u>51</u>	<u>25</u>	<u>29</u>	<u>6</u>	<u>4</u>	17
10. Convenient to time clock	<u>47</u>	<u>21</u>	<u>28</u>	<u>7</u>	<u>2</u>	27
11. Convenient to elevators/stairs	<u>47</u>	<u>22</u>	<u>28</u>	<u>11</u>	<u>5</u>	19
12. Convenient to rest rooms	<u>55</u>	<u>25</u>	<u>29</u>	<u>5</u>	<u>3</u>	15
13. Ability to hear/to be heard	<u>32</u>	<u>22</u>	<u>41</u>	<u>13</u>	<u>11</u>	13
14. Noise isolation from work areas	<u>41</u>	<u>28</u>	<u>28</u>	<u>10</u>	<u>7</u>	18
15. Ability to control room temperature	<u>27</u>	<u>18</u>	<u>28</u>	<u>22</u>	<u>14</u>	
16. Absence of draft	<u>30</u>	<u>23</u>	<u>32</u>	<u>15</u>	<u>10</u>	22
17. Bulletin board space	<u>48</u>	<u>34</u>	<u>23</u>	<u>5</u>	<u>4</u>	18
18. Visual privacy	<u>19</u>	<u>11</u>	<u>29</u>	<u>23</u>	<u>27</u>	23
19. Room lighting	<u>51</u>	<u>29</u>	<u>29</u>	<u>5</u>	<u>3</u>	15
20. Floor covering	<u>41</u>	<u>21</u>	<u>35</u>	<u>13</u>	<u>14</u>	18
21. Space dividers (screens/partitions)	<u>18</u>	<u>9</u>	<u>24</u>	<u>11</u>	<u>23</u>	47
22. Ease of movement - entrance to serving line to tables	<u>40</u>	<u>31</u>	<u>32</u>	<u>12</u>	<u>4</u>	13
23. Ease of movement - table to dish disposal to exit	<u>38</u>	<u>34</u>	<u>31</u>	<u>9</u>	<u>5</u>	15
24. Possible to have more than one activity going on at one time	<u>17</u>	<u>22</u>	<u>40</u>	<u>13</u>	<u>11</u>	29
27. In general, how satisfied are you with the appearance of your cafeteria?						
	very satisfied			not satisfied		
	<u>27</u>	<u>37</u>	<u>27</u>	<u>13</u>	<u>17</u>	

Figure 18. Frequencies: frequency count for CAFETERIA

APPENDIX D

Figures 19 through 34 represent the frequency count of the employee responses by position and division to features in their work area and cafeteria as derived from the crosstabs program.

For questions 13 - 38, please rate your work area, in general, by marking the space which comes closest to telling how you feel.

If an item does not apply to your work area, please leave it blank.

	VERY GOOD			VERY BAD		missing
13. Convenient to cafeteria	<u>12</u>	<u>5</u>	<u>14</u>	<u>3</u>	<u>1</u>	7
14. Convenient to locker room	<u>6</u>	<u>5</u>	<u>10</u>	<u>4</u>	<u>2</u>	15
15. Convenient to passenger elevators	<u>15</u>	<u>9</u>	<u>6</u>	<u>5</u>	<u>2</u>	5
16. Convenient to freight elevators	<u>12</u>	<u>6</u>	<u>13</u>	<u>3</u>	<u>1</u>	7
17. Convenient to stairways	<u>15</u>	<u>8</u>	<u>12</u>	<u>3</u>	<u>1</u>	3
18. Convenient to rest rooms	<u>15</u>	<u>14</u>	<u>6</u>	<u>2</u>	<u>2</u>	3
19. Convenient to lounge	<u>3</u>	<u>7</u>	<u>8</u>	<u>1</u>	<u>1</u>	22
20. Convenient to designated employee entrance/exit to the building	<u>9</u>	<u>14</u>	<u>11</u>	<u>3</u>	<u>0</u>	5
21. Ability to hear/to be heard	<u>11</u>	<u>12</u>	<u>11</u>	<u>4</u>	<u>0</u>	4
22. Freedom from distracting noise (typewriters, machinery)	<u>9</u>	<u>8</u>	<u>8</u>	<u>9</u>	<u>5</u>	3
23. Freedom from distracting conversation	<u>10</u>	<u>8</u>	<u>10</u>	<u>8</u>	<u>3</u>	3
24. Noise isolation from other work areas	<u>11</u>	<u>10</u>	<u>12</u>	<u>4</u>	<u>2</u>	
25. Noise isolation from outdoors	<u>24</u>	<u>6</u>	<u>5</u>	<u>0</u>	<u>2</u>	5
26. Ability to control room temperature	<u>11</u>	<u>3</u>	<u>6</u>	<u>10</u>	<u>8</u>	4
27. Absence of draft	<u>15</u>	<u>11</u>	<u>5</u>	<u>4</u>	<u>3</u>	4
28. Room lighting	<u>14</u>	<u>12</u>	<u>10</u>	<u>3</u>	<u>0</u>	3
29. Absence of glare	<u>13</u>	<u>9</u>	<u>9</u>	<u>7</u>	<u>0</u>	3
30. Bulletin board space	<u>13</u>	<u>11</u>	<u>10</u>	<u>2</u>	<u>1</u>	5
31. Control of entry in work area	<u>14</u>	<u>6</u>	<u>10</u>	<u>6</u>	<u>2</u>	4
32. Room for more work surfaces	<u>6</u>	<u>6</u>	<u>11</u>	<u>5</u>	<u>8</u>	6
33. Room for visitors	<u>10</u>	<u>4</u>	<u>15</u>	<u>6</u>	<u>3</u>	4
34. Ease of movement within work area	<u>12</u>	<u>9</u>	<u>9</u>	<u>6</u>	<u>2</u>	4
35. Low number of safety hazards	<u>16</u>	<u>11</u>	<u>10</u>	<u>2</u>	<u>1</u>	2
36. Floor covering	<u>15</u>	<u>8</u>	<u>11</u>	<u>3</u>	<u>1</u>	4
37. Space dividers (screens/partitions)	<u>11</u>	<u>3</u>	<u>8</u>	<u>3</u>	<u>4</u>	13
38. Possible to have more than one activity going on at one time	<u>12</u>	<u>3</u>	<u>13</u>	<u>8</u>	<u>2</u>	4
41. In general, how satisfied are you with the appearance of your work area?						
	very satisfied			not satisfied		
	<u>10</u>	<u>10</u>	<u>18</u>	<u>2</u>	<u>1</u>	1
43. In general, how satisfied are you with the arrangement of the furnishings in your work area?						
	very satisfied			not satisfied		
	<u>10</u>	<u>10</u>	<u>14</u>	<u>6</u>	<u>1</u>	1

Figure 19. Crosstabs: frequency count for questionnaire items in WORK AREA by Managerial position

For questions 13 - 38, please rate your work area, in general, by marking the space which comes closest to telling how you feel.

If an item does not apply to your work area, please leave it blank.

	VERY GOOD					VERY BAD	missing
13. Convenient to cafeteria	<u>11</u>	<u>7</u>	<u>10</u>	<u>2</u>	<u>5</u>		3
14. Convenient to locker room	<u>8</u>	<u>2</u>	<u>8</u>	<u>5</u>	<u>3</u>		12
15. Convenient to passenger elevators	<u>9</u>	<u>7</u>	<u>12</u>	<u>3</u>	<u>3</u>		4
16. Convenient to freight elevators	<u>10</u>	<u>6</u>	<u>11</u>	<u>2</u>	<u>2</u>		7
17. Convenient to stairways	<u>10</u>	<u>8</u>	<u>7</u>	<u>5</u>	<u>4</u>		4
18. Convenient to rest rooms	<u>15</u>	<u>9</u>	<u>5</u>	<u>4</u>	<u>3</u>		2
19. Convenient to lounge	<u>3</u>	<u>7</u>	<u>2</u>	<u>3</u>	<u>1</u>		22
20. Convenient to designated employee entrance/exit to the building	<u>10</u>	<u>8</u>	<u>7</u>	<u>5</u>	<u>6</u>		2
21. Ability to hear/to be heard	<u>3</u>	<u>10</u>	<u>12</u>	<u>5</u>	<u>3</u>		5
22. Freedom from distracting noise (typewriters, machinery)	<u>4</u>	<u>5</u>	<u>8</u>	<u>12</u>	<u>5</u>		4
23. Freedom from distracting conversation	<u>4</u>	<u>4</u>	<u>11</u>	<u>7</u>	<u>9</u>		3
24. Noise isolation from other work areas	<u>6</u>	<u>4</u>	<u>7</u>	<u>10</u>	<u>7</u>		4
25. Noise isolation from outdoors	<u>22</u>	<u>3</u>	<u>3</u>	<u>2</u>	<u>2</u>		6
26. Ability to control room temperature	<u>4</u>	<u>3</u>	<u>10</u>	<u>4</u>	<u>12</u>		5
27. Absence of draft	<u>6</u>	<u>8</u>	<u>10</u>	<u>6</u>	<u>5</u>		3
28. Room lighting	<u>11</u>	<u>8</u>	<u>13</u>	<u>2</u>	<u>2</u>		2
29. Absence of glare	<u>12</u>	<u>9</u>	<u>11</u>	<u>1</u>	<u>2</u>		3
30. Bulletin board space	<u>10</u>	<u>6</u>	<u>7</u>	<u>3</u>	<u>3</u>		9
31. Control of entry in work area	<u>12</u>	<u>6</u>	<u>4</u>	<u>4</u>	<u>9</u>		3
32. Room for more work surfaces	<u>3</u>	<u>4</u>	<u>7</u>	<u>9</u>	<u>11</u>		4
33. Room for visitors	<u>5</u>	<u>1</u>	<u>7</u>	<u>11</u>	<u>9</u>		5
34. Ease of movement within work area	<u>6</u>	<u>5</u>	<u>13</u>	<u>8</u>	<u>4</u>		2
35. Low number of safety hazards	<u>10</u>	<u>12</u>	<u>6</u>	<u>4</u>	<u>1</u>		5
36. Floor covering	<u>14</u>	<u>11</u>	<u>6</u>	<u>3</u>	<u>2</u>		2
37. Space dividers (screens/partitions)	<u>1</u>	<u>5</u>	<u>6</u>	<u>2</u>	<u>5</u>		19
38. Possible to have more than one activity going on at one time	<u>4</u>	<u>5</u>	<u>6</u>	<u>13</u>	<u>5</u>		5
41. In general, how satisfied are you with the appearance of your work area?							
	very satisfied			not satisfied			
	<u>7</u>	<u>9</u>	<u>11</u>	<u>5</u>	<u>4</u>		2
43. In general, how satisfied are you with the arrangement of the furnishings in your work area?							
	very satisfied			not satisfied			
	<u>6</u>	<u>9</u>	<u>8</u>	<u>6</u>	<u>7</u>		2

Figure 20. Crosstabs: frequency count for questionnaire items in WORK AREA by Supervisory position

For questions 13 - 38, please rate your work area, in general, by marking the space which comes closest to telling how you feel.
If an item does not apply to your work area, please leave it blank.

	VERY GOOD					VERY BAD	missing
13. Convenient to cafeteria	<u>14</u>	<u>5</u>	<u>15</u>	<u>4</u>	<u>3</u>		1
14. Convenient to locker room	<u>6</u>	<u>4</u>	<u>14</u>	<u>3</u>	<u>2</u>		13
15. Convenient to passenger elevators	<u>9</u>	<u>11</u>	<u>12</u>	<u>5</u>	<u>3</u>		2
16. Convenient to freight elevators	<u>10</u>	<u>11</u>	<u>8</u>	<u>5</u>	<u>2</u>		6
17. Convenient to stairways	<u>11</u>	<u>9</u>	<u>16</u>	<u>4</u>	<u>0</u>		2
18. Convenient to rest rooms	<u>18</u>	<u>11</u>	<u>7</u>	<u>2</u>	<u>3</u>		1
19. Convenient to lounge	<u>5</u>	<u>3</u>	<u>7</u>	<u>4</u>	<u>2</u>		21
20. Convenient to designated employee entrance/exit to the building	<u>11</u>	<u>10</u>	<u>11</u>	<u>3</u>	<u>2</u>		4
21. Ability to hear/to be heard	<u>12</u>	<u>4</u>	<u>15</u>	<u>5</u>	<u>4</u>		2
22. Freedom from distracting noise (typewriters, machinery)	<u>4</u>	<u>2</u>	<u>10</u>	<u>12</u>	<u>14</u>		0
23. Freedom from distracting conversation	<u>1</u>	<u>6</u>	<u>14</u>	<u>6</u>	<u>14</u>		1
24. Noise isolation from other work areas	<u>5</u>	<u>4</u>	<u>7</u>	<u>12</u>	<u>11</u>		3
25. Noise isolation from outdoors	<u>20</u>	<u>8</u>	<u>6</u>	<u>1</u>	<u>4</u>		3
26. Ability to control room temperature	<u>6</u>	<u>5</u>	<u>5</u>	<u>7</u>	<u>17</u>		2
27. Absence of draft	<u>16</u>	<u>6</u>	<u>4</u>	<u>6</u>	<u>9</u>		1
28. Room lighting	<u>16</u>	<u>7</u>	<u>10</u>	<u>8</u>	<u>1</u>		0
29. Absence of glare	<u>11</u>	<u>6</u>	<u>14</u>	<u>6</u>	<u>4</u>		1
30. Bulletin board space	<u>7</u>	<u>8</u>	<u>13</u>	<u>2</u>	<u>6</u>		6
31. Control of entry in work area	<u>10</u>	<u>10</u>	<u>11</u>	<u>3</u>	<u>4</u>		4
32. Room for more work surfaces	<u>3</u>	<u>6</u>	<u>8</u>	<u>6</u>	<u>15</u>		4
33. Room for visitors	<u>8</u>	<u>4</u>	<u>8</u>	<u>4</u>	<u>10</u>		8
34. Ease of movement within work area	<u>12</u>	<u>6</u>	<u>6</u>	<u>9</u>	<u>8</u>		1
35. Low number of safety hazards	<u>12</u>	<u>5</u>	<u>15</u>	<u>4</u>	<u>4</u>		2
36. Floor covering	<u>9</u>	<u>9</u>	<u>14</u>	<u>3</u>	<u>5</u>		2
37. Space dividers (screens/partitions)	<u>4</u>	<u>5</u>	<u>8</u>	<u>5</u>	<u>5</u>		15
38. Possible to have more than one activity going on at one time	<u>4</u>	<u>8</u>	<u>10</u>	<u>6</u>	<u>7</u>		7
41. In general, how satisfied are you with the appearance of your work area?							
	very satisfied			not satisfied			
	<u>3</u>	<u>14</u>	<u>14</u>	<u>4</u>	<u>6</u>		1
43. In general, how satisfied are you with the arrangement of the furnishings in your work area?							
	very satisfied			not satisfied			
	<u>6</u>	<u>12</u>	<u>15</u>	<u>5</u>	<u>3</u>		1

Figure 21. Crosstabs: frequency count for questionnaire items in WORK AREA by Clerical position

For questions 13 - 38, please rate your work area, in general, by marking the space which comes closest to telling how you feel.
If an item does not apply to your work area, please leave it blank.

	VERY GOOD				VERY BAD	missing
13. Convenient to cafeteria	<u>5</u>	_____	_____	_____	_____	1
14. Convenient to locker room	<u>5</u>	_____	_____	_____	_____	1
15. Convenient to passenger elevators	<u>3</u>	<u>1</u>	_____	_____	_____	2
16. Convenient to freight elevators	<u>1</u>	<u>1</u>	_____	_____	_____	4
17. Convenient to stairways	<u>5</u>	_____	_____	_____	_____	1
18. Convenient to rest rooms	<u>4</u>	<u>1</u>	_____	_____	_____	1
19. Convenient to lounge	<u>4</u>	_____	_____	_____	_____	2
20. Convenient to designated employee entrance/exit to the building	<u>5</u>	_____	<u>1</u>	_____	_____	0
21. Ability to hear/to be heard	<u>2</u>	_____	<u>1</u>	_____	<u>1</u>	2
22. Freedom from distracting noise (typewriters, machinery)	<u>2</u>	_____	<u>1</u>	_____	_____	3
23. Freedom from distracting conversation	<u>1</u>	<u>1</u>	_____	_____	<u>1</u>	3
24. Noise isolation from other work areas	<u>2</u>	<u>1</u>	_____	_____	<u>1</u>	2
25. Noise isolation from outdoors	<u>2</u>	_____	_____	_____	<u>1</u>	3
26. Ability to control room temperature	<u>1</u>	<u>1</u>	_____	_____	<u>1</u>	3
27. Absence of draft	<u>2</u>	_____	_____	_____	_____	4
28. Room lighting	<u>6</u>	_____	_____	_____	_____	0
29. Absence of glare	<u>3</u>	_____	_____	_____	_____	3
30. Bulletin board space	<u>3</u>	_____	_____	_____	_____	3
31. Control of entry in work area	<u>3</u>	<u>1</u>	_____	_____	_____	2
32. Room for more work surfaces	<u>3</u>	_____	_____	<u>1</u>	<u>1</u>	1
33. Room for visitors	<u>2</u>	_____	_____	_____	_____	4
34. Ease of movement within work area	<u>4</u>	_____	_____	<u>1</u>	<u>1</u>	0
35. Low number of safety hazards	<u>3</u>	_____	<u>1</u>	_____	_____	2
36. Floor covering	<u>4</u>	_____	_____	<u>1</u>	_____	1
37. Space dividers (screens/partitions)	<u>1</u>	<u>1</u>	_____	_____	_____	4
38. Possible to have more than one activity going on at one time	<u>3</u>	_____	_____	_____	_____	3
41. In general, how satisfied are you with the appearance of your work area?						
	very satisfied		not satisfied			
	<u>5</u>	_____	<u>1</u>	_____	_____	0
43. In general, how satisfied are you with the arrangement of the furnishings in your work area?						
	very satisfied		not satisfied			
	<u>3</u>	_____	<u>1</u>	_____	_____	2

Figure 22. Crosstabs: frequency count for questionnaire items in WORK AREA by Unskilled position

For questions 13 - 38, please rate your work area, in general, by marking the space which comes closest to telling how you feel.
If an item does not apply to your work area, please leave it blank.

	VERY GOOD			VERY BAD		missing
13. Convenient to cafeteria	<u>17</u>	<u>4</u>	<u>14</u>	<u>2</u>	<u>2</u>	1
14. Convenient to locker room	<u>2</u>	<u>4</u>	<u>11</u>	<u>3</u>	<u>2</u>	18
15. Convenient to passenger elevators	<u>6</u>	<u>6</u>	<u>12</u>	<u>10</u>	<u>2</u>	4
16. Convenient to freight elevators	<u>6</u>	<u>6</u>	<u>13</u>	<u>5</u>	<u>1</u>	9
17. Convenient to stairways	<u>9</u>	<u>4</u>	<u>14</u>	<u>5</u>	<u>3</u>	5
18. Convenient to rest rooms	<u>14</u>	<u>9</u>	<u>11</u>	<u>3</u>	<u>3</u>	0
19. Convenient to lounge	<u>4</u>	<u>2</u>	<u>9</u>	<u>2</u>	<u>2</u>	21
20. Convenient to designated employee entrance/exit to the building	<u>9</u>	<u>10</u>	<u>14</u>	<u>3</u>	<u>1</u>	2
21. Ability to hear/to be heard	<u>8</u>	<u>7</u>	<u>15</u>	<u>5</u>	<u>0</u>	5
22. Freedom from distracting noise (typewriters, machinery)	<u>4</u>	<u>7</u>	<u>9</u>	<u>11</u>	<u>8</u>	1
23. Freedom from distracting conversation	<u>3</u>	<u>4</u>	<u>14</u>	<u>8</u>	<u>9</u>	2
24. Noise isolation from other work areas	<u>7</u>	<u>4</u>	<u>8</u>	<u>10</u>	<u>8</u>	3
25. Noise isolation from outdoors	<u>22</u>	<u>4</u>	<u>5</u>	<u>0</u>	<u>4</u>	5
26. Ability to control room temperature	<u>8</u>	<u>4</u>	<u>7</u>	<u>6</u>	<u>11</u>	4
27. Absence of draft	<u>13</u>	<u>5</u>	<u>5</u>	<u>7</u>	<u>7</u>	3
28. Room lighting	<u>13</u>	<u>3</u>	<u>18</u>	<u>4</u>	<u>2</u>	0
29. Absence of glare	<u>11</u>	<u>2</u>	<u>4</u>	<u>7</u>	<u>4</u>	2
30. Bulletin board space	<u>6</u>	<u>5</u>	<u>15</u>	<u>2</u>	<u>2</u>	10
31. Control of entry in work area	<u>9</u>	<u>7</u>	<u>10</u>	<u>4</u>	<u>7</u>	3
32. Room for more work surfaces	<u>0</u>	<u>7</u>	<u>10</u>	<u>5</u>	<u>12</u>	6
33. Room for visitors	<u>7</u>	<u>1</u>	<u>12</u>	<u>7</u>	<u>7</u>	6
34. Ease of movement within work area	<u>8</u>	<u>3</u>	<u>11</u>	<u>11</u>	<u>5</u>	2
35. Low number of safety hazards	<u>11</u>	<u>6</u>	<u>15</u>	<u>4</u>	<u>1</u>	3
36. Floor covering	<u>11</u>	<u>6</u>	<u>15</u>	<u>3</u>	<u>5</u>	0
37. Space dividers (screens/partitions)	<u>4</u>	<u>3</u>	<u>9</u>	<u>3</u>	<u>3</u>	18
38. Possible to have more than one activity going on at one time	<u>3</u>	<u>3</u>	<u>12</u>	<u>12</u>	<u>4</u>	6
41. In general, how satisfied are you with the appearance of your work area?						
	very satisfied			not satisfied		
	<u>5</u>	<u>10</u>	<u>17</u>	<u>3</u>	<u>4</u>	1
43. In general, how satisfied are you with the arrangement of the furnishings in your work area?						
	very satisfied			not satisfied		
	<u>6</u>	<u>6</u>	<u>14</u>	<u>10</u>	<u>4</u>	0

Figure 23. Crosstabs: frequency count for questionnaire items in WORK AREA by Administrative division

For questions 13 - 38, please rate your work area, in general, by marking the space which comes closest to telling how you feel.
If an item does not apply to your work area, please leave it blank.

	VERY GOOD					VERY BAD	missing
13. Convenient to cafeteria	<u>5</u>	<u>1</u>	<u>5</u>	<u>0</u>	<u>3</u>		4
14. Convenient to locker room	<u>3</u>	<u>0</u>	<u>5</u>	<u>1</u>	<u>3</u>		8
15. Convenient to passenger elevators	<u>10</u>	<u>3</u>	<u>3</u>	<u>0</u>	<u>1</u>		1
16. Convenient to freight elevators	<u>5</u>	<u>2</u>	<u>3</u>	<u>2</u>	<u>1</u>		5
17. Convenient to stairways	<u>10</u>	<u>5</u>	<u>3</u>	<u>0</u>	<u>0</u>		0
18. Convenient to rest rooms	<u>6</u>	<u>5</u>	<u>3</u>	<u>1</u>	<u>2</u>		1
19. Convenient to lounge	<u>2</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>0</u>		12
20. Convenient to designated employee entrance/exit to the building	<u>4</u>	<u>4</u>	<u>4</u>	<u>1</u>	<u>3</u>		2
21. Ability to hear/to be heard	<u>7</u>	<u>4</u>	<u>3</u>	<u>1</u>	<u>2</u>		1
22. Freedom from distracting noise (typewriters, machinery)	<u>5</u>	<u>2</u>	<u>4</u>	<u>4</u>	<u>2</u>		1
23. Freedom from distracting conversation	<u>5</u>	<u>2</u>	<u>7</u>	<u>1</u>	<u>3</u>		0
24. Noise isolation from other work areas	<u>5</u>	<u>0</u>	<u>8</u>	<u>2</u>	<u>2</u>		1
25. Noise isolation from outdoors	<u>10</u>	<u>3</u>	<u>2</u>	<u>1</u>	<u>0</u>		2
26. Ability to control room temperature	<u>6</u>	<u>1</u>	<u>4</u>	<u>4</u>	<u>2</u>		1
27. Absence of draft	<u>8</u>	<u>4</u>	<u>2</u>	<u>3</u>	<u>1</u>		0
28. Room lighting	<u>7</u>	<u>5</u>	<u>4</u>	<u>2</u>	<u>0</u>		0
29. Absence of glare	<u>6</u>	<u>6</u>	<u>5</u>	<u>1</u>	<u>0</u>		0
30. Bulletin board space	<u>6</u>	<u>2</u>	<u>3</u>	<u>2</u>	<u>1</u>		4
31. Control of entry in work area	<u>7</u>	<u>1</u>	<u>3</u>	<u>2</u>	<u>4</u>		1
32. Room for more work surfaces	<u>4</u>	<u>2</u>	<u>4</u>	<u>2</u>	<u>6</u>		0
33. Room for visitors	<u>8</u>	<u>2</u>	<u>4</u>	<u>2</u>	<u>2</u>		0
34. Ease of movement within work area	<u>8</u>	<u>2</u>	<u>4</u>	<u>3</u>	<u>1</u>		0
35. Low number of safety hazards	<u>6</u>	<u>5</u>	<u>3</u>	<u>2</u>	<u>1</u>		1
36. Floor covering	<u>9</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>0</u>		0
37. Space dividers (screens/partitions)	<u>6</u>	<u>1</u>	<u>2</u>	<u>0</u>	<u>3</u>		6
38. Possible to have more than one activity going on at one time	<u>8</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>3</u>		1
41. In general, how satisfied are you with the appearance of your work area?							
	very satisfied			not satisfied			
	<u>5</u>	<u>1</u>	<u>7</u>	<u>2</u>	<u>1</u>		2
43. In general, how satisfied are you with the arrangement of the furnishings in your work area?							
	very satisfied			not satisfied			
	<u>6</u>	<u>4</u>	<u>4</u>	<u>3</u>	<u>0</u>		1

Figure 24. Crosstabs: frequency count for questionnaire items in WORK AREA by Sales/Catering division

For questions 13 - 38, please rate your work area, in general, by marking the space which comes closest to telling how you feel.

If an item does not apply to your work area, please leave it blank.

	VERY GOOD				VERY BAD	missing
13. Convenient to cafeteria	<u>19</u>	<u>6</u>	<u>20</u>	<u>5</u>	<u>3</u>	2
14. Convenient to locker room	<u>20</u>	<u>4</u>	<u>14</u>	<u>4</u>	<u>3</u>	10
15. Convenient to passenger elevators	<u>17</u>	<u>12</u>	<u>14</u>	<u>3</u>	<u>5</u>	4
16. Convenient to freight elevators	<u>18</u>	<u>10</u>	<u>14</u>	<u>3</u>	<u>3</u>	7
17. Convenient to stairways	<u>17</u>	<u>12</u>	<u>17</u>	<u>5</u>	<u>1</u>	3
18. Convenient to rest rooms	<u>28</u>	<u>14</u>	<u>4</u>	<u>3</u>	<u>2</u>	4
19. Convenient to lounge	<u>8</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>2</u>	30
20. Convenient to designated employee entrance/exit to the building	<u>22</u>	<u>13</u>	<u>9</u>	<u>5</u>	<u>3</u>	3
21. Ability to hear/to be heard	<u>10</u>	<u>14</u>	<u>15</u>	<u>7</u>	<u>5</u>	4
22. Freedom from distracting noise (typewriters, machinery)	<u>7</u>	<u>5</u>	<u>10</u>	<u>16</u>	<u>12</u>	5
23. Freedom from distracting conversation	<u>6</u>	<u>10</u>	<u>12</u>	<u>9</u>	<u>13</u>	5
24. Noise isolation from other work areas	<u>9</u>	<u>10</u>	<u>8</u>	<u>13</u>	<u>10</u>	5
25. Noise isolation from outdoors	<u>27</u>	<u>8</u>	<u>6</u>	<u>2</u>	<u>5</u>	7
26. Ability to control room temperature	<u>5</u>	<u>4</u>	<u>8</u>	<u>9</u>	<u>23</u>	6
27. Absence of draft	<u>14</u>	<u>9</u>	<u>11</u>	<u>6</u>	<u>9</u>	6
28. Room lighting	<u>21</u>	<u>15</u>	<u>9</u>	<u>7</u>	<u>1</u>	2
29. Absence of glare	<u>17</u>	<u>12</u>	<u>14</u>	<u>4</u>	<u>2</u>	6
30. Bulletin board space	<u>13</u>	<u>15</u>	<u>11</u>	<u>3</u>	<u>7</u>	6
31. Control of entry in work area	<u>17</u>	<u>11</u>	<u>12</u>	<u>6</u>	<u>3</u>	6
32. Room for more work surfaces	<u>7</u>	<u>6</u>	<u>9</u>	<u>11</u>	<u>16</u>	6
33. Room for visitors	<u>10</u>	<u>4</u>	<u>9</u>	<u>9</u>	<u>13</u>	10
34. Ease of movement within work area	<u>15</u>	<u>11</u>	<u>10</u>	<u>9</u>	<u>8</u>	2
35. Low number of safety hazards	<u>21</u>	<u>14</u>	<u>2</u>	<u>10</u>	<u>4</u>	4
36. Floor covering	<u>20</u>	<u>14</u>	<u>10</u>	<u>2</u>	<u>3</u>	6
37. Space dividers (screens/partitions)	<u>66</u>	<u>6</u>	<u>9</u>	<u>5</u>	<u>6</u>	23
38. Possible to have more than one activity going on at one time	<u>8</u>	<u>9</u>	<u>13</u>	<u>11</u>	<u>5</u>	9
41. In general, how satisfied are you with the appearance of your work area?						
	very satisfied			not satisfied		
	<u>10</u>	<u>15</u>	<u>18</u>	<u>5</u>	<u>6</u>	1
43. In general, how satisfied are you with the arrangement of the furnishings in your work area?						
	very satisfied			not satisfied		
	<u>12</u>	<u>15</u>	<u>17</u>	<u>4</u>	<u>6</u>	1

Figure 25. Crosstabs: frequency count for questionnaire items in WORK AREA by Rooms Division

For questions 13 - 38, please rate your work area, in general, by marking the space which comes closest to telling how you feel.
If an item does not apply to your work area, please leave it blank.

	VERY GOOD			VERY BAD		missing
13. Convenient to cafeteria	<u>2</u>	<u>6</u>	<u>0</u>	<u>2</u>	<u>1</u>	5
14. Convenient to locker room	<u>1</u>	<u>3</u>	<u>2</u>	<u>4</u>	<u>1</u>	5
15. Convenient to passenger elevators	<u>3</u>	<u>7</u>	<u>1</u>	<u>0</u>	<u>1</u>	4
16. Convenient to freight elevators	<u>5</u>	<u>6</u>	<u>2</u>	<u>0</u>	<u>0</u>	3
17. Convenient to stairways	<u>5</u>	<u>5</u>	<u>1</u>	<u>2</u>	<u>1</u>	2
18. Convenient to rest rooms	<u>5</u>	<u>7</u>	<u>0</u>	<u>2</u>	<u>0</u>	2
19. Convenient to lounge	<u>5</u>	<u>4</u>	<u>2</u>	<u>0</u>	<u>0</u>	5
20. Convenient to designated employee entrance/exit to the building	<u>1</u>	<u>5</u>	<u>3</u>	<u>2</u>	<u>1</u>	4
21. Ability to hear/to be heard	<u>3</u>	<u>2</u>	<u>6</u>	<u>1</u>	<u>1</u>	3
22. Freedom from distracting noise (typewriters, machinery)	<u>3</u>	<u>2</u>	<u>4</u>	<u>2</u>	<u>2</u>	3
23. Freedom from distracting conversation	<u>2</u>	<u>4</u>	<u>2</u>	<u>3</u>	<u>2</u>	3
24. Noise isolation from other work areas	<u>3</u>	<u>6</u>	<u>2</u>	<u>1</u>	<u>1</u>	3
25. Noise isolation from outdoors	<u>10</u>	<u>2</u>	<u>1</u>	<u>0</u>	<u>0</u>	3
26. Ability to control room temperature	<u>4</u>	<u>3</u>	<u>2</u>	<u>2</u>	<u>2</u>	3
27. Absence of draft	<u>5</u>	<u>7</u>	<u>1</u>	<u>0</u>	<u>0</u>	3
28. Room lighting	<u>7</u>	<u>4</u>	<u>2</u>	<u>0</u>	<u>0</u>	3
29. Absence of glare	<u>6</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>0</u>	3
30. Bulletin board space	<u>8</u>	<u>3</u>	<u>1</u>	<u>0</u>	<u>0</u>	4
31. Control of entry in work area	<u>7</u>	<u>4</u>	<u>0</u>	<u>1</u>	<u>1</u>	3
32. Room for more work surfaces	<u>5</u>	<u>1</u>	<u>3</u>	<u>3</u>	<u>1</u>	3
33. Room for visitors	<u>1</u>	<u>2</u>	<u>5</u>	<u>3</u>	<u>0</u>	5
34. Ease of movement within work area	<u>4</u>	<u>4</u>	<u>3</u>	<u>1</u>	<u>1</u>	3
35. Low number of safety hazards	<u>4</u>	<u>3</u>	<u>4</u>	<u>2</u>	<u>0</u>	3
36. Floor covering	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	<u>0</u>	3
37. Space dividers (screens/partitions)	<u>1</u>	<u>4</u>	<u>2</u>	<u>2</u>	<u>2</u>	5
38. Possible to have more than one activity going on at one time	<u>5</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	3
41. In general, how satisfied are you with the appearance of your work area?	very satisfied			not satisfied		
	<u>5</u>	<u>8</u>	<u>2</u>	<u>1</u>	<u>0</u>	0
43. In general, how satisfied are you with the arrangement of the furnishings in your work area?	very satisfied			not satisfied		
	<u>3</u>	<u>8</u>	<u>2</u>	<u>0</u>	<u>1</u>	2

Figure 26. Crosstabs: frequency count for questionnaire items in WORK AREA by Food/Beverage division

For questions 9 - 24, please rate your cafeteria by marking the space which comes closest to telling how you feel.
If an item does not apply, please leave it blank.

	VERY GOOD			VERY BAD		missing
9. Convenient to designated employee entrance/exit to the building	<u>17</u>	<u>10</u>	<u>7</u>	<u>1</u>	<u>1</u>	6
10. Convenient to time clock	<u>12</u>	<u>8</u>	<u>7</u>	<u>2</u>	<u>2</u>	11
11. Convenient to elevators/stairs	<u>19</u>	<u>6</u>	<u>7</u>	<u>2</u>	<u>2</u>	6
12. Convenient to rest rooms	<u>19</u>	<u>7</u>	<u>6</u>	<u>2</u>	<u>1</u>	7
13. Ability to hear/to be heard	<u>14</u>	<u>9</u>	<u>10</u>	<u>3</u>	<u>1</u>	5
14. Noise isolation from work areas	<u>15</u>	<u>10</u>	<u>9</u>	<u>1</u>	<u>3</u>	4
15. Ability to control room temperature	<u>12</u>	<u>4</u>	<u>13</u>	<u>4</u>	<u>3</u>	6
16. Absence of draft	<u>13</u>	<u>6</u>	<u>12</u>	<u>2</u>	<u>1</u>	8
17. Bulletin board space	<u>18</u>	<u>11</u>	<u>4</u>	<u>3</u>	<u>1</u>	5
18. Visual privacy	<u>8</u>	<u>2</u>	<u>10</u>	<u>7</u>	<u>8</u>	7
19. Room lighting	<u>15</u>	<u>9</u>	<u>9</u>	<u>2</u>	<u>2</u>	5
20. Floor covering	<u>13</u>	<u>6</u>	<u>12</u>	<u>6</u>	<u>1</u>	4
21. Space dividers (screens/partitions)	<u>9</u>	<u>4</u>	<u>7</u>	<u>3</u>	<u>8</u>	11
22. Ease of movement - entrance to serving line to tables	<u>12</u>	<u>9</u>	<u>11</u>	<u>3</u>	<u>1</u>	6
23. Ease of movement - table to dish disposal to exit	<u>13</u>	<u>10</u>	<u>11</u>	<u>0</u>	<u>1</u>	7
24. Possible to have more than one activity going on at one time	<u>7</u>	<u>3</u>	<u>16</u>	<u>6</u>	<u>2</u>	8
27. In general, how satisfied are you with the appearance of your cafeteria?						
	very satisfied			not satisfied		
	<u>8</u>	<u>10</u>	<u>12</u>	<u>4</u>	<u>3</u>	5

Figure 27. Crosstabs: frequency count for questionnaire items in CAFETERIA by Managerial position

For questions 9 - 24, please rate your cafeteria by marking the space which comes closest to telling how you feel.
If an item does not apply, please leave it blank.

	VERY GOOD			VERY BAD		missing
9. Convenient to designated employee entrance/exit to the building	<u>15</u>	<u>7</u>	<u>8</u>	<u>1</u>	<u>3</u>	4
10. Convenient to time clock	<u>16</u>	<u>6</u>	<u>8</u>	<u>2</u>	<u>0</u>	6
11. Convenient to elevators/stairs	<u>14</u>	<u>6</u>	<u>7</u>	<u>3</u>	<u>3</u>	5
12. Convenient to rest rooms	<u>13</u>	<u>7</u>	<u>11</u>	<u>2</u>	<u>1</u>	4
13. Ability to hear/to be heard	<u>6</u>	<u>8</u>	<u>12</u>	<u>4</u>	<u>3</u>	5
14. Noise isolation from work areas	<u>10</u>	<u>8</u>	<u>9</u>	<u>4</u>	<u>0</u>	7
15. Ability to control room temperature	<u>7</u>	<u>4</u>	<u>6</u>	<u>8</u>	<u>5</u>	8
16. Absence of draft	<u>7</u>	<u>8</u>	<u>10</u>	<u>5</u>	<u>2</u>	6
17. Bulletin board space	<u>11</u>	<u>12</u>	<u>9</u>	<u>0</u>	<u>1</u>	5
18. Visual privacy	<u>5</u>	<u>4</u>	<u>6</u>	<u>10</u>	<u>6</u>	7
19. Room lighting	<u>14</u>	<u>10</u>	<u>7</u>	<u>1</u>	<u>1</u>	5
20. Floor covering	<u>12</u>	<u>9</u>	<u>8</u>	<u>1</u>	<u>2</u>	6
21. Space dividers (screens/partitions)	<u>3</u>	<u>4</u>	<u>3</u>	<u>7</u>	<u>6</u>	15
22. Ease of movement - entrance to serving line to tables	<u>12</u>	<u>10</u>	<u>7</u>	<u>3</u>	<u>2</u>	4
23. Ease of movement - table to dish disposal to exit	<u>9</u>	<u>11</u>	<u>8</u>	<u>3</u>	<u>2</u>	5
24. Possible to have more than one activity going on at one time	<u>3</u>	<u>10</u>	<u>12</u>	<u>1</u>	<u>4</u>	8
27. In general, how satisfied are you with the appearance of your cafeteria?						
	very satisfied			not satisfied		
	<u>9</u>	<u>9</u>	<u>11</u>	<u>3</u>	<u>4</u>	2

Figure 28. Crosstabs: frequency count for questionnaire items in CAFETERIA by Supervisory position

For questions 9 - 24, please rate your cafeteria by marking the space which comes closest to telling how you feel.
If an item does not apply, please leave it blank.

	VERY GOOD			VERY BAD			missing
9. Convenient to designated employee entrance/exit to the building	<u>14</u>	<u>6</u>	<u>13</u>	<u>4</u>	<u>0</u>		5
10. Convenient to time clock	<u>13</u>	<u>6</u>	<u>12</u>	<u>3</u>	<u>0</u>		8
11. Convenient to elevators/stairs	<u>9</u>	<u>8</u>	<u>14</u>	<u>6</u>	<u>0</u>		5
12. Convenient to rest rooms	<u>16</u>	<u>9</u>	<u>12</u>	<u>2</u>	<u>0</u>		3
13. Ability to hear/to be heard	<u>6</u>	<u>4</u>	<u>18</u>	<u>6</u>	<u>6</u>		2
14. Noise isolation from work areas	<u>11</u>	<u>9</u>	<u>9</u>	<u>5</u>	<u>3</u>		5
15. Ability to control room temperature	<u>3</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>6</u>		6
16. Absence of draft	<u>6</u>	<u>8</u>	<u>9</u>	<u>7</u>	<u>7</u>		5
17. Bulletin board space	<u>12</u>	<u>10</u>	<u>9</u>	<u>2</u>	<u>2</u>		7
18. Visual privacy	<u>2</u>	<u>5</u>	<u>10</u>	<u>6</u>	<u>12</u>		7
19. Room lighting	<u>15</u>	<u>8</u>	<u>13</u>	<u>2</u>	<u>0</u>		4
20. Floor covering	<u>10</u>	<u>5</u>	<u>15</u>	<u>5</u>	<u>1</u>		6
21. Space dividers (screens/partitions)	<u>4</u>	<u>1</u>	<u>13</u>	<u>1</u>	<u>8</u>		15
22. Ease of movement - entrance to serving line to tables	<u>11</u>	<u>10</u>	<u>13</u>	<u>6</u>	<u>0</u>		2
23. Ease of movement - table to dish disposal to exit	<u>11</u>	<u>11</u>	<u>11</u>	<u>6</u>	<u>1</u>		2
24. Possible to have more than one activity going on at one time	<u>4</u>	<u>7</u>	<u>11</u>	<u>6</u>	<u>5</u>		9
27. In general, how satisfied are you with the appearance of your cafeteria?							
	very satisfied			not satisfied			
	<u>6</u>	<u>14</u>	<u>3</u>	<u>6</u>	<u>10</u>		3

Figure 29. Crosstabs: frequency count for questionnaire items in CAFETERIA by Clerical position

For questions 9 - 24, please rate your cafeteria by marking the space which comes closest to telling how you feel.
If an item does not apply, please leave it blank.

	VERY GOOD		VERY BAD	missing
9. Convenient to designated employee entrance/exit to the building	<u>3</u> : _____	:	<u>1</u> : _____	2
10. Convenient to time clock	<u>4</u> : _____	:	_____	2
11. Convenient to elevators/stairs	<u>3</u> : _____	:	_____	3
12. Convenient to rest rooms	<u>5</u> : _____	:	_____	1
13. Ability to hear/to be heard	<u>5</u> : _____	:	_____	1
14. Noise isolation from work areas	<u>4</u> : _____	:	_____	2
15. Ability to control room temperature	<u>3</u> : _____	:	_____	3
16. Absence of draft	<u>2</u> : <u>1</u> : _____	:	_____	3
17. Bulletin board space	<u>4</u> : _____	:	<u>1</u> : _____	1
18. Visual privacy	<u>3</u> : _____	:	<u>1</u> : _____	2
19. Room lighting	<u>5</u> : _____	:	_____	1
20. Floor covering	<u>4</u> : _____	:	<u>1</u> : _____	1
21. Space dividers (screens/partitions)	<u>2</u> : _____	:	<u>1</u> : _____	3
22. Ease of movement - entrance to serving line to tables	<u>4</u> : _____	:	<u>1</u> : _____	1
23. Ease of movement - table to dish disposal to exit	<u>4</u> : _____	:	<u>1</u> : _____	1
24. Possible to have more than one activity going on at one time	<u>3</u> : <u>1</u> : _____	:	_____	2
27. In general, how satisfied are you with the appearance of your cafeteria?				
	very satisfied		not satisfied	
	<u>4</u> : <u>2</u> : _____	:	_____	0

Figure 30. Crosstabs: frequency count for questionnaire items in CAFETERIA by Unskilled position

For questions 9 - 24, please rate your cafeteria by marking the space which comes closest to telling how you feel.
If an item does not apply, please leave it blank.

	VERY GOOD			VERY BAD		missing
9. Convenient to designated employee entrance/exit to the building	<u>11</u>	<u>6</u>	<u>16</u>	<u>3</u>	<u>2</u>	2
10. Convenient to time clock	<u>9</u>	<u>5</u>	<u>16</u>	<u>3</u>	<u>1</u>	6
11. Convenient to elevators/stairs	<u>9</u>	<u>5</u>	<u>15</u>	<u>6</u>	<u>1</u>	4
12. Convenient to rest rooms	<u>7</u>	<u>10</u>	<u>12</u>	<u>4</u>	<u>3</u>	4
13. Ability to hear/to be heard	<u>3</u>	<u>4</u>	<u>23</u>	<u>5</u>	<u>2</u>	3
14. Noise isolation from work areas	<u>8</u>	<u>8</u>	<u>15</u>	<u>5</u>	<u>2</u>	2
15. Ability to control room temperature	<u>3</u>	<u>5</u>	<u>14</u>	<u>8</u>	<u>4</u>	6
16. Absence of draft	<u>6</u>	<u>7</u>	<u>13</u>	<u>6</u>	<u>4</u>	4
17. Bulletin board space	<u>12</u>	<u>7</u>	<u>12</u>	<u>2</u>	<u>2</u>	5
18. Visual privacy	<u>2</u>	<u>4</u>	<u>10</u>	<u>9</u>	<u>9</u>	6
19. Room lighting	<u>10</u>	<u>8</u>	<u>16</u>	<u>2</u>	<u>2</u>	2
20. Floor covering	<u>8</u>	<u>7</u>	<u>15</u>	<u>5</u>	<u>3</u>	2
21. Space dividers (screens/partitions)	<u>5</u>	<u>2</u>	<u>11</u>	<u>4</u>	<u>6</u>	12
22. Ease of movement - entrance to serving line to tables	<u>9</u>	<u>10</u>	<u>12</u>	<u>4</u>	<u>3</u>	2
23. Ease of movement - table to dish disposal to exit	<u>9</u>	<u>8</u>	<u>14</u>	<u>4</u>	<u>3</u>	2
24. Possible to have more than one activity going on at one time	<u>3</u>	<u>5</u>	<u>14</u>	<u>4</u>	<u>5</u>	9
27. In general, how satisfied are you with the appearance of your cafeteria?						
	very satisfied			not satisfied		
	<u>5</u>	<u>10</u>	<u>12</u>	<u>2</u>	<u>7</u>	4

Figure 31. Crosstabs: frequency count for questionnaire items in CAFETERIA by Administrative division

For questions 9 - 24, please rate your cafeteria by marking the space which comes closest to telling how you feel.

If an item does not apply, please leave it blank.

	VERY GOOD				VERY BAD	missing
9. Convenient to designated employee entrance/exit to the building	<u>8</u>	<u>2</u>	<u>1</u>	<u>0</u>	<u>2</u>	5
10. Convenient to time clock	<u>6</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>0</u>	8
11. Convenient to elevators/stairs	<u>7</u>	<u>2</u>	<u>0</u>	<u>1</u>	<u>3</u>	5
12. Convenient to rest rooms	<u>7</u>	<u>2</u>	<u>5</u>	<u>0</u>	<u>0</u>	4
13. Ability to hear/to be heard	<u>7</u>	<u>4</u>	<u>3</u>	<u>0</u>	<u>2</u>	2
14. Noise isolation from work areas	<u>7</u>	<u>5</u>	<u>2</u>	<u>0</u>	<u>1</u>	3
15. Ability to control room temperature	<u>5</u>	<u>2</u>	<u>4</u>	<u>1</u>	<u>2</u>	4
16. Absence of draft	<u>5</u>	<u>2</u>	<u>6</u>	<u>3</u>	<u>0</u>	2
17. Bulletin board space	<u>6</u>	<u>7</u>	<u>1</u>	<u>1</u>	<u>0</u>	3
18. Visual privacy	<u>2</u>	<u>1</u>	<u>5</u>	<u>2</u>	<u>4</u>	4
19. Room lighting	<u>6</u>	<u>4</u>	<u>2</u>	<u>1</u>	<u>1</u>	4
20. Floor covering	<u>6</u>	<u>2</u>	<u>3</u>	<u>3</u>	<u>0</u>	4
21. Space dividers (screens/partitions)	<u>4</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>3</u>	7
22. Ease of movement - entrance to serving line to tables	<u>4</u>	<u>5</u>	<u>4</u>	<u>2</u>	<u>0</u>	3
23. Ease of movement - table to dish disposal to exit	<u>3</u>	<u>5</u>	<u>4</u>	<u>1</u>	<u>0</u>	5
24. Possible to have more than one activity going on at one time	<u>2</u>	<u>1</u>	<u>6</u>	<u>2</u>	<u>2</u>	5
27. In general, how satisfied are you with the appearance of your cafeteria?						
	very satisfied			not satisfied		
	<u>4</u>	<u>4</u>	<u>4</u>	<u>3</u>	<u>2</u>	1

Figure 32. Crosstabs: frequency count for questionnaire items in CAFETERIA by Sales/Catering division

For questions 9 - 24, please rate your cafeteria by marking the space which comes closest to telling how you feel.
If an item does not apply, please leave it blank.

	VERY GOOD			VERY BAD		missing
9. Convenient to designated employee entrance/exit to the building	<u>24</u>	<u>11</u>	<u>11</u>	<u>2</u>	<u>0</u>	7
10. Convenient to time clock	<u>23</u>	<u>10</u>	<u>10</u>	<u>2</u>	<u>0</u>	10
11. Convenient to elevators/stairs	<u>20</u>	<u>11</u>	<u>13</u>	<u>3</u>	<u>1</u>	7
12. Convenient to rest rooms	<u>31</u>	<u>9</u>	<u>11</u>	<u>0</u>	<u>0</u>	4
13. Ability to hear/to be heard	<u>15</u>	<u>11</u>	<u>12</u>	<u>7</u>	<u>6</u>	4
14. Noise isolation from work areas	<u>19</u>	<u>12</u>	<u>8</u>	<u>5</u>	<u>2</u>	9
15. Ability to control room temperature	<u>11</u>	<u>8</u>	<u>8</u>	<u>11</u>	<u>8</u>	9
16. Absence of draft	<u>12</u>	<u>11</u>	<u>11</u>	<u>5</u>	<u>6</u>	10
17. Bulletin board space	<u>21</u>	<u>15</u>	<u>9</u>	<u>2</u>	<u>1</u>	7
18. Visual privacy	<u>9</u>	<u>5</u>	<u>10</u>	<u>10</u>	<u>11</u>	10
19. Room lighting	<u>26</u>	<u>11</u>	<u>10</u>	<u>2</u>	<u>0</u>	6
20. Floor covering	<u>19</u>	<u>0</u>	<u>15</u>	<u>4</u>	<u>1</u>	7
21. Space dividers (screens/partitions)	<u>5</u>	<u>2</u>	<u>9</u>	<u>5</u>	<u>12</u>	22
22. Ease of movement - entrance to serving line to tables	<u>20</u>	<u>12</u>	<u>14</u>	<u>5</u>	<u>0</u>	4
23. Ease of movement - table to dish disposal to exit	<u>18</u>	<u>16</u>	<u>11</u>	<u>4</u>	<u>1</u>	5
24. Possible to have more than one activity going on at one time	<u>8</u>	<u>11</u>	<u>15</u>	<u>6</u>	<u>4</u>	11
27. In general, how satisfied are you with the appearance of your cafeteria?						
	very satisfied			not satisfied		
	<u>15</u>	<u>16</u>	<u>7</u>	<u>7</u>	<u>7</u>	3

Figure 33. Crosstabs: frequency count for questionnaire items in CAFETERIA by Rooms division

For questions 9 - 24, please rate your cafeteria by marking the space which comes closest to telling how you feel.
If an item does not apply, please leave it blank.

	VERY GOOD					VERY BAD	missing
9. Convenient to designated employee entrance/exit to the building	<u>7</u>	<u>4</u>	<u>1</u>	<u>1</u>	<u>0</u>		3
10. Convenient to time clock	<u>8</u>	<u>3</u>	<u>0</u>	<u>1</u>	<u>1</u>		3
11. Convenient to elevators/stairs	<u>10</u>	<u>2</u>	<u>0</u>	<u>1</u>	<u>0</u>		3
12. Convenient to rest rooms	<u>9</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>0</u>		3
13. Ability to hear/to be heard	<u>77</u>	<u>2</u>	<u>2</u>	<u>1</u>	<u>0</u>		4
14. Noise isolation from work areas	<u>7</u>	<u>2</u>	<u>2</u>	<u>0</u>	<u>1</u>		4
15. Ability to control room temperature	<u>7</u>	<u>2</u>	<u>2</u>	<u>1</u>	<u>0</u>		4
16. Absence of draft	<u>6</u>	<u>3</u>	<u>1</u>	<u>0</u>	<u>0</u>		6
17. Bulletin board space	<u>7</u>	<u>4</u>	<u>1</u>	<u>0</u>	<u>1</u>		3
18. Visual privacy	<u>6</u>	<u>1</u>	<u>2</u>	<u>2</u>	<u>2</u>		3
19. Room lighting	<u>8</u>	<u>4</u>	<u>1</u>	<u>0</u>	<u>0</u>		3
20. Floor covering	<u>7</u>	<u>2</u>	<u>2</u>	<u>1</u>	<u>0</u>		4
21. Space dividers (screens/partitions)	<u>4</u>	<u>3</u>	<u>3</u>	<u>1</u>	<u>1</u>		4
22. Ease of movement - entrance to serving line to tables	<u>7</u>	<u>2</u>	<u>2</u>	<u>1</u>	<u>0</u>		4
23. Ease of movement - table to dish disposal to exit	<u>8</u>	<u>3</u>	<u>2</u>	<u>0</u>	<u>0</u>		3
24. Possible to have more than one activity going on at one time	<u>4</u>	<u>4</u>	<u>4</u>	<u>1</u>	<u>0</u>		3
27. In general, how satisfied are you with the appearance of your cafeteria?							
	very satisfied			not satisfied			
	<u>3</u>	<u>6</u>	<u>3</u>	<u>1</u>	<u>1</u>		2

Figure 34. Crosstabs: frequency count for questionnaire items in CAFETERIA by Food/Beverage division

APPENDIX E

Figures 35 through 38 contain the derived results of the mult response program to the following questions: "Of the items above, which five are the most important to you?"

"Of the items above, which five would you like to see changed the most?"

The results were derived in terms of position and division.

	MANAGERIAL	SUPERVISORY	CLERICAL	UNSKILLED	ADMINISTRATIVE	SALES/CATERING	ROOMS	FOOD/BEVERAGE	OVERALL
LOCATION:									
Convenient to cafeteria	3	2	10	2	7	1	0	0	17
Convenient to locker room	1	1	2	3	0	0	7	0	7
Convenient to passenger elevators	5	3	4	2	3	5	4	2	14
Convenient to freight elevators	9	4	3	1	4	3	7	3	17
Convenient to stairways	1	3	3	1	3	1	3	1	8
Convenient to rest rooms	6	7	15	2	13	6	11	0	30
Convenient to lounges	0	0	0	0	0	0	0	0	0
Convenient to designated employee entrance/exit to the building	2	3	6	1	3	1	8	0	12
SPATIAL QUALITY:									
Ability to hear/to be heard	10	8	14		9	5	17	1	32
Freedom from distracting noise (typewriters, machinery)	13	12	18		13	6	22	2	43
Freedom from distracting conversation	16	13	14		13	9	17	4	43
Noise isolation from other work areas	13	13	9	1	14	5	15	3	37
Noise isolation from outdoors	4	2	4		3	1	5	1	10
Ability to control room temperature	10	12	18	1	15	3	18	6	42
Absence of draft	2	2	5		3		6		9
Possible to have more than one activity going on at one time	7	6	3	1	4	4	4	5	17
APPEARANCE:									
Room lighting	7	10	18	2	18	4	15	1	38
Absence of glare	2	1	2		4			1	5
Bulletin board space	1					1			1
Floor covering	3	1	5	2	4	2	3	2	11
Space dividers (screens/partitions)	3	1	4		1	3	3	1	8
ARRANGEMENT:									
Control of entry in work area	12	10	5	1	9	5	9	5	28
Room for more work surfaces	12	18	10	1	19	5	13	5	42
Room for visitors	11	7	1		8	5	5	1	20
Ease of movement within work area	20	12	20	3	16	7	26	7	56
Low number of safety hazards	12	6	5	2	4	3	14	4	25
Number of cases:	37	32	41	6	39	17	50	11	118

Figure 35. Mult response: number of times each item in WORK AREA mentioned as being important

	MANAGERIAL	SUPERVISORY	CLERICAL	UNSKILLED	ADMINISTRATIVE	SALES/CATERING	ROOMS	FOOD/BEVERAGE	OVERALL
LOCATION:									
Convenient to cafeteria	0	1	1	0	2	0	0	0	2
Convenient to locker room	1	0	2	1	0	1	1	2	4
Convenient to passenger elevators	2	0	3	0	3	1	2	0	6
Convenient to freight elevators	2	1	1	0	2	1	1	0	4
Convenient to stairways	1	1	0	0	1	0	0	1	2
Convenient to rest rooms	3	6	6	0	7	3	5	0	15
Convenient to lounge	1	0	0	0	1	0	0	0	1
Convenient to designated employee entrance/exit to the building	3	1	3	1	2	3	2	1	8
SPATIAL QUALITY:									
Ability to hear/to be heard	8	5	11	0	2	2	18	2	24
Freedom from distracting noise (typewriters, machinery)	13	13	17	1	14	6	21	3	44
Freedom from distracting conversation	11	12	12	0	11	6	15	3	36
Noise isolation from other work areas	11	11	12	0	10	6	14	4	35
Noise isolation from outdoors	4	5	4	0	2	0	9	2	15
Ability to control room temperature	12	11	20	1	14	4	22	4	45
Absence of draft	6	2	7	0	4	1	8	2	16
Possible to have more than one activity going on at one time	3	7	2	1	4	1	5	3	3
APPEARANCE:									
Room lighting	6	7	9	0	10	2	8	2	21
Absence of glare	5	2	8	0	7	1	6	1	15
Bulletin board space	2	1	3	0	1	0	4	1	6
Floor covering	5	2	7	2	4	2	7	3	16
Space dividers (screens/partitions)	4	3	3	30	2	3	4	1	10
ARRANGEMENT:									
Control of entry in work area	8	7	6	1	7	3	9	3	22
Room for more work surfaces	14	22	11	1	15	7	20	6	48
Room for visitors	8	7	3	0	9	2	6	1	18
Ease of movement within work area	7	7	12	3	14	0	15	0	29
Low number of safety hazards	1	3	3	1	2	1	3	2	8
Number of cases:	31	31	36	4	34	12	46	11	105

Figure 36. Mult response: number of times each item in WORK AREA mentioned as desired to be changed

	MANAGERIAL	SUPERVISORY	CLERICAL	UNSKILLED	ADMINISTRATIVE	SALES/CATERING	ROOMS	FOOD/BEVERAGE	OVERALL
LOCATION:									
Convenient to designated employee entrance/exit to the building	9	10	9	0	7	7	12	3	29
Convenient to time clock	2	2	3	4	2	1	7	1	11
Convenient to elevators/stairs	12	15	12	0	9	5	19	6	39
Convenient to rest rooms	9	10	10	6	10	4	17	4	35
SPATIAL QUALITY:									
Ability to hear/to be heard	11	11	20	1	11	5	23	4	44
Noise isolation from work areas	11	7	14	2	8	6	16	4	35
Ability to control room temperature	8	9	13	1	14	3	13	2	32
Absence of draft	5	4	11	1	8	4	10	0	23
Visual privacy	9	7	11	1	10	4	13	1	29
Possible to have more than one activity going on at one time	4	2	4	1	1	1	9	0	11
APPEARANCE:									
Bulletin board space	2	2	4	2	2	0	4	4	10
Room lighting	12	5	8	2	11	5	10	2	28
Floor covering	9	2	4	2	1	2	1	4	2
Space dividers (screens/partitions)	4	1	4	0	5	1	3	0	9
ARRANGEMENT:									
Ease of movement - entrance to serving line to tables	20	15	19	3	21	7	25	5	58
Ease of movement - table to dish disposal to exit	19	11	14	4	18	6	20	4	48
Number of cases:	29	26	34	6	30	13	44	9	97

Figure 37. Mult response: number of time each item in CAFETERIA mentioned as being important

	MANAGERIAL	SUPERVISORY	CLERICAL	UNSKILLED	ADMINISTRATIVE	SALES/CATERING	ROOMS	FOOD/BEVERAGE	OVERALL
LOCATION:									
Convenient to designated employee entrance/exit to the building	0	2	2	0	0	2	2	0	4
Convenient to time clock	3	0	4	0	2	0	4	1	7
Convenient to elevators/stairs	1	2	5	0	1	3	4	0	8
Convenient to rest rooms	2	1	3	1	2	0	3	2	7
SPATIAL QUALITY:									
Ability to hear/to be heard	8	6	13	0	6	4	14	3	28
Noise isolation from work areas	6	1	9	0	4	2	9	1	17
Ability to control room temperature	3	6	10	0	7	3	9	0	19
Absence of draft	4	2	10	0	5	3	8	0	17
Visual privacy	12	8	12	0	11	2	17	2	33
Possible to have more than one activity going on at one time	4	2	3	0	2	1	5	1	9
APPEARANCE:									
Bulletin board space	0	0	2	2	0	0	1	3	4
Room lighting	5	2	2	0	3	3	3	0	9
Floor covering	5	5	2	1	4	1	6	2	13
Space dividers (screens/partitions)	9	4	7	0	6	1	12	1	20
ARRANGEMENT:									
Ease of movement - entrance to serving line to tables	5	4	6	0	8	2	4	1	15
Ease of movement - table to dish disposal to exit	3	4	9	1	8	1	6	2	17
Number of cases:	16	14	26	1	19	7	27	4	58

Figure 38. Mult response: number of times each item in CAFETERIA mentioned as desired to be changed

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MEASURING EMPLOYEE ATTITUDES
TOWARD THEIR PHYSICAL ENVIRONMENT

by

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(ABSTRACT)

Architecture may be defined as the manipulation of forms and materials for the creation of physical environments conducive to its users. However, many spaces appear to be designed arbitrarily, forcing the user to conform to what is there. This lack of congruency seems to be especially prevalent in the design of work environments. Often work environments are designed upon assumed employee needs and desires that have not been first substantiated or tested. By measuring employee attitudes toward features in their physical environment, an understanding of employee needs and desires could be gained. But because very few attempts are made to obtain employee responses towards their physical environment, the methods for obtaining this type of information are not well established in the design fields.

This study has evaluated the questionnaire as a potential instrument through which to measure employee attitudes about their physical environment. The case chosen for this study was the convention hotel. As background for the development of the questionnaire, the history of the hotel industry was explored and interviews and on site observations by the researcher were conducted. The

interviews were extremely helpful in determining which factors to address in the questionnaire. Various statistical programs were executed upon the questionnaire data to establish relationships between features considered important in the work environment and the various employee groups in the hotel for use as guidelines in the design of work environments.

The questionnaire was proven to be a reliable instrument through which to measure employee attitudes toward their physical environment and by further supplementing its results with other data collection methods, a more thorough understanding of those features in the physical work environment considered important to the employee could be gained, enabling the architect to design work environments that are more conducive to employee needs and desires.