Order Number 9413098

A study of financial management in college and university residence hall foodservices

Tak, Jinmee, Ph.D.

Kansas State University, 1993

U·M·I
300 N. Zeeb Rd.
Ann Arbor, MI 48106

A STUDY OF FINANCIAL MANAGEMENT IN COLLEGE AND UNIVERSITY RESIDENCE HALL FOODSERVICES

by

JINMEE TAK

B.A. Yonsei University, 1985
M.S. Kansas State University, 1990

A DISSERTATION

submitted in partial fulfillment of the

requirements for the degree

DOCTOR OF PHILOSOPHY

Department of
Hotel, Restaurant, Institution Management and Dietetics

College of Human Ecology

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1993

Approved by:

Judy L Keller
Major Professor

TABLE OF CONTENTS

LIST OF TABLES

TABLE PAGE

ACKNOWLEDGEMENTS

First of all, I would like to thank Dr. Judy Miller, my major professor. She has given me much of her valuable time, experience, and knowledge in the development of this research project. I thank my other committee members Dr. Richard Coleman, Dr. Ron Downey, Dr. Rebecca Gould, and Dr. Carol Shanklin for providing insight into making this dissertation the best it could possibly be. Furthermore, I would like to thank Dr. Mary Gregoire for her guidance and consideration throughout my graduate work.

I thank the department of Hotel, Restaurant, Institution Management and Dietetics for providing funds to support this research. I thank my parents-in-law for financial and emotional support. My parents, family, and professors at Yonsei University in Korea have always wanted me to strive to do what is right for me and I thank them for this.

Last, but certainly not least, I thank my husband, Jinkook and my lovely daughters, Annie and Jeyoun. Because of Jinkook, I have been more motivated, focused, and self-confident to complete this dissertation.

CHAPTER 1

Introduction

Foodservice operations were relatively simple when the economy of the United States was based on agriculture. Bolhuis and Wolff (1989) stated that the foodservice manager had little need to know anything more than basic accounting and financial management in those times. Through the nineteenth and into the twentieth century, scientific and technological development altered the form of ownership, the growth of large corporations, and new concepts in financial management. Today even a relatively small foodservice establishment needs substantial capital to finance its operations. The modern foodservice manager recognizes the importance of accounting and financial management for sound operating decisions.

Baker (1988) stated that financial constraints are greater than they have ever been. Department financial information is a necessary resource for upper level management. Sneed and Kreese (1989) suggested that financial management is the key component for a successful foodservice operation.

Several studies have identified the importance of financial management in non-profit and profit foodservices. Stokes (1985) suggested that cost effective quality foodservice management enables health care, educational, and correctional facilities to control costs, continue service,

and maintain quality. Spears (1991) stated that control of costs is important in any foodservice operation. Spears further suggested that foodservice managers in both non-profit and profit operations must understand financial management concepts to analyze financial performance.

Sultemeier, Gregoire, Spears, and Downey (1989) stated that the greatest challenge to college and university foodservice managers is controlling increased food and labor costs within a fixed budget. Jackson, Shanklin, and Gench (1989) stated that college and university foodservice directors have to address the following issues: competition, fiscal accountability, students' expectations, nutritional guidelines, and government intervention. Fairbrook (1989) indicated that the college and university foodservice director should have the ability to interpret financial statements, understand the importance of operating ratios, and project realistic figures for income and cost categories.

Foodservice managers have been responsible for achieving operational goals (Yates, Shanklin, & Gorman, 1987). Yates et al. reported that it was necessary to implement comprehensive financial management practices to meet the needs of the department and organization. Dunn and Brooks (1990) stated that the challenge of the 1990s is to provide support for long term strategic decisions in financial management.

The purpose of this research was to examine the financial management practices of directors in college and university residence hall foodservices. The specific objectives of this research were to:

- determine the financial activities performed in college and university foodservice operations;
- examine the importance and time demand of these financial activities as perceived by college and university foodservice directors;
- determine financial characteristics of college and university foodservice operations;
- compare the importance of financial activities based on characteristics of foodservice directors, operational and financial characteristics of college and university foodservices, and use of financial procedures;
- compare the importance of financial procedures based on characteristics of foodservice directors, operational and financial characteristics of college and university foodservices, and use of financial procedures;
- compare the responsibility for financial activities based on operational and financial characteristics of college and university foodservice operations;
- compare the use of financial procedures based on characteristics of foodservice directors; and
- explore the relationship between use of financial procedures and the importance ratings for financial activities.

Chapter Summary

This chapter provided an introduction to the study and explained the necessity of examining the financial management practices in college and university foodservice operations. The purpose and specific objectives were presented.

CHAPTER 2

REVIEW OF LITERATURE

Introduction

A literature review was conducted to determine what previous research had found about financial management in foodservice operations. This chapter presents a review of literature related to college and university foodservices, financial management in foodservices, and financial analysis. The review of financial management in foodservices includes: college and university, hospital, and hospitality industry.

College and University Foodservices

Anthony (1978) stated that non-profit organizations are classified into two types. Type "A" non-profit organizations obtained financial resources almost entirely from revenues realized from selling goods or rendering services and type "B" non-profit organizations obtained financial resources from sources other than revenues. College and university foodservices are one example of type "A" non-profit organizations. However, the author suggested that type "A" non-profit organization's financial activities basically are the same as a profit organization.

Fairbrook (1979) stated that college and university foodservice directors are important to the success of the operation. The author suggested that foodservice directors

should have enthusiasm, empathy, dedication, ethics, outgoing personality, leadership ability, foodservice knowledge, and awareness of and dedication to good nutrition.

Anthony and Herzlinger (1980) stated that the success of a nonprofit organization should be measured by the contribution it makes to the public welfare. In contrast, the success of a profit organization should be measured entirely in terms of profitability.

Stephens and Shanklin (1981) reported that college and university foodservice needs to provide variety in meal service while coping with the current economic situation. Therefore, the college and university foodservice must provide what appeals to the student and stay within a budget.

Up until the 1980s, college and university foodservices were not considered to be in competition with off-campus foodservices (Eckel, 1985). However, through the 1990s, college and university foodservices competed with off-campus foodservices. The author suggested that public relations is necessary to let faculty, staff, students, and parents know that the college and university foodservice gives good value for the dollar.

Schechter (1989) reported that at the University of California/Berkeley, the foodservice director made a plan for a campus-wide dining renovation program to overcome the

shortage of dining opportunities. The mission was changed from providing meals to becoming an integral part of the students' residence life experience. The foodservice provided a convenience store with a variety of food and non-food items from six p.m. to midnight, five nights per week. In addition, the foodservice provided a variety of meal plans (five to 19 meal programs per week).

Bartlet and Bertagoli (1992) stated that non-profit foodservice managers should plan new criteria for running foodservices and new approaches to staff, equipment technology, market strategies, and customer relations. Kochilas and Scarpa (1992) stated that foodservice directors in the student market continue to be faced with the mandate to do more with less. On college campuses, foodservice directors need to provide more variety in meal plans, payment plans, and operating hours to lure students away from convenience stores and quick-service.

Importance of Financial Management in Foodservice

Studies of College and University Foodservices

George and Hecker (1960) stated that the general requirement of accounting in foodservice included cost and performance reports, financial statements, operating reports, cost accounting of foodservice functions, and auditing. The authors further suggested those activities

should be done by all foodservice personnel, from the director to the manager of the unit.

McLaren (1980) stated that most foodservice administrators accept cost containment as a challenge rather than a threat and as an opportunity rather than a problem. Fromm, Moore, and Hoover (1980) suggested that computer-assisted cost accounting enables the manager to assess the effects of decisions on revenue and expenses quickly.

Adams and Vaden (1981) conducted a study to assess competencies, tasks, and responsibilities of professional staff in the college and university foodservice. A total of 104 foodservice directors of the National Association of College and University foodservices (NACUFS) member schools participated in this study. The questionnaire consisted of four parts: information about the foodservice operation, perceived value of education and work experiences, and functional and educational responsibilities of the professional staff. Twenty-one of 48 functional responsibilities were rated as "essential" by directors. Functional responsibilities concerned with financial management, such as planning budget and conducting financial analysis, were rated "essential" by foodservice directors.

Fairbrook (1989) suggested ten criteria that are useful in determining the ability of a foodservice director: human relation skills, attitude, supervision, contact with clients, budget preparation, cost controls, strategic

planning, merchandising ability, public relations skills, and understanding and working in harmony with the stated mission of the institution. The author further suggested that directors must know how to control inventory effectively, forecast production realistically, and control cash.

Sultemeier, Gregoire, Spears, and Downey (1989) examined managerial roles in college and university foodservices at three organizational levels (associate/assistant and foodservice directors, unit managers, and managers responsible to unit managers). The study sample included 999 foodservice managers at 80 National Association of College and University Foodservice (NACUFS) member schools with a minimum annual budget of $3 million. Respondents rated 51 activity statements on importance and time demand. Results showed that the following activities relating to financial management were rated as "very important" by associate, assistant, and foodservice director groups: preparing budget and authorizing expenditures.

Nix (1990) suggested that each week the foodservice manager should discuss the income/expense statement with the management for controlling costs. Nix further stated that managers need to be aware of cash flows.

Studies of Hospital Foodservices

Drake (1975) studied hospital foodservice accounting. The author suggested that the financial performance report lets the foodservice administration know immediately if the manager operates within the budget. The author further suggested that the financial performance report enables the manager to determine the current financial status regarding direct expenses.

Berkman (1980) studied cost control concerns, ideas, and approaches that have provided positive results for the foodservice department at Cedars-Siani Medical Center, Los Angeles. Results indicated that cost containment can be achieved through the use of methods of measuring, controlling, and modifying food costs and quality, labor costs, and departmental procedure.

Vraciu (1980b) studied decision models for capital investment and financing decisions in hospitals. Vraciu suggested three steps for the multi-period decision models for investment and financing decisions. These steps are: identify, analyze, and measure potential solutions to a predetermined problem; analyze each option using multi-period financial decision models; and apply an appropriate decision rule based on measures of financial performance.

Tipgos and Crum (1982) investigated the application of management accounting concepts to the health care industry. The authors stated that the crisis in the health care

industry in the 1990s was the result of three factors: the inflationary pressures on the economy; partial government regulation on the industry; and high operating costs due to inefficient operation in the industry. Three ways to overcome the crisis were presented: controlling costs, developing standards, and formulating a pricing strategy.

Stokes (1985) stated that the trend in hospital foodservice is toward restaurant style menus with a combination of selective and non-selective menus. The author recommended that production costs be standardized, monitored, and controlled.

Yates, Shanklin, & Gorman (1987) compared health care administrators' and dietetic educators' perceptions of importance for competencies of foodservice directors and managers. Questionnaires were returned from 210 (54.8%) health care administrators and 78 (50.6%) dietetic educators. Respondents were asked to rate the importance of 57 competencies representing the following areas: financial, technical, personnel management, nutrition services, production, and marketing. Health care administrators rated financial competencies higher in importance than did dietetic educators. Health care administrators indicated a desire for foodservice directors and managers to demonstrate proficiency regarding financial competencies.

Palacio, Spears, Vaden, Downey (1988) conducted a study to determine the effect of organizational level and practice area on managerial activities and roles of professional staff in hospital dietetic services. A nationwide sample of 3,280 dietetic professionals in hospitals with 300 beds or more participated. Mintzberg's 10 managerial roles were used as the basis for developing an 80 item instrument on which respondents rated each item for importance and time demand. Activities relating to financial management were preparing budgets, authorizing expenditures, obtaining information from operating reports, and developing a capital expenditure proposal. These activities received ratings of "very important" to "essential."

Greathouse and Gregoire (1988) studied financial and operational parameters affecting selection of foodservice systems. The research sample consisted of 33 conventional, 22 cook-chill, and 11 cook-freeze foodservice systems less than ten years old in hospitals of 300 beds or more. Operating cost data were collected using a questionnaire; financial data for each hospital were obtained from the Freedom of Information Officer in Washington. No significant difference was found in the number of Full Time Equivalents (FTEs), skill level of employees, square footage of the department, operating hours for production, cafeteria, and patient tray areas, turnover rate, absenteeism rate, and overtime hours among the 66 hospital

foodservices. Analysis of financial data indicated no significant differences in salary, overhead, or total departmental costs.

Hoover (1989) developed a comprehensive financial management systems model for the health care foodservice industry. In Phase I of the study, financial management systems models were developed utilizing the Delphi Technique. The comprehensive model included 168 individual financial management concepts. In Phase II of the study, questionnaires were returned from 187 (37%) foodservice directors and 100 (20%) chief financial officers of health care organizations. Chief financial officers were asked to identify expectations of foodservice directors' roles in financial management, while foodservice directors were asked to identify current practices related to the collection and analysis of financial data. Both groups were asked to rate the degree of importance of financial management to the success of the foodservice department. No significant difference between the ratings of health care chief executive officers and foodservice directors were found in regard to the role of the foodservice director in financial management or the importance of various components of the financial management system. The author suggested the schematic and comprehensive financial management system models could be utilized as the standard with which to compare current financial management practices.

Dowling, Lafferty, & McCurley (1990) compared the perceptions of hospital administrators, food and nutrition department directors, and management dietetic educators with respect to the credentials and administrative skills required for a director of a food and nutrition department in a hospital with 300 beds or more. Questionnaires were returned from: 90 (68%) directors of food and nutrition services; 70 (53%) vice presidents of hospital operations at 132 hospital in five midwestern states; and 46 (82%) educators on the 1986 to 1988 membership list of the Foodservice Systems Management Education Council. The questionnaire consisted of three parts: (a) credentials required; (b) skill categories ranked in order of importance; and (c) facility description and credentials of participating administrators and directors. Findings of the survey showed that financial skills were ranked third in importance for directors by total respondents. The skills ranked first and second were management skills and communication skills.

Studies of Hospitality Industry

Kosturakis and Eyster (1979) studied operation budgeting practices in 15 small American hotel companies. The results showed that all companies primarily used the budget as a control tool. However, all hotel managers did

not use cost-volume profit because of the lack of knowledge of the application and understanding of the value. The results of this study suggested that the budgeting process should be characterized by significant participation of the managerial and supervisory personnel to generate widespread commitment to budgeted goals.

Mariampolski, Spears, and Vaden (1980) studied the skill and knowledge for beginning foodservice managers. Questionnaires were distributed to 204 managers. These included: officers, past presidents, and other directors of the National Restaurant Association (NRA); restaurateurs of the NRA; and participants of a NRA purchasing seminar. A total of 89 questionnaires were returned. The following cost control competencies were rated as "essential": planning budget and interpreting financial data.

Lane (1985) stated that financial plans are required for a restaurant business at any stage in its life cycle. The author suggested that a more appropriate starting point would be to identify fixed and variable costs to determine appropriate goals and objectives for the business.

Hornaday and Wheatley (1986) studied the relationship between managerial characteristics and the financial performance of small business. The authors identified the managerial types as: craft, promotion, and administrative. The sample consisted of small eating and drinking place managers in southwestern cities. Usable responses were

obtained from 31 operations using an interview protocol. No combination of managerial type and organizational goal resulted in higher profitability. Restaurants managed by different managerial types and pursuing different growth goals showed similar profitability. The authors concluded that no "one best mix" of managerial type and organizational goal emerged.

Schmidgall (1989) analyzed the results of two surveys designed to rank the degree of importance and usefulness of the financial ratios. The surveys were completed by 115 general managers and financial executives in the lodging industry. Both general managers and financial executives rated the operating ratio as high in importance. Respondents rated profit margin as the most useful ratio.

Schmidgall and Ninemeier (1989) analyzed and compared budgeting practices in lodging and foodservice chains. A total of 30 hotel and 31 foodservice managers responded to a mail questionnaire. The results showed that 17 (57%) of the hotel chains and 18 (58%) of the foodservice managers participating in the study used bottom-up budgeting. Foodservice managers controlled food, labor, and beverage costs through budgeting process.

Tavin, Moncarz, and Dumont (1989) analyzed financial failure in the hospitality industry. The factors contributing to financial failure were: lack of execution of company management, ego of the founder or chairman,

overexpansion, non-diversification in the market place, abandonment of a successful concept, seeking growth and assuming profits, lack of adequate internal controls, and poor renovation.

Haywood (1991) studied a strategic approach to managing costs in restaurants. The author suggested six keys for developing strategy: objectives, structure, communications, education, activities, and rewards. Strategy provided short- and long-run cost reductions by maintaining cost management activities.

Damitto and Kagle (1991) studied controllers' perceptions of the importance of accounting skills to lodging managers. The survey was conducted with 400 members of the International Association of Hospitality Accountants (IAHA). A total of 135 (34%) questionnaires was returned. The results showed that controllers rated the operating budget and income statement high. The 15 accounting skills were divided into 3 groups. The skills in the first group with an overall rating of "4" or above or very important to the lodging managers were: understanding of income statements, operating budgets, variance analysis, cash budgeting, and financial forecasting techniques. The second group of skills (3.61 to 3.99), rated important by the lodging managers were: capital budgeting, pricing theory and procedures, payroll accounting, understanding the balance sheet, and inventory management. The third group

(3.01 to 3.59) included internal auditing, cash flow statement, flexible budgeting, break even analysis, and ratio analysis of financial statements.

Geller (1991) stated that the hospitality industry has the following characteristics: many cash transactions, small operations, relatively low skill jobs, positions with low social status, and use of commodities. The author suggested two approaches for tighter internal control: controlling accounting documents and auditing food and beverage income periodically.

Kreck and Rutherford (1991) studied measures of foodservice operational success. A 61 item questionnaire was mailed to 74 selected foodservice professionals who were well-recognized throughout the industry as a result of awards (Ivy, Diplomate), service on the association boards, or articles in the trade press. Net profit was the tool ranked first for profit measures. The tool ranked first for cost measures was direct materials cost. Foodservice directors ranked operating ratio first for financial measures.

Schmidgall (1991) studied financial planning by contract foodservice management companies. A total of 16 foodservice managers responded to a questionnaire regarding the preparation, revision, and use of budgets. Fifteen (94%) of the foodservice managers surveyed used a bottom-up approach, while the one remaining manager used a combination

approach. Most foodservice directors (72%) were responsible for preparing the unit's budget. Fifty percent of foodservices revised the budget during the current operating year. All 16 foodservice managers used the operating budget for control purposes. In 14 of the operations, foodservice directors were responsible only for labor and food costs.

Nording and Wheeler (1992) studied a market-segment accounting model to improve profits. The author suggested that foodservice managers need to determine optimal market mix and define market segments for the restaurant. Then, revenues and expenses were divided by market segments for building the model. Finally, managers could control revenues and expenses by market-segment.

Financial Analysis

Financial Statements

George and Hecker (1960) stated that financial statements can assist the director in analyzing the percentage relationships of food, labor, and other expense. Keiser (1989) stated that foodservice managers must be able to understand and use financial statements to evaluate the financial status and progress of the operation. There are two basic financial statements: an income or a profit-and-loss statement and a balance sheet. The income statement shows the difference between the total sales or income and

the total costs; a balance sheet shows financial condition of an enterprise at a particular time.

Balance Sheet

A balance sheet is based on the fundamental equation: Assets = Liabilities + Equity. Accounts receivable, inventories, current assets, fixed assets, and liabilities are required to prepare and analyze a balance sheet (Keiser, 1989). Coltman (1991) stated that the balance sheet gives a picture of the financial position of a business at a particular time.

Income Statement

The income statement can be divided into three parts: sales, expenses, and profits. Increases or decreases in sales can result from covers served or prices received per cover. For analyzing profit, the operating ratio is an important one used by foodservice operators because it shows the profitability of the operation based on the amount of sales (Keiser, 1989). Coltman (1991) stated that the income statement shows the operating results of the business over a period of time.

Budget

Sweeny and Wisner (1975) studied the relationship between budgets and profit. To reach budget targets and project profits, the authors suggested that managers should: have valuable information; be ready for facing a variety of unfortunate events and unforeseen developments; make a revised estimate of results for the new situation; and identify the impact on profits.

Anthony and Herzlinger (1980) stated that four phases of financial management control included: programming, budgeting, operating, and reporting and analysis. Abdelsamad (1980) suggested participation of top management in planning and budgeting should be helpful in addressing current uncertainties. For planning of a health care organization, Vraciu (1980a) suggested the Programming, Budgeting, and Control Processes (PBCP).

Churchill (1984) stated that top managers know the company's goals, strategies, and available resources, while unit managers have the detailed knowledge of the environment and the market place. Therefore, the author suggested that managers can use the combination of the top-down approach and the bottom-up approach for effective budgeting.

Minno and Bhayana (1984) stated that the budgeting process is comprised of three distinct phases: the evaluation phase, the planning phase, and the control phase. According to the study, a diligent attempt at those phases

would produce the following benefits: evaluating the competition, developing more complete and more accurate financial records, defining sales, expenses and profit goals, and uncovering variances from the budget on a monthly basis.

Operating Budget

Sneed and Kresse (1989) defined operating budget as the planning of revenue, expenses, and profit for a specified time period. Patterson (1980) stated that a major purpose of the operating budget is to make an assessment of whether the policies of the business are likely to lead to an acceptable financial result for the next year. For an effective operating budget, the author suggested that it should be participative, challenging, motivational, tailored to individual units, flexible, and responsibility-oriented. Kaud (1983) stated that a monthly operating statement should be compared with the forecast operating budget.

Capi"Ì6tal Budget

Keiser (1989) defined capital budgeting as the planning of expenditures beyond one year. Capital expenditures include improving, expanding, or replacing equipment, buildings, or land, purchasing new equipment, replacing existing equipment, renovating facilities, and purchasing new facilities (Sneed and Kresse, 1989). Capital budgets

are prepared for at least a three-year period with a yearly estimate of expenditures. For decision-making, the following analyses should be used: cost-benefit analysis, payback period, net present value, or internal rate of return.

Tools for Analysis

Coltman (1979) stated that the figures on the financial statements show only part of the story. Ratios, percentage, or turnovers can be more meaningful and more useful for decision making. Keiser (1989) suggested that the most significant figures from a cost standpoint are the food cost percentages, the labor cost percentages, the inventory turnover, the average sales per cover, and the profits.

Cost-benefit Analysis

Bootman, Rowland, and Wertheimer (1980) stated that cost-benefit analysis is a basic tool that can be used for improving the decision making process. The most commonly used decision-making criterion is the benefit-cost ratio.

Cost-volume-profit Analysis

Cost-volume-profit analysis shows the relationship between cost and volume factors. This relationship can be expressed graphically on a break-even chart. The

contribution margin provides information about contributing amounts to overhead and profit.

Break-even analysis. A break-even analysis provides a simple and logical analytical technique for studying the relationship among fixed costs, variable costs, and revenues. Break-even analysis can be a helpful tool in analyzing the cost-volume-profit relationship. Doering (1979) suggested that foodservice managers use the break-even chart for incorporating information on the required production level. Break-even analysis can be used for determining maximum variable costs, calculating the shutdown point, approving credit applications, measuring past performance, new product introduction, and increased competition (Small Business Report, 1986).

Contribution margin. Cost-volume-profit relationships can be analyzed by the contribution margin. Keiser (1989) defined contribution margin as the differences of revenue over the variable costs. Therefore, it is the contribution to the recovery of fixed costs and profits.

Food Cost Analysis

Ferguson and Selling (1983) stated that higher food cost percentages indicate the existence of theft, excess spoilage, or poor internal controls. Robson (1986) stated internal control of the operations can ensure that the

foodservice obtains the greatest value from each food dollar.

For improving food cost, Mick (1990) suggested a key-item report that can be made using the following steps: choose key items; compute weekly usage; compare weekly; and analyze data. Key items need not be restricted to food. The author stated that this analysis provides foodservice managers insight into the causes of problems.

Inventory Turnover

An inventory turnover rate can be calculated to determine the frequency at which the inventory is being used. Food inventory turnover usually ranges from twenty-four to forty-eight times per year, and beverage turnover from six to twelve times per year (Sneed and Kresse, 1989). The higher the turnover rate, the less money is invested.

Labor Cost Analysis

Keiser (1974) stated that labor cost is a major consideration to foodservice operations. Non-profit organizations like hospitals and schools must analyze labor costs. Labor cost percentage means the amount paid for labor compared to sales dollar volume. It is difficult to compare the labor percentage because labor cost of an operation depends on the menu, the amount of convenience food used, the layout, the equipment, the labor market in

the area and the services provided. Pavesic (1983) stated that reliance on the labor cost percentage analysis can lead foodservice managers to incorrect conclusions about worker productivity. Pavesic suggested that in addition to the standard labor ratio, total labor hours, sales per labor hour, covers per labor hour, labor cost per labor hour, and labor cost per cover per week are better tools for adjusting labor costs. Stokes (1985) stated that labor cost involves two factors: time required to perform the job and rate of pay designated.

Ratio Analysis

Ratio analysis are categorized as follows: current liquidity ratios, long-term solvency ratios, profitability ratios, coverage ratios, and operating ratios. Current liquidity ratios are indicative of a company's ability to meet its short-term debt without difficulty. Solvency ratios show balance between liabilities and equity. Operating ratios are primarily concerned with day-to-day management of foodservice.

Trend Analysis

Coltman (1987) suggested that comparing balance sheet and income statement results over a greater number of periods can often be more useful in indicating the financial direction of a business. Over a long enough period of time,

trend results should be useful for forecasting, budgeting, or in decision making in foodservices (Sneed and Kresse, 1989).

Variance Analysis

A variance analysis model has been developed for the evaluation of costs that occur in the production process. Ferguson and Selling (1983) defined a cost variance as a difference between the actual costs and the standard costs. For interpreting cost variances, food price variances (difference between the actual and the budgeted food price), food quantity variances (difference between the actual and the standard food quantity), labor-rate variances (difference between the actual and the standard labor rate), and labor efficiency variances (difference between the actual and the standard labor efficiency) can be used.

Chapter Summary

This review of literature enhanced the researcher's understanding of financial management in foodservices. The studies reviewed focused on the importance of financial management in foodservice operations. The literature revealed that studies related to financial management practices in college and university foodservice operations are limited.

CHAPTER 3

METHODOLOGY

Introduction

The purpose of this chapter is to describe the methodology of this research project. The chapter contains five sections: (a) development of questionnaire; (b) pilot study; (c) sample procedure; (d) data collection; and (e) data analysis.

Development of Questionnaire

A questionnaire was developed to examine the financial management practices of foodservice directors in college and university residence hall foodservice. The initial draft of the questionnaire was reviewed by two Kansas State University residence hall foodservice professionals and the research committee. The questionnaire included three sections: financial management activities, financial indicators, and demographic information. The questionnaire was printed on both sides of a single sheet (11x17 inch) of ivory-colored paper (Appendix A).

Financial Management Activities

In section A of the questionnaire, a total of 21 financial management activities was included. Activity statements related to financial management were constructed from information obtained from a review of literature.

Statements 1 to 9 related to budgeting activities; statements 10 to 15 focused on food and labor costing activities; and statements 16 to 21 involved elements of financing activities. Respondents were asked to indicate whether they performed each activity. "Yes" indicated that respondents had performed that activity. If yes, respondents were then asked to respond to importance and time demand scales. "No" indicated that respondents had not performed that activity. The respondents then indicated whether the activity had been performed internally or externally to the foodservice department.

The five-point scale was used to indicate the importance of each activity statement to the respondents' job. The following scale was used to rate importance:

Importance
1= Of no importance
2= Not very important
3= Of moderate importance
4= Very important
5= Essential

The time demand scale developed by Sultemeier et al. (1989) was revised for use in this study. The following five-point scale was used to designate time demand:

Time Demand
1= Daily
2= Weekly
3= Once or twice per month
4= Several times per year
5= About once per year

Financial Procedures

In section B of the questionnaire, the respondents were requested to provide information on financial indicators such as annual gross revenues, annual net income, annual sales, food cost percent, labor cost percent, and revenue percent. The revenue percent included contract sales percent, cash sales percent, and other sales percent.

Foodservice directors were asked to indicate whether they used any of a list of 12 financial procedures. If a procedure had been used, "Yes" was circled and the importance rated. If foodservice directors had not used that procedure, "No" was circled and the respondents did not complete the importance scale. If a foodservice director was not sure about whether they used a procedure, "?" was circled and the importance scale was not completed. A five-point scale was used to indicate the importance placed on financial procedures. The scale used was:

Importance
1= Of no importance
2= Not very important
3= Of moderate importance
4= Very important
5= Essential

Demographic Information

In section C of the questionnaire, information about the foodservice department such as management type, number of employees, number of students, number of meals served per year, number of residence hall foodservices, and types of services provided was requested. Respondents were asked to indicate their age, gender, level of education, and position title. Respondents also were asked to indicate length of time employed in their present position, in present organization, and in college and university foodservices. Respondents indicated whether they had participated in continuing education for improving financial skills and abilities.

Pilot Study

A pilot study to evaluate content validity and evaluate ease of completing these items was conducted. The initial questionnaire was sent to 25 foodservice directors randomly selected from the National Association of College and University Foodservice (NACUFS) membership. The foodservice directors were asked to evaluate the general format, clarity of language and directions, and effectiveness of the questionnaire and the cover letter. An initial mailing consisted of a questionnaire, a cover letter, a critique form, and a return envelope (Appendix B). A follow-up call was made to foodservice directors who did not respond to the

first mailing. A total of 11 (44%) questionnaires was returned in the pilot study.

Sample Procedure

The research sample was drawn from foodservice directors of the National Association of College and University Food Service (NACUFS) member institutions. Based on the low response rate to the pilot study, the supervisory committee recommended that an explanatory letter requesting participation with a return postcard be mailed to the entire research population (Appendix C). This letter explained the purpose of the study and asked for participation in this study. The supervisory committee further recommended that the 1987 NACUFS president and then Kansas State University Associate Director of Housing and Dining Services, be asked to support the research by co-signing the cover letter. The intent was to increase participation in the study. A total of 247 (56%) postcards was returned from the 442 NACUFS foodservice directors. Two hundred (81%) of those returning the postcards agreed to participate in this study were included in the study sample.

Data Collection

The questionnaire (Appendix A), a one-page cover letter (appendix D), and a postage-paid return envelope were sent to the 200 residence hall foodservice directors who agreed to participate. The cover letter informed participants of the purpose of the study, asked for their participation, and assured them of confidentiality of their responses. In addition, each section of the questionnaire restated the assurance of confidentiality of responses.

Data Analysis

Descriptive Statistics

Programs and routines in the Statistical Analysis System (SAS) (1989) were used for the data analyses. The initial analysis included compilation of frequencies for all items. Mean ratings were computed for importance, time-demand, and financial data.

Principal Component Analysis

Principal component analysis was performed on the importance rating to determine if the 21 financial management activity statements could be conceptualized meaningfully into a smaller number of factors. Scale scores were calculated by computing the mean of the responses to the statements. Reliability of all identified factors was estimated using the coefficient alpha procedure. Correlation

coefficients were computed to obtain indices of relationships among the scale scores.

Analysis of Variance

The General Linear Model (GLM) procedures were conducted to examine the relationship between the independent variables Use of Financial Procedures and Demographic Information and the dependent variables Importance of Financial Management Activities and Importance of Financial Procedures. The Least Squares Means estimates procedure was used to examine differences between variables.

Chi-square Analysis

Chi-square analysis was used to determine differences in Use of Financial Procedures by Characteristics of Respondents. Also, chi-square analysis was used to analyze differences in Responsibility ratings by Foodservice Operational and Financial Characteristics.

Regression Analysis

A stepwise regression technique was used to determine the best fitting model from the full set of independent variables. Specifically, a stepwise regression technique was conducted in an effort to examine four different questions. The first question was, to what extent does the use of financial procedures for financial decision-making

predict financial performance in the foodservice. The second question was, to what extent does the type of services provided predict financial performance in the foodservice. The third question was, what unique contribution does the background of foodservice directors make to explained variance of the importance of financial procedures. The final question was to what extent does the use of financial procedures predict the importance of three financial management scales.

Chapter Summary

This chapter provided an overview of the design of the study. Questionnaire development, data collection and data analysis procedures were described.

CHAPTER 4

RESULTS AND DISCUSSION

Introduction

The purpose of this study was to examine financial management practices of college and university residence hall foodservices. Results of data analyses are presented in this chapter. The chapter is organized into seven sections: (a) response rate; (b) demographic characteristics, (c) financial management activities, (d) importance of financial procedures, (e) differences between used and not-used financial procedures, (f) differences in responsibility of foodservice directors for financial management activities, and (g) regression analysis.

Response Rate

A total of 247 (56%) postcards was returned from the first mailing to 442 residence hall foodservice directors of the National Association of College and University Food Services (NACUFS) member institutions. A total of 200 (81%) of the 247 foodservice directors agreed to participate in this study. From the 200 instruments mailed, 133 foodservice directors responded (67%). Eleven questionnaires from the pilot study were included in the data analyses since there were no substantial changes. Therefore, a total of 144 responses (133 plus 11) was analyzed.

Demographic Characteristics

Frequencies were calculated to examine characteristics of foodservice directors, operational and financial characteristics of foodservice departments, and use of financial procedures. Means of importance ratings for the financial procedures were computed.

Characteristics of Foodservice Directors

Characteristics of respondents (Table 1) were gender, age, educational background (educational level, major, and continuing education), and career background (present position, years of present position, present organization, and college and university residence hall foodservices). Approximately 74% of respondents were males between 36 and 50 years of age (68%).

Most of the respondents (73.8%) had at least a bachelor's degree. Approximately 28% had completed a master's degree. Business was the major area of study of 31.2% of the respondents; 24.1% reported hotel/restaurant management; and 20.5% reported other major areas of study. About two-thirds (62.5%) of respondents had participated in continuing education for improving their financial knowledge and skills.

Directors comprised over three-fourths (78.5%) of the sample; 13.9% were assistant directors; and 7.6% were business managers. Slightly more than half (53.8%) of the

Table 1
Characteristics of College and University Foodservice Directors

	N	%
Gender		
Female	37	25.7
Male	107	74.3
Age		
< 36	22	15.5
36 - 40	38	26.8
41 - 45	30	21.1
46 - 50	28	19.7
> 50	24	16.9
Education		
High school	8	5.6
Associate	29	20.6
Bachelors	64	45.4
Masters	39	27.7
Doctorate	1	0.7
Major		
Food & Nutrition	9	8.1
Foodservice Administration	18	16.1
Business	35	31.2
Hotel & Restaurant Management	27	24.1
Other	23	20.5
Position		
Foodservice Director	113	78.5
Assoc./Asst. Director	20	13.9
Business Manager	11	7.6
Years in Present Position		
< 6	77	53.8
6 - 15	49	34.3
> 15	17	11.9
Years in Present Organization		
< 11	81	55.9
11 - 20	44	30.3
>20	19	13.8
Years in College/Univ. Foodservice		
< 11	34	23.9
11 - 20	69	48.6
> 20	39	27.5
Participation in Continuing Education		
Yes	90	62.5
No	54	37.5

respondents had worked less than six years in their present position and almost half (48.6%) had worked 11 to 20 years in college and university foodservices. Approximately half (55.9%) had been employed less than 11 years in their present organization. The typical respondent was male, a business major, college-educated, and a foodservice director.

Characteristics of the directors in the present sample are very similar to those reported by Sultemeier, Gregoire, Spears, and Downey (1989). Sultemeier et al. collected data from a large sample of the National Association of College and University Foodservices (NACUFS) member schools. In the Sultemeier et al. study, one of the groups consisted of 127 associate/assistant or director of foodservice. Directors in the sample were male (68%) and over 40 years of age (63%).

There were differences between the present study and the Sultemeier et al. (1989) findings. In the present study, fewer foodservice directors held at least a bachelor's degree (74% compared with 83%) and more directors had been employed in their present organization over 10 years (58% compared with 50%).

Characteristics of Foodservice Departments

Operational Characteristics of Foodservice Departments

Table 2 presents information about the foodservice departments. Over half (57.6%) of the respondents were employed in colleges or universities with student enrollments of less than 10,001 students. The majority (92.4%) of the foodservices were self-operated. Of those with responsibility for residence hall foodservice, approximately 40% managed one foodservice center; about 24% managed two to three centers.

Almost 28% of the foodservices had less than 26 full-time and less than 21 part-time employees. About 27% had over 100 full-time employees. About half (45.7%) had between 26 and 100 full-time employees. Twenty percent of foodservices had over 300 part-time employees; 29.1% had between 21 and 100 part-time employees. Data on Full-time equivalents (FTEs) were not usable in the analysis because most respondents gave inconsistent numbers or left this item blank. Most of the foodservices (75.4%) served less than 2 million meals per year; 25.4% served less than 400,001 meals; and 27.1% served between 400,001 and 800,000 meals. Nearly 25% of the foodservices served over 2 million meals per year.

Almost 90% of the foodservices provided contract meal services and catering services. Seventy-three percent provided a snack bar and over half (51.4%) of the

Table 2
Information about College and University Foodservice Departments

	N	%
Size of College/University		
< 10,001	83	57.6
10,001 - 20,000	31	21.6
> 20,000	30	20.8
Type of Operation		
self-operating	134	92.4
managed by contract company	11	7.6
No. of Foodservice Centers		
1	52	40.6
2 - 3	30	23.5
4 - 10	39	30.4
>10	7	5.5
No. of Employees		
Full-time		
< 26	38	27.5
26 - 50	33	23.9
51 - 100	30	21.8
> 100	37	26.8
Part-time		
< 21	37	27.6
21 - 100	39	29.1
101 - 300	31	23.2
> 300	27	20.1
No. of Meals Served Per Year		
< 400,001	30	25.4
400,001 - 800,000	32	27.1
800,001 - 2,000,000	27	22.9
> 2,000,000	29	24.6
Types of Services Provided*		
Contract meal service	127	88.2
Catering	126	87.5
Snack bar	104	72.7
Vending machine	74	51.4
Other	63	43.8
Convenience store	49	34.0
Cash operation	45	31.2

* Sum of percents exceed 100% due to multiple responses

foodservices provided vending machine services. One-third of the foodservices provided a cash operation (31.2%) and a convenience store (34.0%).

The total student enrollment of the present study is similar to those reported by Jackson, Shanklin, and Gench (1989). Jackson et al. collected data from 123 college and university foodservice directors. Half of the respondents were employed in colleges or universities with student enrollments less than 10,001. One-fourth of the colleges and universities had over 20,000 students.

The majority of respondents in the study were employed in relatively small to medium size college and university residence hall foodservices. Most foodservices were self-operated and provided contract meal and catering services.

Financial Characteristics of Foodservice Departments

Financial data for the foodservice departments are shown in Table 3. Annual gross revenues ranged from less than 2 millon to greater than 10 million dollars. The majority (82.8%) were under 10 million dollars. Almost 22% of foodservices' annual sales were under 1.5 million dollars; 26.1% were between 1.5 and 3 million dollars; and 28% were over 7 million dollars.

Food cost percentage ranged from less than 31% to greater than 40%. The majority (64%) of foodservice directors reported a food cost between 31 and 40 percent. Almost one-third (32.6%) of the foodservice directors reported a labor cost percent over 40.

In responding to the composition of their revenues, approximately one-third of respondents reported revenues from contract sales in each of the following categories: <71%, 71-85%, and >85%. About half of the foodservices reported between 6 and 15% of their sales from "other" sources. Percentage of contract sales were evenly split among responses illustrating that college and university foodservice revenues were based primarily on contract sales. Cash sales contributed a limited portion to most operation revenues.

Respondents were asked to provide information on net income in the questionnaire. However, most respondents responded with a zero or left the item blank.

Table 3
Financial Performance of College and University Foodservice Departments

	N	%
Annual Gross Revenue		
< $2,000,001	36	28.1
$2,000,001 - $4,000,000	35	27.4
$4,000,001 - $10,000,000	35	27.3
> $10,000,000	22	17.2
Annual Sales		
< $1,500,001	26	21.8
$1,500,001 - $3,000,000	31	26.1
$3,000,001 - $7,000,000	29	24.4
> $7,000,000	33	27.7
Food Cost Percent		
< 31%	22	16.4
31 - 35%	45	33.6
36 - 40%	41	30.6
> 40%	26	19.4
Labor Cost Percent		
< 31%	25	18.5
31 - 35%	32	23.7
36 - 40%	34	25.2
> 40%	43	32.6
Composition of Revenue		
Contract Sales		
< 71%	40	33.6
71 - 85%	40	33.6
> 85%	39	32.8
Cash Sales		
< 11%	54	45.0
11 - 30%	43	35.8
> 30%	23	19.2
Other		
< 6%	17	27.4
6 - 15%	31	50.0
> 15%	14	22.6

Financial Procedures

Table 4 shows the frequency distribution for the financial procedures used in the foodservice department. Over 90% of respondents used an operating budget and an income statement for financial decision making. Eighty-five percent used a capital budget.

About half of respondents used inventory turnover, balance sheet, break-even analysis, trend analysis, and variance analysis. Approximately one-third of respondents used contribution margin and cost benefit analysis.

Almost 80% of respondents did not use or were not sure of use of ratio analysis and cost-volume profit. About 10% of respondents were not sure whether trend analysis, cost benefit analysis, ratio analysis, and cost-volume profit were used.

The findings of this study are comparable to the research reported by Kosturakis and Eyster (1979). The authors interviewed 15 small hotel company executives to determine budgeting practices. All of the respondents reported that the operating budget is very important to the hotel operation. Most respondents did not use a cost-volume-profit analysis because executives thought that this technique was too sophisticated and too time consuming.

Table 4
Use of Financial Procedures in Foodservice Department's Financial Decision-making

Procedures[1]	Yes		No		Not Sure	
	n	%	n	%	n	%
Operating Budget	140	97.9	3	2.1	0	0.0
Income(profit/loss)Statement	130	92.9	8	5.7	2	1.4
Capital Budget	121	85.0	16	11.3	4	2.8
Inventory Turnover	81	58.7	55	38.5	4	2.8
Balance Sheet	75	54.0	56	40.3	8	5.8
Break-even Analysis	73	52.1	59	42.1	8	5.7
Trend Analysis	70	50.0	54	38.6	16	11.4
Variance Analysis	61	44.2	65	47.1	12	8.7
Contribution Margin	55	39.6	71	51.1	13	9.4
Cost Benefit Analysis	43	31.2	79	57.2	16	11.6
Ratio Analysis	38	27.7	84	61.3	15	10.9
Cost-volume-profit	29	21.2	86	62.8	22	16.1

[1] Descending order for "Yes" response

Mean ratings of importance for the financial procedures are shown in Table 5. Users of an income statement rated it as essential (4.55+). Operating budget and break-even analysis also were rated as high importance (4.01 to 4.54). The respondents rated balance sheet, capital budget, contribution margin, variance analysis, trend analysis, and ratio analysis as being of moderate importance (3.55 to 4.00). Cost benefit analysis, inventory turnover, and cost-volume-profit analysis were generally rated as less important (3.38 to 3.54).

Comparing the frequencies of financial procedures (Table 4) to the importance rating (Table 5), over 90% of foodservice directors used an operating budget and an income statement and regarded those procedures as high importance (4.49 and 4.65). Even though only 52.1% of foodservice directors used a break-even analysis, those who reported using it rated it as very important (4.03). The results indicated that non-users of break-even analysis should consider using that procedure for financial decision-making.

The results from the present study support the findings of Damitto and Kagle (1991). In the study, a total of 135 controllers rated the understanding of an income statement as essential, and the operating budget as high importance.

There were differences between the present study and Damitto and Kagle (1991) findings. In the present study, foodservice directors rated variance analysis as less important than did hospitality controllers in the Damitto and Kagle (1991) study (3.77 compared with 4.13). A break-even analysis was rated lower by controllers (4.03 compared with 3.23).

Table 5
Mean Importance Ratings of Financial Procedures Used for Foodservice Department's Financial Decision-making

Procedures[1]	N	Mean[2]	Std.Dev.
Income(profit/loss)Statement	130	4.65	0.68
Operating Budget	140	4.49	0.88
Break-even Analysis	73	4.03	0.85
Balance Sheet	75	3.93	1.00
Capital Budget	121	3.87	1.02
Contribution Margin	55	3.84	1.01
Variance Analysis	61	3.77	1.04
Trend Analysis	70	3.59	0.91
Ratio Analysis	38	3.55	0.89
Cost Benefit Analysis	43	3.53	0.93
Inventory Turnover	81	3.53	0.98
Cost-volume-profit Analysis	29	3.38	0.94

[1] Descending order for importance
[2] Scale: 1, of no importance, 3, of moderate importance to 5, essential

Financial Management Activities

Frequencies were calculated to examine responsibility and time-demand ratings for 21 financial management activity statements. Mean importance and time-demand ratings were computed.

Responsibility for Financial Management Activities

Table 6 shows the frequency distribution for the responsibility of foodservice directors for the financial management activities. Responsibility ratings were classified into three categories: most frequently performed (89.5%+), frequently performed (80.0 to 89.4%), and less frequently performed (less than 79.9%).

Less than one-third of respondents were responsible for preparing the income statement. Almost 30% of the foodservice directors reported that this activity was done in another department. However, almost 90% of foodservice directors were responsible for analyzing the income statement.

About 67% of foodservice directors were responsible for calculating food costs or supervising food cost calculation but 91.7% were responsible for analyzing food costs. Approximately 55% of foodservice directors calculated labor costs or supervised labor cost calculation but 86.8% analyzed labor costs.

Table 6
Responsibility of College and University Foodservice Directors for Financial Management Activities[1]

Activity Statement[2]	By Foodservice Director		By Foodservice Department		By Other Dept.	
	N	%	N	%	N	%
MOST FREQUENTLY PERFORMED						
Participate in establishment of operational goals	142	98.6	1	0.7	1	0.7
Authorize expenditures	140	96.6	3	2.0	2	1.4
Allocate financial resources in accordance w/ approved budget	132	92.3	7	4.9	4	2.8
Analyze food costs	133	91.7	7	4.8	5	3.5
Interpret financial data	133	91.7	5	3.5	6	4.1
Participate in establishment of financial goals	131	91.0	4	3.0	8	6.0
Develop capital expenditure proposals	131	90.3	9	6.7	4	3.0
Analyze income statement	130	89.7	5	4.3	7	6.0
FREQUENTLY PERFORMED						
Project revenues or units of service (sales, meals, meal equivalents) as basis for budget	128	88.3	8	5.5	9	6.2
Analyze labor costs	125	86.8	9	7.0	8	6.2
Prepare department operating budget	123	85.4	14	10.8	5	3.8
Obtain financial management information from outside sources (suppliers, trade org., journals, etc.)	122	84.7	8	7.6	8	7.7
Prepare department capital budget	120	82.8	13	10.7	8	6.5
LESS FREQUENTLY PERFORMED						
Revise and update operating budget during fiscal year	115	79.3	15	12.0	11	8.7
Supervise food cost calculation	98	67.6	38	27.4	7	5.0
Calculate food costs	97	66.9	42	29.6	5	3.5
Analyze cost requirements of menu	94	65.3	38	30.7	5	4.0
Supervise labor cost calculation	81	55.9	44	34.0	13	10.1
Calculate labor costs	78	53.8	54	38.4	11	7.8
Supervise income statement preparation	54	37.2	40	32.7	37	30.1
Prepare income statement	45	31.0	51	40.5	36	28.5

[1] N = 144

[2] Descending order based on responsibilities of foodservice directors

The results showed that food and labor costing activities were done within the foodservice department by the foodservice director or by other staff. The foodservice director was more likely to focus on analyzing food and labor cost data rather than calculate data.

Over 90% of respondents were responsible for operational and financial goals establishment, expenditure authorization, financial resource allocation, food cost analysis, financial data interpretation, and capital expenditure development.

Results from the present study showed that most foodservice directors were responsible for planning, authorizing, and analyzing activities for financial management. Foodservice directors were responsible for budgeting activities frequently, but less frequently for basic calculating or record-keeping activities.

Importance of Financial Management Activities

Mean ratings for importance of financial activities as indicated by the foodservice directors are shown in Table 7. Importance ratings were classified into three categories: very important (4.50+), important (4.01 to 4.49), and less important (4.00 or less).

Most of the financial management activities received importance ratings of 4.01 to 4.49. However, respondents rated financial management information collection from outside sources as less important.

The most essential activity was participating in establishment of financial goals. Other activities rated as very important included operating budget preparation, financial resource allocation, revenue projection, operational goal establishment, financial data interpretation, and income statement analysis.

Results from the present study showed that foodservice directors regarded planning, budgeting, and analyzing activities as very important and perceived calculating, supervising, and authorizing as important. Obtaining financial information was noted as less important by directors (3.52).

Table 7
Importance Ratings of Financial Management Activities[1]

Activity statement[1]	N	Mean[2]	Std.Dev.
VERY IMPORTANT (4.50-5.00)			
Participate in establishment of financial goal	131	4.70	0.61
Prepare department operating budget	123	4.67	0.74
Allocate financial resources in accordance w/ approved budget	132	4.64	0.63
Project revenues or units of service	128	4.57	0.75
Participate in establishment of operation goal	142	4.55	0.73
Interpret financial data	133	4.54	0.75
Analyze income statement	130	4.51	0.76
IMPORTANT (4.01-4.49)			
Calculate food costs	97	4.41	0.80
Prepare department capital budget	120	4.38	0.82
Analyze labor costs	125	4.36	0.78
Authorize expenditures	140	4.35	0.83
Prepare income statement	45	4.35	0.93
Supervise income statement preparation	54	4.33	0.74
Analyze food costs	133	4.32	0.84
Revise and update operating budget	115	4.28	0.88
Calculate labor costs	78	4.27	0.82
Develop capital expenditure proposals	131	4.25	0.78
Supervise labor cost calculation	81	4.19	0.87
Supervise food cost calculation	98	4.17	0.91
Analyze cost requirements of menu	94	4.16	0.78
LESS IMPORTANT (4.00 or less)			
Obtain financial management information from outside sources	122	3.52	0.93

[1] Descending order based on importance ratings
[2] Scale: 1, of no importance to 3, of moderate importance to 5, essential

Findings of this study support previous research. In the Yates, Shanklin, and Gorman (1987) study, healthcare administrators and dietetic educators rated the following financial competencies as very important: possessing knowledge of financial objectives for area of responsibility, implementing and maintaining appropriate cost control, allocating financial resources in accordance with approved budget, constructing a budget within a set of financial constraints, completing justification for budget requirements, participating in establishment of financial and operational goals, projecting revenues and units of service as basis for budgets, assessing financial status based on approved budget and/or profit and loss statement, and interpreting financial data to show accomplishment of stated objectives within a specified period.

Results from the present study support the findings of the Palacio, Spears, Vaden, and Downey (1988) study. Dietetic professionals in the Palacio et al. study rated preparing budget, authorizing expenditures, and developing capital budget as "essential."

Results from the present study are consistent with the findings of Sultemeier et al. (1989) study. Foodservice directors in the Sultemeier et al. study rated preparing budget and authorizing expenditures as "very important."

Principal Component Analysis

A principal component analysis was conducted on the importance ratings of the 21 financial management activity statements (Table 8). Following conventional steps, components were considered significant if eigenvalues were 1.0 or higher (Touliatos and Compton, 1988). Kaiser's varimax rotation procedure was used to produce an orthogonal rotation of factors.

Measures with loadings of 0.40 or greater were used in interpreting the components. Use of this criteria eliminated one statement which was the opportunity to work alone. Although 20 of the 21 statements loaded at levels of 0.40 or greater (Table 8), cross-loadings at or above the 0.40 level on three statements were found but measures were different. In spite of these cross-loadings, the 20 statements which loaded at 0.40 or greater were assigned to the factor where they loaded the highest.

Table 8
Rotated Factor Loadings for Financial Management Importance Statements

Factor Statement	Factor Loadings[1] Food&Labor Costing (24.51)[2]	Financing (23.04)[2]	Budgeting (6.01)[2]
FOOD&LABOR COSTING ACTIVITY			
Calculate food costs	<u>0.66</u>	0.25	0.29
Analyze cost requirements of menu	<u>0.42</u>	0.39	0.23
Analyze labor costs	<u>0.71</u>	0.32	0.06
Analyze food costs	<u>0.76</u>	0.30	0.01
Calculate labor costs	<u>0.78</u>	0.26	0.24
Supervise labor cost calculation	<u>0.79</u>	-0.03	0.19
Supervise food cost calculation	<u>0.81</u>	0.00	0.20
FINANCING ACTIVITY			
Participate in financial goals	-0.14	<u>0.66</u>	0.25
Allocate financial resources	0.02	<u>0.61</u>	0.46
Project revenues or services	0.21	<u>0.60</u>	0.37
Participate in the operational goals	0.22	<u>0.49</u>	0.47
Interpret financial data	0.18	<u>0.81</u>	-0.01
Analyze income statement	0.31	<u>0.77</u>	0.09
Prepare income statement	0.36	<u>0.70</u>	0.27
Supervise income statement preparation	0.50	<u>0.52</u>	0.01
Obtain financial management information from outside	0.16	<u>0.76</u>	0.13
BUDGETING ACTIVITY			
Prepare department operating budget	0.21	0.09	<u>0.80</u>
Prepare department capital budget	0.04	0.19	<u>0.83</u>
Revise and update operating budget	0.22	0.34	<u>0.58</u>
Develop capital expenditure proposals	0.27	0.15	<u>0.73</u>

[1] Underlined numbers indicate loadings in each factor
[2] Percent of overall variance accounted for each component

The three components accounted for 53.6% of the variance (Table 8). Scale scores for each were obtained by averaging the importance ratings of activities over the items loaded on a scale. Reliability of components was computed using the coefficient alpha procedure. Respondents rated importance of food and labor costing, financing, and budgeting activities as 4.25, 4.43, and 4.42, respectively (Table 9). Reliability of the scores for the food and labor costing, financing, and budgeting activities were estimated by computing coefficient alpha. Coefficient alpha values ranged from 0.76 to 0.92, suggesting moderate to high internal consistency in the scales. Correlations between the three scale scores are also shown in Table 9. All coefficients (0.47 to 0.56) are lower than the reliability estimates (0.76 to 0.92), suggesting each scale provides unique information but also shows significant degrees of overlaps.

Table 9
Reliability of Three Retention Scale Scores and Correlation

			Correlate Coefficients		
Scale	Mean	Std.Dev.	Food&Labor Costing	Financing	Budgeting
Food&Labor Costing	4.25	0.68	(0.92)[1]		
Financing	4.43	0.49	0.56***	(0.84)[1]	
Budgeting	4.42	0.62	0.47***	0.61***	(0.76)[1]

[1] Values in ( ) are coefficient alpha reliabilities
*** $p < .001$

Food and Labor Costing Factor. The food and labor costing factor accounted for 24.51% of the total variance in the principal component analysis and included seven of the 20 statements (Table 8). These items were food and labor cost calculation, supervise food and labor cost calculation, food and labor cost analysis, and cost requirements of menu analysis. The mean score for the food and labor costing factor was 4.25($\pm$ 0.68) which was lowest of the three factors (Table 9). The highest rated statement (Table 7) was food cost calculation (4.41$\pm$0.80) and the lowest rated was analysis for cost requirements of menu (4.16$\pm$0.78).

Financing Factor. The financing factor accounted for 23.04% of the variance in the principal component analysis and included nine of the 20 statements (Table 8). Items included in this factor were financial and operational goal establishment, financial resource allocation, revenue or units of service projection, financial data interpretation, income statement preparation, supervision, and analysis, and financial management information collection from outside sources. The mean score for this factor was 4.43($\pm$0.49) and was the highest mean score of the three factors (Table 9). The statement (Table 7) with the highest mean for the financing scale was participating in establishment of financial goals (4.70$\pm$0.61). The lowest statement was

financial management information collection from outside sources (3.52±0.93).

Budgeting Factor. The budgeting scale accounted for 6.1% of the variance in the principal component analysis and included four of the 20 statements (Table 8). Items included were operating and capital budget preparation, operating budget revisions, and capital expenditure proposal development. The mean score for budgeting was 4.42(±0.62) and was lower than the mean score for financing factor, but higher than food and labor costing factor (Table 9). The statement with the highest mean was operating budget preparation (4.67±0.74) and the lowest was the development of capital expenditure proposals (4.25±0.78) (Table 7).

Comparisons by Foodservice Directors

General Linear Model (GLM) procedures were conducted to determine whether differences existed in mean importance scores of the three financial management scales based upon gender, age, and educational background (educational level, major, and participation in continuing education). Table 10 shows comparisons of Least Square Means for three scales and demographic characteristics of foodservice directors.

Importance ratings for financing activities were found to be significantly different by gender ($p<.05$). Females rated financing activities higher than males.

Importance ratings for budgeting were found to be significantly different, at the $p<.05$ level, by age group. Respondents who were between 46 and 50 years of age responded with higher scores. Respondents who were less than 40 years of age rated the budgeting factor lower.

Table 10
Comparisons of Financial Management Importance Scales by Gender, Age, and Educational Background

Variable	N	Food&Labor Costing	Financing	Budgeting
		<-Least Square Mean[1] and (SD)----->		
Gender				
Female	37	4.48 (.24)	4.86* (.14)	4.54 (.20)
Male	107	4.23 (.19)	4.50* (.11)	4.41 (.15)
Age				
< 36	22	4.19 (.15)	4.28 (.11)	4.14* (.14)
36 - 40	38	4.12 (.13)	4.37 (.08)	4.27* (.11)
41 - 45	30	4.34 (.14)	4.44 (.09)	4.54* (.12)
46 - 50	28	4.21 (.17)	4.50 (.10)	4.62* (.13)
> 50	24	4.47 (.17)	4.56 (.10)	4.54* (.13)
Education				
< Bachelors	37	4.30 (.13)	4.43 (.09)	4.51 (.12)
Bachelors	64	4.28 (.10)	4.42 (.06)	4.45 (.08)
> Bachelors	40	4.08 (.14)	4.43 (.08)	4.28 (.11)
Major				
Food & Nutrition	9	4.37 (.35)	4.90 (.19)	4.50 (.25)
FS Admin.	18	4.54 (.22)	4.59 (.13)	4.51 (.17)
Business	35	4.18 (.23)	4.66 (.14)	4.41 (.19)
Hotel&Resta.	27	4.12 (.26)	4.57 (.15)	4.37 (.20)
Other	23	4.56 (.25)	4.66 (.15)	4.60 (.20)
Continuing Edu.				
Yes	90	4.30 (.21)	4.64 (.12)	4.39 (.17)
No	54	4.41 (.21)	4.72 (.12)	4.57 (.16)

[1] Scale: 1, of no importance to 5, essential
* Significantly different at $p<.05$ using ANOVA

Comparisons by Foodservice Departments

By Operational characteristics of foodservice departments. GLM procedures were conducted to determine whether differences existed in Least Square Mean importance ratings of the three financial management scales based upon size of colleges and universities and foodservices (number of residence hall foodservices, employees, and meals served a year). Results showed significant differences for budgeting scale (Table 11). A significant difference was found among the responses of the number of full-time employee group ($p<.05$). Foodservice directors with 26 to 50 and 51 to 100 full-time employees rated budgeting as higher importance. Foodservice directors with over 100 full-time employees rated budgeting as lower importance.

Table 11
Comparisons of Financial Management Importance Scales by Size of Colleges and Universities and Foodservices

Variable	N	Food&Labor Costing	Financing	Budgeting
		<--Least Square Mean[1] and SD ---->		
Size of College/ University				
< 10,001	83	4.30	4.46	4.51
		(.67)	(.41)	(.53)
10,001-20,000	31	4.04	4.35	4.19
		(.81)	(.70)	(.82)
> 20,000	30	4.34	4.44	4.36
		(.51)	(.45)	(.59)
No. of Foodservice Centers				
1	52	4.27	4.38	4.39
		(.69)	(.62)	(.69)
2 - 3	30	4.04	4.35	4.19
		(.81)	(.70)	(.82)
> 3	46	4.34	4.44	4.36
		(.51)	(.45)	(.59)
No. of Employees				
Full-time				
< 26	38	4.25	4.46	4.39*
		(.72)	(.45)	(.60)
26 - 50	33	4.24	4.35	4.57*
		(.75)	(.49)	(.42)
51 - 100	30	4.37	4.44	4.49*
		(.68)	(.65)	(.77)
> 100	37	4.12	4.60	4.21*
		(.77)	(.40)	(.63)
Part-time				
< 21	37	4.17	4.34	4.34
		(.76)	(.58)	(.76)
21 - 100	39	4.21	4.54	4.53
		(.81)	(.49)	(.51)
101 - 300	31	4.47	4.48	4.50
		(.57)	(.38)	(.50)
> 300	27	4.28	4.45	4.40
		(.52)	(.45)	(.54)

[1] Scale: 1, of no importance to 5, essential
* Significantly different at $p<.05$ using ANOVA

By Financial characteristics of foodservice departments. GLM procedures were conducted to determine whether differences existed in Least Square Mean importance scores of the three financial management scales based upon foodservice financial performance (annual gross revenue, annual sales, food cost percent, labor cost percent, and composition of revenue). Results showed significant differences for budgeting scale by annual gross revenue, annual sales, and composition of revenue (Table 12).

Respondents who reported over 10 million dollars of revenue rated the importance of budgeting activities lowest ($p<.05$). Respondents who reported 2 to 4 and 4.1 to 10 million dollars of revenue gave higher importance scores for budgeting activities.

Respondents who reported under 1.5 million dollars of annual sales rated the importance of budgeting activities highest. Respondents who reported 1.5 to 3 and over 7 million dollars of revenue rated budgeting activities lower in importance.

Respondents who had lower cash sales percentages rated the importance of budgeting activities higher ($p<0.05$). Respondents who had over 30% of revenues from cash sales rated the importance of budgeting activities lowest.

Results indicated that foodservice directors whose department has lower sales and more contract sales tend to

Table 12
Comparisons of Financial Management Importance Scales by Annual Gross Revenue, Annual Sales, and Revenue Composition

Variable	N	Food&Labor Costing	Financing	Budgeting
		<-Least Square Mean[1] and SD ---->		
Annual Gross Revenue				
<$2,000,0001	36	4.15	4.37	4.32*
		(.71)	(.64)	(.75)
$2,000,001-$ 4,000,000	35	4.48	4.52	4.61*
		(.58)	(.37)	(.39)
$4,000,001-$10,000,000	35	4.18	4.44	4.45*
		(.80)	(.42)	(.62)
>$10,000,000	22	4.64	4.41	4.24*
		(.41)	(.42)	(.49)
Annual Sales				
<$1,500,001	26	4.31	4.49	4.49*
		(.67)	(.42)	(.53)
$1,500,000-$3,000,000	31	4.32	4.38	4.35*
		(.74)	(.69)	(.80)
$3,000,001-$7,000,000	29	4.22	4.37	4.46*
		(.58)	(.43)	(.53)
>$7,000,000	33	3.98	4.49	4.36*
		(.77)	(.40)	(.57)
Composition of Revenue				
Contract Sales				
< 71%	40	4.28	4.41	4.39
		(.68)	(.56)	(.68)
71 - 85%	40	4.19	4.45	4.39
		(.72)	(.43)	(.61)
> 85%	39	4.29	4.45	4.48
		(.68)	(.44)	(.53)
Cash Sales				
< 11%	54	4.37	4.48	4.53*
		(.65)	(.54)	(.66)
11 - 30%	43	4.13	4.42	4.31*
		(.78)	(.45)	(.59)
> 30%	23	4.07	4.30	4.25*
		(.57)	(.37)	(.49)
Other Sales				
< 6%	17	4.23	4.39	4.42
		(.69)	(.54)	(.62)
6 - 15%	31	4.18	4.49	4.39
		(.73)	(.37)	(.62)
> 15%	13	4.57	4.55	4.42
		(.47)	(.41)	(.63)

[1] Scale: 1, of no importance to 5, essential
* Significantly different at $p<.05$ using ANOVA

emphasize ongoing budgeting activities. According to Dunn and Brooks (1990), an ongoing budgeting process throughout the year provides lower variances between budgeted and actual figures at the end of the year.

Comparisons by the Use of Financial Procedures

GLM procedures were conducted to determine whether differences existed in mean importance scores of the three financial management scales based upon the use of financial procedures. Table 13 shows differences in Least Square Mean scores for importance scales and financial procedures used by respondents. Significant differences at $p<.05$ level were found in financing and budgeting scales.

Respondents who used an operating budget and a capital budget had higher scores for budgeting activities. Respondents who did not use ratio analysis had higher scores for budgeting activity. Results indicated that foodservice directors who used an operating and a capital budget regarded budgeting activities as very important. Foodservice directors tended to use an operating and a capital budget for controlling costs rather than using ratio analysis. Respondents who used a trend analysis had higher scores for financing activities: allocating resources, projecting revenues, analyzing income statement, or establishing financial or operational goals.

Table 13
Comparisons of Financial Management Importance Scales by the Use of Financial Procedures[1]

Variable		Food&Labor Costing	Financing	Budgeting
MOST FREQUENTLY USED	N	<--Least Square Mean[2] and SD ----->		
Operating Budget				
Yes	140	4.24	4.34	4.41*
		(.21)	(.12)	(.62)
No	3	4.79	4.78	4.54*
		(.48)	(.27)	(.29)
Income Statement				
Yes	130	4.34	4.47	4.41
		(.25)	(.14)	(.20)
No	8	4.68	4.65	4.94
		(.41)	(.24)	(.59)
Capital Budget				
Yes	121	4.53	4.67	4.42*
		(.34)	(.19)	(.61)
No	16	4.50	4.45	4.10*
		(.28)	(.16)	(.76)
FREQUENTLY USED				
Inventory Turnover				
Yes	84	4.58	4.59	4.75
		(.27)	(.15)	(.34)
No	55	4.45	4.52	4.60
		(.31)	(.16)	(.35)
Balance Sheet				
Yes	75	4.46	4.53	4.64
		(.29)	(.16)	(.34)
No	56	4.57	4.59	4.71
		(.28)	(.15)	(.35)
Break-even Analysis				
Yes	73	4.59	4.61	4.72
		(.28)	(.16)	(.34)
No	56	4.57	4.59	4.71
		(.28)	(.15)	(.35)
Trend Analysis				
Yes	70	4.67	4.74*	4.81
		(.29)	(.16)	(.36)
No	54	4.35	4.38*	4.54
		(.28)	(.16)	(.34)
Variance Analysis				
Yes	61	4.56	4.44*	4.71
		(.30)	(.16)	(.34)
No	65	4.46	4.67*	4.64
		(.28)	(.16)	(.36)

[1] Descending order for yes response (Table Continues)
[2] Scale: 1, of no importance to 5, essential
* significantly different at $p<.05$ using ANOVA

Table 13 (continued)

Variable		Food&Labor Costing	Financing	Budgeting
LESS FREQUENTLY USED	**N**	**<--Least Square Mean[2] and SD ---->**		
Contribution Margin				
Yes	55	4.50	4.62	4.64
		(.30)	(.16)	(.35)
No	71	4.53	4.62	4.71
		(.29)	(.50)	(.35)
Cost Benefit Analysis				
Yes	43	4.62	4.53	4.81
		(.29)	(.16)	(.36)
No	79	4.40	4.59	4.54
		(.29)	(.16)	(.34)
Ratio Analysis				
Yes	38	4.34	4.45	4.39*
		(.33)	(.17)	(.36)
No	16	4.40	4.59	4.54*
		(.29)	(.16)	(.34)
Cost-volume-profit Analysis				
Yes	29	4.44	4.54	4.63
		(.33)	(.17)	(.36)
No	108	4.58	4.58	4.73
		(.27)	(.15)	(.34)

Time Demand of Financial Management Activities

Table 14 shows the distribution for how frequently foodservice directors engage in various financial management activities. The 21 activity statements were classified into three categories by modal responses: once to several times per year, once or twice per month, and weekly or more. Mean activity scores are presented in Table 14.

Activities related to the budget were completed about once per year. Respondents reported that the following activities are completed several times per year: capital proposals are developed, revenues are projected, operating budgets are revised, and operational goals are established.

Respondents reported that the following activities are completed once or twice per month: financial management information is obtained, financial resources are allocated, income statement, food and labor cost, and financial data are interpreted, and cost requirements of the menu are analyzed. Activities relating to authorizing expenditures were done weekly or daily.

There were differences between the present study and the Sultemeier et al. (1989) findings. In the present study, foodservice directors reported budgets were prepared less frequently and expenditures were authorized more frequently. In contrast, foodservice directors in the Sultemeier et al. study reported budgets were prepared several times per year and expenditures were authorized once or twice per month.

Table 14
Frequency and Mean Time Demand Ratings of Financial Management Activities[1]

Activity Statement[2]	Daily	Weekly	1-2 /Month	Several /Year	Once /Year	Mean[3] (SD)
	<---------- % ---------->					X (SD)
SEVERAL TO ONCE A YEAR						
Prepare department operating budget	0.8	0.8	7.3	18.7	72.4	4.61 (0.73)
Prepare department capital budget	2.6	0.8	3.4	21.0	72.6	4.60 (0.82)
Develop capital expenditure proposals	1.5	3.8	5.4	44.6	44.6	4.27 (0.85)
Project revenues or units of service as basis for budget	3.4	7.9	15.1	35.7	38.9	4.01 (1.04)
Participate in establishment of financial goals	3.8	6.9	10.0	48.5	30.8	3.95 (1.02)
Revise and update operating budget	0.9	5.3	15.0	61.9	16.8	3.88 (0.78)
Participate in establishment of operational goals	3.5	8.4	12.6	49.7	25.9	3.86 (1.01)
Obtain financial management information from outside sources	5.0	13.3	34.2	40.0	7.5	3.32 (0.97)
Analyze cost requirements of menu	5.4	26.9	30.1	33.3	4.3	3.04 (0.97)
Allocate financial resources in accordance w/ approved budget	10.6	24.2	20.5	28.8	15.9	3.15 (1.26)

[1] N varies 51 to 143 (Table Continues)

[2] Orders in modal responses

[3] Scale: 1=daily, 2=weekly, 3=one/two per month, 4=several per year, 5=about once per year

Table 14 (continued)

Activity Statement[2]	Daily	Weekly	1-2 Month	Several /Year	Once /Year	Mean[3] (SD)
	<---------- % ---------->					X (SD)
ONCE OR TWICE PER MONTH						
Supervise income statement preparation	2.0	17.6	52.9	21.6	5.6	3.12 (0.84)
Analyze income statement	3.9	12.5	57.0	21.6	1.6	3.08 (0.77)
Analyze labor costs	2.4	25.6	41.6	26.4	4.0	3.04 (0.88)
Prepare income statement	2.2	24.4	48.9	15.6	8.9	3.04 (0.93)
Calculate labor costs	2.6	30.8	33.3	25.6	7.7	3.02 (1.00)
Supervise labor cost calculation	5.0	30.0	32.5	27.5	5.0	2.97 (0.99)
Analyze food costs	4.5	31.1	38.6	22.0	3.8	2.89 (0.93)
Supervise food cost calculation	10.4	25.0	39.6	21.9	3.1	2.82 (0.99)
Calculate food costs	8.3	33.3	34.4	17.7	6.3	2.80 (1.03)
Interpret financial data	7.6	26.7	48.1	16.0	1.5	2.77 (0.86)
WEEKLY OR MORE						
Authorize expenditures	37.1	33.6	15.7	10.7	2.9	2.08 (1.10)

Importance of Financial Procedures

GLM procedures were conducted to determine whether Least Square Mean Financial Procedure importance ratings differed based on foodservice directors, foodservice departments, and the use of financial procedures. Results of analysis of variance are summarized in this section.

Comparisons by Foodservice Directors

Least Square Mean importance scores of the financial procedure ratings were compared based upon gender, age, and educational background (educational level, major, and participation in continuing education). Significant differences were found for gender and educational level of respondents (Table 15).

Females rated variance analysis, trend analysis, capital budget, operating budget, and inventory turnover higher ($p<.05$). Respondents who did not have a bachelor's degree rated cost-volume-profit analysis lowest. Results of the study indicated that college educated foodservice directors regarded cost-volume-profit analysis as higher importance than did non-college educated directors.

Table 15
Comparisons of Importance Ratings of Selected Financial Procedures Based on Gender, Age, and Educational Background of Respondents[1,2]

Variable	Trend Analysis	Capital Budget	Operating Budget	Inventory Turnover	Variance Analysis	Cost-Volume
	<----------Least Square Mean[3]---------->					
Gender						
Female	4.10*	4.47*	4.99*	4.26*	4.70*	3.59
Male	3.98*	3.92*	4.77*	3.42*	3.71*	3.49
Age						
< 36	4.15	3.97	4.70	4.26	3.72	3.71
36 - 40	3.65	3.93	4.41	3.69	3.85	3.28
41 - 45	3.71	4.02	4.92	3.91	4.53	3.97
46 - 50	3.27	4.45	4.88	3.89	4.49	3.79
> 50	3.96	4.50	4.99	3.69	4.42	4.04
Education						
< Bachelors	3.37	4.00	4.39	3.68	3.62	3.50*
Bachelors	3.85	3.86	4.57	3.40	3.77	3.75*
> Bachelors	3.43	3.75	4.47	3.58	3.88	3.82*
Major						
Food&Nutri.	3.82	3.66	5.00	4.33	4.40	3.61
FS Admin.	3.72	4.60	4.50	3.35	4.11	3.16
Business	3.84	4.27	4.37	3.74	4.60	3.50
Hotel&Rest.	3.61	4.06	4.33	3.69	3.53	3.60
Other	3.73	4.28	4.48	4.20	4.39	3.83
Continuing Edu.						
Yes	3.72	4.17	4.26	3.92	4.20	3.44
No	3.77	4.18	4.71	3.75	3.69	3.38

[1] N varies 9 to 107
[2] Financial procedures which had significant differences are presented in the Table.
[3] Scale: 1, of no importance to 5, essential
* Significantly different at $p<.05$ using ANOVA

Comparisons by Foodservice Departments

By Operational Characteristics of Foodservice Departments

Least Square Mean importance ratings of financial procedure ratings were compared with size of colleges and universities and foodservice departments (number of residence hall foodservices, employees, and meals served per year). Significant differences ($p<.05$) were found for number of foodservice centers and full-time employees (Table 16).

Importance ratings for capital budget were significantly different by number of foodservice centers ($p<.05$). The Least Square Mean importance ratings of the foodservice directors with more than three foodservice centers was higher for capital budget. The results of this study indicated that foodservice directors who managed more foodservice centers reported using capital budget as very important.

Significant differences ($p<.05$) were found in importance scores for the inventory turnover by number of full-time employees. Foodservice directors with less than 26 full-time employees had higher importance scores for inventory turnover. The results of this study indicated that foodservice directors in smaller organizations regarded inventory turnover as very important. According to Sneed and Kreese (1989), the higher the turnover rate, the less money is invested.

Table 16
Comparisons of Financial Procedure Importance Ratings by Operational Characteristics of Foodservice Departments[1,2]

Variable	Capital Budget	Inventory Turnover
	<-Least Square Mean[3]->	
No. of Foodservice Centers		
1	3.48*	3.46
2 -3	3.46*	4.14
>3	4.15*	4.05
No. of Full-time employees		
< 26	3.49	4.72*
26 - 50	3.64	3.65*
51 - 100	3.78	3.58*
> 100	3.85	3.56*

1 N varies 30 to 52
2 Financial procedures which had significant differences are presented in the Table.
3 Scale: 1, of no importance to 5, essential
* Significantly different at $p<.05$ using ANOVA

By Financial Characteristics of Foodservice Departments

Least Square Mean importance scores of financial procedure ratings were compared with financial characteristics of foodservice departments (annual gross revenue, annual sales, and composition of revenue). Results showed significant differences by cash sales (Table 17).

Importance scores for break-even analysis, variance analysis, and capital budget were found to be significantly different based on percent of cash sales ($p<.05$). Foodservice directors with less than 11% of revenues from cash sales rated break-even analysis, variance analysis, and capital budget higher. The results of this study indicated that foodservice directors with a smaller portion of cash sales regarded these procedures as very important.

Table 17
Comparisons of Financial Procedure Importance Ratings by Financial Characteristics of Foodservice Departments[1,2]

Variable	Break-even Analysis	Variance Analysis	Capital Budget
	<------Least Square Mean[3]------->		
Composition of Revenue			
Cash Sales			
< 11%	4.43**	3.97*	4.04*
11 - 30%	3.97**	3.49*	3.60*
> 30%	3.20**	2.92*	3.57*

[1] N varies 23 to 54
[2] Financial procedures which had significant differences are presented in the Table.
[3] Scale: 1, of no importance to 5, essential
* $p<.05$
** $p<.01$

Comparisons by the Use of Financial Procedures

GLM procedures were conducted to compare importance ratings of financial procedures with the use of financial procedures. Results showed significant differences by the use of financial procedures (Table 18).

Importance scores for the contribution margin were found to be significantly different by the users of the trend analysis ($p<.01$). The users of the trend analysis had higher importance scores on the contribution margin. According to Sneed and Kresse (1989), over a long enough period of time, trend results should be useful in decision making in foodservices. Contribution margin is the contribution to the recovery of fixed costs and profits. Therefore, foodservice directors who used trend analysis reported using a contribution margin as very important.

Importance scores for income statement, trend analysis, and ratio analysis were found to be significantly different by the users of the balance sheet ($p<.05$). Least Square Mean importance ratings of the users of the balance sheet were lower for these financial procedures.

Importance scores for variance analysis and capital budget were found to be significantly different by the users of the contribution margin. The users of the contribution margin gave lower importance scores on the variance analysis ($p<.05$) and gave lower scores on the capital budget ($p<.01$).

According to Keiser (1989), the users of the contribution margin can analyze variable and fixed costs of organizations.

Table 18
Comparisons of Importance Ratings of Financial Procedures Based on the Use of Financial Procedures[1]

Variable		Contri. Margin	Income State.	Variance Analysis	Trend Analysis	Capital Budget	Ratio Analysis
	N	<-------Least Square Mean[2]---------->					
Balance Sheet							
Yes	75	4.36	4.53*	3.36	3.43*	4.34	2.59*
No	56	4.40	4.94*	3.54	4.36*	4.88	3.63*
Contribution Margin							
Yes	55	4.38	4.69	3.03*	3.95	4.33**	3.48
No	71	--	4.78	3.87*	3.84	4.88**	2.74
Trend Analysis							
Yes	70	4.94**	4.83	3.79	3.90	4.88	3.05
No	54	3.83**	4.65	3.11	--	4.33	3.17

[1] Financial procedures which had significant differences are presented in the Table.
[2] Scale: 1, of no importance to 5, essential
* $p<.05$
** $p<.01$

Differences between Used and Not-used Financial Procedures

Chi-square tests were computed to determine differences in the user and the non-user of financial procedures for gender, age, educational background (major, educational level, continuing education), and career background (years of present position, present organization, and college and university residence hall foodservices). Table 19 shows results of chi-square analysis.

A significant difference (x^2=12.96, p<.05) was found for users and non-users of Break-even Analysis by years in college and university residence hall food services: 30.1% of users had worked under 11 years in colleges and universities compared with 20.3% of non-users. Approximately, 35.6% of users had from 11 to 20 years experience compared with 66.1% of non-users. About 34% of users had over 20 years experience compared with 13.6% of non-users. Results of the study indicated that users of Break-even Analysis were relatively evenly distributed by the college and university foodservice experience variable, while those non-users of Break-even Analysis tended to be concentrated in the middle (11-20) years.

A significant difference (x^2=9.53, p<.05) was found for users and non-users of the Capital Budget by the age variable. Approximately 16% of users were less than 36 years of age compared with 37.5% of non-users; 28% of users were

Table 19
Demographic Characteristics of Financial Procedure Users[1]

Variable	Break-even Analysis				Capital Budget				Balance Sheet			
	Used		Not-Used		Used		Not-Used		Used		Not-used	
	N	%	N	%	N	%	N	%	N	%	N	%
Age					sig. different							
< 36	12	16.4	11	18.6	19	15.7*	6	37.5	11	14.6	12	21.4
36 - 40	22	30.1	14	23.8	34	28.1	2	12.5	21	28.0	13	23.2
41 - 45	16	21.9	13	22.0	27	22.3	3	18.8	14	18.7	16	28.6
46 - 50	15	20.5	8	13.6	20	16.5	5	31.2	14	18.7	8	14.3
> 50	8	10.1	13	22.0	21	17.4	-	--	15	21.0	7	12.5
Years in Present Org.									sig. different			
< 11	41	56.2	35	59.3	66	54.5	10	62.5	37	49.3*	36	64.4
11 - 20	27	37.0	20	33.9	38	31.4	5	31.3	30	40.0	10	17.8
> 20	6	6.8	4	6.8	17	14.1	1	6.2	8	10.7	10	17.8
Years in College/ Univ. FS	sig. different											
< 11	22	30.1*	12	20.3	30	24.8	5	31.3	14	18.7	19	33.9
11 - 20	26	35.6	39	66.1	57	47.1	9	56.2	38	50.1	25	44.6
> 20	25	34.3	8	13.6	34	28.1	2	12.5	33	30.6	12	21.5

[1] Financial procedures which had significant differences are presented in the Table.

* $p<.05$

between 36 and 40 years of age compared with 12.5% of non-users; and 16.5% of users were between 46 and 50 years of age compared with 31.2% of non-users. All foodservice directors who were over 50 years of age used capital budget. In general, those using Capital Budget were spread over the age groups, while non-users tended to be younger.

A significant difference (x^2=7.641, p<.05) was found for users and non-users of the balance sheet by years in the present organization. Nearly half (49.3%) of the users had less than 11 years experience in present organization compared with 64.4% of non-users. About 40% of users had from 11 to 20 years experience compared with 17.8% of non-users. In general, users of the Balance Sheet tended to be concentrated up to the middle (11-20) years, while non-users tended to have been employed fewer years in the present organization.

Results of the analyses indicated that foodservice directors with more experience in foodservice tended to use Break-even Analysis, Capital Budget, and Balance Sheet, while foodservice directors with less experience in foodservice reported using those procedures less frequently.

Results suggested that as foodservice directors gain more experience, financial procedures are regarded as very important financial tools. Past research is not available for comparing the results of the chi-square tests to the present study.

Differences in Responsibility of Foodservice Directors for Financial Management Activities

Chi-square tests were computed to determine differences in financial management responsibility for size of colleges and universities, size of foodservices (number of residence hall foodservices, employees, meals served a year), annual gross revenue, and annual sales. Financial management activities were grouped by three importance scales: food and labor costing, financing, and budgeting.

Food and Labor Costing Activities

Table 20 shows differences in responsibility of respondents for food and labor costing scales of financial management activities. Four of seven food and labor costing activities were found to be significantly different. Activity statements which had significant differences are presented in the Table 20.

Calculate Food Costs

A significant difference was found between foodservice directors who responded "Yes" to the activity Calculate Food Costs and those who responded "No" based on the following variables: size of college and university (x^2=10.88, p<.01), number of foodservice centers (x^2=12.25, p<.01), number of full-time (x^2=18.37, p<.001) and part-time employees

Table 20
Differences in Responsibility of Foodservice Directors for Food and Labor Costing Activities by Foodservice Information

Variable	Calculate food costs		Supervise food cost calculation	
	Yes	No	Yes	No
	N %	N %	N %	N %
Size of College/Univ.				
< 10,001	64 66.0**	20 41.7	67 68.4***	17 36.2
10,001-20,000	20 20.6	11 22.9	20 20.4	11 23.4
> 20,000	13 13.4	17 35.4	11 11.2	19 40.4
No. of Foodservices				
1	41 49.4**	11 24.4	42 50.0***	10 22.7
2 - 3	21 25.3	9 20.0	22 26.2	8 18.2
> 3	21 25.3	25 55.6	20 23.8	26 59.1
Full-time Employees				
< 26	38 39.2***	7 14.6	35 35.7***	13 27.6
26 - 50	24 24.7	9 18.8	26 26.5	7 14.9
51 - 100	20 20.6	10 20.8	22 22.5	4 8.5
> 100	15 15.5	22 45.8	15 15.3	22 49.0
Part-time Employees				
< 21	40 41.2*	12 25.0	39 39.8	10 21.3
21 - 100	17 17.5	7 14.6	17 17.4	7 14.9
101 - 300	16 16.5	4 8.3	16 16.3	8 17.0
> 300	24 24.8	25 52.1	26 26.5	22 46.8
No. of Meals per Year				
<400,001	47 48.5***	10 20.8	46 46.9***	11 23.4
400,001- 800,000	23 23.7	9 18.8	25 25.5	7 14.9
800,001-2,000,000	16 16.5	11 22.9	17 17.9	10 21.3
> 2,000,000	11 11.3	18 37.5	10 10.2	19 40.4
Annual Gross Revenue				
<$2,000,001	43 44.3***	10 20.8	41 41.8***	12 25.6
$2,000,001-$4,000,000	27 27.8	8 16.7	30 30.6	5 10.6
$4,000,001-$10,000,000	19 19.6	16 33.3	20 20.4	15 31.9
>$10,000,000	8 8.3	14 29.2	7 7.2	15 31.9
Annual Sales				
<$1,500,001	39 40.2**	13 27.1	42 42.9***	10 21.3
$1,500,000-$3,000,000	26 26.8	5 10.4	25 25.5	6 12.8
$3,000,000-$7,000,000	18 18.6	11 22.9	18 18.4	11 23.4
>$7,000,000	14 14.4	17 39.6	13 13.2	20 42.5

* p<.05 **p<.01 ***p<.001

(Table continues)

Table 20 (continued)

variable	Calculate labor costs				Supervise labor cost calculation			
	Yes		No		Yes		No	
	N	%	N	%	N	%	N	%
Size of College/Univ.								
< 10,001	53	68.0*	31	46.3	54	66.7*	30	46.9
10,001-20,000	14	17.9	17	25.4	16	19.7	15	23.4
> 20,000	11	14.1	19	28.3	11	14.0	19	29.7
No. of Foodservices								
1	32	47.8*	20	32.8	31	44.9*	21	35.6
2 - 3	19	28.4	11	18.0	20	29.0	10	16.9
> 3	16	23.8	30	49.2	18	26.1	28	47.5
Full-time Employees								
< 26	30	38.5**	15	22.4	26	32.1	19	29.7
26 - 50	20	25.6	13	19.4	19	23.5	14	21.9
51 - 100	18	23.1	12	17.9	21	25.9	9	14.1
> 100	10	12.8	27	40.3	15	18.5	22	34.3
Part-time Employees								
< 21	32	41.0*	20	29.8	29	35.8	23	35.9
21 - 100	13	16.7	11	16.4	14	17.3	10	15.6
101 - 300	15	19.2	5	7.5	16	19.7	4	6.3
> 300	18	23.1	31	46.3	22	27.2	27	42.2
No. of Meals per Year								
<400,001	39	50.0**	18	26.9	37	45.7*	14	28.0
400,001- 800,000	18	23.1	14	20.9	18	22.2	11	22.0
800,001-2,000,000	12	15.4	15	22.4	17	21.0	11	22.0
> 2,000,000	9	11.5	20	29.8	9	11.1	14	28.0
Annual Gross Revenue								
<$2,000,001	34	43.6*	19	28.4	27	33.3**	14	28.0
$2,000,001-$4,000,000	22	28.2	13	19.4	28	34.6	9	18.0
$4,000,001-$10,000,000	16	20.5	19	28.4	19	23.5	9	18.0
>$10,000,000	6	7.7	16	23.8	7	8.6	18	36.0
Annual Sales								
<$1,500,001	33	42.3**	19	28.4	30	37.0	14	28.0
$1,500,000-$3,000,000	21	26.9	10	14.9	22	27.2	9	18.0
$3,000,000-$7,000,000	15	19.2	14	20.9	16	19.8	9	18.0
>$7,000,000	9	11.6	24	35.8	13	16.0	18	36.0

(x^2=11.18, p<.05), number of meals served per year (x^2=18.29, p<.001), annual gross revenue (x^2=12.28, p<.001), and annual sales (x^2=14.81, p<.01). Table 20 presents the chi-square test results.

Foodservice directors who were employed at small size colleges and universities responded yes to the activity calculate food costs, while those who responded no were either at smaller or larger colleges and universities. Foodservice directors who managed fewer foodservice centers responded yes to the activity calculate food costs, while those who responded no more frequently managed larger numbers of foodservice centers. Foodservice directors with fewer full-time and part-time employees responded yes to the activity calculate food costs, while those who responded no had larger numbers of full-time and part-time employees. Foodservice directors who served fewer numbers of meals responded yes to the activity calculate food costs, while those who responded no served larger numbers of meals per year. Foodservice directors who reported lower annual gross revenue and annual sales tended to respond yes to the activity calculate food costs, while those who responded no reported relatively high annual gross revenue and annual sales.

Foodservice directors who were at smaller size and less complex foodservice operations tended to be more responsible for Calculating Food Costs, while foodservice directors who

were at small (<10,001) or large (>20,000) size and more complex foodservice operations tended to be less responsible for that activity. Complexity of foodservice operations includes number of foodservice centers, number of employees, number of meals, annual gross revenue and annual sales.

Supervise Food Cost Calculation

A significant difference was found between foodservice directors who responded "Yes" to the activity Supervise Food Cost Calculation and those who responded "No" based on the following variables: size of college and university (x^2=18.91, p<.001), number of foodservice centers (x^2=16.08, p<.001), number of full-time (x^2=16.83, p<.001) employees, number of meals served per year (x^2=20.87, p<.001), annual gross revenue (x^2=22.15, p<.001), and annual sales (x^2=18.91, p<.001). Table 20 presents the chi-square results.

Foodservice directors who were employed at smaller size colleges and universities responded yes to the activity supervise food cost calculation, while those who responded no were either smaller or larger colleges and universities. Foodservice directors who managed fewer foodservice centers responded yes to the activity supervise food cost calculation, while those who responded no tended to manage larger numbers of foodservice centers. Foodservice directors who had fewer full-time employees responded yes to

the activity supervise food cost calculation, while those who responded no had larger numbers of full-time employees. Foodservice directors who served fewer numbers of meals responded yes to the activity supervise food cost calculation, while those who responded no served larger numbers of meals per year. Foodservice directors who reported lower annual gross revenue and annual sales responded yes to the activity supervise food cost calculation, while those who responded no reported relatively high annual gross revenue and annual sales.

Foodservice directors who were at smaller size and lower complexity foodservice operations tended to be more responsible for Supervising Food Cost Calculation. Foodservice directors who were at small or large size and more complex foodservice operations tended to be less responsible for that activity.

Calculate Labor Costs

A significant difference was found between foodservice directors who responded "Yes" to the activity Calculate Labor Costs and those who responded "No" based on the following variables: size of college and university (x^2=7.39, p<.05), number of foodservice centers (x^2=8.90, p<.05), number of full-time (x^2=14.75, p<.01) and part-time (x^2=10.61, p<.05) employees, number of meals served per year (x^2=11.97, p<.01), annual gross revenue (x^2=10.59, p<.05),

and annual sales (x^2=13.77, p<.01). Table 20 presents the chi-square results.

Foodservice directors who were employed at smaller colleges and universities responded yes to the activity calculate labor costs, while those who responded no were either at smaller or larger colleges and universities. Foodservice directors who managed fewer foodservice centers responded yes to the activity calculate labor costs, while those who responded no managed either smaller or larger numbers of foodservice centers. Foodservice directors who had fewer full-time and part-time employees responded yes to the activity calculate labor costs, while those who responded no had larger numbers of full-time and part-time employees. Foodservice directors who served fewer numbers of meals responded yes to the activity calculate labor costs, while those who responded no were spread over the meal groups. Foodservice directors who reported lower annual gross revenue responded yes to the activity calculate labor costs, while those who responded no were spread over the annual gross revenue groups. Foodservice directors who reported annual sales responded yes to the activity calculate labor costs, while those who responded no were spread over the annual sales groups.

Results for labor cost calculation activity were similar to results of food cost calculation activity. Foodservice directors who were at smaller size and lower

complexity foodservice operations tended to be more responsible for Calculating Labor Costs, while foodservice directors at small or large size and more complex foodservice operations tended to be less responsible for that activity.

Supervise Labor Cost Calculation

A significant difference was found between foodservice directors who responded "Yes" to the activity Supervise Labor Cost Calculation and those who responded "No" based on the following variables: size of college and university (x^2=7.13, p<.05), number of foodservice centers (x^2=6.69, p<.05), number of meals served per year (x^2=9.70, p<.05), and annual gross revenue (x^2=13.98, p<.01). Table 20 presents the chi-square results.

Foodservice directors who were employed at smaller colleges and universities responded yes to the activity supervise labor cost calculation, while those who responded no were either at smaller or larger colleges and universities. Foodservice directors who managed fewer foodservice centers responded yes to the activity supervise labor cost calculation, while those who responded no managed either smaller or larger numbers of foodservice centers. Foodservice directors who served fewer meals per year responded yes to the activity supervise labor cost calculation, while those who responded no were spread over

the meal groups. Foodservice directors who reported lower annual gross revenue responded yes to the activity supervise labor cost calculation, while those who responded no were spread over the annual gross revenue groups.

Foodservice directors at smaller size and less complex foodservice operations tended to be more responsible for calculating food and labor costs and supervising food and labor cost calculation, while foodservice directors who were either at small or large size and more complex foodservice operations tended to be less responsible for those activities. Past research is not available for comparing the results of chi-square analysis to the present study.

Financing Activities

Table 21 shows differences in responsibility for financing activities by size of college and university, size of foodservice (number of residence hall foodservices, employees, meals served a year), annual gross revenue, and annual sales. Four of ten financing activities were found to be significantly different. Activity statements which had significant differences are presented in Table 21.

Table 21
Differences in Responsibility of Foodservice Directors for Financing Activities by Foodservice Information

Variable	Project revenues				Prepare income statement			
	Yes		No		Yes		No	
	N	%	N	%	N	%	N	%
Size of College/Univ.								
< 10,001	76	59.4	7	47.0	31	68.9	53	53.0
10,001-20,000	28	21.9	3	17.7	8	17.8	23	23.0
> 20,000	24	18.7	6	35.3	6	13.3	24	24.0
No. of Foodservices								
1	47	42.4*	5	29.4	21	50.0	31	36.1
2 - 3	29	26.1	1	5.9	12	28.6	18	20.9
> 3	35	31.5	11	64.7	9	21.4	37	40.0
Full-time Employees								
< 26	42	32.0	4	23.5	15	33.3*	30	30.0
26 - 50	30	23.4	3	17.6	9	20.0	24	24.0
51 - 100	28	21.9	2	11.8	15	33.3	15	15.0
> 100	29	22.7	8	47.1	6	13.4	31	31.0
Part-time Employees								
< 21	46	35.9	6	35.3	39	39.8	36	36.0
21 - 100	22	17.2	2	11.8	17	17.4	16	16.0
101 - 300	20	15.6	-	--	16	16.3	8	8.0
> 300	40	31.3	9	52.9	26	26.5	40	40.0
No.of Meals per Year								
<400,001	50	39.1	7	41.2	46	46.9***	35	35.0
400,001- 800,000	32	25.0	-	--	25	25.5	22	22.0
800,001-2,000,000	22	17.2	5	29.4	17	17.9	19	19.0
> 2,000,000	24	18.7	5	29.4	10	10.2	24	24.0
Annual Gross Revenue								
<$2,000,001	49	38.3*	4	23.5	15	33.3*	38	38.0
$2,000,001-$4,000,000	34	26.5	1	5.9	17	37.8	18	18.0
$4,000,001-$10,000,000	28	21.9	7	41.2	11	24.4	24	24.0
>$10,000,000	17	13.3	5	29.4	2	4.5	20	20.0
Annual Sales								
<$1,500,001	45	35.2	7	41.2	15	33.3*	37	37.0
$1,500,000-$3,000,000	31	24.2	-	--	16	35.6	15	15.0
$3,000,000-$7,000,000	24	18.7	5	29.4	7	15.6	22	22.0
>$7,000,000	28	21.9	5	29.4	7	15.5	26	26.0

*p<.05 **p<.01 ***p<.001

(Table continues)

Table 21 (continued)

Variable	Supervise income statement				Analyze income statement			
	Yes		No		Yes		No	
	N	%	N	%	N	%	N	%
Size of College/Univ.								
< 10,001	36	66.7*	48	52.8	73	56.1	11	73.3
10,001-20,000	29	21.8	18	19.8	30	23.1	1	6.7
> 20,000	26	19.6	25	27.4	27	20.8	3	20.0
No. of Foodservices								
1	48	41.0*	29	35.4	46	40.3	6	42.9
2 - 3	27	23.1	16	19.5	28	24.6	2	14.3
> 3	42	35.9	37	45.1	40	35.1	6	42.8
Full-time Employees								
< 26	41	30.8*	28	30.7	39	30.0	6	40.0
26 - 50	31	23.3	16	17.6	29	22.3	4	26.7
51 - 100	27	20.3	17	18.7	29	22.3	1	6.6
> 100	34	25.6	30	33.0	33	25.4	4	26.7
Part-time Employees								
< 21	46	34.6**	30	33.0	43	33.1	9	60.0
21 - 100	22	16.5	18	19.8	22	16.9	2	13.3
101 - 300	18	13.5	8	8.8	19	14.6	1	6.7
> 300	47	35.4	35	38.4	46	35.4	3	20.0
No.of Meals per Year								
<400,001	52	39.1	33	36.3	48	36.9	9	60.0
400,001- 800,000	29	21.8	17	18.7	30	23.1	2	13.3
800,001-2,000,000	23	17.3	18	19.8	23	17.7	4	26.7
> 2,000,000	29	21.8	23	25.2	29	22.3	-	--
Annual Gross Revenue								
<$2,000,001	21	38.9**	32	35.3	42	32.3*	11	73.3
$2,000,001-$4,000,000	20	37.0	15	16.5	34	26.2	1	6.7
$4,000,001-$10,000,000	9	16.7	26	28.6	32	24.6	3	20.0
>$10,000,000	4	7.4	18	19.7	22	16.9	-	--
Annual Sales								
<$1,500,001	18	33.3**	34	37.4	40	30.8**	12	80.0
$1,500,000-$3,000,000	20	37.0	11	12.1	31	23.8	-	--
$3,000,000-$7,000,000	7	13.0	22	24.2	28	21.5	1	6.7
>$7,000,000	9	16.7	24	26.3	31	23.9	2	13.3

Project Revenues or Units of Service

A significant difference was found between foodservice directors who responded "Yes" to the activity Project Revenues or Units of Service and those who responded "No" based on the following variables: number of foodservice centers (x^2=7.70, p<.05) and annual gross revenue (x^2=8.44, p<.05). Table 21 presents the results of chi-square tests.

Foodservice directors who managed fewer numbers of foodservice centers responded yes to the activity project revenues or units of service, while those who responded no managed larger numbers of foodservice centers. Foodservice directors who reported smaller annual gross revenues responded yes to the activity project revenues, while those who responded no reported high annual gross revenue.

Foodservice directors at less complex foodservice operations tended to be more responsible for Projecting Revenues or Units of Service. Foodservice directors at more complex foodservice operations tended to be less responsible for that activity.

Prepare Income Statement

A significant difference was found between foodservice directors who responded "Yes" to the activity Prepare Income Statement and those who responded "No" based on the following variables: number of full-time employees (x^2=9.17, p<.05), number of meals served per year (x^2=11.57,

$p<.001$), annual gross revenue ($x^2=10.17$, $p<.05$), and annual sales ($x^2=10.17$, $p<.05$). Table 21 presents the results of chi-square tests.

Foodservice directors with small or middle numbers of full-time employees responded yes to the activity prepare income statement, while those who responded no had smaller or larger numbers of full-time employees. Foodservice directors who served fewer numbers of meals responded yes to the activity prepare income statement, while those who responded no were spread over the meal groups. Foodservice directors who reported low to middle annual gross revenue responded yes to the activity prepare income statement, while those who responded no were spread over the annual gross revenue groups. Foodservice directors who reported lower annual sales responded yes to the activity prepare income statement, while those who responded no were spread over the annual sales groups.

Foodservice directors at low to medium complexity of foodservice operations tended to be more responsible for Preparing Income Statements. Foodservice directors at low or high complexity of foodservice operations tended to be less responsible for that activity.

Supervise Income Statement Preparation

A significant difference was found between foodservice directors who responded "Yes" to the activity Supervise

Income Statement Preparation and those who responded "No" based on the following variables: size of college and university (x^2=6.86, p<.05), number of foodservice centers (x^2=8.41, p<.05), number of full-time (x^2=8.67, p<.05) and part-time (x^2=8.12, p<.01) employees, annual gross revenue (x^2=11.47, p<.01), and annual sales (x^2=13.55, p<.01). Table 21 presents the results of chi-square tests.

Foodservice directors who were at smaller colleges and universities responded yes to the activity supervise income statement preparation, while those who responded no were at either small or large colleges and universities. Foodservice directors who managed smaller numbers of foodservice centers responded yes to the activity supervise income statement preparation, while those who responded no managed larger numbers of foodservice centers. Foodservice directors who responded yes to the activity supervise income statement preparation were spread over the full-time employee groups, while those who responded no had smaller or larger numbers of full-time employees. Foodservice directors who had small or large numbers of part-time employees responded yes to the activity supervise income statement preparation. Foodservice directors who reported lower annual gross revenue and annual sales responded yes to the activity supervise income statement preparation, while those who responded no were spread over the annual gross revenue and annual sales groups.

Foodservice directors at smaller size and low to medium complexity of foodservice operations tended to be more responsible for Supervising Income Statement Preparation. Foodservice directors at small or large size and low or high complexity of foodservice operations tended to be less responsible for that activity.

Analyze Income Statement

A significant difference was found between foodservice directors who responded "Yes" to the activity Analyze Income Statement and those who responded "No" based on the following variables: annual gross revenue (x^2=10.97, p<.05), and annual sales (x^2=14.81, p<.01). Table 21 presents the results of chi-square tests.

Foodservice directors who had higher annual revenues responded yes to the activity analyze income statement, while those who responded no reported lower annual gross revenue. Foodservice directors who responded yes to the activity analyze income statement were spread over the annual sales groups, while those who responded no reported lower annual sales.

Foodservice directors at lower complexity operations were less responsible for analyzing income statement, while foodservice directors at higher complexity operations were more responsible for that activity. Past research is not available for comparing the results of this study.

Budgeting Activities

Table 22 shows differences in responsibility for budgeting activities by size of college and university, size of foodservice (number of residence halls foodservices, employees, meals served a year), annual gross revenue, and annual sales. Two of four budgeting activities were found to be significantly different. Activity statements which had significant differences are presented in Table 22.

Prepare Operating Budget

A significant difference was found between foodservice directors who responded "Yes" to the activity Prepare Operating Budget and those who responded "No" based on the following variables: size of colleges and universities (x^2=7.91, p<.05), number of foodservice centers (x^2=10.23, p<.05), annual gross revenue (x^2=9.57, p<.05). Table 22 presents the results of chi-square tests.

Foodservice directors who were employed by smaller colleges and universities responded yes to the activity prepare operating budget, while those who responded no were either at small or large colleges and universities. Foodservice directors who managed small or large numbers of foodservice centers responded yes to the activity operating budget, while those who responded no managed larger numbers of foodservice centers. Foodservice directors who reported lower annual gross revenue responded yes to the activity

Table 22
Differences in Responsibility of Foodservice Directors for Budgeting Activities by Foodservice Information

Variable	Prepare operating budget				Prepare capital budget			
	Yes		No		Yes		No	
	N	%	N	%	N	%	N	%
Size of College/Univ.								
< 10,001	75	61.0*	9	42.9	72	60.0	12	48.0
10,001-20,000	28	22.8	3	14.3	24	20.0	7	28.0
> 20,000	20	16.2	9	42.8	24	20.0	6	24.0
No.of Foodservices								
1	46	43.4*	5	23.8	47	44.3*	5	22.7
2 - 3	28	26.4	2	9.5	26	24.5	4	18.2
> 3	32	30.2	14	66.7	33	31.1	13	59.1
Full-time Employees								
< 26	41	33.3	4	19.1	36	30.0	9	36.0
26 - 50	28	22.8	5	23.7	29	24.2	4	16.0
51 - 100	26	21.1	3	14.3	26	21.7	4	16.0
> 100	28	22.8	9	42.8	29	24.1	8	32.0
Part-time Employees								
< 21	45	36.6	7	33.3	43	35.8	9	36.0
21 - 100	21	17.1	3	14.3	20	16.7	4	16.0
101 - 300	19	15.4	1	4.8	15	12.5	5	20.0
> 300	38	30.9	10	47.6	42	35.0	7	28.0
No. of Meals/Year								
<400,001	49	39.8	8	38.1	46	38.3	11	44.0
400,001- 800,000	31	25.2	1	4.8	30	25.0	2	8.0
800,001-2,000,000	21	17.1	5	23.8	23	19.2	4	16.0
> 2,000,000	22	17.9	7	33.3	21	17.5	8	32.0
Annual Revenue								
<$2,000,001	48	39.0*	5	23.9	44	36.7	9	36.0
$2,000,001-$4,000,000	33	26.8	2	9.5	30	25.0	5	20.0
$4,000,001-$10,000,000	27	22.0	7	33.3	29	24.2	6	24.0
>$10,000,000	15	12.2	7	33.3	17	14.1	5	20.0
Annual Sales								
<$1,500,001	42	34.2	9	42.9	39	32.5	13	52.0
$1,500,000-$3,000,000	31	25.2	-	--	30	25.0	1	4.0
$3,000,000-$7,000,000	24	19.5	5	23.8	24	20.0	5	20.0
>$7,000,000	26	21.1	7	33.3	27	22.5	6	24.0

* $p<.05$

prepare operating budget, while those who responded no reported higher annual gross revenue.

Foodservice directors at smaller size and lower complexity of foodservice operations tended to be more responsible for Preparing Operating Budget. Foodservice directors either at small or large size and higher complexity of foodservice operations tended to be less responsible for that activity.

Prepare Capital Budget

A significant difference (x^2=6.37, p<.05) was found by number of foodservice centers as related to Prepare Capital Budget. Table 22 presents the results of chi-square tests.

Foodservice directors who managed small or large foodservice centers responded yes to the activity prepare capital budget, while those who responded no managed larger numbers of foodservice centers. Past research is not available for comparing the results of the present study.

Stepwise Regression Analysis

Regression analysis was conducted to examine: (a) to what extent the use of financial procedure variables predicted Financial Performance in the foodservice; (b) to what extent the type of services provided variables predicted Financial Performance in the foodservice; (c) to what extent the background of foodservice directors predicted the importance of Financial Procedures; and (d) to what extent the use of financial procedures predicted the importance of three Financial Management Scales. Stepwise regression analysis was used to determine the best predicting model and variables were entered and retained at $p<.15$.

Financial Performance with Financial Procedures

Table 23 presents results of stepwise regression analysis of financial performance on the use of 12 financial procedures. For Annual Gross Revenue, two variables entered the equation and accounted for about 14% of the total variance. The use of Cost-volume-profit Analysis ($p<.01$) was the first predictor to enter the equation and accounted for 10% of the total variance in annual gross revenue. The use of cost-volume-profit analysis and trend analysis ($p<.05$) was related with higher annual gross revenue.

The use of Cost-volume-profit Analysis entered the equation and accounted for 10% of the total variance in Annual Sales. The use of cost-volume-profit ($p<.01$) for financial decision-making was related with higher annual sales. Results showed that the use of Cost-volume-Analysis was the first predictor for both Annual Gross Revenues and Annual Sales.

For Food Cost Percentage, only the use of the Operating Budget ($p<.01$) entered the equation and accounted for 11% of the total variance. The use of the operating budget was related to lower food cost percentage. For Labor Cost Percentage, the use of Ratio Analysis entered the equation but no difference was found at $p<.05$.

Table 23
Results of Stepwise Regression between Financial Performance and the Use of Financial Procedures

variable[1]	order of entry	model R^2	entry F	overall F
ANNUAL GROSS REVENUE				
Cost-volume-profit	1	0.10	9.73**	9.73**
Trend Analysis	2	0.14	4.01*	7.04**
ANNUAL SALES				
Cost-volume-profit	1	0.10	9.33**	9.33**
FOOD COST PERCENTAGE				
Operating Budget	1	0.11	11.56**	11.56**
LABOR COST PERCENTAGE				
Ratio Analysis	1	0.03	2.48	2.48

[1] Stepwise regression allowed variables with $p<.15$ to enter the equation.
* $p<.05$
** $p<.01$

Results indicated that Annual Gross Revenue with 12 financial procedures was best predicted by a model containing the variables use of Cost-volume-profit and Trend Analysis. Annual Sales with 12 financial procedures was best predicted by the use of Cost-volume-profit Analysis. Comparing the frequencies of financial procedures (Table 4) to the results of regression (Table 23), Cost-volume-profit Analysis, which only 21.2% of foodservice directors in this study used, was the first predictor of Annual Gross Revenue and Annual Sales. The Food Cost Percentage with 12 financial procedures was best predicted by the use of the Operating Budget.

Financial Performance with Services Provided

Results of stepwise regression between financial performance and six services provided (contract meal, cash operation, convenience store, vending machine, catering, and snack bar) are shown in Table 24. For cash sales, five services were considered in this study because the contract meal service was included in contract sales.

For Annual Gross Revenue, four variables entered the equation and accounted for 15% of the total variance. The first predictor was Convenience Store ($p<.01$) service and accounted for 6% of the total variance. Foodservices which provided Convenience Store, Contract Meal ($p<.05$), Catering ($p<.05$), and Snack Bar ($p<.05$) services showed higher Annual Gross Revenue.

Table 24
Results of Stepwise Regression between Financial Performance and the Services Provided

variable[1]	order of entry	model R^2	entry F	overall F
ANNUAL GROSS REVENUE				
Convenience Store	1	0.06	7.56**	7.56**
Contract Meal	2	0.09	4.69*	6.24**
Catering	3	0.12	4.49*	5.77**
Snack Bar	4	0.15	4.37*	5.54**
ANNUAL SALES				
Convenience Store	1	0.05	6.98**	6.98**
CASH SALES				
Bakery Cash Oper.	1	0.11	14.20**	14.20**
Vending Machine	2	0.16	8.26**	11.67***

[1] Stepwise regression allowed variables with $p<.15$ to enter the equation.
* $p<.05$
** $p<.01$
*** $p<.001$

For Annual Sales, only Convenience Store ($p<.01$) service entered the equation and accounted for 5% of the total variance. Foodservices which provided a Convenience Store showed higher Annual Sales.

Finally, for Cash Sales, two variables entered the equation and accounted for 16% of total variance. The first predictor was a Bakery Cash Operation ($p<.05$) and accounted for 11% of the total variance. Vending Machine ($p<.05$) service entered the equation second and accounted for another 5% of the total variance.

Results indicated that Annual Gross Revenue with six types of services provided was best predicted by a model containing the variables Convenience Store, Contract Meal, Catering, and Snack Bar Services. Annual Sales with six types of services provided was best predicted by the Convenience Store. Cash Sales with five types of services provided was best predicted by the variables Bakery Cash Operation and Vending Machine services.

Comparing the frequencies of types of services provided (Table 2) to the results of regression (Table 23), a Convenience Store service, which only 34% of foodservices in this study provided, was the first predictor of Annual Gross Revenue and Annual Sales. Bakery cash operations, which 31.2% of foodservices in this study provided, was the first predictor of Cash Sales.

Financial Procedures with Foodservice Directors

Results of stepwise procedures between the importance of 12 financial procedures and background of users (gender, age, and educational and career background) are shown in Table 25. For importance of the Variance Analysis, two variables entered the equation and accounted for 19% of the total variance. Gender ($p<.05$) was the first predictor and accounted for 11% of the total variance. Age ($p<.05$) entered second and accounted for another 8% of the total variance. Female foodservice directors and older directors rated the variance analysis as higher importance.

For importance of the Trend Analysis, gender ($p<.05$) entered the equation and accounted for 10% of the total variance. Again, female directors gave the trend analysis higher importance.

Two variables entered the equation for importance of the Capital Budget and the Operating Budget. The first predictor was gender ($p<.05$) and accounted for 5% of the total variance. The second was years of college and university residence hall foodservices and accounted for another 4% ($p<.05$) and 7% ($p<.01$), respectively. Female directors gave capital and operating budgets higher importance. Foodservice directors with more experience in residence hall foodservices gave capital and operating budgets higher importance.

Table 25
Results of Stepwise Regression between Financial Procedure Importance Ratings and Foodservice Directors

variable[1]	order of entry	model R^2	entry F	overall F
VARIANCE ANALYSIS				
gender	1	0.11	5.68*	5.68*
age	2	0.19	4.34*	5.20**
TREND ANALYSIS				
Gender	1	0.10	5.72*	5.72*
CAPITAL BUDGET				
Gender	1	0.05	4.31*	4.31*
Years of College / University FS	2	0.09	4.00*	4.23*
OPERATING BUDGET				
Gender	1	0.05	5.78*	5.78*
Yrs of College/ University FS	2	0.12	7.84**	7.01**
INVENTORY TURNOVER				
Gender	1	0.15	10.78**	10.78**
COST-VOLUME-PROFIT				
Educational Level	1	0.31	8.93**	8.93**
BALANCE SHEET				
Yrs of Present Org.	1	0.05	2.63	2.63

[1] Stepwise regression allowed variables with $p<.15$ to enter the equation.
* $p<.05$
** $p<.01$

For importance of Inventory Turnover, gender ($p<.01$) entered the equation and accounted for 15% of the total variance. Female directors gave inventory turnover higher importance.

For importance of Cost-volume-profit Analysis, only level of education ($p<.01$) entered the equation and accounted for 31% of the total variance. Foodservice directors with higher level of education gave the cost-volume-profit analysis higher importance. For importance of the Balance Sheet, only years of organization entered the equation but no difference was found at $p<.05$.

Results indicated that the importance of Variance Analysis with characteristics of users was best predicted by the variables gender and age. The importance of Trend Analysis and Inventory Turnover with characteristics of users was best predicted by gender. The importance of Capital budget and Operating Budget with characteristics of users was best predicted by the variables gender and years of college and university foodservices. The importance of Cost-volume-profit Analysis was best predicted by the variable educational level.

Financial Management Importance Scales with Financial Procedures

Table 26 shows results of stepwise regression between importance of three financial management scales and use of 12 financial procedures. For Food and Labor Costing activities, the use of Trend Analysis entered the equation but no difference was found at $p<.05$.

For Financing activities, two variables entered and accounted for 13% of the total variance. The use of Trend Analysis ($p<.05$) entered the equation first and accounted for 6% of the total variance. The second predictor was the use of Variance Analysis ($p<.05$) and accounted for another 7% of the total variance. Foodservice directors

Table 26
Results of Stepwise Regression between Financial Management Importance Scales and Financial Procedures

variable[1]	order of entry	model R^2	entry F	overall F
FOOD&LABOR COSTING ACTIVITIES				
Trend Analysis	1	0.04	2.43	2.43
FINANCING ACTIVITIES				
Trend Analysis	1	0.06	5.57*	5.57*
Variance Analysis	2	0.13	6.90*	6.42**
BUDGETING ACTIVITIES				
Trend Analysis	1	0.04	3.54*	3.54*
Cost-benefit	2	0.10	5.34*	4.54*

[1] Stepwise regression allowed variables with $p<.15$ to enter the equation.
* $p<.05$
** $p<.01$

who used Trend and Variance analysis for financial decision making gave Financing activities higher importance.

For Budgeting activities, two variables entered the equation and accounted for 11% of the total variance. The use of Trend Analysis ($p<.05$) entered the equation first and accounted for 6% of the total variance. The use of Cost-benefit Analysis ($p<.05$) entered the equation second and accounted for another 5% of the total variance. Results showed that foodservice directors who used Trend Analysis and Cost-benefit Analysis gave budgeting activities higher importance.

Results indicated that Financing activities with 12 financial procedures were best predicted by the variables use of Trend and Variance Analysis. Budgeting activities with 12 financial procedures were best predicted by the variables use of Trend and Cost-benefit Analysis.

Results of stepwise regression showed prediction of financial performance with the use of financial procedures, financial performance with the type of services provided, the importance of financial procedures with characteristics of users, and the importance of financial management activities with the use of financial procedures. Past research is not available for comparing to regression analyses results of the present study because studies relating to this area are limited.

Chapter Summary

This chapter presented results of a study which compared differences in importance of financial management activities completed and importance of financial procedures used by college and university foodservice directors. Comparisons were made for characteristics of foodservice directors, operational and financial characteristics of foodservice departments, and use of financial procedures to determine if differences in these variables explained financial management practices in college and university foodservices. Data were collected from 144 college and university foodservice directors. Importance of financing scales was significantly different for gender and use of the trend analysis. Budgeting scales were significantly different for age, characteristics of foodservice departments, and use of operating and capital budgets. Importance of financial procedures were significantly different for characteristics of foodservice directors, number of foodservice centers and full-time employees, cash sales, and use of the trend analysis, the balance sheet, and the contribution margin. Results of chi-square analysis indicated significant differences in the use of financial procedures based on age and career background of foodservice directors and in responsibility of foodservice directors for financial management activities based on size and complexity of foodservice departments.

CHAPTER 5

SUMMARY AND CONCLUSIONS

This chapter presents a summary and discussion of the study. The information is presented in three sections: a summary of the study, conclusions drawn from the results, limitations, and implications for further research.

Summary

The purpose of this research was to examine financial management practices of directors in college and university foodservices. Specifically, the research focused on determining differences in the dependent variables and the independent variables which explained financial management practices in college and university residence hall foodservices. Dependent variables were financial management activities completed and financial procedures used in college and university foodservice operations. Independent variables were characteristics of foodservice directors and foodservice departments and use of financial procedures.

Data Collection

Data were collected from 144 foodservice directors employed in college and university foodservice operations using a mailed questionnaire. Respondents were asked to rate importance of financial management activity statements

and provide financial indicators and demographic information.

Results

Demographic Characteristics

A total of 144 residence hall foodservice directors or 72% of those who had agreed to participate in this study responded. Foodservice directors who responded were primarily male (74%), college educated (74%), and over 36 years of age (86%).

Financial characteristics of college and university foodservice operations were determined in this study. Average revenue and sales for foodservice operations represented in study were 5.9 and 5.4 million dollars, respectively. The average food and labor cost percent was 35.9 and 37.4, respectively.

Financial Management Activities

Financial activities performed in college and university foodservice operations were determined. The importance and time demand of these financial activities as perceived by college and university foodservice directors were examined.

Responsibility for financial management activities.

The foodservice directors surveyed were most frequently responsible for planning, authorizing, and analyzing

financial management activities. Foodservice directors frequently were responsible for budgeting activities and less frequently for calculating and record keeping activities.

Importance of financial management activities. A principal component analysis was conducted on the ratings of the 21 financial management activity statements. The three resulting factors were: food and labor costing, financing, and budgeting. These factors collectively accounted for 53.6% of the variance.

The importance ratings of financial activities were compared based on characteristics of foodservice directors, operational and financial characteristics of foodservices, and use of financial procedures. Female and users of trend analysis rated the importance of financing activities significantly ($p<.05$) higher. Foodservice directors in medium size organizations with lower annual sales and more contract sales rated budgeting activities as higher in importance.

Time demand for financial management activities. Budgeting and planning activities were done from one to several times per year by foodservice directors in this study. Foodservice directors completed analyzing, supervising, and calculating activities once or twice per month and completed authorizing activities weekly or more.

Importance of Financial Procedures

The importance ratings of financial procedures were compared based on characteristics of foodservice directors, operational and financial characteristics of college and university foodservices, and use of financial procedures. Female foodservice directors rated variance analysis, trend analysis, capital and operating budget, and inventory turnover higher in importance. Foodservice directors with more than three foodservice centers rated the importance of capital budget as high. Foodservice directors of smaller size organizations reported inventory turnover as very important. College educated foodservice directors rated cost-volume-profit analysis as high in importance.

Differences between Used and Not-used Financial Procedures

The use of financial procedures was compared with characteristics of foodservice directors. The results of chi-square analysis indicated significant differences in the user and the non-user of financial procedures for age and experiences in foodservices.

Differences in Responsibility of Foodservice Directors for Financial Management Activities

The responsibility for financial activities was compared based on operational and financial characteristics of college and university foodservice operations. Results

indicated significant differences for size and complexity (number of foodservice centers, employees, and meals served, annual gross revenues, and annual sales).

Stepwise Regression Analysis

Prediction of financial performance. Annual Gross Revenue with 12 financial procedures was best predicted by a model containing the variables use of Cost-volume-profit Analysis and Trend Analysis. Annual Sales with 12 financial procedures was best predicted by use of Cost-volume-profit Analysis. Food Cost Percentage with 12 financial procedures was best predicted by use of Operating Budget.

Annual Gross Revenue with six types of services provided was best predicted by a model containing the variables Convenience Store, Contract Meal, Catering, and Snack Bar services. Annual Sales with six types of services provided was best predicted by Convenience Store service. Cash Sales with five types of services provided was best predicted by a model containing the variables Bakery Cash Operation and Vending Machine services.

Prediction of financial procedure importance. Importance of Variance Analysis with characteristics of users was best predicted by a model containing the variables Gender and Age. Importance of Trend Analysis and Inventory Turnover with characteristics of users was best predicted by Gender variable. Importance of Capital budget and Operating

Budget with characteristics of users was best predicted by a model containing the variables Gender and Years of College and University foodservice. Importance of Cost-volume-profit Analysis with characteristics of users was best predicted by Educational Level variable.

Prediction of financial management importance scales.

Importance of Financing activities with 12 financial procedures was best predicted by a model containing the variables use of Trend and Variance Analysis. Importance of Budgeting activities with 12 financial procedures was best predicted by a model containing the variables use of Trend Analysis and Cost-benefit Analysis.

Conclusions

Characteristics of Foodservice Directors

Differences in Least Square Mean scores indicated that female directors rated financing activities higher in importance and regarded variance analysis, trend analysis, capital budget, operating budget, and inventory turnover as more important than males. Results of regression indicated that gender predicted the importance of these procedures. Results suggested that gender difference influences financial management practices in college and university foodservices. However, this conclusion might be interpreted with caution since only 26% of respondents were female foodservice directors.

Results indicated differences by age for the importance of financial management activities and the use of financial procedures. Foodservice directors over 40 years of age rated budgeting activities high in importance and were more likely to use capital budget. Results of regression indicated that age predicted the importance of variance analysis.

Differences by educational level for the importance of financial procedures were found. Foodservice directors with at least a bachelor's degree rated cost-volume-profit analysis high in importance. Results of regression indicated that the variable educational level predicted the importance of cost-volume-profit analysis.

Results indicated differences between users and non-users of financial procedures for career background of foodservice directors. Foodservice directors with more experience in present organizations were more likely to use balance sheet. Foodservice directors with more experience in college and university foodservices were more likely to use break-even analysis. Results of regression indicated that the variable years of college and university foodservices predicted the importance of operating and capital budgets.

Results suggested that age, education, and career differences influence financial management practices in college and university foodservices. Foodservice directors who had more experience in the field rated the importance of financial management high.

Operational Characteristics of Foodservice Departments

Differences in number of foodservice centers and importance of financial procedures were found. Foodservice directors employed in more complex foodservice operations rated capital budget higher in importance.

Differences were found in the number of full-time employees and the importance of financial management activities and financial procedures. Foodservice directors who had between 26 and 50 full-time employees regarded budgeting activities as more important. Foodservice directors with fewer full-time employees rated inventory turnover higher in importance.

Results of the study indicated size and complexity of foodservice departments influenced the responsibility of foodservice directors for financial management activities. Foodservice directors of smaller size and less complex operations were significantly more responsible for food and labor costing, income statement preparation, and budgeting activities. Foodservice directors at more complex operations were significantly more responsible for analyzing the income statement.

Results indicated that financial performance was predicted by the type of services provided. Offering convenience store, contract meal, catering, and snack bar service explained 15% of the variance in annual gross

revenue. Bakery cash operation and vending machine service explained 16% of the variance in cash sales. Therefore, college and university foodservices should pursue various types of cash services for increasing revenue.

Financial Characteristics of Foodservice Departments

Results indicated differences by annual gross revenue for the importance of financial activities. Foodservice directors who reported between 2 and 4 million dollars of annual gross revenue regarded budgeting activities as higher importance.

Differences in annual sales for the importance of financial activities were found. Foodservice directors who reported lower annual sales in this study rated budgeting activities higher in importance.

Results indicated differences in responsibility of foodservice directors for financial management activities and annual gross revenue and annual sales. Foodservice directors with lower annual gross revenue and annual sales were more responsible for calculating food and labor costs and supervising food cost calculation. Foodservice directors with higher annual gross revenue and annual sales were more responsible for analyzing income statement. Foodservice directors with lower annual gross revenue were more frequently responsible for preparing department operating budget.

Results indicated differences in cash sales and importance ratings of financial activities and financial procedures. Foodservice directors who reported lower revenues from cash sales rated budgeting activities and the financial procedures such as break-even analysis, variance analysis, and capital budget more important.

Results suggested that differences in financial characteristics of foodservice departments influence financial management practices in college and university foodservices. Foodservice directors with lower annual sales tended to focus on budgeting for financial management.

Use of Financial Procedures

Results indicated differences in the use of financial procedures and the importance ratings of financial activities and financial procedures. Foodservice directors who used trend analysis rated financing activities more important and contribution margin of higher importance. Results of regression analysis indicated that use of trend analysis predicted annual gross revenue.

Foodservice directors who used operating and capital budgets rated budgeting activities of higher importance. Results of regression analysis indicated that use of operating budget predicted food cost percentage and use of cost-volume-profit analysis predicted annual gross revenue and annual sales. Therefore, more college and university

foodservice directors should consider cost-volume profit and trend analysis.

Financial Management Importance and Use of Financial Procedures

There was a significant interaction of the importance of financial management activities and the use of financial procedures. Results of regression analysis revealed that the use of trend and variance analysis explained 13% of the variance in importance of financing activities and the use of trend and cost-benefit analysis explained 10% of variance in importance of budgeting activities.

Limitations

Several limitations should be considered in this study. The first limitation is the use of the NACUFS sample. In this study, 144 responses were returned from the entire population (442) of NACUFS member institutions. Data were not available to compare the characteristics of all college and university foodservices with a general profile of NACUFS membership. Another limitation may be that respondents in this study were from relatively small to medium size colleges and universities. Therefore, generalization of findings to larger size colleges and universities or those that are not NACUFS members may be limited.

A further limitation which should be considered is the complexity of questions relating to financial data of foodservice departments. These financial data may be considered sensitive by foodservice managers. In this study, Annual Gross Revenue, Annual Sales, Food and Labor Cost Percent, and Revenue Composition were examined for comparisons of the financial status of foodservice departments. Net Income and Full-time Equivalents (FTEs) were not usable because of inconsistent responses in this study. Therefore, more in-depth comparisons for financial performance could not be completed.

Implications for Future Research

Based upon the findings of this study, further research should continue in the area of financial management of college and university foodservices. Characteristics of foodservice directors influence financial management practices in college and university foodservices. Differences were found by gender, age, and educational and career background of foodservice directors for the importance of financial management activities and financial procedures and the use of financial procedures. Future research should assess the extent to which the financial management activities and the financial procedures identified by foodservice directors as important to the financial management of college and university foodservices

are being taught in foodservice curricula, continuing education programs, and professional development institutes of NACUFS.

Operational characteristics of foodservice departments influence financial management practices in college and university foodservices. Differences were found by size and complexity of foodservice operations for the importance of financial management activities and financial procedures and the responsibility of foodservice directors for financial management activities. Information from this study could be useful in developing job descriptions and performance evaluation tools for foodservice directors with financial management responsibilities. Future research should focus on comparing financial status with financial management practices of foodservice operations at different levels.

Financial characteristics of foodservice departments influence financial management practices in college and university foodservices. According to Coltman (1991), profitability and operating ratios are important for analyzing financial status. Additional research should examine other financial indicators which might explain financial status of college and university foodservices. Information from this study could be useful in comparing foodservice educators' and business managers/controllers' expectations of college and university foodservice

directors' perceptions of importance of financial indicators.

Use of financial procedures influence financial management practices in college and university foodservices. Respondents reported using the operating budget, income budget, and capital budget. Future efforts should be made to implement the use of additional financial tools for college and university foodservice operations.

Use of financial procedures were significantly related to financial management activities. Further research should develop financial management models for college and university foodservice practitioners and foodservice educators. These models could assist foodservice directors who are involved in financial management of college and university foodservice operations. Information from this study could be used for comparing business managers/controllers' expectations of college and university foodservice directors' roles in financial management. A future cross-cultural study should examine differences and possible ways to improve financial management models for college and university foodservices.

REFERENCES

Abdelsamad, M.H. (1980). Planning and budgeting in interesting times. Management World, 9(7), 28.

Adams, C.K., & Vaden, A.G. (1981). Functional responsibilities of college and university foodservice directors. National Association of College and University foodservice Journal, 7, 51-58.

Anthony, R.N. (1978). Financial accounting in nonbusiness organizations. Financial Accounting Standards Board.

Anthony, R.N. & Herzlinger, R.E. (1980). Management control in nonprofit organizations. Homewood, IL: Richard E. Irwin, Inc.

Baker, M.M. (1988). Meeting the challenge in foodservice management: Enhanced quality at less cost. Journal of the American Dietetic Association, 88, 113-114.

Bartlett, M. & Bertagnoli, L. (1992). R & I's annual forecast '92. Restaurants and Institutions, 102(1), 15-26.

Berkman, J. (1980). Foodservice needs controls to contain costs. Hospitals, 54(6), 79-80.

Bolhuis, J.L. & Wolff, R.K. (1989). The financial ingredient in foodservice management. Washington D.C.: Health and Company.

Bootman, J.L., Rowland, C., & Wertheimer, A.I. (1979). Cost-benefit analysis: A research tool for evaluating innovative health programs. Evaluation and the Health Professions, 2(2), 129-154.

Break-even analysis. (1986). Analyzing the relationship between costs and revenue. Small Business Report, 11(8), 22-24.

Churchill, N.C. (1984). Budget choice: Planning versus control. Harvard Business Review, 62(4), 150-164.

Coltman, M.M. (1991). Financial controls for your foodservice operation. New York: Van Nostrand Reinhold.

Coltman, M.M. (1987). Hospitality management accounting, 3rd. ed., New York: Van Nostrand Reinhold.

Damitio, J.W. & Kagle, A.R. (1991). Controllers' perceptions of the importance of accounting skills to lodging managers. Florida International University Hospitality Review, 9(1), 85-90.

Doering, R.D. (1979). Break-even analysis for restaurant decision making. The Cornell Hotel and Restaurant Administration Quarterly, 19(4), 7-9.

Dowling, R.A., Lafferty, L.J., & McCurley, M. (1990). Credentials and skills required for hospital food and nutrition department directors. Journal of the American Dietetic Association, 90(11), 1535-1540.

Drake, R.I. (1975). Hospital food service accounting. The Cornell Hotel and Restaurant Administration Quarterly, 16(3), 77-81.

Dunn, K.D. & Brooks, D.E. (1990). Profit analysis: Beyond yield management. The Cornell Hotel and Restaurant Administration Quarterly, 31(3), 80-90.

Eckel, P.J. Jr. (1985). College and university foodservice standards. Westpoint, CO: The Ave publishing Co., Inc.

Fairbrook, P. (1989). What makes a good food service director. National Association of College and University Foodservices Journal, 14, 36-38.

Fairbrook, P. (1979). College and university foodservice manual. Stockton, CA: Colman Publishers.

Farrell, K. (1991). How to cut costs and keep customers coming: Operator strategies. Restaurant Business, 80, 1-4.

Ferguson, D.H. & Selling, T.I. (1983). Analyzing food and labor costs. The Cornell Hotel and Restaurant Administration Quarterly, 24(3), 31-39.

Fromm, B., Moore, A.N., & Hoover, L.W. (1980). Computer-generated fiscal reports for food cost accounting, Journal of the American Dietetic Association, 77(8), 170-174.

Geller, N.A. (1991). Rule of fraud and theft: Controlling your foodservice operation. The Cornell Hotel and Restaurant Administration Quarterly, 32, 55-65.

George, N.L. & Hecker, R.D. (1960). School Food Centers. New York; The Ronald Press Co.

Greathouse, K.R. & Gregoire, M.B. (1989). Variables related to selection of conventional, cook-chill, and cook-freeze systems. Journal of the American Dietetic Association, 89, 476-478.

Haywood, K.M. (1991). A strategic approach to managing costs. The Cornell Hotel and Restaurant Association Journal, 14(3), 73-83.

Hornaday, R.W. & Wheatley, W.J. (1986). Managerial characteristics and the financial performance of small business. Journal of Small Business Management, 24, 1-7.

Hoover, L.C. (1989). A comprehensive financial management status model for the health care foodservice industry. Ph.D. dissertation, Texas Woman's University, Denton.

Jackson, C.M., Shanklin, C.W., & Gench, B.E. (1989). College and university foodservice directors' response to recommendations in the Surgeon General's Report on nutrition and health. National Association of College and University Association Journal, 14, 20-23.

Kaud, F.A. (1983). Financial management of the hospital foodservice department. Chicago: American Hospital Association.

Keiser, J. (1989). Controlling and analyzing costs in foodservice operations, 2nd ed. New York: John Wiley & Sons, Inc.

Keiser, J.M. (1974). Analyzing labor costs. The Cornell Hotel and Restaurant Administration Quarterly, 15, 20-29.

Kochilas, D. & Scarpa, J. (1992). 24th annual RGI; student; airline. Restaurant Business, 90(14), 110-117.

Kosturakis, J.G. & Eyster J. (1979). Operational budgeting in small hotel companies. The Cornell Hotel and Restaurant Administration Quarterly, 19(4), 80-84.

Kreck, L.A. and Rutherford, G.A. (1991). Measures of foodservice operational success: Entrepreneurs vs. executives. Hospitality Research Journal, 14, 43-51.

Lane, B. (1985). How changes in your cost structure affect your profits. National Restaurant Association News, 5(11), 40-44.

Mariampolski, A., Spears, M.C., & Vaden, A.G. (1980). What the restaurant manager needs to know: The consensus. The Cornell Hotel and Restaurant Administration Quarterly, 21(3), 77-81.

McLaren, A. (1980). Containing the costs of food service. Hospitals, 75-77.

Mick, M.D. (1990). Improving food cost with the key-item report. National Restaurant Association, 10(8), 21-23.

Minno, M.P. & Bhayana, R. (1984). Restaurant budgeting: Step by step. NRA News, 4, 21-25.

Nix, M. (1990). Controlling cost control. School Foodservice Journal, 44(11), 29-31.

Nording, C.W. & Wheeler, S.K. (1992). Building market segment accounting model to improve profits. The Cornell Hotel and Restaurant Administration Quarterly, 33, 29-36.

Palacio, J.P., Spears, M.C., Vaden, A.G., & Downey, R.G. (1988). Dimensions of managerial work in hospital dietetic services. Journal of the American Dietetic Association, 88, 809-815.

Patterson, R.T. (1980). Budgeting: Is it worth the effort? Food Service Marketing, 42(9), 37-41.

Pavesic, D.V. (1983). The myth of labor-cost percentages. The Cornell Hotel and Restaurant Administration Quarterly, 24(3), 27-30.

Robson, R.A. (1986). Controlling food costs poses challenge. School Food Service Journal, 40(4), 100-102.

SAS (1989). SAS User's Guide. Cary, NC: SAS Institute Inc.

Schechter, M. (1989). A campus in transition. Food Management, 24(4), 157-162.

Schmidgall, R.S. (1991). Financial planning by contract foodservice management companies. Florida International University Hospitality Review, 9(2), 15-22.

Schmidgall, R.S. (1989). Financial Ratios: Perceptions of lodging industry general managers and financial executives. Florida International University Hospitality Review, 7(2), 1-9.

Schmidgall, R.S. & Nenemeier, J. (1989). Budgeting practices in lodging and food service chains: An analysis and comparison. International Journal of Hospitality Management, 8(1), 35-41.

Sneed, J. & Kresse, K.H. (1989). Understanding foodservice financial management. Rockville: Aspen Publishers, Inc.

Spears, M.C. (1991). Foodservice organizations: A managerial and systematic approach, 2nd. ed. New York: Macmillan Publishers, Com.

Stephens, K.E. & Shanklin, C. (1980). Student expectations of a university foodservice. National Association of College and University Foodservice Journal, 2, 30-34.

Stokes, J.F. (1985). Cost effective quality fooservice: An institution guide, 2nd.ed., Rockville: Aspen Publish.

Sultemeier, P.M., Gregoire, M.B., Spears, M.C., & Downey, R. (1989). Managerial functions of college and university foodservice managers. Journal of the American Dietetic Association, 89(7), 924-928.

Sweeny, A. & Wisner, J.N. (1975). Budgeting basics: Part 8; Hitting budget targets and protecting profits. Supervisory Management, 20(8), 15-19.

Tavin, E.M., Moncarz, E.S., & Dumont, D. (1989). Financial failure in the hospitality industry. Florida International University Hospitality Review, 7(1), 55-77.

Tipgos, M.A. & Crum R.P. (1982). Applying management accounting concepts to the health care industry. Management Accounting, 62, 37-43.

Touliatos, J & Compton, N.H. (1988). Research methods in human ecology/home economic. Ames: Iowa State University Press.

Vraciu. R.A. (1980a). Programming, budgeting, and controlling in health care organizations: The state of the art. Health Service Research, 14, 126-147.

Vraciu, R.A. (1980b). Decision models for capital investment and financing decisions in hospitals. Health Service Research, 15, 35-51.

Yates, S.C., Shanklin, C.W., & Gorman, M.A. (1987). Competencies of foodservice directors/managers required in health care operations. Journal of the American Dietetic Association, 87(12), 1636-1643.

APPENDICES

APPENDIX A

Questionnaire

STUDY OF FINANCIAL MANAGEMENT OF COLLEGE AND UNIVERSITY RESIDENCE HALL FOODSERVICES

Section A: Financial Management Activity

This study involves an analysis of the financial management practices in college and university residence hall foodservices. Your responses will be CONFIDENTIAL. Instructions for completing the questionnaire precede each section. Thank you for participating in this study.

RESPONSIBILITY: If you perform the activity listed, circle "YES", and respond to the IMPORTANCE and TIME DEMAND scales. If you do NOT perform the activity, circle "NO" and then indicate whether the activity is performed INTERNALLY (IN) or EXTERNALLY (EX) to your foodservice department.

IMPORTANCE: Circle the number indicating the importance of each of the activities as part of your job.
(1) Of no importance (2) Not very important (3) Of moderate importance (4) Very important (5) Essential

TIME DEMAND: Circle the number indicating the frequency for performing each activity listed.
(1) Daily (2) Weekly (3) Once or twice per month (4) Several times per year (5) About once per year

EXAMPLE: This activity is performed by the foodservice director about once per year and is an essential part of the foodservice director's job

ACTIVITY STATEMENTS	RESPONSIBILITY	IMPORTANCE	TIME DEMAND
1. Plan budget	(Yes) No · IN EX	1 2 3 4 (5)	1 2 3 4 (5)

ACTIVITY STATEMENTS	RESPONSIBILITY	IMPORTANCE	TIME DEMAND
1. Allocate financial resources in accordance with approved budget	Yes No · IN EX	1 2 3 4 5	1 2 3 4 5
2. Participate in establishment of financial goals	Yes No · IN EX	1 2 3 4 5	1 2 3 4 5
3. Project revenues or units of service (sales, meals, meal equivalents) as basis for budget	Yes No · IN EX	1 2 3 4 5	1 2 3 4 5
4. Participate in establishment of operational goals	Yes No · IN EX	1 2 3 4 5	1 2 3 4 5
5. Authorize expenditures	Yes No · IN EX	1 2 3 4 5	1 2 3 4 5
6. Develop capital expenditure proposals	Yes No · IN EX	1 2 3 4 5	1 2 3 4 5
7. Prepare department operating budget	Yes No · IN EX	1 2 3 4 5	1 2 3 4 5

8. Prepare department capital budget	Yes → / No → IN EX	1 2 3 4 5	1 2 3 4 5
9. Revise and update operating budget during fiscal year	Yes → / No → IN EX	1 2 3 4 5	1 2 3 4 5
10. Calculate food costs	Yes → / No → IN EX	1 2 3 4 5	1 2 3 4 5
11. Supervise food cost calculation	Yes → / No → IN EX	1 2 3 4 5	1 2 3 4 5
12. Analyze food costs	Yes → / No → IN EX	1 2 3 4 5	1 2 3 4 5
13. Calculate labor costs	Yes → / No → IN EX	1 2 3 4 5	1 2 3 4 5
14. Supervise labor cost calculation	Yes → / No → IN EX	1 2 3 4 5	1 2 3 4 5
15. Analyze labor costs	Yes → / No → IN EX	1 2 3 4 5	1 2 3 4 5
16. Prepare income statement	Yes → / No → IN EX	1 2 3 4 5	1 2 3 4 5
17. Supervise income statement preparation	Yes → / No → IN EX	1 2 3 4 5	1 2 3 4 5
18. Analyze income statement	Yes → / No → IN EX	1 2 3 4 5	1 2 3 4 5
19. Interpret financial data	Yes → / No → IN EX	1 2 3 4 5	1 2 3 4 5
20. Obtain financial management information from outside sources (suppliers, trade organizations, journals, etc.)	Yes → / No → IN EX	1 2 3 4 5	1 2 3 4 5
21. Analyze cost requirements of menu	Yes → / No → IN EX	1 2 3 4 5	1 2 3 4 5

(OVER)

Section B: Financial Indicators

Please complete each question by checking (√) your answer or filling in the appropriate blank. Your responses will be CONFIDENTIAL.

1. Please indicate the following items for the current or most recent fiscal year in your department.

   Annual Gross Revenue $ _____

   Annual Net Income $ _____

   Annual Sales $ _____

2. Please base your answer to these questions on your foodservice's financial data as of current or most recent fiscal year.

   Food Cost OR Food Cost % $ _____ OR _____ %

   Labor Cost (including benefits) OR Labor Cost %
   $ _____ OR _____ %

   Revenue %:

   Contract sales _____ %

   Cash sales _____ %

   Other (please specify):

   _____ %

   _____ %

   TOTAL 100 %

Section C: Demographic Information

Please complete each question by checking (√) your answer or filling in the appropriate blank.

1. Which of the following best describes your foodservice department?
   _____ Self operated
   _____ Managed by a contract foodservice company
   _____ Other, please specify
   _____

2. Indicate current number of employees in your foodservice department.

   _____ Employed full time (40 hrs/week)

   _____ Employed part-time (less than 40 hrs/week)

   Total Full Time Equivalent (FTE) employees

3. Total student enrollment of college/university:
   _____

4. Please indicate number of residence hall foodservices under your supervision. _____

5. Number of meals served per year (including summer):
   _____

6. What kinds of services does your foodservice provide? (Please check as many as apply)

   _____ Contract meal service

   Bakery cash operation

   Convenience store

3. Identify which of the following procedures are used in your foodservice department to make financial decisions

YES: Please circle "YES" if you use the procedure listed. Then rate the importance of the procedure in your foodservice department's financial decision making.
(1) Of no importance
(2) Not very importance
(3) Of moderate importance
(4) Very important
(5) Essential

NO: Please circle "NO" if you do NOT use the procedure listed in your foodservice department's financial decision making.

?: Please circle "?" if you are NOT SURE whether you are using or not.

PROCEDURE	Yes / No / ?	IMPORTANCE
Break even analysis	Yes ---------->	1 2 3 4 5
	No ?	
Contribution margin	Yes ---------->	1 2 3 4 5
	No ?	
Income (profit / loss) statement	Yes ---------->	1 2 3 4 5
	No ?	
Variance analysis	Yes ---------->	1 2 3 4 5
	No ?	
Trend analysis	Yes ---------->	1 2 3 4 5
	No ?	
Capital budget	Yes ---------->	1 2 3 4 5
	No ?	
Operating budget	Yes ---------->	1 2 3 4 5
	No ?	
Inventory turnover	Yes ---------->	1 2 3 4 5
	No ?	
Cost Volume profit	Yes ---------->	1 2 3 4 5
	No ?	
Cost benefit analysis	Yes ---------->	1 2 3 4 5
	No ?	
Balance sheet	Yes ---------->	1 2 3 4 5
	No ?	
Ratio analysis	Yes ---------->	1 2 3 4 5
	No ?	

Vending machine

Catering

Snack bar

Other, please specify _____

7. Please provide the following information about yourself. It will help us conduct a full analysis.

a. Gender: _____ female _____ male

b. Age: _____

c. Highest level of education and major, if appropriate:

_____

_____

_____

d. Your current position title:

_____

_____

e. Number of years in present position:

_____ yrs

f. Number of years in present organization:

_____ yrs

g. Number of years working in college / university residence hall foodservice: _____ yrs

h. Have you participated in continuing education for improving financial skills and abilities?

_____ Yes _____ No

If YES, please list _____

_____

(Thank you for your cooperation !!)

APPENDIX B

Pilot Study Letter and Evaluation

(Kansas State University Letterhead)

March 27, 1991

Dear Foodservice Director:

Effective financial management is critical to the success of any foodservice operation. A study of the financial management of college and university residence hall foodservices is being conducted at Kansas State University. This survey is designed to examine the relationship between financial management activities of foodservice managers and financial indicators of college and university residence hall foodservices. The results of this survey should assist you as a foodservice director in the development of financial management functions for your foodservice.

As a member of NACUFS, you were randomly selected to participate in this pilot study. Your evaluation of this instrument is important to increase the validity and rate of response to the questionnaire. Your participation is essential to accomplish the purpose of this study. The information obtained from your critique will be used to evaluate the quality of the instrument.

All responses to the survey will be held in strictest confidence. No individual or facility will be identified in the reported results of this survey. The survey has been coded to indicate your return of the survey, thereby, eliminating the need to send you a follow-up letter.

Please complete the enclosed questionnaire and the critique form and return them in the self-addressed envelope by April 7, 1991. Contact Jinmee Tak (913-532-5521) should you have any questions regarding the cover letter, questionnaire, or critique form.

Your interest and assistance are sincerely appreciated.

Sincerely,

Jinmee Tak
Graduate student

Judy L. Miller
Professor

Carol W. Shanklin
Professor

CRITIQUE

Thank you for completing the questionnaire. I am currently validating the survey instrument and cover letter. This study will eventually include over 450 participants. Your input in critiquing the survey instrument is greatly appreciated. Revisions will be based on your input. Please answer the following questions.

1. The cover letter provides a clear understanding of the purpose of the study .... Yes No

2. The instructions for completing the questionnaire are clear ..... Yes No

3. The questions are clearly stated. ..... Yes No
   (if No, please indicate unclear questions on the questionnaire and any suggestions you have to enhance the clarity of the questions.)

4. Instructions for return of the questionnaire are clear ..... Yes No

5. the questionnaire creates a positive image. ..... Yes No

6. The questionnaire appears biased. ..... Yes No
   (If Yes, please indicate biased questions on the questionnaire.)

7. Please indicate suggestions for improving the questionnaire.

8. Please indicate suggestions for improving the cover letter.

9. Please indicate time required to complete the questionnaire.

APPENDIX C

Cover letter and Return Post Card

(Kansas State University Letterhead)

May 3, 1991

Dear Foodservice Director:

At Kansas State University, we are currently engaged in a research project to study financial management in college and university foodservices. This survey is designed to identify financial management activities of foodservice managers and financial indicators used by college and university residence hall foodservices.

As a member of NACUFS, your being asked to participate in this study. In June, you will be asked to complete a questionnaire about your financial management practices. To identify your willingness to participate and preferred mailing address in June, we are asking you complete the enclosed postcard and return it by **May 25, 1991**.

Since the results of this study will be submitted to NACUFS JOURNAL, your participation is essential if the information is to accurately reflect financial management practices in college and university foodservices. We look forward to your participation in this research.

Your interest and assistance are sincerely appreciated.

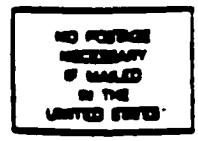
Sincerely,

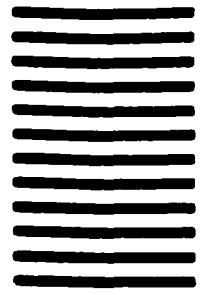
Jinmee Tak
Graduate Student

John T. Pence
NACUFS Past President (1987)
Associate Director
Housing & Dining Services

Judy L. Miller
Professor

Carol W. Shanklin
Professor





BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO. 18 MANHATTAN, KS 66502
POSTAGE WILL BE PAID BY ADDRESSEE

DR. JUDY L. MILLER
Department of Hotel, Restaurant, Institution
Management & Dietetics
Justin Hall
Kansas State University
Manhattan, KS 66506-1404

KANSAS STATE UNIVERSITY

_____ YES, I am willing to complete the survey on financial management practices in college & university foodservices.
_____ NO, I cannot participate.

If YES, preferred mailing address in June:
_____ Office address
_____ Different address (please indicate below):

_____
_____
_____

APPENDIX D

Final Cover Letter

(Kansas State University Letterhead)

June 5, 1991

Dear Foodservice Director:

Thank you for agreeing to participate in this study as indicated by your recent postcard response. This survey is designed to identify financial management activities of foodservice managers and financial indicators used by college and university residence hall foodservices.

Please complete the enclosed questionnaire and return in the self-addressed envelope by June 21, 1991. All responses will be held in strictest confidence. No individual or facility will be identified in the reported results. The survey has been coded to eliminate the need to send you a follow-up letter.

Since the results of this study will be submitted to NACUFS JOURNAL, your participation is essential if the information is to accurately reflect financial management practices in college and university foodservices.

Your interest and assistance are sincerely appreciated.

Sincerely,

Jinmee Tak
Graduate student

John T. Pence
NACUFS Past President (1987)
Associate Director
Housing & Dining Services

Judy L. Miller
Professor

Carol W. Shanklin
Professor

ABSTRACT

The purpose of this research was to examine financial management practices of directors in college and university foodservices. Respondents were asked to provide information on financial management activities, financial indicators, and demographics. Data were collected from 144 foodservice directors employed in college and university foodservice operations using a mailed questionnaire.

Foodservice directors who responded were primarily male, college educated, and over 36 years of age. The majority of foodservice directors had used an operating budget, an income statement, and a capital budget for financial decision-making.

Results indicated that foodservice directors were: most frequently responsible for planning, authorizing, and analyzing activities for financial management; frequently responsible for budgeting activities; and less frequently responsible for calculating and record keeping activities. Results of time demand ratings indicated that foodservice directors completed: budgeting and planning activities from one to several times per year; analyzing, supervising, and calculating activities once or twice per month; and authorizing activities weekly or more. A principal component analysis identified three financial management importance factors: food and labor costing, financing, and budgeting. The factor with the greatest mean for

foodservice directors was financing, followed by budgeting and food and labor costing.

Results indicated that age, education, and career differences of foodservice directors influence financial management practices in college and university foodservices. Foodservice directors with more experience in the field emphasized the importance of financial management. Differences were found by size and complexity of foodservice operations for financial management practices. College and University foodservice directors at smaller size and less complex operations were significantly more responsible for food and labor costing, income statement preparation, and budgeting activities, while those who were at more complex operations were significantly more responsible for analyzing the income statement. A significant interaction was found between the importance of financial management activities and the use of financial procedures.