University Students' Perceptions of Brand Name Foodservices

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Abstract

The purpose of this study was to explore university students' perceptions of brand name foodservice operations. Data were collected using an online survey of 2400 randomly chosen students enrolled at each of the universities in the NCAA Big 12 conference (200 from each school). A total of 210 students responded; 205 usable questionnaires were obtained. Student ratings suggested that brand name foodservices were perceived to have easily readable menus, tasty food, a variety of food choices, and a clean dining area; brand name foodservices were perceived to be less likely to have a selection of healthful food items and provide nutritional information. Factor analysis results suggested students' perceptions of brand name foodservices could be described in four dimensions: (1) dining environment/food quality (2) competency of employees (3) menu/variety (4) price/nutritional information. Multiple regression analysis was used to examine the relative importance of each of these factors in explaining the students' overall satisfaction. The factor, dining environment/food quality, was the most influential dimension in overall satisfaction. Cleanliness and quality of food were rated as the most important attributes in a student's selection of a brand name foodservice operation. Results of this study emphasize the importance of the dining environment and cleanliness in addition to food quality as attributes important to university students.

Keywords: Brand Name Foodservices, Service Quality, University Dining Service, College Students' perception

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Introduction

The growth of the university student market has become significant in influencing the expansion of college and university foodservice operations (Sutherlin & Badinelli, 1993; Hurst, 1997). The spending power of university students is estimated to be more than $90 billion, with full-time, four-year students spending $30 billion ("College", 2003).

University foodservice operations have been expanding the variety of food options offered to students beyond the traditional dining centers to include food courts, convenience stores, and brand name foodservices operations such as Burger King, Subway, Starbucks, etc. Studies have suggested that brand name foodservice operations are preferred by customers because of their reputation, consistency, quality, and profitability (Bernstein, 1991; Green, 1994; Muller, 1998). According to a survey by *Restaurant & Institutions*, 59 % of university operators offered self-created foodservice brands, while 41 % have national foodservice brands (Matsumoto, 2002).

To be a competitive and successful in the campus dining business, university foodservice managers must understand how students perceive and recognize brand name foodservice quality attributes when they choose their dining options. Most customer satisfaction research to date has focused on commercial foodservice establishments, such as fast food, upscale restaurants, and chain restaurants (Galvin, 1987; Zeithaml, Berry, & Parasuraman, 1988; Bojanic & Rosen, 1994; Dube, Renaghan, & Miller, 1994; Stevens, Knutson, & Patton, 1995; Mei, Dean, & White, 1999; Knuston, 2000; Yuksel, 2002). Research is limited on the perceptions and preferences of university students toward brand name foodservice operations. The purpose of this study is to examine university students' perceptions of brand name foodservice operations, examine the underlying dimensions of these perceptions, and explore attributes important to students when selecting a brand name foodservice operation.

Methodology

Sample
The population for this study was students enrolled at all universities in the National Collegiate Athletic Association (NCAA) Big 12 conference (Baylor, Colorado, Iowa State, Kansas, Kansas State, Missouri, Nebraska, Oklahoma, Oklahoma State, Texas, Texas A&M, and Texas Tech University). A random sample of 2,400 students (200 from each school) was selected from the student directory on each university's Web site. Email addresses for each student were obtained from the online directories at each university.

Survey Instrument

A questionnaire, which could be distributed online, was developed for the study. The General Perceptions section of the questionnaire included a list of 19 foodservice attributes selected from those used by Stevens, Knutson, and Patton (1995) to measure service quality in restaurant operations. Students were asked to rate their perceptions of their brand name foodservice dining experiences using a six-point Likert scale ranging from 1= Strongly Disagree to 6= Strongly Agree. The Importance section of the questionnaire asked students to rate the importance of a list of 13 foodservice attributes in their selection of brand name

foodservice operations. A five-point Likert scale ranging from 1= Least important to 5=Extremely important was used to rate the attributes. Demographic characteristics of participants and their campus dining behaviors also were collected.

The questionnaire was designed using Microsoft Front Page and was posted online on the researcher's university's server. The research project was reviewed and approved by the Institutional Review Board at the researcher's university prior to data collection.

Data Collection

Students in the research sample were sent an e-mail message inviting their participation in the online survey. The e-mail invitation included the link to the questionnaire Web site where students could enter their responses in an automatic data entry process. Prize drawings for several monetary awards were used to help encourage student participation in the study. No follow-up emails were sent.

Data Analysis

SPSS (version 10.0) was used for all data analyses. Descriptive statistics were calculated for all variables. The factor analysis procedure was employed to identify the underlying dimensions of the students' perceptions relative to brand name foodservices. Cronbach's alpha was calculated to test the reliability of variables retained in each factor, and coefficients greater than or equal to 0.50 were considered acceptable and a good indication of construct reliability. The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (MSA) and the Bartlett Test of Sphericity were used to determine the appropriateness of applying factor analysis. Scores were created for each factor by averaging the ratings given to the attributes included in that factor. Regression analysis was used to measure the relative impact of the factors on students' overall satisfaction and likelihood of revisiting the brand name foodservice in the future. Analysis of variance (ANONA) and Tukey's post- hoc test were used to examine differences in ratings based on demographic and behavioral characteristics of students.

Results

Characteristics of Respondents

A total of 205 students (8.5% response) completed the questionnaire. As shown in Table 1, the sample contained an almost equal number of females (49%) and males (51%). The majority of respondents were Caucasian, non Hispanic (60%), freshmen or sophomores (62%), enrolled full-time (90%) and living on campus (74%). As might be expected of university students, the majority of students were age 18 to 23 (90%).

Nearly half of the respondents spent an average of $6.00 to $10.00 per day on food. Nearly all were eating in the campus foodservice operations at least once per week; many were using the foodservice operations 5-8 (31%) or 9-12 (23%) times per week.

Table 1. Student demographic profile

Variable	Frequency	Percentage (%)
Gender		
Male	104	50.7
Female	101	49.3
Ethnicity		
Caucasian-Non-Hispanic	123	60.0
Asian/Pacific Islander	44	21.5
African American	15	7.3
Hispanic	4	2.3
Native American	15	7.3
Others	4	2.0
Classification		
Freshman	88	42.9
Sophomore	39	19.0
Junior	32	15.6
Senior	23	11.2
Graduate	23	11.2
Status		
Full-time student	198	96.6
Part-time student	7	3.4
Living status		
On campus	151	73.7
Off campus	54	26.3
Age		
18-20	141	68.8
21-23	50	24.4
24-26	7	3.4
27-29	4	1.5
Over 30	3	1.5
Meal expenditure a day		
Less than $5.00	33	16.1
$6.00-$10.00	98	47.8
$11.00-$15.00	58	28.3
$16.00-$20.00	14	6.8
More than $20.00	2	1.0
Number of use campus foodservice per week		
1-4 times	55	26.8
5-8 times	64	31.2
9-12 times	47	22.9
13-16 times	28	13.7
17-20 times	6	2.9
Over 20 times	3	1.5
None	2	1.0

Student's **Perceptions**

Table 2 indicates university students' perceptions related to brand name foodservice operations. The highest ratings were for the attributes 'easily readable menu' (μ=4.28), 'tasty food' (μ=4.27), 'variety of food options' (μ=4.11), 'visually attractive menu that reflects the dining image' (μ=4.10), and 'clean dining area' (μ=4.10). 'Selection of healthy food items' (μ=3.09) and 'provision of nutritional information' (μ=3.16) received the lowest rating.

Students appeared to be satisfied with the brand name foodservice on their campus. The overall satisfaction rating was μ=4.05 on a 6.0 scale and 93% indicated they were willing to revisit the brand name foodservice operations on their campus.

Table 2. University Students' (N=205) Perception of Brand Name Foodservices

Attributes	Mean[a]	Standard Deviation
Brand name foodservice in university dining…		
…has a easily readable menu	4.28	1.16
…has tasty food	4.27	1.27
…has a variety of food options	4.11	1.19
…has a visually attractive menu that reflects the dining image	4.10	1.16
…has a clean dining area	4.10	1.19
…has comfortable seats	4.05	1.17
…has a dining area that is comfortable and easy to move around in	4.02	1.24
…has a décor in keeping with its image and price range	3.97	1.04
…serves food exactly as ordered	3.96	1.07
…has a visually attractive building exterior	3.94	1.09
… provides prompt and quick service	3.93	1.09
…corrects quickly anything that is wrong	3.89	1.21
…has a visually attractive dining area	3.82	1.21
…has well trained staff members	3.74	1.18
…has employees who are knowledgeable about menu items, ingredients, and methods of preparation	3.71	1.27
…has reasonable prices	3.59	1.21
…offers excellent food quality every order	3.54	1.24
…offers nutritional information about the food	3.16	1.30
…has a very healthy food selection	3.09	1.42

Scale: 1, Strongly Disagree to 6, Strongly Agree

Underlying Dimensions of Students' Perceptions of Brand Name Foodservices

The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (MSA) and the Bartlett Test of Sphericity were used to determine the appropriateness of applying factor analysis to student ratings. The value of MSA found in the study was .913, which was very strong (Kaiser, 1974) and verified that the use of factor analysis was appropriate in the study. Bartlett's Test of Sphericity value ($\chi 2$) was 1745.015, with the overall significance of the correlation matrix of .000. This test showed that the data used in this study did not produce an identity matrix and thus were multivariate normal and acceptable for applying factor analysis.

Factor analysis with a VARIMAX rotation procedure was employed to identify underlying dimensions of the students' perceptions of brand name foodservices. Four factors, with eigenvalues greater than 1.0 and accounting for 61.13% of the total variance were identified (Table 3). All attributes with factor loadings of .40 or greater were retained in the analysis. The factors identified were titled 'Dining Environment/Food Quality', 'Competency of Employees', 'Menu/Variety', and 'Price/Nutritional Information'.

**Table 3. Factor Analysis Results with VARIMAX Rotation of College Students'
Perception of Brand Name Foodservices**

Factors and Variables	Factor Loading	EV[a]	% V[b]	RC[c]	CM[d]
Factor 1: Dining Environment/Food Quality		7.54	39.65	.868	
Clean dining area	.780				.710
Visually attractive dining area	.756				.705
Comfortable seats	.725				.702
Dining area that is comfortable and easy to move around in	.705				.671
Selection of healthy food items	.623				.518
Visually attractive building exteriors	.484				.506
High quality of food	.475				.410
Factor 2: Competency of Employees		1.75	9.03	.856	
Knowledge of employees regarding menu items, ingredients, and methods of preparation	.851				.750
Quick correction of anything wrong	.770				.680
Promptness of service	.681				.632
Well trained employees	.667				.594
Service of food as exactly ordered	.657				.750
Factor 3: Menu/variety		1.32	7.06	.768	
Tasty food	.787				.644
Variety of food options	.769				.739
Visually attractive menu that reflects the dining image	.657				.680
Easily readable menu	.603				.529
Factor 4: Price/Nutritional Information		1.03	5.38	.579	
Reasonable prices	.727				.598
Provision of nutritional information	.696				.521
Décor in keeping with its image and price range	.433				.454
Total Variance Explained (%)			61.13		

[a]Eigen Value
[b]% Variance
[c]Reliability Coefficient
[d]Communality
Note: Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (MSA): .913
Bartlett's Test of Sphericity: χ^2=1745.015, significance at p=.000

One-way Analysis of Variance (ANOVA) with Tukey post hoc analysis were used to determine whether significant differences existed in factor scores based on demographic or behavior of characteristics of the students and whether they would revisit the brand name foodservice. Few significant differences were found. Of importance were the findings that as average meal expenditure increased, satisfaction ratings decreased for the Dining Environment/Food Quality factor and those who indicated a willingness to return to the brand name foodservice gave higher factors scores for Dining Environment/Food Quality,

Competency of Employees, and Menu/Variety than did students who indicated they would not return.

Determinants of the College Students' Overall Satisfaction Level

After identifying the four loading factors, a multiple regression analysis was performed to investigate to what extent the four factors exerted significant influence on students' overall satisfaction with brand name foodservices. Table 4 reports the results of the regression analysis. Two factors: "dining environment/food quality" and "price/nutritional information", were found to be significant variables in the model (at $p < 0.05$); "dining environment/food quality" had the greatest effect (standardized $\beta = .432$, $p \leq .000$.) A variance inflation factor (VIF) less than 10 indicated that collinearity among the independent variables was sufficiently low and would not affect the stability of the regression analysis.

Table 4. Results of Multiple Regressions Analysis of Determinants of Overall Satisfaction with Brand Name Foodservices by NCAA Big 12 Conference Students (n=205)

Dependent variable: Students' overall satisfaction with brand-name foodservices					
Independent variables: Four orthogonal factors representing the components of students' perceptions of brand-name foodservices					
Independent variables	β	Standardized Beta	t	p-value	VIF
F1: Dining environment/food quality	.541	.432	5.141	.000*	2.272
F2: Competency of employees	.186	.152	1.954	.052	1.936
F3: Menu/variety	-.068	-.055	-.795	.428	1.511
F4: Price/nutritional information	.210	.160	2.389	.018*	1.447
Constant	.811		2.290	.023	
Multiple R = .614	R^2 = .377		Adjusted R^2 = .365		
Standard Error = .916	F = 30.267		Significant F = .000		

*$p<0.05$

Important Elements in Brand Name Foodservice Selection

Table 5 indicates importance ratings by students of elements considered when selecting a brand name foodservice. All items had ratings greater than 3 suggesting all were of at least some importance. Cleanliness (μ=4.40) was rated as most important followed by quality of food (μ=4.36), prompt handling of complaints (μ=3.99), and competent wait staff (μ=3.99).

Table 5. Elements Important in the Selection of Brand Name Foodservices by University Students

Elements	Mean [a]	Standard Deviation
Cleanliness	4.40	.88
Quality of Food	4.36	.97
Prompt Handling of Complaints	3.99	.95
Competent Waiting Staff	3.99	.92
Friendliness of Waiting Staff	3.95	1.02
Type of Food	3.94	.90
Comfort Level	3.84	.92
Cost of Food	3.83	1.03
Speed of Service	3.76	1.03
Restaurant Atmosphere	3.67	1.06
Menu Item Variety	3.67	1.01
Prestige	3.17	1.19
New Experience	3.10	1.02

[a] Scale: 1, Least Important to 5, Extremely Important

Limitations

Several factors limit the generalizability of results from this study. The response rate was low and only included students at universities that are part of the NCAA Big 12 conference. Although monetary incentives were used, their effectiveness appears limited. A low response rate has been reported in other foodservice-related research using online surveys (Mills & Clay, 2001) and several authors (Granello & Wheaton, 2004; Kaplowits, Hadlock, & Levine, 2004) have suggested technical difficulties, measurement errors, anonymity, and internet security as concerns that participants might have with online survey.

This research asked students to evaluate "brand name" foodservices in general rather than evaluating specific foodservice name brands or categories. Future research could expand the sample size and explore students' perceptions of specified brand name foodservice operations.

Conclusions and Recommendations

The objective of this research was to identify college students' perceptions of brand name foodservices. The results provide useful information to managers, administrators, and operators of university dining services. Four underlying factors were identified as being used by university students to evaluate brand name foodservice operations. The dining environment/food quality factor best predicted students' overall satisfaction with brand name foodservice operations. Cleanliness and food quality were rated as the most important attributes in selection of a foodservice operation. University foodservice operators should evaluate these dimensions of their operations and if necessary develop employee training programs to target the importance of serving high quality food and having a clean and attractive dining area.

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