District Market: A Pilot Marketing Study

Krista Ulatowski

A thesis

submitted in partial fulfillment of the

requirements of the degree of

Master of Public Health

University of Washington

2013

Committee:

Adam Drewnowski

Brett Carter

Program Authorized to Offer Degree:

Public Health Nutrition

University of Washington

Abstract

District Market: A Pilot Marketing Study

Krista Ulatowski

Chair of the Supervisory Committee:

Adam Drewnowski, PhD

Director of the Nutritional Sciences Program

Purpose: The objective of this study was to examine consumer attitudes toward District Market (DM), a new grocery store recently opened on the University of Washington campus. The goal was to work together with the UW Housing and Food Services on improving the quality of the UW food supply through targeted marketing campaigns.

Method: DM shoppers were approached in-store and were invited to complete a 35-question survey online. The survey addressed purchase drivers including nutrition, taste, price and convenience. Participants were asked why they shopped at DM and what food products they would most like to see at DM. Attitudes toward healthy foods were addressed as well.

Results: A total of 167 participants completed the survey. Participants included UW students, faculty, staff as well as individuals with no university affiliation. Shoppers were characterized based on demographics, shopping behavior and various lifestyle factors. The majority were female (73 percent) and between the ages of 18-25 years old (71 percent). Seventy percent were UW students; 14 percent were UW administration/staff; and 4 percent were UW faculty. Approximately 11 percent were not affiliated with the university. The majority of shoppers listed taste as important or very important when considering food purchases at DM (83 percent), followed by convenience (78 percent) and nutrition (72 percent). Approximately 60 percent of respondents reported reading nutrition labels when they grocery shop, and nearly 62 percent wished that DM would place nutrition labels on the “Grab n’ Go” foods in the store. The preferred means of receiving nutrition information from DM for this sample was via Facebook.

Conclusion: This study contributes to a better understanding of food purchase decisions made at the point of sale. The data on the issue of nutrition information may help DM better promote and market healthy nutrient-rich foods to UW students, staff and faculty.

Background/Significance

District Market (DM) is a grocery store operated by UW Dining, a division of UW Housing and Food Services (HFS). DM is one of 40 points of food service on the UW campus and is located in an area close to student residence halls where few other supermarkets are available. UW Dining is the largest non-contracted food service in the Pacific Northwest, averaging 30,000 customers and approximately $150,000 in sales daily. Annually, UW Dining serves about 2,500,000 pounds of food.

Although other options for buying food include nearby campus cafeterias and convenience stores, DM is unique in providing supermarket services in a college-campus setting. DM, located on the corner of University Avenue and Campus Parkway, opened in September 2012 and is a neighborhood market offering fresh produce, meat and seafood, groceries, breads and baked goods, a full-service deli with chef-prepared side dishes, salads and entrées, and a rotating menu of hot foods ready to take home and eat. DM makes an effort to source local, organic food from the Puget Sound area and to feature foods from local vendors and suppliers. DM also includes Husky Grind, a full-service café with espresso and desserts, and both internal seating and a convenient walk-up window for street access. The market's intent is to serve the needs of students, faculty, staff and local residents. Purchases can be made with UW Husky Cards, and students may spend their university dining plan dollars within the store.

The present study is a formative marketing research project, conducted in early 2013 to profile DM shoppers and better understand their wants and needs. Understanding how their shoppers use supermarkets as a source of nutrition information allows DM to create relevant nutrition marketing campaigns, which in turn could create greater brand or store loyalty as it caters to consumers seeking healthy foods.

The UW Center for Public Health Nutrition and the Nutritional Sciences graduate program, working together with the Marketing Department of the Foster School of Business, intends to use the present study to inform in-store interventions at DM. The focus for these "Shopping for Health" randomized controlled studies will be on tailored nutrition skills-building. These interventions are structured to develop skills at the intra-personal level. These include the ability to identify healthy foods, and build confidence and skills in food budgeting, meal planning and preparation. The pilot marketing study sought to establish the consumer base in terms of gender, age, education and income.

Specific Aims and Hypothesis

The objective of this research was to provide UW Dining with insights on how to create and deliver marketing campaigns to shoppers, 85 percent of whom are UW students. Segmenting shoppers by demographics, food and nutrition-related attitudes, and various lifestyle factors will provide UW Dining with a better understanding of its food shoppers and of ways of reaching them for maximum impact.

Shoppers were queried on purchase drivers including nutrition, taste, price, brand and convenience, among other factors. The hypothesis was that UW students would be attuned to nutrition-related issues and would make purchase decisions based on nutrition advertising and marketing.

Approach/Methods

A 35-question marketing survey was developed to address shopper demographics, purchase behaviors and lifestyle factors. The survey was created using WebQ within the UW's Catalyst system. WebQ allowed for electronic administration of the survey via laptop for ease of data capture and tabulation of results. The survey took shoppers approximately five to ten minutes to complete. Many of the survey questions appeared in other established survey instruments (1, 2, 3).

The survey was tested among UW graduate Nutrition students, UW marketing professors and UW statistics experts. This was done prior to conducting formal research in order to obtain feedback regarding wording of the questions, length of the survey, and other open-ended responses.

The survey questions were in 5 categories: 1) Demographics, 2) Grocery shopping patterns, 3) DM shopping behavior, 4) Lifestyle, cooking, dietary questions, and 5) Preferences for information from DM. Response options were multiple choice and open ended.

The survey was administered to DM shoppers on store premises. Recruitment of shoppers was done on-site at DM in the lobby. Shoppers were also approached as they were waiting in line to check out. On-site survey administration occurred over a period of eight days between the dates of March 27, 2013 and April 4, 2013. Shoppers were also invited to take the survey at home at a later date. This was done to accommodate shoppers who expressed that they did not have time at that moment to take the survey – perhaps they were on their way to class, work, a meeting or elsewhere. Sixty percent took the survey within DM using a laptop; 40 percent took the survey online at a later time.

The survey was made available to all shoppers, including UW students, faculty, staff and persons not affiliated with UW. UW Dining wanted to learn about the behavior of all of its shoppers, and was interested in obtaining insight into how to market to shoppers both affiliated and not affiliated with the university. Ideal sample size was set at 150 or more, so as to obtain an adequate shopper sample. A total of 169 shoppers completed the survey but two respondents were under the age of 18 and were not eligible to take the survey.

Incentives were offered to entice participation in the survey. Survey participants willing to provide their email address were included in a raffle for one of three $50 UW Bookstore gift cards. In addition, shoppers that took the survey within the store were given a coupon for one free beverage at Husky Grind.

Comparisons of outcomes based on various shopper segments – i.e. those that make purchases based on nutrition, price, taste and convenience, were made. Survey responses were stratified according to various demographic and lifestyle characteristics.

Study protocol was reviewed and approved by the University of Washington International Review Board. Exempt status was granted before any subjects were approached to participate in the study.

Results

Demographics

A total of 167 shoppers completed the pilot marketing study, the majority of whom were female (73 percent) and between the ages of 18-25 years old (71 percent). Seventy percent of survey takers were UW students; of these, the majority were freshman (44 percent). Fourteen percent of respondents were UW administration/staff; and 4 percent were UW faculty. Approximately 11 percent were not affiliated with the university.

Nearly 45 percent noted they were not currently employed, while 25 percent were employed part-time and another 25 percent were employed full-time. Of the students that responded to this question (n=117), 62 percent were not currently employed and 31 percent worked part-time jobs. Of all respondents that reported their income, the majority (39 percent) had an income less than $10,000 per year. The next most commonly reported income was in the range of $20,000 – $39,999 per year. Four percent of survey takers received food assistance. Table 1 below contains demographic data for all survey participants. Table 2 contains data for student respondents only.

Table 1. Demographics of All Participants: Gender, Age, UW Affiliation, Employment Status, Income, Food Assistance

	(n)	Percent
Gender		
Female	121	72.5
Male	45	26.9
No response	1	.6
Total	167	100
Age (years)		
18-25	119	71.3
26-33	18	10.8
34-41	6	3.6
42-49	11	6.6
50-57	10	6.0
58-65	2	1.2
Older than 65	1	.6
Total	167	100
UW Affiliation		
UW Student	117	70.1
UW Staff/Administration	24	14.4
UW Faculty	7	4.2
UW Postdoctorate	1	.6
Other	18	10.8
Total	167	100
Employment Status		
Employed full time	42	25.1
Not currently employed	75	44.9
Employed part time (incl. work-study)	42	25.1
Other	8	4.8
Total	167	100
Income		
Under \$10,000	33	39.3
\$10,000 - \$19,999	7	8.3
\$20,000 - \$39,999	20	23.8
\$40,000 - \$59,999	13	15.5
\$60,000 - \$79,999	6	7.1
\$80,000 – \$99,999	3	3.6
Over \$100,000	2	2.4
Not disclosed	8	-
No response	75	-
Total	84 true responses	100
Receipt of Food Assistance		
Yes	7	4.2
No	159	95.2
No response	1	.6
Total	167	100

Table 2. Demographics of UW Students: Gender, Age, UW Affiliation, Class Status, Employment Status, Income

	(n)	Percent
Gender		
Female	91	77.8
Male	25	21.4
No response	1	.8
Total	117	100
Age (years)		
18-25	110	94
26-33	4	3.4
34-41	1	.8
42-49	2	1.7
50-57	0	0
58-65	0	0
Older than 65	0	0
Total	117	100
Class Status		
Freshman	51	43.6
Sophomore	32	27.4
Junior	14	12.0
Senior	9	7.6
Graduate Student	10	8.5
Not applicable	1	.8
No response (not a student)	50	-
Total	117 students	100
Employment Status		
Employed full time	3	2.6
Not currently employed	73	62.4
Employed part time (incl. work-study)	36	30.8
Other	5	4.3
Total	117	100
Income		
Under $10,000	30	73.2
$10,000 - $19,999	5	12.2
$20,000 - $39,999	6	14.6
$40,000 - $59,999	0	0
$60,000 - $79,999	0	0
$80,000 – $99,999	0	0
Over $100,000	0	0
Not disclosed	3	-
No response	73	-
Total	41 true responses	100

Grocery Shopping Patterns

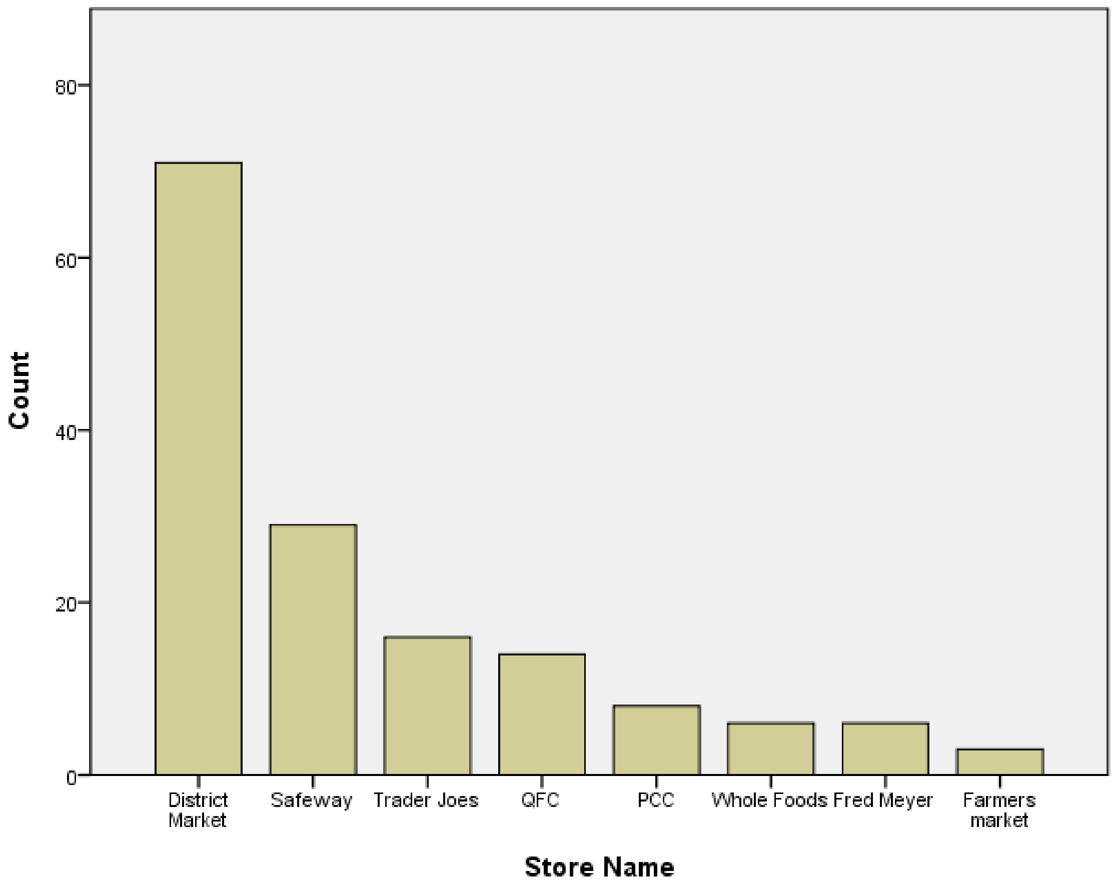
Survey participants reported that they mostly shopped for groceries 1-2 times per week (42 percent). Nearly 17 percent shopped for groceries every day (Table 3).

Table 3. Grocery Shopping Frequency. Survey participants were asked, “In a typical week, how often do you shop for groceries?”

	(n)	Percent
Overall	167	100
Approximately every other week or less	16	9.6
1-2 times per week	70	41.9
3-4 times per week	38	22.8
5-6 times per week	15	9.0
Daily	28	16.8

When asked which market the shoppers considered to be their primary grocery store, 43 percent noted DM was their market of choice. Safeway was second, with 17 percent of survey respondents noting this was their favored market. Trader Joes was third (10 percent), followed by QFC (8 percent), PCC (5 percent), Whole Foods (4 percent), Fred Meyer (4 percent), and farmers markets (2 percent). Eight percent selected “other” (Fig. 1).

Figure 1. Food Market Preference. Survey participants were asked, “Which of the following is your primary grocery store?”



When shoppers were asked why DM was their preferred market, the majority (54 percent) indicated the reason was convenience and living nearby. The second reason was the ability to use the dining plan at the market (40 percent) (Table 4). When shoppers were asked why DM was not their preferred market, the main reason was distance (41 percent). The second reason was that the food was expensive (31 percent). “Not enough variety” was the third most popular response (26 percent) (Table 5).

It is of interest that 35 percent of survey participants considered themselves “bargain food shoppers” who used coupons when food shopping whenever possible.

Table 4. Reasons for Selection of DM as the Primary Market. Survey participants that indicated DM as their primary market were asked, “You noted that District Market is your primary food market. Why?” The question was open-ended, and survey takers could write in more than one response. There were 71 unique participants and 200 answers to this question.

	(n)	Percent
Overall	200	100
Nearby / Convenient	55	54.4
I can use my Husky Card and Dining Plan at DM	40	39.6
Variety	3	3.0
I can cook with food from DM	2	2.0
Good prices	1	1.0
No response	99	-
Total	101 true responses	100

Table 5. Reasons for Selecting a Market other than DM as the Primary Market. Survey participants that noted a market other than DM as their primary market were asked, “You noted that DM is not your primary market. Why Not?” The question was open-ended, and survey takers could write in more than one response. There were 96 unique participants and 188 responses to this question.

	(n)	Percent
Overall	188	100
Far away / inconvenient	46	41.0
Expensive	35	31.2
Not enough variety	29	25.9
No response	76	-
Other	2	1.8
Total	112 true responses	100

In terms of quality, shoppers ranked DM on par with Safeway (22 percent) and QFC (21 percent). When regarding price, however, shoppers reported that DM was on the expensive side, comparing DM prices to Whole Foods' prices (32 percent) followed by QFC prices (15 percent) (Table 6).

Table 6. Comparison of DM Quality and DM Price to Other Food Markets. Survey participants were asked, "Which food market do you feel District Market most closely resembles in terms of quality? (Select one)" and "Which food market do you feel District Market most closely resembles in terms of price? (Select one)"

	(n)	Percent
Overall	167	100
Quality		
Safeway	37	22.2
QFC	36	21.6
Trader Joes	28	16.8
PCC	21	12.6
Whole Foods	17	10.2
Fred Meyer	12	7.2
Convenience store / deli	11	6.6
Other	5	3.0
Overall	167	100
Price		
Whole Foods	53	31.7
QFC	25	15.0
Trader Joes	22	13.2
PCC	17	10.2
Safeway	17	10.2
Convenience store / deli	15	9.0
Farmers market	6	3.6
Fred Meyer	3	1.8
Other	9	5.4

District Market Shopping Behavior

Most shoppers indicated that they frequented DM 1 – 2 times per week (27 percent), and as many as 17 percent shopped at DM daily. Shoppers were asked to report their typical buying habits at DM to discern whether survey participants mostly bought items to consume immediately or whether they purchased a larger quantity of items for a few days or more. DM shoppers bought, on average, 2.5 items per visit to the store, according to DM store data. Results from the pilot marketing study showed that 57 percent of DM shoppers bought foods that they intended to consume immediately. An additional 20 percent bought items to eat immediately as well as items for use in preparing meals in the next few days.

The majority of respondents spent fewer than 10 minutes in the market (81 percent). One quarter of those spent five minutes or fewer in the store. Fewer than 10 dollars was spent by the majority of shoppers during each trip to DM (41 percent). Another 39 percent spent between $10.01 and $20 per trip, on average. The majority walked to DM (92 percent) and traveled fewer than five blocks to get there (63 percent) (Table 7).

Table 7. District Market Shopping Patterns. Survey participants were asked: “How often do you shop at DM?”, “Which of the following best describes your typical buying habits at DM?”, “On average, how much time do you spend in DM per shopping trip?”, “How much money did you spend at DM today?”, and “Estimate what you spend on a typical shopping trip to DM.”

	(n)	Percent
Overall	167	100
Frequency of shopping at DM		
Approximately every other week or less	32	19.2
1-2 times per week	45	26.9
3-4 times per week	30	18.0
5-6 times per week	15	9.0
Daily	29	17.4
First time in store	6	3.6
Other	9	5.4
No Response	1	0.6
Total	167	100
Grocery purchase pattern		
I buy items to eat immediately	95	56.9
I buy items to eat immediately, I buy items that I will use to prepare meals in the next few days	33	19.8
I buy items that I will use to prepare meals in the next few days	22	13.2
I buy items to eat immediately, I buy items that I will use to prepare meals in the next few days, I buy all of my groceries for the week	6	3.6
I buy items to eat immediately, I buy all of my groceries for the week	3	1.8
I buy items that I will use to prepare meals in the next few days, I buy all of my groceries for the week	2	1.2
I buy all of my groceries for the week	1	.6
Other	5	3.0
Total	167	100
Time spent in DM per shopping trip		
0-5 minutes	41	24.6
6-10 minutes	94	56.3
11-20 minutes	27	16.2
More than 20 minutes	3	1.8
Other	2	1.2
Total	167	100
Amount spent in DM today		
0 - $10	78	46.7
$10.01 - $20	59	35.3
$20.01 - $30	16	9.6
$30.01 - $40	6	3.6
More than $40	7	4.2
No response	1	0.6
Total	167	100
Average amount spent at DM		
0 - $10	69	41.3
$10.01 - $20	65	38.9
$20.01 - $30	23	13.8
$30.01 - $40	3	1.8
More than $40	4	2.4
Other	2	1.2
No response	1	0.6
Total	167	100

Overall, shoppers indicated that they shopped most frequently in the Grab n' Go department (41 percent), followed by beverage (32 percent), organic produce (29 percent) and deli hot bar (26 percent) (Table 8). Those that rated nutrition as "very important" or "important" shopped most in the Grab n' Go section, followed by organic produce, then beverage. Those that indicated nutrition was "not very important" or "not at all important" shopped most in the beverage section, followed by middle aisles and the hot deli.

Table 8. Departments in Which Shoppers Shop in Most Frequently. Survey participants were asked, “Which departments in District Market do you shop in most?”

	(n)	Percent
Overall	167	100
I shop mostly in the Grab n’ Go Section		
Yes	69	41.3
No	98	58.7
I shop mostly in the beverage section		
Yes	53	31.7
No	114	68.3
I shop mostly in the organic produce section		
Yes	49	29.3
No	118	70.7
I shop mostly in the deli hot bar section		
Yes	43	25.7
No	124	74.3
I shop mostly in the deli counter (cold prepared foods) section		
Yes	33	19.8
No	134	80.2
I shop mostly in the dairy section		
Yes	29	17.4
No	138	82.6
I shop mostly in the middle aisles		
Yes	26	15.6
No	141	84.4
I shop mostly in the conventional produce section		
Yes	23	13.8
No	144	86.2
I shop mostly in Husky Grind		
Yes	21	12.6
No	146	87.4
I shop mostly in the frozen foods section		
Yes	17	10.2
No	150	89.8
I shop mostly in the baked goods section		
Yes	13	7.8
No	154	92.2
I shop mostly in the meat and seafood section		
Yes	11	6.6
No	156	93.4
I shop mostly in the non-foods / supplies section		
Yes	9	5.4
No	158	94.6
I shop mostly in the ethnic foods section		
Yes	9	5.4
No	158	94.6
I shop mostly in the gluten-free section		
Yes	7	4.2
No	160	95.8
I shop mostly in the specialty/seasonal section		
Yes	5	3.0
No	162	97.0

Attitudes Toward Nutrition and Health

Seventy-two percent listed nutrition as important or very important when considering food purchases at DM. Another 22 percent responded with “somewhat important.”

Most (60 percent) said they regularly read nutrition labels when shopping, and 47 percent said that they read a nutrition label when shopping at DM that day (Table 9). Significantly, as many as 55 percent of survey participants reported trying to lose weight, while 58 percent reported their diet as being healthful. Thirty-one percent were “neutral” and approximately 10 percent disagreed that they followed a healthy diet. When asked if eating healthy was important to shoppers, however, 34 percent stated they “strongly agree.” Another 49 percent “agreed” with the statement.

Shoppers were asked to rank the importance of their food purchases in terms of each of the following in order to address the question of how they defined nutrition: low fat, low calorie, low carbohydrate, low salt, low cholesterol, high fiber, organic, whole foods, locally-sourced, sustainable, vegetarian, vegan, gluten-free or dairy-free. The following were ranked as “very important” and “important” to survey participants: high fiber (73 percent), whole foods (71 percent), organic (63 percent), low fat (62 percent), sustainable (57 percent), low calorie (55 percent), low cholesterol (52 percent), low salt (45 percent), locally-sourced (44 percent), low carbohydrate (43 percent), vegetarian (31 percent), dairy-free (22 percent), gluten-free (19 percent) and vegan (13 percent).

High fiber ranked highest in terms of importance to DM shoppers, followed by whole foods (Table 10). A few of the responses may be linked to dietary restrictions of survey participants. Eight percent were vegetarian, six percent were lactose-intolerant, and four percent followed gluten-free diets.

Table 9. Nutrition Labels. Survey participants were asked to rank their agreement with the following statements: “I use nutrition labels to choose healthy foods,” “I read nutrition labels when I grocery shop,” and “I read nutrition labels when I was shopping at DM today.”

	(n)	Percent
Overall	167	100
I use nutrition labels to choose healthy foods		
Strongly agree	41	24.6
Agree	60	35.9
Neutral	37	22.2
Disagree	17	10.2
Strongly disagree	7	4.2
Don't know	3	1.8
No response	2	1.2
Total	167	100
I read nutrition labels when I grocery shop		
Strongly agree	48	28.7
Agree	50	29.9
Neutral	31	18.6
Disagree	26	15.6
Strongly disagree	8	4.8
Don't know	2	1.2
No response	2	1.2
Total	167	100
I read nutrition labels when shopping at DM today		
Strongly agree	33	19.8
Agree	45	26.9
Neutral	33	19.8
Disagree	33	19.8
Strongly disagree	17	10.2
Don't know	3	1.8
No response	3	1.8
Total	167	100

Table 10. Perceived Importance of Various Diet Types. Survey participants were asked to rate the importance that their food be of each of the following: low fat, low calorie, low carbohydrate, low salt, low cholesterol, high fiber, organic, whole foods (not processed), locally sourced, sustainable, vegetarian, vegan, gluten-free, dairy-free.

Importance of Diet Type	Ranking of Importance						
	Very Important	Important	Somewhat Important	Not very Important	Not at all Important	No Response	Row Total
High Fiber							
(n)	24	49	57	22	15	-	167
Percent	14.4	29.3	34.1	13.2	9.0	-	100
Whole Foods							
(n)	32	39	53	30	13	-	167
Percent	19.2	23.4	31.7	18.0	7.8	-	100
Organic							
(n)	27	36	48	34	21	1	167
Percent	16.2	21.6	28.7	20.4	12.6	.6	100
Low Fat							
(n)	22	40	62	23	20	-	167
Percent	13.2	24.0	37.1	13.8	12.0	-	100
Sustainable Foods							
(n)	20	37	58	31	21	-	167
Percent	12.0	22.2	34.7	18.6	12.6	-	100
Low Calorie							
(n)	19	36	62	25	24	1	167
Percent	11.4	21.6	37.1	15.0	14.4	.6	100
Low Cholesterol							
(n)	20	32	53	42	19	1	167
Percent	12.0	19.2	31.7	25.1	11.4	.6	100
Low Salt							
(n)	17	28	62	39	21	-	167
Percent	10.2	16.8	37.1	23.4	12.6	-	100
Locally-Sourced							
(n)	17	27	62	39	22	-	167
Percent	10.2	16.2	37.1	23.4	13.2	-	100
Low Carbohydrate							
(n)	15	28	64	31	28	1	167
Percent	9.0	16.8	38.3	18.6	16.8	.6	100
Vegetarian							
(n)	19	12	34	47	55	-	167
Percent	11.4	7.2	20.4	28.1	32.9	-	100
Dairy-free							
(n)	13	9	24	33	87	1	167
Percent	7.8	5.4	14.4	19.8	52.1	.6	100
Gluten-free							
(n)	8	11	29	40	78	1	167
Percent	4.8	6.6	17.4	24.0	46.7	.6	100
Vegan							
(n)	6	7	28	47	78	1	167
Percent	3.6	4.2	16.8	28.1	46.7	.6	100

When examining purchase drivers that were important to DM shoppers, taste was rated "very important" or "important" by 84 percent. DM shoppers were interested in convenience, with 78 percent indicating that this factor was either "very important" or "important" to them. Nutrition was ranked the third most important purchase driver, with 72 percent ranking it as "very important" or "important" when they shop. Price was ranked "very important" or "important" by 68 percent of shoppers. Organic, local sourcing and brand name were not ranked as high (Table 11).

DM purchases about 53 percent of its products locally, in line with UW's commitment to sustainable practices (4). According to survey responses, stocking local products at DM was "very important" to 11 percent of shoppers, "important" to 18 percent of shoppers, and "somewhat important" to 31 percent of those polled. Approximately 38 percent of the shopper base either indicated buying local was "not very important" or "not at all important" to them.

Table 11. Importance of Nutrition, Taste, Price, Brand, Convenience, Organic Food and Local Food when Shopping at DM.

	Ranking of Importance						
	Very Important	Important	Somewhat Important	Not Very Important	Not at all Important	No Response	Row Total
Taste							
(n)	73	66	23	2	0	3	167
Percent	43.7	39.5	13.8	1.2	0	1.8	100
Convenience							
(n)	62	68	30	5	0	2	167
Percent	37.1	40.7	18.0	3.0	0	1.2	100
Nutrition							
(n)	48	70	36	6	4	3	167
Percent	28.7	41.9	21.6	3.6	2.4	1.8	100
Price							
(n)	52	62	33	19	0	1	167
Percent	31.1	37.1	19.8	11.4	0	.6	100
Organic food							
(n)	26	45	35	38	20	3	167
Percent	15.6	26.9	21.0	22.8	12.0	1.8	100
Local sourcing							
(n)	19	30	51	41	23	3	167
Percent	11.4	18.0	30.5	24.6	13.8	1.8	100
Brand name							
(n)	3	19	41	62	39	3	167
Percent	1.8	11.4	24.6	37.1	23.4	1.8	100

Lifestyle

The majority of respondents lived in a university residence hall (51 percent), followed by an off-campus house, condo or townhouse (23 percent) or off-campus apartment (17 percent). Nine percent lived in an apartment located on campus. Of all students polled, 70 percent resided in university residence halls, 13 percent in an on-campus apartment, 9 percent in off-campus apartments, and 9 percent in an off-campus house, condo or townhouse.

Cooking facilities are available to UW students in new residence halls, and new residence halls under construction on Campus Parkway near DM will be equipped with kitchens. The majority, 58 percent, indicated that they could “follow a recipe” and ranked their cooking skills a “2” on a scale of “1-3.” In light of this data, access to cooking appliances and equipment was assessed. Eighty-seven percent of all survey participants had a kitchen in their place of residence and 70 percent used it. Ninety-six percent had access to a refrigerator and 91 percent used it; 93 percent had access to a microwave and 85 percent used it; 87 percent had access to a freezer and 74 percent used it; 87 percent had access to a stove and 67 percent used it; and lastly, 86 percent had access to an oven and 61 percent used it. The above information was included so as to learn whether shoppers had access to areas and appliances in which to prepare, cook and/or store food. Shoppers that did not have access to the majority of the above indicated they were more likely to purchase food items to eat immediately or shortly after purchase (Table 12).

Table 12. Type of Residence and Use of Cooking Equipment. Survey Participants were asked, “Which of the following describes your place of residence?” and “Do you use each of the following appliances at your place of residence?”

	(n)	Percent
Overall	167	100
Place of Residence		
University Residence Hall	85	50.9
House, Condo or Townhouse	38	22.8
Apartment (Off-Campus)	27	16.2
Apartment (On-Campus)	15	9.0
Other	2	1.2
Total	167	100
Do You Use the Kitchen in Your Residence?		
Yes	117	70.1
No	29	17.4
Do not have access	21	12.6
Total	167	100
Do You Use the Refrigerator in Your Residence?		
Yes	152	91.0
No	7	4.2
Do not have access	6	3.6
No response	2	1.2
Total	167	100
Do You Use the Freezer in Your Residence?		
Yes	123	73.7
No	21	12.6
Do not have access	22	13.2
No response	1	.6
Total	167	100
Do You Use the Stove in Your Residence?		
Yes	112	67.1
No	32	19.2
Do not have access	22	13.2
No response	1	.6
Total	167	100
Do You Use the Oven in Your Residence?		
Yes	101	60.5
No	40	24.0
Do not have access	23	13.8
No response	3	1.8
Total	167	100
Do You Use the Microwave in Your Residence?		
Yes	142	85.0
No	9	5.4
Do not have access	12	7.2
No response	4	2.4
Total	167	100

Survey participants were asked how often they cooked for themselves; approximately one-fourth did so 1-3 times per month. Another quarter did so 1-3 times each week. Nearly 10 percent never cooked for themselves at all. Yet, when asked whether they believe that people with cooking skills have better quality diets than those that do not have cooking skills, 59 percent responded in the affirmative, either agreeing or strongly agreeing with the statement. Thirty-five percent noted they ate a meal cooked by a family member or friend 1-3 times per month, and 27 percent ate a home-cooked meal 1-3 times per week. Seventeen percent never ate a warm meal prepared by a friend or family member (Table 13).

Table 13. Frequency of Cooking for Oneself and Eating Meals Cooked by Others. Survey participants were asked, “How often do you cook or prepare a meal for yourself?” and “How often do you eat a meal cooked by someone else (roommate, family member, friend, etc.)?”

	Cooking for self(n)	Cooking for self (%)	Eat meals cooked by others (n)	Eat meals cooked by others (%)
Overall	167	100	167	100
Never	15	9.0	29	17.4
1-3 times/month	43	25.7	58	34.7
1–3 times/week	40	24.0	45	26.9
4–6 times/week	23	13.8	18	10.8
7–10 times/week	21	12.6	10	6.0
More than 10 times/week	22	13.2	5	3.0
No response	3	1.8	2	1.2

When asked about frequency of dining out, nearly 20 percent noted they never dined at a residence hall cafeteria, The HUB, UW coffee shop or UW deli. However, another 19 percent dined out at these establishments more than 10 times per week. Thirty-six percent of survey participants never visited a fast food restaurant; 42 percent only ate there 1-3 times each month. Thirty-three percent ate at casual restaurants 1-3 times each week; another 10 percent typically ate there 4-6 times per week. The majority of respondents (52 percent) ate at fine dining restaurants 1-3 times each month (Table 14).

Table 14. Dining Out. Survey participants were asked, “How often do you eat at a residence hall cafeteria, The HUB, UW coffee shop, or UW deli?”, “How often do you eat at a fast food restaurant?”, “How often do you eat at a casual, sit-down restaurant?”, and “How often do you eat at a fine dining restaurant?”

	(n)	Percent
Overall	167	100
Frequency of eating at a residence hall cafeteria, The HUB, UW coffee shop, or UW deli		
Never	32	19.2
1-3 times/month	25	15.0
1–3 times/week	27	16.2
4–6 times/week	28	16.8
7–10 times/week	24	14.4
More than 10 times/week	31	18.6
Total	167	100
Frequency of eating at a fast food restaurant		
Never	60	35.9
1-3 times/month	70	41.9
1–3 times/week	19	11.4
4–6 times/week	11	6.6
7–10 times/week	4	2.4
More than 10 times/week	3	1.8
Total	167	100
Frequency of eating at a casual, sit-down restaurant		
Never	10	6.0
1-3 times/month	80	47.9
1–3 times/week	55	32.9
4–6 times/week	15	9.0
7–10 times/week	2	1.2
More than 10 times/week	4	2.4
No response	1	.6
Total	167	100
Frequency of eating at a fine dining restaurant		
Never	57	34.1
1-3 times/month	86	51.5
1–3 times/week	15	9.0
4–6 times/week	4	2.4
7–10 times/week	1	.6
More than 10 times/week	3	1.8
No response	1	.6
Total	167	100

Preferences for Information from DM

The expressed desire was for point-of-purchase posted nutrition labels on deli "grab and go" items (62 percent); in-store menu boards with nutrition information (38 percent), and, to a lesser extent, an external website with nutrition information (24 percent) and an in-store dietitian (13 percent). The need for simple, healthy recipes was mentioned by 43 percent (Table 15).

Table 15. Interest in Various Types of Nutrition Information from DM. Survey participants were asked, "What, if any, nutrition information do you wish DM provided?"

	(n)	Percent
Nutrition labels on grab-n-go items		
Yes	103	61.7
No	64	38.3
Total	167	100
Simple, healthy recipes		
Yes	71	42.5
No	95	56.9
Total	167	100
Menu boards with nutrition information		
Yes	64	38.3
No	103	61.7
Total	167	100
Website with nutrition information		
Yes	40	24.0
No	127	76.0
Total	167	100
In-store dietitian		
Yes	22	13.2
No	145	86.8
Total	167	100

Shoppers also indicated interest in nutrition-centered events (Table 16), such as: a free samples day (70 percent), a farmers market in the DM courtyard held in partnership with the UW student-run farm (66 percent), healthy cooking classes (43 percent), a "Meals made easy" program where DM provides ideas for meals and guides shoppers to ingredients within the store for purchase (37 percent), featured vendor day (35 percent), and workshops with campus chefs (11 percent).

Table 16. Interest in Nutrition Events hosted by DM. Survey participants were asked, “Which of the following food events at DM would be of interest to you?”

	(n)	Percent
Free samples day		
Yes	117	26.2
No	50	29.9
Total	167	100
Farmers market in the courtyard with UW Farm		
Yes	110	24.7
No	32	19.2
Total	167	100
Healthy cooking classes		
Yes	72	16.1
No	95	56.9
Total	167	100
"Meals made easy" program (DM meal suggestions)		
Yes	61	13.7
No	106	63.5
Total	167	100
Featured vendor day		
Yes	58	13.0
No	109	65.3
Total	167	100
Culinary workshops with campus chefs		
Yes	18	4.0
No	149	89.2
Total	167	100
None	9	2.0
Other	1	.2

The healthier food items that shoppers requested most frequently included a greater variety of produce (17 percent); a greater variety of beverages such as juices and branded/organic milks (15 percent); and a wider variety of dairy items such as Activia Yogurt and Nancy's cottage cheese (14 percent). Others indicated an interest in DM stocking Hot Pockets, pizza dough and Kit Kat bars (Table 17). See the full list of responses in Appendix 2.

Table 17. Interest in Additional Items at DM. Survey participants were asked the open-ended question, "Are there items that you DM stocked that it currently does not? If so, please name them." Categorized responses follow.

	(n)	Percent
Overall	92 true responses	100
Fresher / More Produce	15	16.3
More / Different Beverages	14	15.2
More / Different Dairy Foods	13	14.1
More / Different Junk Foods	9	9.8
More Grains	6	6.5
More / Different Meat & Seafood	5	5.4
More / Different Supplies & Cookware	5	5.4
More Organic Produce	4	4.3
More Vegetarian / Vegan Foods	4	4.3
More Hot Foods	4	4.3
Larger Variety of Food (in general)	4	4.3
Healthier Foods	3	3.3
More Baked Goods	3	3.3
More Gluten-Free Foods	3	3.3
No Response	101	-

The preferred means of receiving nutrition information from DM for this sample, the majority of whom were students, was via Facebook. Currently, only 11 percent followed DM on Facebook. Thirty-two percent would turn to the DM website, and 26 percent wished to receive email updates. Only 16 percent have visited the DM website. Only seven percent are currently receiving DM emails. Nearly 28 percent of those sampled indicated they do not wish to receive nutrition information from DM (Table 18).

Table 18. Interest in Receipt of Nutrition Information from DM. Subjects were asked, "If you are interested in receiving nutrition information from District Market, how would you like to receive this information? (Mark all that apply)." There were 228 total responses.

	(n)	Percent
Overall	228	100
Facebook	58	25.4
Website	54	23.7
Email	43	18.9
Newsletter	16	7.0
Twitter	6	2.6
Other	3	1.3
Not interested in receiving information	47	20.6
No response	1	.4

Discussion

Promoting healthy food shopping behaviors at UW is both important and timely. The results presented DM with opportunities for engaging with its customer base and satisfying shopper wants and needs, such as shifting its product portfolio in a healthier direction and developing innovative ways to sell these products.

Demographics

The typical DM shopper was female and between the ages of 18-25. She attended UW as a freshman, lived in a UW residence hall and was not currently employed. Marketing to the student shopper should focus on highlighting that students can use their dining plans and Husky Cards within DM, given that the majority were not currently employed and perhaps unlikely to pay with other forms of currency. Ensuring that newly-arrived freshman are aware of DM's presence on campus is key, as is expanding promotional reach to all parts of campus, given the majority of shoppers walked five blocks or less to shop at DM.

The respondent that was not a student was, on average, a female between the ages of 26-33 years old; lived in a house, condo or townhome; and was employed full-time, making between $20,000 and $39,000 annually. Most non-affiliated shoppers indicated that they shop at a market other than DM due to the fact that they do not live near campus and only shop at DM if it is part of their planned travel route. Thus, there is opportunity to promote the market to non-affiliated members of the nearby community.

Grocery Shopping Behavior

Many shopped daily at DM, likely due to the fact that they lived nearby and found it convenient. The main reason for not considering DM the main food market was distance, resulting in survey participants' reasoning for selecting other markets such as Safeway and QFC as their primary grocery store. High prices at DM keep many away from the store. DM should consider accepting coupons, SNAP and WIC to appease those that received food assistance as well as the bargain shoppers that frequented DM. In addition, survey participants found DM prices to be similar to Whole Foods' prices, indicating that DM prices may be viewed as unaffordable. One survey participant stated, "The prices are a bit too high for my budget." Another said, "Prices are akin to a convenience store, so I might as well shop somewhere cheaper as a primary."

In terms of quality, DM was judged similarly to Safeway and QFC. Several shoppers responded that quality of produce was an issue: "Though there are some things I get at District Market (eggs, milk, juices, produce), there are other things I can only get at another store (certain dairy products, bulk items, meats) and though these types of things are at the DM they are not of the quality I seek." Others, however, indicated their content with DM quality: "It's such a nice alternative to typical cafeteria foods, and it provides a nice way for me to cook healthy foods."

Feedback regarding quality and price may indicate that shoppers viewed the quality of DM food as similar to a "big-box" retailer, yet expensive. This suggests that DM consider more frequent monitoring of food items that have a short shelf life, and/or price adjustments such as a "priced to go" method for fruit and vegetables that have not been purchased after a few days on the shelf.

More people are eating at home and price is an important driver of the food selections people are making (5). A separate survey found that 69 percent of adult shoppers reported spending more time browsing grocery flyers and clipping coupons before they shop, comparing unit prices, locating sales specials and selecting private brand products once in the store (5). The recession has not altered shoppers' interest in healthy products, however. Eighty-nine percent of Americans reported being somewhat or very concerned about the nutritional content of the foods they buy (5).

District Market Shopping Behavior

Survey participants shopped most frequently in the Grab n' Go section of DM, followed by the beverage section. This is not surprising given the convenience that shoppers indicated they were looking for, and the immediacy in which they would consume those items. Placement of a cooler of healthy beverages near the point-of-sale terminals could increase overall sales, given survey participants' likelihood of picking up a Grab n' Go item plus something to drink on their way to class.

According to a national study by the Food Marketing Institute, 96 percent of shoppers say nutrition is a "very important" or "somewhat important" factor when food shopping (6). DM shoppers who noted nutrition as "very important" or "important" shopped most in the Grab n' Go, section, organic department or beverage section; promoting healthier items in these sections of the store may result in more sales.

According to Inside the Mind of the Shopper: The Science of Retailing, half of all trips to the supermarket result in the purchase of five or fewer products, and shoppers are not very good at finding those five items. The recommendation to promote the sale of nutritious foods is logical: select a few nutritious foods from the store's top selling items and focus on selling more of them (7).

Attitudes Toward Nutrition and Health

Promotion of high-fiber foods is indicated as based on survey outcomes. Buying organic was important to shoppers, as was eating whole foods in their diets. Low-calorie and low-fat ranked well below the selection of high fiber, whole foods and organic foods. The results demonstrate the days of solely marketing low-calorie and low-fat foods to consumers should be reconsidered. Calling out the health benefits of various high fiber, whole or organic foods with in-store signage may help increase sales of these nutritious items.

Fifty-five percent of survey participants reported trying to lose weight. A national poll by the Food Marketing Institute and Catalina Marketing found that managing or losing weight was the top health concern among grocery shoppers and 66 percent said they were looking for ways to improve their health by making healthy food choices (8). Yet only 50 percent said that their primary supermarket helped them make these choices (8), indicating opportunity for DM to help guide shoppers to nutritious options within the market.

In addition to the importance of nutrition to DM shoppers, taste, price and convenience ranked top-of-mind when making food purchases within the store. Clearly, the majority of shoppers do not have much time for cooking, they want their food to taste good and be good for them, and they want it at a reasonable price.

DM has ample opportunity to distinguish itself as the go-to health food market on campus, thus creating a brand image for the store that is unique in comparison to competitors that are entering the grocery industry on or near campus. In September 2013, Crisp Harvest Market will take up residency at 4321 University Avenue on campus, establishing itself as a provider of “high-quality, local and regional produce, including organic and specialty produce, direct from farms at low prices.” Its full product line includes grab-and-go salads, precut produce, bulk foods, local beer, wine, coffee, dairy, grocery and bakery items. The store is positioning itself with the tagline, “Whole Produce, Great Prices,” aiming to compete with DM’s traditionally higher-priced produce, at least according to beliefs of 33 percent of DM shoppers. The new market hopes to overhaul grocery shopping for students, making food accessible, natural and local (9). Crisp Harvest Market owners say that their prices will be competitive with Trader Joe’s and Whole Foods.

Lifestyle

Access to kitchens and means of food preparation in university residence halls is increasing. Eighty-seven percent of survey participants had a kitchen in their place of residence but 70 percent used it, indicating that over one-fourth of DM shoppers relied on food items that they purchased for immediate consumption from

DM, UW cafeterias and/or casual restaurants. While 58 percent noted they had enough talent to follow a recipe, and another 31 percent indicated they could star in their own food show, not many are cooking in their kitchens.

Promoting healthy items according to prep time or cooking time may be a viable means for increased sales of foods found in the frozen food section or middle aisles. And while shoppers may not be cooking, many wished to learn from DM healthy cooking classes (43 percent). Likewise, promotional ideas such as encouragement to hold a barbeque with friends or a potluck in the dorms could result in students thinking about larger purchases instead of the 2.5 items that most shoppers typically purchased.

Students on campus are often without a means of transportation and struggle to access groceries and/or nutritious foods, leaving them to rely on food plans within cafeterias and convenience stores. Several survey participants noted they lived too far away from DM for it to serve as their primary market:

- “It’s too far from my dorm.”
- “I live on the other side of campus.”
- “I don't live close enough and would need a car to transport groceries home because I normally take the bus to work and do not like taking groceries home on the bus.”

Stores such as Kroger have found a means of bringing convenience to college shoppers by establishing kiosks such as those on the Ohio Northern University campus in Ada, Ohio, that contain several hundred basic food items that are purchased vending-style by students (10). Supermarket consultant Bill Bishop said Kroger is strategic in its approach: "All the big supermarket companies are looking for new market opportunities, and this is certainly a new market opportunity. This is sort of a 22nd-century convenience store. It's serving as an outpost for Kroger." Establishing DM “outposts” elsewhere on campus or near big-box retailers may be one way to reach those not willing to travel to DM’s location on the south end of campus.

Further, most college campus food environments are not consistent with dietary recommendations for prevention of disease and obesity (11). The limited quality of healthy food on-campus supports initiatives to improve the quality of campus food store environments (11). DM outposts could fill the need for accessible, healthy food options across the UW campus.

Preferences for Information

Prioritizing the labeling of Grab n’ Go items within the store is key. The high numbers of respondents that read nutrition labels warrants consideration for additional labeling and signage highlighting healthier foods in the store. This is inline with findings from the Food Marketing Institute which found that nearly 75 percent of shoppers read food labels (12). An intervention conducted by Baltimore Healthy Stores (BHS) provided point-of-purchase promotions including signage for healthy choices. Respondents in the intervention were significantly more likely to report purchasing promoted foods because of the presence of a BHS shelf label (13). Offering nutrition information on shelf labels may be strategic for stores to lead to store loyalty. Grocery store shelves are an ideal location to provide shoppers with nutrition information (14).

DM could use nutrition labels on shelves or on menu boards to target specific demographic groups with labels on specific products. For example, several studies found that women perceive menu labeling as more useful than men and report being more likely to pay attention to such labeling. This is significant given the majority of shoppers at DM were female. The calories women purchase decreases when calorie information is posted (15). The optimal format for providing nutrition information on menu boards was not discerned from the RWJF research, but providing calories, "healthy choice" symbols, and presenting items in order of caloric content may result in shoppers' selection of lower-calorie items (15).

In addition to nutrition labels and in-store menu boards, shoppers find nutrition promotions and mobile phone food applications to be valuable nutrition information resources. Shoppers rarely seek out nutrition information from sources that are not available at the point of purchase (i.e. websites, brochures, etc.) (15).

Holding a "healthy samples day" at DM will draw in shoppers, as will holding a farmers market in the courtyard with UW Farm. Peter Smith, manager of consumer insights for Rodale Inc., noted that "In addition to education about the benefits of eating healthily, shoppers would benefit from opportunities to sample great-tasting healthy foods to help change [any] negative taste perceptions" (12). Planning and organizing healthy cooking classes to be held at Elm Hall's demonstration kitchen was also of interest to shoppers interested in nutrition. A 2009-2010 national study of food shoppers uncovered similar results – many shoppers indicated a want for shelf-labels that identify healthy products, in-store product sampling or tasting, and healthy meal ideas and recipes (8).

A "DM Husky App" for mobile phones could be developed to serve as a nutrition guide for users to identify healthy foods at DM, keep track of food budgets, and assist in meal planning and preparation. The application would be personalized based on an individual's age, gender, food preferences and disease conditions. This medium offers several advantages over traditional tools, in that it a) provides an easy and reliable way to access nutrition guidance information – both while planning grocery shopping as well as during their visit to the supermarket; b) personalized information is available based on needs and demands; c) the information can be easily updated depending on changes in the supermarket inventory or individuals' needs. The application would be modeled after Fooducate in which a shopper scans a product, which is found within its directory. This food has a rating based on nutrient profiling systems, including the Nutrient Rich Foods Index (16). The shopper would view this rating to determine whether the food is healthy for them, and would also be able to view products within that same food category that might provide more nutrition and thus a higher rating as based on the Nutrient Rich Foods Index.

Shoppers could use the DM Husky App to plan their meals and food shopping list within their budget, especially important given participants' interest in receiving simple, healthy recipes, and their interest in purchasing inexpensive foods. This feature would suggest affordable alternatives to the food items in respondent's personalized shopping list.

Given survey participants' desire for nutrition information to be delivered via Facebook, it is suggested that DM focus on promoting its Facebook page, which, at the time of publication, had 203 "likes." Only 11 percent of survey-takers indicated they were following DM on Facebook. Facebook could be used to promote nutrition-related events, highlight nutritious foods, and promote price cuts on nutritious foods. Creating and promoting simple, healthy recipes for shoppers on a regular basis via Facebook will also provide shoppers with desired information. A "chef's healthy choice" feature (i.e. a Grab n' Go healthy side dish) on the DM Facebook page might also draw more shoppers to the Grab n' Go department. The postings to the Facebook page must be frequent and regular.

For comparison purposes, the Housing and Food Services Facebook page currently boasts 2,925 "likes," and UW Dining has 1,911. Cross-promotion of one another's Facebook pages could result in additional "likes" for all pages.

Opportunity for Interventions

Stores are a source of nutrition research because they are a key source of nutrition information for shoppers (17). One study demonstrated that grocery stores ranked fourth as the preferred source for nutrition information among consumers, behind food labels, the Internet and healthcare professionals (17). Consumer demand for healthy products is growing, and many manufacturers are coming to understand the importance of offering healthier products (5). Retailers are changing their product offerings, in-store environments and marketing practices to make healthy choices more accessible, affordable and appealing. Examples range from Safeway's in-store dietitian services to Whole Foods' Health Starts Here® initiative.

Grocery stores, the primary locations for food purchases, are receiving increased attention as environments for public health interventions (18). Key results of research in controlled laboratory studies should be adapted and tested in real-world in-store settings (18). Supermarkets can be ideal settings for nutrition interventions, once a retailer understands the needs and wants of its shoppers. DM provides ample opportunity for UW research teams to conduct studies onsite, using the store as a research laboratory for various health analyses using methods such as nutrition interventions. The store could also be used to examine how its core customer base of college students makes food purchases during the duration of their time at university. Trends such as shopping for healthy foods during an extended period of time may be examined. Industry methods for assessing consumer behavior, such as electronic sales data and information from loyalty card holders, can help researchers increase the rigor of field studies (18). Yet few have taken advantage of the supermarket setting for such studies and interventions, and supermarket marketing research has not been familiar or accessible to many public health professionals (18).

A review by Escaron et al. (19) examined the evidence on supermarket interventions to promote healthy food choices. Among 58 articles and 33 interventions reviewed, the most frequently-used strategy was the combination of point-of-purchase and promotion and advertising. Successful interventions drew on social marketing (20) and included components such as taste tests, a focus on purchasing of more healthful items, fruit and vegetable acquisition, and food preparation. A review of interventions in small food stores (21) indicated that nine out of 10 studies demonstrated an increase in the number of purchases of targeted foods. Yet research demonstrates that adjustment of grocery marketing strategies to positively influence consumer choice should also consider altering the placement and promotion of less-healthy foods, rather than merely on increasing access to healthier options (18).

The DM Husky App could serve as a tool for use during nutrition interventions at DM. The app could measure subjects' ability to identify healthy foods, and build confidence and skills in food budgeting, meal planning and preparation. The application would allow for tracking the proportion of respondents using personalized food recommendations vs. food budgeting vs. recipes, how frequently and how often used inside the supermarket vs. outside. This data can also be used to validate objective data on food purchasing behaviors and expenditures.

Limitations

This was a convenience sample of shoppers who had shopped at DM when they were approached. There may be response bias depending on when the survey was administered, however, the survey was administered for a sufficient amount of time on various days of the week, and at various times of day so as to reach as broad of a sample as possible. The survey was conducted largely during the UW's spring break, which may have resulted in a larger number of non-UW-affiliated respondents than might otherwise have been present on campus during the academic term. The survey was lengthy and could have prevented individuals from taking time out of their day to take the survey, yet the incentives attempted to rectify this potential limitation. Lastly, assumptions were that people would be willing to share personal, non-identifying data such as age, income range, and beliefs about food, health and nutrition.

Implications of Research

Historically, marketers targeted consumers outside of the store, leading them to the store but leaving them at the front door (22). With 70 percent of purchase decisions made in-store and 68 percent of in-store purchases made on impulse, marketers have ample opportunity to reach consumers and build brand loyalty through marketing efforts (22). Market research has also traditionally been about collecting information on consumer segments without conducting deeper analysis on individual shopper trends (22). However, this extra information could be important to ensure that the right marketing messages are delivered to the right consumer, at the right time, in the right place, and with an impact that encourages supermarket loyalty. Thus, understanding the consumer base determines the best-laid marketing plans.

This descriptive research provides DM management with its first marketing insights into its shopper base. This data contributes to an understanding of shopper preferences and in particular, how important nutrition information is to DM shoppers when food shopping, which in turn may be applied more broadly. UW Dining was specifically interested in how shoppers define nutrition and how shoppers want nutrition information delivered or made accessible to them in the market. This information will help DM target its consumer base and attempt to increase shoppers' purchase and consumption of healthier foods as compared to unhealthy foods.

The findings will be used to help inform future marketing studies and nutrition interventions within the store. This importance is underscored by The Dietary Guidelines for Americans 2010 which recommend stronger environmental strategies for improving healthy eating, including in-store interventions to positively influence healthy food purchasing behaviors (23). The UW Nutritional Sciences Program submitted a grant to the National Institutes of Health, proposing a nutrition study that will evaluate whether reducing the cost of nutritious foods within DM results in increased purchases of those foods. This pilot marketing study provided background information regarding the characteristics of DM shoppers for this particular grant application.

Acknowledgements

The author wishes to thank Adam Drewnowski, PhD, Committee Chair; Brett Carter, MS, Committee Member; Storm Hodge, Assistant Director, UW Dining; The District Market marketing team; Douglas MacLachlan, Emeritus Professor of Marketing, UW; Nidhi Agrawal, Associate Professor of Marketing, UW; Bayta Maring, Office of Educational Assessment, UW; the UW Graduate Nutritional Sciences Program; Wen Wei Loh, Center for Statistics and the Social Sciences; and the 167 individuals that took the marketing survey.

Appendix 1

Marketing Survey: Sample Questions

Demographics.

- Age
- Student, faculty, staff, other
- Class standing (if student)
- Gender
- Employment status
- Income range
- Do you receive aid from food assistance programs

Shopping Patterns.

- How often do you grocery shop
- Which store is your primary market
- If DM is your main food market, why
- If DM is not your main food market, why not
- Which food market do you feel District Market most closely resembles in terms of quality
- Which food market do you feel District Market most closely resembles in terms of price

Shopping Behavior and Likelihood of Shopping at DM.

- How often do you shop at DM
- On average, how much time do you spend in District Market per shopping trip
- How much money did you spend at District Market today
- Please estimate what you spend on a typical shopping trip to District Market
- Which departments in District Market do you shop in most
- Which of the following best describes your typical buying habits at District Market (buy items to eat immediately, buy items to prepare meals in next few days, buy all my groceries for the week)
- Importance of taste, price, brand name, convenience, nutrition, organic, locally-sourced product in deciding what to purchase
- For a typical visit to District Market, how far out of your way do you travel
- How do you typically travel to District Market

Lifestyle, Cooking, Dietary.

- Describe your place of residence (University residence hall; apartment [on-campus]; apartment [off-campus]; house, condo or townhouse [on-campus]; house, condo or townhouse [off-campus])

- Do you use each of the following at your place of residence (kitchen, refrigerator, freezer, stove, oven, microwave, hot plate)
- Rate your cooking skills on a scale of 1 to 3. (1 = not very skilled, 3 = very skilled)
- How often do you do each of the following: cook or prepare a meal for yourself; eat a meal cooked by someone else; eat at a residence hall cafeteria, The HUB, UW coffee shop, or UW deli; eat at a fast food restaurant; eat at a casual, sit-down restaurant; eat at a fine dining restaurant
- Do you have any dietary restrictions that you adhere to (none, gluten-free, dairy-free, vegan, vegetarian, food allergy)
- Current dietary goals: If you have a current weight goal, how would you best describe it (To lose weight, to gain weight, to maintain current weight, I am not trying to do anything about my weight)
- Defining nutrition (ranking importance of low fat, low calorie, low carbohydrate, low salt, low cholesterol, high fiber, organic, whole foods (not processed), locally-sourced, sustainable, vegetarian, vegan, gluten free, dairy free, other)
- Nutrition assessment (rank): I believe my diet is healthful; eating healthy is important to me; I use nutrition labels to choose healthy foods; I read nutrition labels when I grocery shop; I read nutrition labels when I was shopping at District Market today; I believe that people with cooking

skills have better quality diets than those that do not have cooking skills; I consider myself a bargain food shopper and use coupons whenever possible)

Preferences for Information from DM.

- What nutrition info do you wish DM provided
- What nutrition events do you wish DM held
- If you are interested in receiving nutrition information from DM, how would you like to receive this information
- Do you currently receive promotional emails from DM?
- Have you seen DM advertising on campus?
- Have you visited the DM website?
- Do you follow DM on Facebook?
- Are there items that you wished District Market stocked that it currently does not
- General feedback for DM
- General feedback regarding survey

Appendix 2

Items that Shoppers Would Like to See DM Carry:
Responses fell into more than one category for coding purposes. Responses below are listed in one category only so as to avoid repetition.

Healthier Foods

- More healthy snack options, larger variety of food, through produce is pretty good
- Trail mix

Larger Variety

- Grapes, oranges (more variety of fruit in general)
- Fage 2% plain Greek yogurt, Nancy's cottage cheese, almond butter, dry roasted no salt peanuts, high quality deli turkey (no added sugars, nitrates... just turkey breast, salt, water) perfect foods meal bars, radishes
- Tapioca pearls, more squash variations, coffee Haagen Dazs ice cream, actually stocking the unsalted nuts, jazz apples, opal apples

More Organic Produce

- Kings Hawaiian Bread or Rolls. Small 4 packs. Organic produce, carrots, cauliflower, etc.
- Organic tomatoes, organic onions, organic citrus fruits, organic cilantro, organic peppers, organic bulk items

Fresher / More Produce

- Price please be lower!!! The price there is almost same with whole food but the quality is even worse than save way. And the fruits there should be fresh, like blueberry and strawberry when I bought home and found they are bad....
- Honeycrisp apples, not variety pack Quaker oats instant oatmeal, bagged celery, more lean cuisine options, rice cakes, better quality strawberries, raspberries, yogurt that's not individually packed, mini bagels
- More fruit! And premade pizza dough
- More fresh herbs. More varieties of produce. Smaller packages of things like celery for small apartment refrigerators and people living alone
- Non-organic produce
- More types of mushrooms
- More produce selection and fresh, ready to eat vegetable selection
- More vegetables, have the meat place open later, non-organic eggs, more spices, queso fresco, more vegetarian sandwiches at the deli area (as far as I can tell, there's only one such option), uncooked pizza dough
- More green salads
- Edemame (Japanese green bean)

More Hot Foods

- More hot foods, more beverages and more choices in organic food

- Dumplings
- Cooked vegetables
- More hot/deli options and availability

Beverages

- More coffee based products
- Larger selection of juice
- I wish the District market would provide Pepsi products, but I completely understand that this is simply not reasonable
- Smoothies
- More sugar-free energy drinks; cup sizes above 16oz at Husky Grind
- Coconut milk

Meat and Seafood

- Cooked fish and meat, more fruit, rice cookies
- Fresh meat, shrimp and crab; frozen broccoli
- Overall, I thought the selection was great. I really appreciate the variety of ethnic foods (and Blue C Sushi!) It would great to have a made-to-order sandwich counter at the deli. I would definitely make use of that during my breaks

More Baked Goods

- Fresh cut fruit and a variety of baked goods
- Taiyaki, Takoyaki, more varieties of Hot Pockets, more variety in the kinds of cake they have in the by-slice refrigerator section in the back

More / Different Grains

- Better baguettes that don't go stale in a day
- Rice
- Couscous and Quinoa
- Short grain (sushi) rice

More Gluten-Free

- More Flying Apron items, more GF deli items
- Wheatless in Seattle gluten-free pastries. (Flying Apron is not that great.) More gluten-free deli choices

More Vegetarian / Vegan

- More vegetarian, vegan, and/or organic foods
- I wish there were more vegetarian sandwich options
- More vegan items! Especially vegan, gluten-free. Also; more fresh vegetable/fruit juices that are not Odwalla brand

Supplies / Cookware

- More varieties of personal care items, fat free milk
- Electric burner, mini over, fry pan
- Mouth wash(big size), Pot(!!!) and Pan, Blender
- Toaster, open toaster
- Duct tape

More Dairy Options

- More variety of cheeses; more salmon at deli
- 1 % milk
- It is better to have more brands of milk in the market
- Organic milk
- Better quality cheese, crackers, smaller soda (cans)
- I love the lox cream cheese! it's other places on campus but not here
- Activia yogurt!

Junk Food / Snacks

- Milanos! Like to see healthier snack options alternatives to the wide variety of chips. Gogurt, Staks, baked items, etc. Candy selection is poor, would like to see more Asian candy!
- Green tea mochi
- More varieties of Hot Pockets, drinks, etc.
- Died prunes, banana pudding

- Kit-Kat, fat free ranch and other salad dressings
- Kit Kat bars
- Welches fruit snacks specifically but any would be a start

Appendix 3

General Feedback for DM from Respondents:
Responses fell into more than one category for coding purposes. Responses below are listed in one category only so as to avoid repetition.

Convenient

- District Market is conveniently located but overpriced. When I visit for my lunch hour from work I always spend over $10 for a sandwich and a drink. This is unreasonable and I wish it was more affordable.
- Love how convenient the location is, but some of the prices (particularly those of the premade sandwiches) are a bit over the top. It's great for grabbing soups or some fruit on my way to or from class though.
- It's a great place to dash in and pick up things that I need immediately. Given more time, I prefer shopping elsewhere for more variety and lower price. Overall though, it's a very convenient place for students to pick stuff up on campus.
- It's really convenient, but the prices can be steep.
- It's nice because it's so close, but it is a bit pricier than other options. However, I am lazy and have a food plan I can't eat through and can't reduce any further, so it'll do. It's pretty good quality-wise though.
- Convenient, but slightly pricy.
- Pretty convenient and a bit expensive. Nice service though.
- It is so convenient for students like us who live in resident halls in campus, and l love all vegetables in the market.
- It is such a great thing to have the District Market, compared to the previous options it is a major improvement. Though not an extensive selection (and expensive!) the DM provides me with much needed merchandise.
- It's close to some of the resident halls, but really far from the other resident halls on north campus. Some of the food here is more expensive than the same food in other markets like QFC.
- It is a good place to shop for food every day. However, I would like if it had greater variety of products.
- Very well-kept and convenient for on-campus residents. Has acceptable range of items that are enough for a quick bite or for short term grocery supply until the next supermarket trip.
- Love your store for a quick lunch. Convenient because I work nearby.
- It's great for when I need to pick up something for lunch or when I need to grab something I forgot on my regular grocery run.
- I like the limited organic produce selection you offer but I would spend more money if more selection was offered (and would appreciate the convenience of being able to do more of my shopping close to school and work).
- Generally, it is very convenient and stores pretty fresh and healthy items. However, the price is very expensive that if I am not required to have dining account, I would not come to District Market.
- Great concept. Very convenient for picking up lunches and supplements to my typical brown-bag lunches.
- It’s a good place to shop as UW housing residence, but price is quite high...
- Very good, close by, nice service.
- I do like the convenience of grabbing lunch while working or an item I need to make for dinner on my way home in the evening.
- Thank you for being here. I like having this option so close to a bus stop.

Expensive

- Fairly expensive, but convenient.
- It's good as a whole, but somehow more expensive than Safeway or QFC. Food is sometimes close to expiration dates.
- Too expensive. Need more variety of food for the price. Try changing what's in stock!
- It's ok..but not good enough, I wouldn't buy things there without dining plan, things there are too expensive and I am poor!
- Goods are too expensive.
- Good. Lower price then will be better.
- The prices are too high. I would never shop there if I did not have a dining account.
- Cheaper please, some prices(milk) are ridiculously high.
- Make prices lower.
- Please don't overprice stuff so much.
- Good store but too expensive.
- I personally feel the prices are a bit steep.
- Reduce price and store more variety of products.
- It is a bit too expensive, I only really go here because I have a dining plan but would not pay these prices otherwise.
- Cheaper please! And nutrition facts on the labels of the deli food items.
- Good all around. Just a bit expensive on some things.
- Beverages are generally expensive.
- Very pricey but good selection.
- Lower your produce item prices and increase your candy prices.

Not Enough Variety

- I like the limited organic produce selection you offer but I would spend more money if more selection was offered (and would appreciate the convenience of being able to do more of my shopping close to school and work).
- I wish there could be more choices for hot meals.
- More selection would really be nice. If I could get all my shopping done on campus, I would much rather do that than walk to QFC or Safeway.
- They run out of caprese sandwiches often.

Great Variety

- Great store, decent selection, but sometimes the pricing is too high.
- Pretty nice and have enough variety, but shelves look empty even though there are items stocked. Usage of the space is not very welcoming.

More/Different Labeling, Signage, Displays

- Nutrition and ingredient information on foods prepared by the deli, as well as information on if packaging is compostable/ recyclable.
- Love your pearl red onions...perfect for cooking for oneself; you don't have a half onion spoiling! The store needs a neon OPEN sign on both north and east sides of building. Some large pots with colored foliage and flowers would be classy.
- Beverages seem to be a little warm without a sealed cooler.
- Label your deli and pre-made food with ingredients and other nutritional information.
- Put correct prices on products: very frequently there is either no price or I go to the cash register and get a charged a completely different price (this happens extremely frequently, and several tens of percents difference).
- Food is also not consistently stocked (e.g., Sabra hummus is only stocked about 50% of the time).
- Ingredients on grab and go items would be nice.
- Seems to be stocked for students. It's good to see cooking ingredients.

Good Produce

- I like the limited organic produce selection you offer but I would spend more money if more selection was offered (and would appreciate the convenience of being able to do more of my shopping close to school and work).
- It's a pretty nice resource, especially for produce, but the prices are off putting.
- So awesome, very glad to have it as a resource for fresh fruit and vegetables.

• Fruits are awesome! • Overall I really like it, keep prices on organic produce low and keep having organic produce.
Need/Want Healthier Foods • I think that having a healthier food section would be really helpful so people can have the option and feel that although they are eating on campus they are making the healthy choice, especially when the ability to cook food via oven and/or stove and/or microwave is not available. Also, prices feel slightly high to me, seeing as the majority of those who shop at the market are UW students and the money they spend on their Husky Card is not only being used for food and they would like to save it as much as possible.
DM Cleanliness & Service • Very clean and organized, appealing layout. Easy to find items. I just came in to look around and see what is here, but didn't find anything I need right now. (Already did my grocery shopping for the week.) I'm sure I will be back. Lower prices would be awesome. • Very well-kept and convenient for on-campus residents. Has acceptable range of items that are enough for a quick bite or for short term grocery supply until the next supermarket trip. • I love the District Market, it's very clean, the staff is helpful, and the food is very good along with being well organized. They're doing a great job. • Nice, clean store that seems to have quality food. • This place is great. I appreciate the organic goods, pricing and cleanliness of the store. I still can't believe how cheap sea scallops are there. • The staff is friendly and helpful, items are easy to find, and it's well-set up. • Pleasant staff, nice environment, excellent choice of food items, fast checkout. • I like the service and products in the District Market. It brings me convenience that I usually come here for food and daily needs. • Check out service slow during lunch hours.
Quality • For a school run market, it's very nice. Also, maybe if they compared their prices to outside stores it would encourage more students to shop there. • I love you guys! • Thankful for what we have in the market! It's such a nice alternative to typical cafeteria foods, and it provides a nice way for me to cook healthy foods. • Nice store. • It is nice place to sit down and drink coffee or shop. • I like the deli items, grab and go and sushi.
Other • When I was in the store I noticed that the potatoes were in the window in direct sunlight. Direct sunlight makes the potatoes turn green. • The time I bumped into the surveyor was my first time at DM. • Less types of fruit. • Provide garbage cans outside entrances. There is absolutely nowhere to place used wrappers of unwanted receipts. • I called up the market this week using the number I found on the UW eateries website and got a message line. It did not identify the store. Instead it identified two women and said I'd reached their office. A recording with hours was all I needed.

References

1. C. Nie, L. Zepeda. Lifestyle segmentation of US food shoppers to examine organic and local food Consumption. Appetite. 2011;57:28–37.

2. United States Department of Health & Human Services, Office of Disease Prevention and Health Promotion, Food and Drug Administration. Health and Diet Survey: Dietary Guidelines Supplement – Report of Findings (2004 & 2005). 2008. http://www.fda.gov/Food/FoodScienceResearch/ConsumerBehaviorResearch/ucm080331.htm (Accessed August 14, 2013).

3. Drichoutis AC, Lazaridis P, Nayga Jr, RM. An assessment of product class involvement in food-purchasing behavior. European Journal of Marketing. 2007; Vol. 41(7): 888-914.

4. Vandenburg K. New UW market varies students' options. The Daily. September 23, 2013. http://dailyuw.com/archive/2012/09/23/news/new-uw-market-varies-students-options#.Ug-sWX_tySq (Accessed August 17, 2013).

5. Robert Wood Johnson Foundation, The Food Trust. Harnessing the power of supermarkets to help reverse childhood obesity. http://thefoodtrust.org/uploads/media_items/harnessingthepowerofsupermarkets.original.pdf (Accessed August 17, 2013).

6. Food Marketing Institute. Nutrition. http://www.fmi.org/docs/facts-figures/nutrition.pdf?sfvrsn=2. (Accessed August 21, 2013)

7. Sorensen H. Inside the Mind of the Shopper: The Science of Retailing. Upper Saddle River, New Jersey: Pearson Prentice Hall, 2009.

8. Food Marketing Institute. Helping shoppers overcome the barriers to choosing healthful foods. 2010. http://info.catalinamarketing.com/files/133/Healthful_Foods_Study.pdf (Accessed August 21, 2013).

9. Perry L. New Market to Bring Natural Food to the Ave. The Daily. July 2, 2013. www.dailyuw.com/archive/2013/07/02/news/new-market-bring-natural-food-ave (Accessed August 14, 2013).

10. Chavez J. Kroger debuts kiosk concept at area college campus. The Blade. February 15, 2012. http://www.toledoblade.com/Retail/2012/02/15/Kroger-debuts-concept-at-area-college-campus.html (Accessed August 17, 2013).

11. Horacek TM, Erdman MB, Reznar MM, et al. Evaluation of the food store environment on and near the campus of 15 postsecondary institutions. Am J Health Promot. 2013;27(4):e81-90.

12. Food Marketing Institute. Shopping for Health 2013. http://www.fmi.org/industry-topics/health-wellness/shopping-for-health-2013 (Accessed July 8, 2013).

13. Gittelsohn J, Song HJ, Suratkar S, Kumar MB, Henry EG, Sharma S, Mattingly M, Anliker JA. Health Educ Behav. 2010;37(3):390-402.

14. Berning JP, Chouinard HH, Manning KC et al. Identifying consumer preferences for nutrition information on grocery store shelf labels. Food Policy. 2010;(35):429-436.

15. Robert Wood Johnson Foundation. Impact of Menu Labeling on Consumer Behavior: A 2008-2012 Update. 2013. http://www.rwjf.org/content/dam/farm/reports/reports/2013/rwjf406357 (Accessed August 17, 2013).

16. Drewnowski A. The Nutrient Rich Foods Index helps to identify healthy, affordable foods. Am J Clin Nutr. 2010;91(4):1095S-101S.

17. American Heart Association April 2009 Quantitative Study. http://www.heart.org/HEARTORG/ (Accessed December 10, 2012).

18. Glanz K, Bader MD, Iyer S. Retail grocery store marketing strategies and obesity: an integrative review. Am J Prev Med. 2012;42(5):503–512.

19. Escaron AL, Meinen AM, Nitzke SA, Martinez-Donate AP. Supermarket and Grocery Store-Based Interventions to Promote Healthful Food Choices and Eating Practices: A Systematic Review. Prev Chronic Dis. 2013;10:120-156.

20. Gittelsohn J, Suratkar S, Song HJ, Sacher S, Rajan R, Rasooly IR, et al. Process evaluation of Baltimore healthy stores: a pilot health intervention program with supermarkets and corner stores in Baltimore city. Health Promot Pract. 2010;11(5):723–32.

21. Gittelsohn J, Rowan M, Gadhoke P. Interventions in small food stores to change the food environment, improve diet, and reduce risk of chronic disease. Prev Chronic Dis. 2012;9:E59.

22. Grocery Manufacturers of America. Shopper Marketing: Capturing a Shopper's Mind, Heart and Wallet. http://www.gmaonline.org/downloads/research-and-reports/shoppermarketing.pdf (Accessed November 28, 2012).

23. US Department of Agriculture and US Department of Health and Human Services. Dietary guidelines for Americans, 2010. Washington (DC): US Government Printing Office; 2010.