

Summary

This case examines the use of market research analysis to evaluate the feasibility of research and development costs of a new restaurant sanitation product, DineSafe. The company developing the product, 3SLV, saw a public need and interest given the increasing number of disease outbreaks and public concern regarding sanitation and cleanliness at all locations, including restaurants. 3SLV therefore, began development of a heretofore unknown product, DineSafe: a clear, plastic-like antimicrobial cover for high-touch items in restaurants which have shown, in laboratory and field tests, to harbor high numbers of bacteria. The target products for DineSafe include salt, pepper and sugar shakers, menus, check covers, and bench seats.

3SLV joined with a research organization to evaluate and analyze the potential market, segments, and price tolerance for DineSafe. The research organization conducted market research and provided 3SLV with a Management Summary, Full Report, and Recommendations for the decision to continue research and development of the DineSafe product.

Theoretical Background

Ottenbacher and Harrington (2009) developed a theoretical framework for product innovation of quick-service restaurant chains, which is applicable to other innovation processes in the restaurant space. The authors describe four Screening stages, which allow a product innovation to progress to the next stage of development:

- Financial and operational considerations;
- Consumer liking and purchase intention assessment;
- Product manufacturing availability; and
- Competitive and brand considerations.

3SLV had already conducted Stage 1 before contacting the research organization. Stage 1 included evaluating the financial and operational aspects of the project including the manufacturing and supply chain considerations and the forecasted cash flow and return on investment. Jointly, 3SLV and the research organization evaluated Stage 2 criteria, which focused on consumer liking and purchase intention assessment. Once Stage 2 criteria is satisfied and adequate consumer interest and willingness to pay is established by this research, 3SLV can justifiably move to the creation of prototypes and possibly the proposal process for investors and manufacturers.

This case seeks to incorporate this theoretical framework with market research analysis to inform 3SLV's decision to proceed with research and development of DineSafe by evaluating the report. This case study provides an opportunity for students to think critically about the value of analytics in business decision-making, and apply those analytics in recommending next actions for 3SLV.

Target Audience

This case study targets graduate level hospitality students with a thorough understanding of marketing and basic statistics. However, it can also be administered to undergraduate students at an advanced level of marketing and statistical understanding with little to no alteration. The Assessment section of this teaching note will describe checks for understanding in the graduate classroom and suggested assessments for the undergraduate classroom.

Teaching Objectives

By the conclusion of this case study, activities and assessments, the student should be able to:

- Describe at least three factors needed to make a recommendation to 3SLV in continuing product development.
- Evaluate the existing data analysis to determine if there is adequate information for 3SLV to make the decision in continuing product development.
- Develop your recommendation for 3SLV to move forward or not in developing DineSafe.
- Evaluate the risks and rewards for 3SLV in moving the product development forward.

Instruction Plan

This lesson will require approximately four hours for a full exploration of the concepts and themes. Ideally, the four hours will be separated into two to four separate sessions, with time in between for students to read and ruminate, thereby coming into further classes well-prepared for deeper discussion. Before the first lesson period, the students should read the case study, but not the appendices. Pre-reading of the appendices may bias the initial discussion.

Part 1: First Hour

The instructor will first lead a discussion brainstorming the following questions and writing each suggestion on the whiteboard:

- What are the most prominent news items you recall regarding disease outbreaks, domestic or foreign?
- What are the most prominent news items you are familiar with regarding foodborne disease outbreaks?

Without writing the answers on the whiteboard, the instructor will ask the class if they are concerned about sanitation and germs when visiting and eating at restaurants, particularly quick service restaurants, such as fast food restaurants. Then, the instructor will give a brief summary of the case study, which the students have already read. As a note: this case study is not focused on sanitation

and foodborne illness, but on including data analysis in management decision-making. However, the discussion of sanitation and foodborne illness sets the stage for the motivation and business need of 3SLV. Next, the instructor will ask the following questions of the class, and write all answers on the whiteboard:

- If you were a part of the 3SLV decision-making team, what information would you want before making your decision to proceed with the research and development of DineSafe?
- How might 3SLV go about finding these answers?
- What may be the cost implications of each method of finding these answers?

Then the instructor will distribute Appendix 1: Management Summary and give the students 10-15 minutes to read the summary. If the course is broken up into one hour segments, the students can take the Appendix 1 home to read before the next class period.

Part 2: Second Hour

During the second hour, the students are put into pairs or small groups of 3 or 4, based on convenience of their classroom seating arrangement. The instructor will direct the students to keep detailed notes of the second through fourth hours' discussions and group work for the assessment assignment. These notes will be the foundation of assessment for each pair or group. The instructor will ask the students to discuss the following questions in their pair or group:

- Based on the class's answer to the question, what information would you want before making your decision to proceed with the research and development of DineSafe, do you feel adequately informed by the Management Summary?
- What information that you think is important is missing, if any?
- How does that missing information, if applicable, affect your ability to make a well-informed business decision?
- Do you feel comfortable making a confident recommendation based on the information only in the Management Summary? Why or why not?

Choose 4 to 5 groups to present their ideas to the rest of the class, taking up approximately 20 minutes. Finally, distribute copies of Appendix 2: Full Report. Due to the length of the report, reading the report will take the remainder of this hour of class. Alternately, if the course is broken up into one hour segments, the students can take the Appendix 2 home to read before the next class period.

Part 3: Third Hour

During the third hour, the students continue working with their pairs or small groups from the second hour's lesson. The instructor will ask the students to discuss the following questions in their pair or group:

- What information is present in the Appendix 2: Full Report that was missing in the Appendix 1: Management Summary, if any?
- If there was information missing, do you think it is integral to

the decision to continue expenditures on the research and development of DineSafe?

- Based on Appendix 2: Full Report, develop your recommendation for 3SLV to move forward to not in developing the DineSafe product line.

The instructor will then ask for four teams to volunteer to share their recommendations; two each of recommending continuation of development and of halting development. The instructor, after having all four teams speak, ask for input from the remaining student pairs or groups. Finally, distribute copies of Appendix 3: Recommendations to the students. Give the students the remainder of the hour to read the Recommendations. Alternately, if the course is broken up into one hour segments, the students can take Appendix 3 home to read before the next class period.

Part 4: Fourth Hour

During the fourth and final hour of class, the students continue working with their pairs or small groups from the previous lessons. The instructor will ask the students to discuss the following questions in their pair or group:

- Analyze and critique the recommendations provided in Appendix 3.
- Compare and contrast the recommendations in Appendix 3 and your recommendations from Part 3.
- Develop your final recommendations for 3SLV regarding the continuation of development of the DineSafe product line.

The instructor will have one group present their final recommendations for 3SLV to the class. The instructor will then ask a second group to present which has recommendations differing from the first group. The students will continue once more working with their group to discuss the following questions:

- Given your recommendations for 3SLV, what are the risks moving forward with the development of the DineSafe product line?
- Given your recommendations for 3SLV, what are the rewards moving forward with the development of the DineSafe product line?
- Analyze the value of the market research provided in helping 3SLV reach a justifiable decision on continuing development of DineSafe.

Assessment

Students will be assigned a 5-7 page report based on their pair or group's decision making process; leading up to their final recommendations and justification, using the data from the full report as evidence for their decision. The report should include the following sections:

- Case summary;
- Final decision recommendation;
- Provide evidence from the Appendix 1: Full Report to justify the decision; and

- Compare and/or contrast with the Appendix 3: Recommendations.

Analysis of the Teaching Objectives

- Describe at least three factors you would need to know to make a recommendation to 3SLV in continuing product development.
 - At least three factors should be discussed, including but by no means limited to desirable market segment, size of desired market segment, consumer interest in the product, consumer belief in the efficacy of the product, and consumer willingness to pay for the product.
- Evaluate the existing data analysis to determine if there is adequate information for 3SLV to make the decision in continuing product development.
 - Answers may vary. Any well-considered, substantial, justified answer is appropriate.
- Develop your recommendation for 3SLV to move forward or not in developing DineSafe.
 - Answers may vary. Any well-considered, substantial, justified answer is appropriate.
- Evaluate the risks and rewards for 3SLV in moving the product development forward.
 - Answers may vary.
 - Suggested answers for risks include first mover disadvantage, lack of regulation requiring compliance in restaurants to include a product such as DineSafe, and lack of buy-in from restaurants themselves.
 - Suggested answers for rewards include first mover advantage, market leader status, name and brand recognition, and introduction of a new product to the market.

References

Ottenbacher, M., & Harrington, R. (2009). The product innovation process of quick-service restaurant chains. *International Journal of Contemporary Hospitality Management*, 21(5): 523-541.

Appendix 1

Dinesafe Market Research Management Summary

This section provides a top-line summary of the results of the 2014 DineSafe survey.

1. The overall purpose of the study was to gain an understanding of the restaurant guest's interest and willingness to pay for Dine-Safe certified restaurant service:
 - The guest's experience of cleanliness in restaurants,
 - The guest's belief regarding likelihood of getting sick from items at restaurants,
 - The guest's belief that DineSafe products can make restaurant dining safer,
 - The price the guest is willing to pay to dine at a DineSafe certified restaurant.
2. A survey questionnaire was sent to restaurant consumers in October, 2014, using Qualtrics Panel Data. An incentive of \$0.75 per survey taken was offered and 854 respondents clicked on the survey link. The total number of started surveys was 556, however, 15 surveys were eliminated from the study due to being incomplete. The final sample size was 541, giving a response rate of 63.3%. (p. 6)
3. The mean age range of the respondents is 45-54 years, with a median age range of 55-64 years. The mean income range of the all participants is \$75,000 to \$99,999. Approximately 35% of respondents had income below \$50,000; about 41% of respondents had income between \$50,000 and \$100,000; and roughly 22% of respondents had income above \$100,000. (p. 8)
4. 56.2% of respondents are female (n=304), while 43.8% of the respondents are male (n=237). About 60% of respondents are married, 81% white, and 42% have children living at home. Approximately 55% of respondents are college graduates. (p. 8)
5. The most common occupations represented in the survey respondents were management (16.1%), professional (12.4%), homemaker (14.2%) and administrative support (11.8%). (p. 8)
6. Respondents indicate that, on average, they ate out 14 times total in the last three months; an average of twice for breakfast, 4 times for lunch, and 6 times for dinner. For the respondents most recent meal eaten out of the home, 7.2% ate breakfast out, 29.6% ate lunch out, and 61.6% ate dinner out. Men ate breakfast out over twice as often and lunches about 30% more often than women. (p. 9)
7. Responses to the question "How clean did you feel each item was in the restaurant at which you last dined" reveals that on a total sample basis, restaurant guests were very satisfied with the cleanliness of their most recently-patronized restaurant (all means above 6 on a 7-point scale). (p. 11)
8. Though there were significant differences on the overall perceptions of cleanliness between the respondents who have children (N= 229) and do not have children (N= 312) living at home, both groups still rated the cleanliness of the restaurant highly (above 6 on the 7-point scale). (p. 11)
9. Despite this overall perception of cleanliness, over half of the respondents believe they can become sick from exposure to the doorhandles (59.6%, mean=5.04), the bathroom facilities (62.2%, mean=5.13), the menu (51.4%, mean=4.64), and the money received as change (51.2%, mean=4.86).
10. There were significant differences between men and women, respectively, regarding how likely they are to become sick from the following items:
 - Table (3.79, 4.31)
 - Condiment dispensers (4.11, 4.66)
 - Door handles (4.73, 5.27)
 - Bathroom facilities (4.86, 5.34)
 - Chairs (4.03, 4.51)
 - Menu (4.34, 4.87)
 - Folder that covers the check (4.26, 4.65)
 - Pen used to sign the check (4.43, 4.87)
 - Money received as change (4.64, 5.03). (p. 13)
11. There were significant differences between respondents with children and without children living at home, respectively, regarding the cleanliness of the following items:
 - Table (6.15, 6.33)
 - Condiment dispensers (6.07, 6.32)
 - Bathroom (6.27, 6.62). (p. 11)
12. There were significant differences between respondents with children living at home and without children living at home, respectively, regarding the likelihood of getting sick from the following items:
 - Table (4.41, 3.84)
 - Condiment dispenser (4.76, 4.17)
 - Utensils (4.72, 4.23)
 - Glassware (4.83, 4.21)
 - Door handles (5.31, 4.84)
 - Bathroom facilities (5.43, 4.91)
 - Chairs at the table (4.72, 3.99)
 - Menu (5.01, 4.37)
 - Folder that covers the check (4.85, 4.21)
 - Check (4.23, 3.62)
 - Pen for signing the check (4.97, 4.47). (p. 13)

Dinesafe Market Research Management Summary

13. The majority of the respondents (73.9%) believe the Dine-Safe product will be effective in preventing the spreading of disease, while only 6% believe the product will be “not at all” effective in preventing the spread of diseases. There were no significant differences in this result between men and women, or respondents with or without children living at home. (p. 16)
14. Respondents with children were significantly more concerned than respondents without children living at home, respectively, about the following:
 - Health and sanitation of the restaurant (4.90, 4.21)
 - Riskiness of dining out (4.85, 4.29)
 - Health and sanitation of the restaurant (5.35, 4.81)
 - Environmental health risks (5.56, 5.12). (p. 15)
15. There were significant differences between respondents with children and without children living at home, respectively, concerning:
 - The desire of respondents with children living at home to choose a DineSafe restaurant over a non-certified restaurant (5.90, 5.39)
 - Their willingness to pay more for the DineSafe service (4.73, 4.20)
 - Assert that their friends are more likely to choose a Dine-Safe certified restaurant (5.81, 5.42)
 - Believe a restaurant marketed as DineSafe would offer good service value (5.90, 5.44). (p. 18)
16. Interestingly, respondents without children living at home are willing to pay more to go to a DineSafe certified restaurant, -\$0.39, than respondents with children living at home, -\$1.65. (p. 22 and 27)
17. Based on the total sample, the median ideal per plate average per adult, excluding alcohol is \$16.00, equal to the price of the suggested average per plate cost. 37.9% of respondents say that the ideal price for the DineSafe service is above the \$16 average, with 9.2% identifying an additional \$1.00 as the ideal price, 11% identified an additional \$2 as the ideal price, and 8% identified an additional \$4 as the ideal price per plate. (p. 20 and 27)

Recommendations are presented next. Following the recommendation section is the main body of the report.

Full Report

Introduction

This paper presents the findings of a research study conducted with restaurant consumers. The overall purpose of the study was to gain an understanding of restaurant customers' attitudes and opinions on the following issues:

- The guest's experience of cleanliness in restaurants,
- The guest's belief regarding likelihood of getting sick from items at restaurants,
- The guest's belief that DineSafe products can make restaurant dining safer
- The price the guest is willing to pay to dine at a DineSafe certified restaurant.

Methodology

Questionnaire

The paper survey consisted of 59 questions, which were divided into 8 sections.

The first section consisted of 4 questions relating to the respondent's dining-out habits. These questions were developed based upon similar surveys regarding cleanliness of hotels.

The second section of the questionnaire consisted of 12 questions relating to the respondents' perceptions of cleanliness in their most-recently visited restaurant. The characteristics were rated on a Likert type scale, with 1="very unclean" to 7="very clean."

The third section of the survey included 12 questions regarding the respondents' perceptions of likelihood of getting sick from items at the restaurant. The characteristics were rated on a Likert type scale, with 1="very unlikely" to 7="very likely."

The fourth section contained nine questions which asked about respondent's perceptions of risk factors related to health and sanitation in general. The characteristics were rated on a Likert type scale, with 1="strongly disagree" to 7="strongly agree."

The fifth section began with a brief description of the DineSafe product and then evaluated respondents' perceptions of effectiveness of the DineSafe product in reducing the spread of disease, using one question. The characteristics were rated on a Likert type scale, with 1="very ineffective" to 7="extremely effective."

The sixth section included five questions and evaluated the respondents' interest in going to a DineSafe certified restaurant and their beliefs that their friends may be interested in eating at a DineSafe certified restaurant. The characteristics were rated on a Likert type scale, with 1="very unlikely" to 7="very likely."

The seventh section evaluated the respondent's willingness to pay for DineSafe certified service with four questions. These questions were answered using text entry.

The final section asked for demographic information. The demographic information included gender, marriage status, number and age of children living at home, education level, employment status, annual household income, profession, age, and ethnicity.

Data Collection

The survey was sent to all adults in Qualtrics Panel Samples. The surveys were sent via Qualtrics Panel Data on October 28, 2014. The surveys were accompanied by an email invitation that offered a \$0.75 incentive to complete the survey. 854 members of the Qualtrics Panel clicked on the survey. A total of 541 useable surveys were completed when data collection ended in October, 2014. The effective net response rate was 63.3% (541/854).

Subgroups Analyzed

In order to gather more meaningful insight into the data, the data was analyzed not only by total sample, but also by logical subgroups. The subgroups are traditionally called banner points. The four subgroups/banner points were determined by demographic questions. The demographic questions were gender (male, female), marriage status (married, single/ never married, and other), children living at home (yes, no), education level (some high school, high school graduate, some college, college graduate, some post-graduate work, post graduate), employment status (full-time, part-time, not at all, retired), income (under \$50,000, \$50,000-\$99,000, \$100,000-\$149,000, and \$150,000+), profession type (professional, executive, managerial, administrative support, technical support, sales, service, homemaker, entertainment, sports, farming, forestry and fishing, trade, production and craft, machine operator, transportation, handler, helper and laborer, student), age, and ethnicity (Asian American, African American, Filipino, Mexican American, Pacific Islander, Other Hispanic, White).

Statistical Note

Unless otherwise noted, the 95% confidence level was used to determine all statistical differences. Statistical differences suggest that the numbers are different because of inherent differences within the group under study and not because of random variation. Specific notations in this report which detail significance are as follows:

Capital letter = significantly different than the number listed under the identified column at the 95% confidence interval.

For example, the 95% level of confidence with a sample size of 541 means that the confidence interval ranges from +/- 4.2% from the

number stated. Thus, if 74% said “yes” to a question, we could be sure that if we repeated this study 100 times, 95 times out of 100 the number of respondents saying “yes” would range anywhere from 69.8% to 78.2%. As the sample size gets smaller, this interval varies. For instance, with a sample size of 100, the confidence interval is +/- 9.8%.

Top Box versus Top Two Box

Top box score refers to the percentage of people giving a response rating the highest rating possible, while top two box score refers to the percentage of people giving a response rating of either the highest rating possible or the second highest rating possible. For example, the top box on a question with a scale of 1 “poor” to 7 “excellent” would be percentage giving a rating of 7. The top two would be the percentage giving a rating of 6 or 7.

New product development researchers across multiple industries focus on top box scores, as they have shown to be the most predictive of future success of new products. In research on satisfaction and customer loyalty, it has been found across multiple industries that only those who provide top box ratings on satisfaction questions have the opportunity to become loyal guests. For these reasons, top box scores will be discussed in this report.

Data Analysis and Results

Respondent Profile

Demographics

Table 1 presents the demographic characteristics of the respondents. As can be seen, more women completed the survey than men (56.2% females and 43.8% males).

The mean age range of the respondents is 45-54 years. The mean income range of the all participants is \$75,000 to \$99,999. More married people completed the survey compared to single/ never married and other (60.3% married, 27.9% single/ never married, 11.8% other). The majority of respondents do not have children living at home (57.7% do not have children living at home, 42.3% have children living at home).

The respondents, as a group were largely white (81.5%), followed in percentage by African-American (6.5%), Asian-American (5.7%), Mexican-American (1.8%), other Hispanic (2%), Filipino (0.7%), and Pacific-Islander (0.2%).

In terms of employment, just under one-half (49.2%) were employed full-time, while 14.2% were employed part-time, 17.4% are not employed, and 19.2 are retired. The occupations most represented in the sample were managerial (16.1%), homemaker (14.2%), professional (12.4%), administrative support (11.8%), and service (8.5%).

Table 1

Demographic Information

Gender (n = 541)		Marriage status (n = 541)	
Male	43.8%	Married	60.3%
Female	56.2	Single/ never married	27.9
		Other	11.8
Age (groups) (n = 214)		Children living at home (n = 541)	
18-24 years	3.0%	Yes	42.3%
25-34 years	17.7	No	57.7
35-44 years	19.8		
45-54 years	22.6	Level of school completed (n = 541)	
55-64 years	24.6	Some high school or less	1.1%
65+ years	12.4	High school graduate	14.6
		Some college or technical school	28.8
		College graduate	33.3
		Some post-graduate work	6.7
		Post graduate	15.5
Employment Status (n = 215)		Total annual household income (n = 541)	
Full-time	49.2%	> \$50,000	35.1%
Part-time	14.2	\$50,000 to < \$100,000	42.7
Not at all	17.4	\$100,000 to <\$150,000	12.8
Retired	19.2	> \$150,000	11.6
Ethnicity (n = 541)		Best represents your profession (n = 541)	
Asian-American	5.7%	Professional	12.4%
African-American	6.5	Executive	7.2
Filipino	0.7	Managerial	16.1
Mexican-American	1.8	Administrative support	11.8
Pacific Islander	0.2	Technical support	5.2
Other Hispanic	2.0	Sales	6.1
White	81.5	Service	8.5
		Homemaker	14.2
		Entertainment	0.9
		Sports	0.7
		Farming, forestry and fishing	0.4
		Trade, production and craft	3.9
		Machine operator	1.7
		Transportation	3.1
		Handler, helper, laborer	3.7
		Student	4.1

n equals number responding to given question

This ends the respondent profile discussion. The next section examines the education experience.

Dining frequency

How Often Did Respondents Eat Out in the Previous Three Months

Table 2 reveals responses to the question “In the last 3 months, how many times have you eaten a meal outside the home in any type of restaurant for any meal occasion?” As shown, on a total sample basis, only 29.3% report they have eaten out 1 to 5 times in the previous 3 months, 25.9% report they have eaten out 6 to 10 times in the previous three months, 17.4% state that they have eaten out 11 to 15 times, 7.2% report they have eaten out 16 to 20 times, 5.2% of respondents state they have eaten out 21 to 25 times in the past three months, while 4% state that they have eaten out 26 to 30 times in the previous three months. The mean range response to how often the respondents have eaten out in the previous three months was 6 to 10 times.

What Was the Meal Occasion for the Last Restaurant You Visited?

Table 3 answers the question “What was the meal occasion for the last restaurant you visited?” As shown, the total sample reports that 7% most recently ate away from home for breakfast, 28.8% for lunch,

Table 2

How Often Did Respondents Eat Out in the Previous Three Months?

N= 495	Frequency	Percent
1-5 times	163	29.3%
6-10	144	25.9
11-15	97	17.4
16-20	40	7.2
21-25	29	5.2
26-30	22	4.0

Table 3

What was the meal occasion for the last restaurant you visited?

N= 541	Frequency	Percent
Breakfast	39	7%
Lunch	160	28.8
Dinner	333	59.9
Other	9	1.6

Table 4

Significant differences between men and women

Meal event		Women (A)	Men (B)
Breakfast	Mean	1.7B	2.5A
Lunch	Mean	3.6B	4.8A

Capital letter indicates significant differences between group means at the 95% confidence interval.

59.9% for dinner, and 1.6% for other. The mean score indicates that the mean ‘meal’ which was most recently eaten out was lunch.

Significant Differences between Men and Women

There were significant differences between men and women in their frequency of eating breakfast and lunch out.

Restaurant cleanliness

The next question addressed the respondents’ perceptions of cleanliness at the last restaurant in which they dined. The respondents were asked how clean they perceived the following items at their most recent restaurant visit: the table, the condiment dispensers, the utensils, the glassware, the door handles, the bathroom facilities, the chairs at the table, the menu, the folder covering the check, the check itself, the pen used to sign the check and the money received as change. The majority of respondents thought the items in question were remarkably clean. The top 2 box scores were very high: table (81.2%), condiment dispensers (68.9%), utensils (79.8%), glassware (77.8%), door handles (51.6%), bathroom facilities (48.6%), chairs at the table (72.5%), menu (69.7%), folder covering the check (62.4%), the check itself (71.7%), the pen used to sign the check (48.6%), and the money received as change (39.2%).

There were significant differences respondents with children living at home and without children living at home. These differences occurred regarding the cleanliness of the table, condiment dispensers, and the bathroom facilities. Though both groups had a high rating of cleanliness for these items, respondents without children living at home rated the table, condiment dispensers and bathroom facilities as cleaner than the respondents with children living at home.

There were no other significant group differences.

This ends the section regarding the cleanliness of items in the respondents’ previous dining experience. The next section studies respondents’ perceptions of likelihood of getting sick from items in a restaurant.

Likelihood of getting sick

Respondents were asked to respond to a series of questions evaluating their perceptions of likelihood of becoming sick from exposure to certain items when dining in a casual dining restaurant.

Table 5

How clean did you feel each item was in the restaurant

Total N= 541	Top box Very clean	Top 2 Box	Mean Total Sample	Women (A)	Men (B)	Children living at home (C)	No children living at home (D)
Table	47.7%	81.2	6.26	6.24	6.27	6.15 D	6.33 C
Condiment dispensers	38.6%	68.9	6.22	6.20	6.23	6.07 D	6.32 C
Utensils	50.8%	79.8	6.32	6.35	6.27	6.26	6.36
Glassware	49.9%	77.8	6.36	6.38	6.34	6.27	6.43
Door handles	29.2%	51.6	6.23	6.29	6.16	6.13	6.31
Bathroom facilities	26.8%	48.6	6.47	6.45	6.49	6.27 D	6.62 C
Chairs at the table	41.6%	72.5	6.16	6.12	6.22	6.07	6.23
Menu	42.9%	69.7	6.21	6.25	6.17	6.13	6.28
Folder that covers the check	38.6%	62.4	6.38	6.42	6.32	6.26	6.46
Check	48.4%	71.7	6.51	6.55	6.46	6.47	6.57
Pen used to sign check	30.6%	48.6	6.61	6.65	6.56	6.57	6.64
Money used as change	24.6%	39.2	6.44	6.52	6.34	6.31	6.54

Capital letter indicates significant differences between group means at the 95% confidence interval.

To measure respondents’ attitude about likelihood of getting sick from contact items in a casual dining restaurant, respondents were asked “What is the likeliness of you getting sick from coming into contact with each of the following items in a casual dining restaurant: (1) table, (2) condiment dispensers, (3) utensils, (4) glassware, (5) door handles, (6) bathroom facilities, (7) chairs at table, (8) menu, (9) folder that covers the check, (10) check, (11) pen used to sign the check, and (12) money you received as change.

Interestingly, though respondents mostly feel that the restaurants they patronize are quite clean, they are mixed in their response to their likelihood of getting sick from exposure to these same items in a casual service restaurant. The top 2 box responses indicate how likely the respondents are to become sick from exposure to these items: table (25.5%), condiment dispensers (31.2%), utensils (36.0%), glassware (36.8%), door handles (46.5%), bathroom facilities (44.5%), chairs at the table (27.9%), menu (34.8%), folder covering the check (17.4%), the check itself (13.5%), the pen used to sign the check (17.4%), and the money received as change (21.8%).

There are significant differences between men’s and women’s perceptions of likelihood of becoming sick from exposure from these items, and significant differences between respondents with chil-

dren living at home and without children living at home. Men are less concerned, on average, than women regarding the likelihood of becoming sick from exposure to the following items: the table, the condiment dispensers, the door handles, the bathroom facilities, the chairs at the table, the menu, the folder that covers the check, the pen used to sign the check and the money received as change.

Respondents without children living at home perceive the likelihood as getting sick from exposure to the following items, on average, lower than respondents with children living at home: table, condiment dispensers, utensils, glassware, door handles, bathroom facilities, chairs at the table, menu, folder covering the check, the check itself, and the pen used to sign the check.

This ends the section on respondents’ perceptions of likeness of getting sick from coming in contact with items in a casual dining restaurant. The next section examines respondents’ attitudes regarding cleanliness, health and sanitation in general.

Attitude regarding cleanliness, health and sanitation

To measure respondents’ attitude about cleanliness, health and sanitation, respondents were asked (1) if they worry about the sanitation of the restaurant they are dining at, (2) if dining out can be risky to someone’s health, (3) if they consider the sanitation of the restaurant

Table 6

What is the likeliness of you getting sick from coming into contact with each of the following items in a casual dining restaurant?

Total N= 541	Top box Very likely	Top 2 Box	Mean Total Sample	Women (A)	Men (B)	Children living at home (C)	No children living at home (D)
Table	14.0%	25.5	4.08	4.31 B	3.79 A	4.41 D	3.84 C
Condiment dispensers	17.0%	31.2	4.42	4.66 B	4.11 A	4.76 D	4.17 C
Utensils	22.0%	36.0	4.44	4.50	4.36	4.72 D	4.23 C
Glassware	21.6%	36.8	4.47	4.56	4.35	4.83 D	4.21 C
Door handles	26.2%	46.5	5.04	5.27 B	4.73 A	5.31 D	4.84 C
Bathroom facilities	26.4%	44.5	5.13	5.34 B	4.86 A	5.43 D	4.91 C
Chairs at the table	16.8%	27.9	4.30	4.51 B	4.03 A	4.72 D	3.99 C
Menu	20.0%	34.8	4.64	4.87 B	4.34 A	5.01 D	4.37 C
Folder that covers the check	13.9%	17.4	4.48	4.65 B	4.26 A	4.85 D	4.21 C
Check	10.0%	13.5	3.88	3.99	3.73	4.23 D	3.62 C
Pen used to sign check	16.6%	17.4	4.68	4.87 B	4.43 A	4.97 D	4.47 C
Money used as change	15.7%	21.8	4.86	5.03 B	4.64 A	5.14	4.65

Capital letter indicates significant differences between group means at the 95% confidence interval.

before choosing to dine there, (4) if the cleanliness of a restaurant impacts their overall dining experience, (5) if they read information related to health and sanitation, (6) if they search for information related to health and sanitation in general, (7) if they are aware of environmental health risks, (8) if they voluntarily get periodic health check-ups, and (9) if they take necessary precautions based on their awareness of environmental health risks.

The top 2 box results give us an indication of both the respondents' behaviors regarding health and sanitation, as well as how the cleanliness and sanitation of the restaurant affects their dining experience. The top 2 box results are: if they worry about the sanitation of the restaurant they are dining at (34.4%), if dining out can be risky to someone's health (31.25%), if they consider the sanitation of the restaurant before choosing to dine there (50.3%), if the cleanliness of the restaurant impacts their overall dining experience (72.3%), if they read information related to health and sanitation (36.0%), if they search for information related to health and sanitation in general (25.7%), if they are aware of environmental health risks (51.5%), if they voluntarily get periodic health check-ups (59.7%), and if they take necessary precautions based on their awareness of environmental health risks (54.1%).

There were several significant between-groups differences between

the men/ women groups, and the children living at home/ not living at home groups. Though both men and women were above neutral for each of the following items, on average, women felt more strongly about (1) when choosing where to dine out, I consider health and sanitation of the restaurant, and more strongly about (2) the cleanliness of the restaurant impacts my overall dining experience. The significant differences between respondents with children living at home and without children living at home were more numerous. Interestingly, respondents without children living at home ranked all of the following questions lower, on average, than respondents with children living at home: they worry about the sanitation of the restaurant they are dining at, if dining out can be risky to someone's health, if they consider the sanitation of the restaurant before choosing to dine there, if they read information related to health and sanitation, if they search for information related to health and sanitation in general, if they are aware of environmental health risks, if they voluntarily get periodic health check-ups, and if they take necessary precautions based on their awareness of environmental health risks

This ends the section on respondents' perceptions of attitude regarding cleanliness, health and sanitation. The next section examines respondents' attitudes regarding product effectiveness.

Table 7

What is your general attitude toward health and sanitation?

Total N= 541	Top box Strongly agree	Top 2 Box	Mean Total Sample	Women (A)	Men (B)	Children living at home (C)	No children living at home (D)
When I dine out, I worry about the health and sanitation of the restaurant.	17.9%	34.4	4.50	4.63	4.34	4.90 D	4.21 C
Dining out can be risky to someone's health.	18.1%	31.2	4.53	4.61	4.43	4.85 D	4.29 C
When choosing where to dine out, I consider health and sanitation of the restaurant.	24.8%	50.3	5.04	5.19 B	4.85 A	5.35 D	4.81 C
The cleanliness of a restaurant impacts my overall dining experience.	47.3%	72.3	5.95	6.09 B	5.77 A	6.02	5.90
I read information related to health and sanitation.	18.1%	36.0	4.57	4.62	4.51	4.87 D	4.36 C
I search for information related to health and sanitation.	14.6%	25.7	3.93	3.96	3.89	4.39 D	3.59 C
I am aware of environmental health risks.	24.0%	51.5	5.30	5.36	5.24	5.56 D	5.12 C
I voluntarily get periodic health checkups.	44.0%	59.7	5.43	5.44	5.42	5.54	5.35
I take necessary precautions based on my awareness of environmental health risks.	30.3%	54.1	5.38	5.48	5.27	5.65 D	5.19 C

Capital letter indicates significant differences between group means at the 95% confidence interval.

Product Effectiveness

The next section of the survey offers a description of the DineSafe product and service, and then evaluates the respondents' perceptions of effectiveness of the DineSafe product. There were no significant group differences, so the total sample results are provided.

This ends the section on respondents' perceptions of product effectiveness. The next section examines respondents' attitudes on willingness to choose and pay more for DineSafe certified service, and their perceptions of their friends' willingness to choose and pay more for DineSafe certified service.

Willingness to patronize and pay for DineSafe Service

The next section of the survey identifies the respondents' willingness to patronize and pay for the DineSafe certified service. The respondents were asked to rate five statements on a scale of 1 "very unlikely" to a 7 "very likely" scale. There were significant differences between the respondents with children living at home and without children living at home. Therefore, total sample results are presented, as well as the results for children living at home, and no children living at home groups.

The total sample's top 2 box responses are very encouraging: I would choose a DineSafe certified restaurant over a non-certified restaurant assuming price and food quality was the same at both (54.7%); my friends

would chose a DineSafe certified restaurant over a non-certified restaurant assuming price and food quality was the same at both (50.3%); I would be willing to pay slightly more on my overall per person check average if I know the restaurant was certified as DineSafe (32.9%); my friends would be willing to pay slightly more on my overall per person check average if I know the restaurant was certified as a DineSafe restaurant (30.3%); a restaurant marketed as DineSafe would offer good service value (49.0%).

There were significant differences between respondents who have children living at home and those that do not have children living at home on four of the five questions regarding willingness to patronize and pay for DineSafe service. Considering the top 2 box responses illustrates these differences: I would choose a DineSafe certified restaurant over a non-certified restaurant assuming price and food quality was the same at both (children: 64.7%; no children 47.4%); my friends would chose a DineSafe certified restaurant over a non-certified restaurant assuming price and food quality was the same at both(children: 62.9%; no children 41.0%); I would be willing to pay slightly more on my overall per person check average if I know the restaurant was certified as DineSafe (children: 36.7%; no children 30.1%); a restaurant marketed as DineSafe would offer good service value (children: 59.4%; no children 41.3 %).

This ends the section on respondents' willingness to patronize

Table 8

How effective do you believe this product would be in preventing the spread of disease?

Total	Top box Extremely effective	Top 2 Box	Mean Total Sample	Women (A)	Men (B)	Children living at home (C)	No children living at home (D)
N= 541	19.6%	48.3	5.47	5.43	5.53	5.53	5.43

Table 9

Willingness to patronize and pay for DineSafe service

Total N= 541	Top box Strongly agree	Mean Total Sample	Women (A)	Men (B)	Children living at home (C)	No children living at home (D)
I would choose a DineSafe certified restaurant over a non-certified restaurant assuming price and food quality was the same at both restaurants.	34.2%	5.61	5.71	5.48	5.90 D	5.39 C
My friends would choose a DineSafe certified restaurant over a non-certified restaurant assuming price and food quality was the same at both restaurants.	27.7%	5.59	5.70	5.43	5.81 D	5.42 C
I would be willing to pay slightly more on my overall per person check average if I know the restaurant was certified as a DineSafe restaurant.	18.9%	4.42	4.39	4.46	4.73 D	4.20 C
My friends would be willing to pay slightly more on their overall per person check average if they know the restaurant was certified as a DineSafe restaurant.	17.7%	4.79	4.74	4.85	4.93	4.69
A restaurant marketed as DineSafe would offer good service value.	25.9%	5.64	5.74	5.50	5.90 D	5.44 C

Capital letter indicates significant differences between group means at the 95% confidence interval.

and pay for DineSafe service. The next section examines respondents' perceptions regarding the expected price for DineSafe service.

Price-sensitivity Analysis

This section will evaluate respondents' perceptions regarding the price of DineSafe service. In the introduction to this section, respondents were asked to "assume that the per person check average for adults, excluding alcoholic beverages, is \$16.00 in a standard restaurant that is NOT "DineSafe" certified." The questions include (1) What price would you consider CHEAP and you would still go to the DineSafe certified restaurant, (2) What price would you consider EXPENSIVE but you would still go to the DineSafe certified restaurant, (3)

What price would you consider TOO EXPENSIVE and you would NOT go to the DineSafe certified restaurant, and (4) What is the ideal price for a DineSafe certified restaurant?

The numbers all refer to how much more are guests willing to pay above the \$16 per plate average which was provided for the baseline for a casual dining restaurant. In instances where the number is in parentheses, e.g. (2.00), this indicates a negative number and indicates they are willing to pay 2.00 less than the \$16.00 suggested average per plate. The price responses were separated into quartiles. These are quartiles of price responses, not quartiles based on the number of respondents. The mode box indicates, percentage-wise, what was the number one response from

all respondents and its accompanying frequency and percentage.

However, because the mode does not clearly tell the entire story, the price quartiles are also included, with their frequency counts and percentage of respondents. Significant differences were seen between men and women, and between respondents with children living at home and respondents without children living at home.

Men and women significantly differed on their ideal price for the DineSafe service. The median of both groups was \$0.00 above the \$16.00 average. However, in evaluating the price quartiles it can be deduced that 58.2% of women respondents are willing to pay more than the \$16.00 average per plate and 70.9% of men are willing to pay more than the \$16.00 average per plate.

There were also significant differences between respondents who have children living at home and respondents who do not have children living at home. The median ideal price for respondents without children

living at home was (\$0.39), while the median ideal price for respondents with children living at home was (\$1.64), indicating that the respondents without children living at home are willing to pay more than respondents with children living at home. However, of the respondents without children living at home, 68.3% are willing to pay more per plate than the suggested \$16.00 average, while of the respondents with children living at home, only 55.4% are willing to pay more than the \$16.00 average.

This now ends the Additional Amount People Would Spend in a Restaurant with DineSafe Certification section and concludes the report.

Next, charts of respondents' willingness to pay for DineSafe Certified service are shown.

Table 10

Additional Amount People Would Spend in a Restaurant with DineSafe certification (Base Average Check= \$16.00)

	Total Sample			
	Cheap and still go	Expensive but still go	Expensive and not go	Ideal price
Total response	541	541	541	541
Mean	(\$3.17)	\$2.52	\$7.12	(\$0.92)
Median	(\$1.00)	\$2.11	\$4.00	\$0.00
First price quartile	<(4.00)	< 0.00	<0.51	<(4.00)
# of respondents	132	117	115	135
% of respondents	24.4%	21.6%	21.3%	25.0%
Second price quartile	(4.00)< n< (0.99)	0<n<1.99	0.99<n<3.99	(3.00)<n<(0.01)
# of respondents	138	95	70	66
% of respondents	25.5%	17.6%	12.9%	12.2%
Third price quartile	(1.00)< n<0.99	2.00< n<3.99	4.00< n<9.99	0.00< n<1.50
# of respondents	121	95	216	195
% of respondents	22.4%	17.6%	39.9%	36.0%
Fourth price quartile	>1.00	>4.00	>10.00	>1.51
# of respondents	150	234	140	145
% of respondents	27.8%	43.3%	25.9%	26.8%
Mode	\$0.00	\$4.00	\$4.00	\$0.00
# of respondents answering this amount	94	108	94	135
% of respondents answering this amount	17.4%	20.0%	17.4%	25.0%

Capital letter indicates significant differences between group means at the 95% confidence interval.

Table 11

**Additional Amount People Would Spend in a Restaurant with DineSafe certification
(Base Average Check= \$16.00)**

	Women (A)	Men (B)
	Ideal price	Ideal price
Total response	304	237
Mean	(\$1.61) (B)	(\$0.04) (A)
Median	0.00	0.00
First price quartile	< (4.01)	< (2.01)
# of respondents	69	51
% of respondents	22.7%	21.5%
Second price quartile	(4.00) < n < (0.01)	(2.00) < n < (0.01)
# of respondents	58	23
% of respondents	19.1%	9.7%
Third price quartile	0 < n < 0.99	0 < n < 1.99
# of respondents	74	95
% of respondents	24.3%	40.1%
Fourth price quartile	> 1.00	> 2.00
# of respondents	103	73
% of respondents	33.9%	30.8%
Mode	\$0.00	\$0.00
#	71	64
%	23.4%	27%

Capital letter indicates significant differences between group means at the 95% confidence interval.

Table 12

**Additional Amount People Would Spend in a Restaurant with DineSafe certification
(Base Average Check= \$16.00)**

No children living at home (D)			
	Cheap and still go	Expensive but still go	Ideal price
Total response	312	312	312
Mean	(2.74) C	3.26 C	(0.39) C
Median	(1.00)	3.00	0.00
First price quartile	< (6.01)	< (0.01)	< (2.99)
# of respondents	73	59	76
% of respondents	23.4%	18.9%	24.4%
Second price quartile	(6.00) < n < (1.01)	0 < n < 2.99	(3.00) < n < (0.01)
# of respondents	75	88	23
% of respondents	24.0%	28.2%	7.4%
Third price quartile	(1.00) < n < 0.99	3.00 < n < 4.99	0 < n < 1.99
# of respondents	72	85	126
% of respondents	23.1%	27.2%	40.4%
Fourth price quartile	> 1.00	> 5.00	> 2.00
# of respondents	92	47	87
% of respondents	29.5%	15.1%	27.9%
Mode	0.00	4.00	0.00
#	59	71	90
%	18.9%	22.8%	28.8%

Capital letter indicates significant differences between group means at the 95% confidence interval.

Table 13

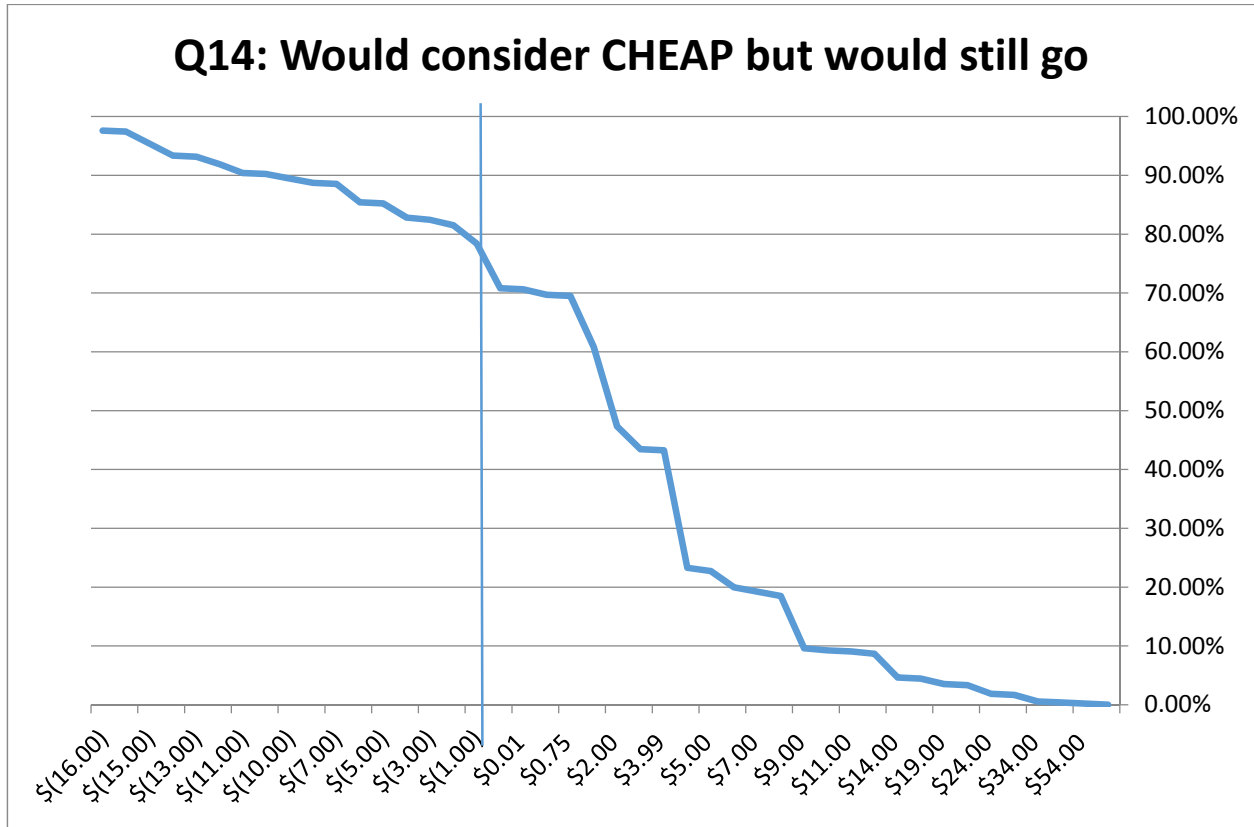
**Additional Amount People Would Spend in a Restaurant with DineSafe certification
(Base Average Check= \$16.00)**

Children living at home (C)			
	Cheap and still go	Expensive but still go	Ideal price
Total response	229	229	229
Mean	(3.74) D	1.50 D	(1.64) D
Median	(4.00)	3.00	0.00
First price quartile	< (7.01)	< (1.01)	< (4.01)
# of respondents	55	51	56
% of respondents	24.0%	22.3%	24.5%
Second price quartile	(7.00) < n < (4.01)	(1.00) < n < 1.99	(4.00) < n < (0.01)
# of respondents	41	41	46
% of respondents	17.9%	17.9%	20.1%
Third price quartile	(4.00) < n < 0.99	2.00 < n < 3.99	0 < n < 1.99
# of respondents	75	54	69
% of respondents	32.8%	23.6%	30.1%
Fourth price quartile	> 1.00	> 4.00	> 2.00
# of respondents	58	83	58
% of respondents	25.3%	36.2%	25.3%
Mode	Tie: (6.00), 0.00	2.00	0.00
#	35 each	46	45
%	15.3% each	20.1%	19.7%

Capital letter indicates significant differences between group means at the 95% confidence interval.

Figure 1

Would Consider CHEAP but would Still Go

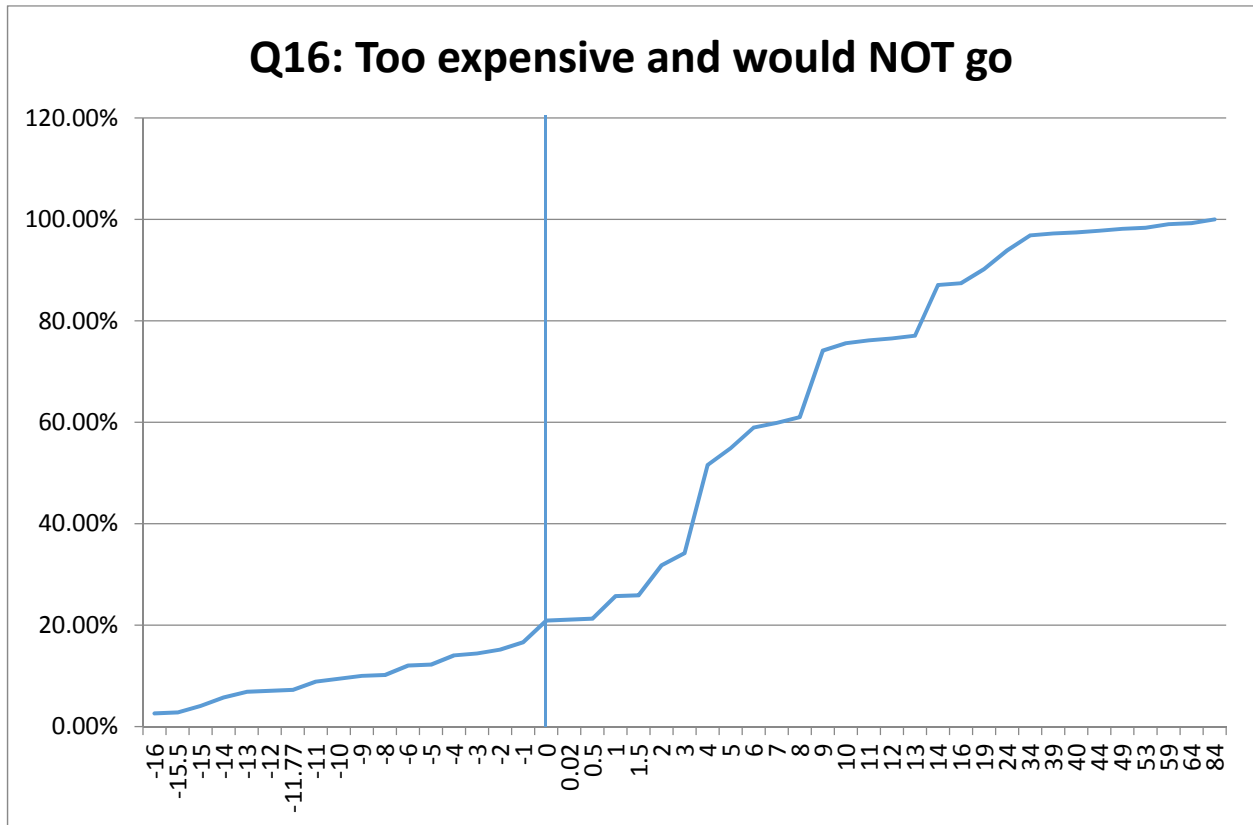


The respondents were instructed to consider that dining in a casual dining restaurant would cost \$16 per plate, per adult, excluding alcohol. The blue vertical line is the respondents' median ideal amount per plate above that \$16 they would be willing to pay to be served at a DineSafe certified restaurant.

28.5% of respondents would consider a per plate price above the median to be cheap for the DineSafe service. 9.4% of respondents would consider \$1 additional per plate to be cheap, while 8.8% would consider an additional \$2 per plate to be cheap.

Figure 2

Expensive But Would Still Go

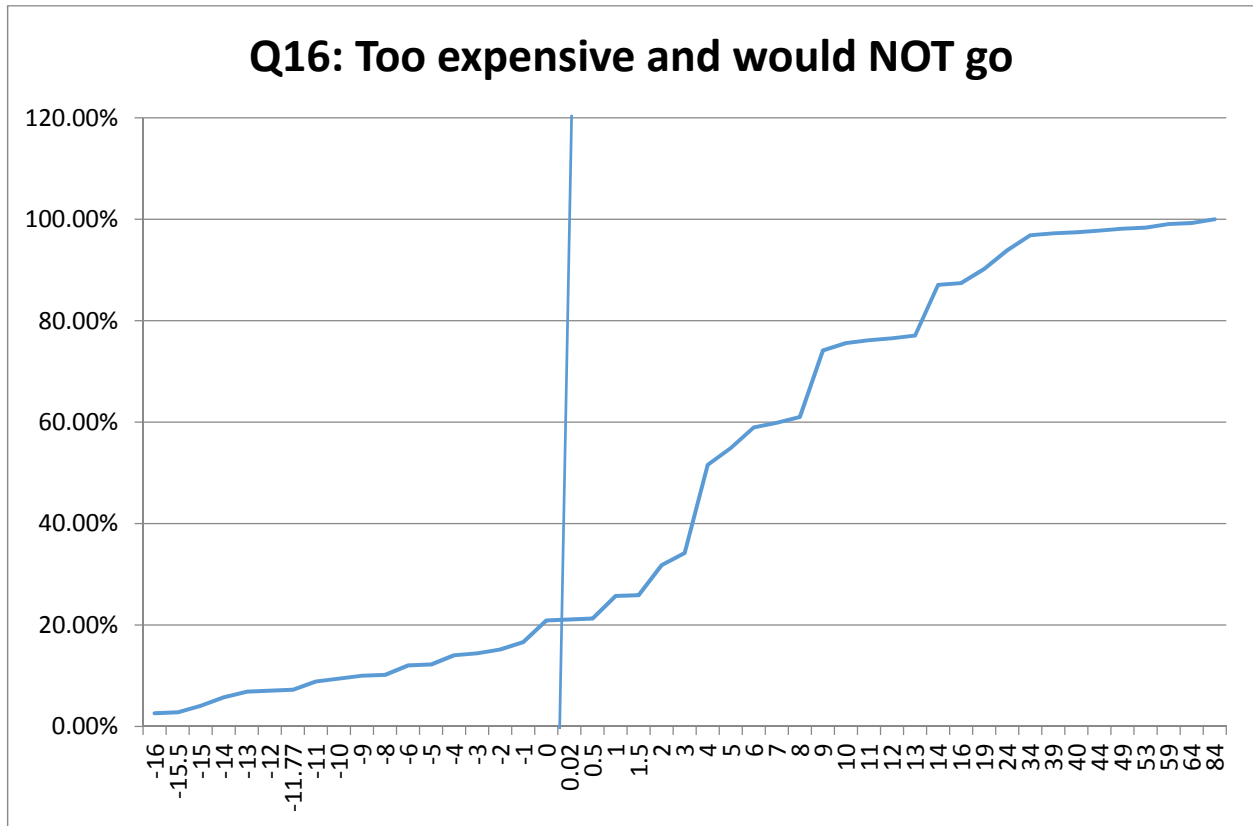


The respondents were instructed to consider that dining in a casual dining restaurant would cost \$16 per plate, per adult, excluding alcohol. The blue vertical line is the respondents' median ideal amount per plate above that \$16 they would be willing to pay to be served at a DineSafe certified restaurant.

69.7% of respondents consider any price above the average price of a non-DineSafe restaurant to be expensive, but they would still go. 8.7% of respondents consider an additional \$1 per plate too expensive, 13.5% consider an additional \$2 per plate too expensive, and 23.2% consider an additional \$4 and above to be too expensive, but they would still go.

Figure 3

Too Expensive and would not go

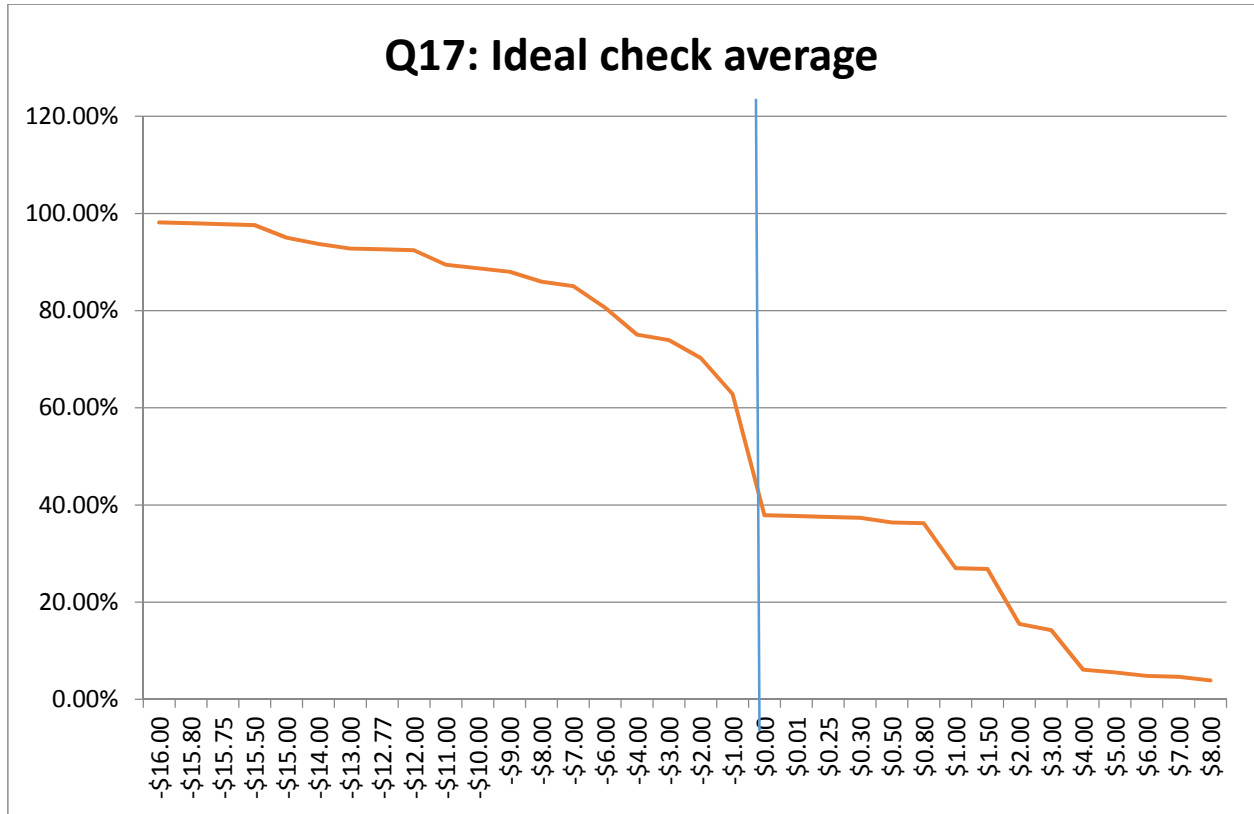


The respondents were instructed to consider that dining in a casual dining restaurant would cost \$16 per plate, per adult, excluding alcohol. The blue vertical line is the respondents' median ideal amount per plate above that \$16 they would be willing to pay to be served at a DineSafe certified restaurant.

Only 4.4% of respondents think an additional \$1 is too expensive and they would be unwilling to pay \$1 more per plate for the DineSafe service. 5.9% of respondents think an additional \$2 is too expensive and they would not go to the DineSafe restaurant, with 17.4% reporting an additional \$4 as too expensive, and 13.1% reporting an additional \$9 per plate as too expensive.

Figure 4

Ideal Check Average



The respondents were instructed to consider that dining in a casual dining restaurant would cost \$16 per plate, per adult, excluding alcohol. The blue vertical line is the respondents' median ideal amount per plate above that \$16 they would be willing to pay to be served at a DineSafe certified restaurant.

The median ideal per plate, per adult average, excluding alcohol is \$16, or no additional cost. However, 37.9% of respondents are willing to pay more than the \$16 average, with men willing to pay more, on average, than women.

Appendix 3

Recommendations

This short list of recommendations is only included to spark debate. It is certainly not exhaustive. The order of the recommendations is not indicative of importance. DineSafe executives should meet to discuss the results of the findings presented and develop strategies accordingly.

1. *The DineSafe service should focus on the market segment of women with children living at home.* Support for this recommendation is based on the following findings:
 - Women are more concerned about the likelihood of getting sick from most items in the restaurant,
 - Respondents with children living at home consider many items in the restaurant to be less clean than respondents without children living at home,
 - Respondents with children living at home are more concerned about the likelihood of getting sick from most items in the restaurant.
2. *Customers trust in the effectiveness of the DineSafe product/service.* Support for this recommendation is based on the following findings:
 - Of the total sample, nearly 20% of respondents think the DineSafe product will be “extremely effective” in preventing the spread of disease,
 - Nearly 50% of the total sample are in the top 2 box, indicating that they think the DineSafe product will be “very effective” or “extremely effective,”
3. *The items which may be most appropriate for application of the DineSafe product and their top box responses (“very likely” to become sick from coming in contact with) are:*
 - Table (14.0%),
 - Condiment dispensers (17.0%),
 - Glassware (21.6%),
 - Door handles (26.2%),
 - Chairs at the table (16.8%),
 - Menu (20.0%),
 - Folder that covers the check (13.9%).
4. *Customers are willing to pay more per plate for the DineSafe product/service compared to a casual dining restaurant that is not DineSafe certified.* Support for this recommendation is based on the following findings:
 - Of the total sample, 78.5% are willing to pay more than the \$16 suggested average,
 - 35.2% of the total sample are willing to pay up to \$3.99 above the \$16 suggested average,
 - 43.3% of the total sample would pay \$4 above the \$16 suggested average.

This ends the recommendation part of the report. The list of tables and figures is presented next followed by the main body of the report.