

A STUDY TO DETERMINE THE AGRICULTURAL PERCEPTIONS OF HIGH
SCHOOL STUDENTS FOR THE "I LOVE FARMERS...THEY FEED MY SOUL!"

ORGANIZATION

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Of High School Students For The "I Love
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ABSTRACT

A Study To Determine The Agricultural Perceptions Of High School Students For The “I Love Farmers...They Feed My Soul!” Organization

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The purpose of this study is to identify a target market of the “I Love Farmers...They Feed My Soul!” (ILF) organization and establish marketing techniques for the organization. ILF is a non-profit organization committed to connecting the younger generations with information about agriculture and how food is produced.

This study thoroughly investigated the markets in three geographic areas throughout California. Surveys were administered to three high school’s English classes to gather data for analysis. The analysis identified the target market of the ILF organization and the associations between each target market and responses to questions regarding their agricultural knowledge, social media use, and grocery shopping preferences that will identify marketing strategies for the organization.

The survey results have determined the preferences of the target market and associated marketing techniques that will help the ILF organization. The survey results also provided the ILF organization with data regarding the high school students’ general knowledge of agriculture. This information will help the organization better connect to the young audience and start a conversation about agriculture and how food is produced.

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Chapter 1

Introduction

Background

California has the largest agricultural economy in the United States, yet a large segment of the California population lacks agricultural literacy (California Energy Commission, 2011). California is dependent upon the success of agriculture, yet today, we are faced with bigger challenges than ever before (www.LearnAboutAg.org) In addition, growth of the service economy in the US has occurred, along with growth in urban populations, which has further distanced the population from food production and processing. Despite growing efforts during the past couple of decades to inform the public about agriculture and food production, there is still a lack of connection between the farm and consumers. Most of these efforts are often from the perspective of the organic, local, or slow food movements. However, most California and US citizens continue to know little about food production and processing (Environmental Protection Agency, 2011).

From the cotton in our jeans to the food on our tables, Americans depend on agriculture daily. Over the last century, society has become further removed from the vital industry that clothes and feeds us. In fact, only 2% of the population is directly involved in production agriculture (www.LearnAboutAg.org). Today, agriculture faces more challenges than ever, with the expectation that it will provide a safe, reliable, healthy and environmentally friendly food supply. In

order for society to make informed decisions about agriculture and food processing, it is important that citizens have adequate background about the impact of different choices, what outcomes result from the associated choices, and also have a clearer sense of their values. To achieve improved agricultural literacy and better agriculture food policy decisions and outcomes, educational efforts are required.

The survival of this vital industry depends on educating and encouraging the next generation of decision-makers. A key target audience is high school students. These students should be one focus of the educational efforts regarding agriculture and food processing because, as the next generation of consumers, the political and social decisions of the high students will have the power to change the agricultural industry. Many will soon be voters who will participate in societal decisions, and ultimately, they will provide economic, social and political leadership.

ILF is an all volunteer, non-profit organization committed to connecting young people with information about the source of their food. As stated on the ILF website, the non-profit organization was started in 2009 by college students to help the millennial generation understand the importance of where food comes from and how it is produced. Using social media, the organization launched a campaign to share information about not only American agriculture, but also family farmers and ranchers. ILF experienced rapid growth on Facebook, engaging more than 35,000 fans (www.ILoveFarmers.org). Furthermore, the organization created a website and apparel line to make farming and ranching

appear hip and fun. ILF is also dedicated to eliminating traditional stereotypes that are connected to agriculture. This organization is directly aimed at connecting young consumers to their food source and verbalizing how decisions in the marketplace economically, socially and politically affect agriculture.

The ILF organization is working to market farming in a non-traditional way and is also working to connect consumers with their food source and better inform about them where their food and fiber comes from. To accomplish this goal, the organization is actively participating in many efforts. Conferences, trade shows and other similar events are one venue the organization uses to promote and advocate for agricultural awareness and literacy. ILF has also organized a campaign called, "WTF Day," in celebration of their "Where's the Food Without the Farmer" message. This involves sending apparel to college campuses that signed up to host the event at their school while promoting positive change in the agriculture industry and American family farmers. The first event of this nature was held on November 10, 2011 and ILF was represented at nine campuses throughout the country. Table 1 shows the colleges throughout the country that participated. The event was such a success that the organization has continued to plan WTF days bi-annually (www.ILoveFarmers.org).

Table 1. Campuses that participated in the first WTF Day

WTF Day Participants – Nov. 2011
University of Arizona
University of Western Illinois
Fresno State University
Joliet Junior College
University of Wisconsin
Texas Christian University
Cuesta College
Chico State University
Texas Tech University

Although the organization has had great success with college students, their efforts could benefit from a plan designed to better connect with and inform high school students.

To more effectively target high school students, strategic marketing techniques should be developed to appeal to the identified target market segments. The organization may also want to consider modifying its marketing techniques to effectively reach its target audience based upon geographic location. Students raised in a rural environment may be more welcoming to the organization than students in an urban area, yet effectively reaching both is important. A marketing analysis would help the ILF organization determine specific objectives and the actions required to obtain those (Lamb et al., 2009).

To effectively market the ILF organization to high school students, it is imperative to understand the characteristics and perceptions of the students.

Problem Statement

Is there a significant difference in consumer preferences of the high school students that will identify marketing techniques and strategies for the ILF organization?

Hypothesis

Through a thorough analysis of the market and testing at a significance level of .05, there will be significant associations in the consumer preferences of the high school students surveyed that will identify marketing techniques and strategies for the ILF organization.

Objectives

The main objective of this research is to determine whether there are significant differences in agricultural knowledge, social media use and perceptions of current marketing materials used by the ILF organization among high schools in three geographic settings. This information will then be used to suggest modifications to the current marketing efforts of the organization. Based on this main objective, three more specific objectives have been identified as follows:

1. Collect data on agricultural knowledge and social media use from high schools students in three geographic areas across California. These

areas include the San Francisco Bay Area, a large city in the Central Valley and a smaller community in the Central Valley.

2. Determine whether the students in each region have statistically significant differences in any of the factors mentioned above, also including gender and age.
3. Discuss how the findings of the target market segments could be useful to the ILF organization for its marketing efforts.

Justification

The ILF organization needs to research its target market so the organization can more effectively reach the younger generation. Testing the high school students' knowledge and preferences can provide information that may assist in establishing strategic marketing techniques.

Knowing the knowledge and preferences of the high school students will help to provide key information for the ILF organization to better connect with its market segments. The organization will gain valuable knowledge about its target markets so promotion can be conducted accordingly.

In addition to determining the organization's target markets and their preferences, the research will also determine who is not the ILF target market and also what preferences they do not prefer. This will help the organization solely focus on the preferences of its target market.

From this study, the ILF organization will have the appropriate information to effectively reach its target market.

Chapter 2

Literature Review

This literature review will focus on issues supporting the ideas of the project. These topics include similar studies of agricultural awareness and social media use, social marketing, survey components, common sources of survey bias and the perception of agriculture among high school students.

Perception of Agriculture among High School Students

Agriculture affects all people; therefore men and women of all ages and ethnic groups should have a vested interest in agriculture (Law et al., 1990). In modern times, many in the urban world may have forgotten about a fundamental connection: food availability depends on technologies for growing, transportation and storage. In part because a small proportion of the U.S. population is directly involved in agriculture and food scarcity is rare, humanity's fundamental dependence on agriculture is often overlooked (*California Energy Commission, 2011*). California's farmers and ranchers have made the United States a leader in agricultural production in terms of value for more than 50 years. In 2010 agriculture generated more than \$36.2 billion in revenue for the state's economy (*California Energy Commission, 2011*).

Unsurprisingly, students in schools with an agricultural program have a greater knowledge about agriculture (Wright et al., 1995). If the high school student has some kind of exposure to agriculture, there is a greater chance they will have a better understanding of the industry, which implies improved

understanding of how social and political decisions might affect the outcomes of what is often called the “food system.” Improved perceptions and general knowledge of agriculture would help voters informed decisions regarding agriculture and the food system. ILF is a specific example of an organization that uses social media to increase awareness and more accurate perceptions of the agricultural industry. The organization states that its main objective is to inform society about the importance of farmers (often, individual farm families) to its health, economy, environment and national defense. It does this primarily through social media efforts (www.ILoveFarmers.org). If there were additional opportunities for dialogue about agriculture literacy, more students would have a better understanding and perception of the industry as a whole (Leising et al., 1997).

As urbanization increases, the distance between the farm and the fork is becoming greater. With the recent improvements to technology, students are becoming less connected to their actual food source and more distant from their agricultural roots (Leising et al., 1997). One way to address this increasing distance is for agricultural organizations to use media and technology to better connect with the students (Frick et al., 1995). Agriculture affects consumers all over the world. Improved knowledge and awareness of the industry in young adults will ultimately help determine the future of the industry.

Similar Studies of Agricultural Awareness and Social Media Use

Numerous studies have examined the agricultural perceptions and awareness of high school students. There have also been multiple studies examining young people's use of social media. However, no studies have analyzed the linkages between, and the potential for, social media to influence agricultural perceptions and knowledge.

The agriculture literacy components of previous studies indicate similar results for comparisons between rural and urban students. Many of these studies have been in the form of pilot groups. Frick et al. (1995) used two pilot groups to study both the agricultural knowledge and perceptions of inner-city high school students. The study concluded that respondents from smaller cities and towns were found to be more knowledgeable than their counterparts from larger population centers regarding agriculture (Frick et al., 1995).

According to another study, students enrolled in an agricultural program, such as 4-H or FFA, had similar results (Wright et al., 1995). The survey addressed subjects that related to the concepts of societal significance of agriculture, economic impact of agriculture, agriculture's relationship with the environment, agriculture's relationship with natural resources, production of plant products, production of animal products, the processing of agricultural products, and the marketing of agricultural products (Wright et al., 1995). The authors of the survey suggest that agricultural education needs to be implemented in more curricula than just FFA programs because of the direct relationship this knowledge has with the development of good policy decisions that affect

agriculture (Wright et al., 1995).

The College of Agricultural Sciences at Penn State also undertook a study in 2007 to determine the respondent's knowledge of agriculture. This study asked basic questions regarding what type of area the citizen lived in, where they purchase groceries, the state's top commodities and their background with farming and agriculture.

These previous studies have helped to identify examples of successful question types that will help determine the agricultural literacy of both rural and urban agricultural students. This survey will be designed to gauge knowledge and perceptions of agriculture among high school students for the ILF organization and will build from and utilize the work that these researchers have previously conducted.

Because of the proven success that social media networks have had on society in the form of both political and social campaigns, product sales and as a means for disseminating information, they may prove to be very useful in linking consumers with agriculture (Jaeger, et al., 2010; Duan, et al., 2008). Social network sites have become a necessity and regularity in the life of many high school students. A 2007 Michigan State University survey of 800 students indicated that 53% of the students surveyed had a Facebook account and used it regularly (Ellison, et al., 2007). This survey was conducted in 2007, a year after Facebook launched and the percentage has likely risen drastically since then. This survey also examined the demographics of the students and what social media sites they used on a regular basis. The study concluded that online social

network sites play a different role in supporting relationships in the offline world and putting people in contact with each other to build relationships regularly (Ellison, et al., 2007).

According to another study (Li, 2007) 80% of young adults use social media and 67% of users visit social media sites at least once per day. These studies show that social networking is not just an online activity, but it influences their life offline. The Li study also shows how young consumers are getting more information about products from social media sites. As society becomes more dependent on the use of online technology for information, and thus, perception formation, it becomes increasingly important to get information into the media venues consumers are utilizing. This suggests that it will be important to the ILF organization because the group strives to build a relationship and start a conversation about food production using social media forums.

Social media also contributes to marketing. Consumers are likely to seek out the opinions of others for guidance on products or services or products with image-related attributes. Consumers interact socially with reference groups, opinion leaders and family members to obtain product information and decision approval (Lamb et al., 2009). Specifically, social media plays a role in “social marketing.” Social marketing is the use of marketing concepts in programs designed to influence the voluntary behavior of target audiences in order to improve health and society (Weinreich Communications, 2010). Social marketing is not a theory or a unique set of techniques, but more a process for developing social change programs that are modeled on processes and used

marketing (Andrease, 1994).

Social marketing does not necessarily market a physical product or object. A continuum of products exists ranging from tangible, physical products, services, practices and finally, more intangible ideas. This approach is widely adopted by both companies and organizations in the marketplace because it leads to an increase in education or behavior change and how consumers socially respond to the product (Andrease, 2002).

Survey Research Methods

For the purpose of this research project, formal surveys were chosen as the data collection method. Therefore, this analysis is deemed an observational study, not a scientific experiment. One of the objectives of this study is to determine if attitudes and perceptions of high school students about agriculture vary by geographic region. Because statistical tests will be conducted to assess this, quantitative data are needed that are not possible using more qualitative alternatives such as focus groups.

Surveys have proven to be a valuable source of quantitative data collection and market research tool. Surveys generally collect information by means of a questionnaire in order to estimate several population characteristics and relationships between variables (Jolliffe, 1986). In the marketing industry, surveys have been used to collect specific likes, dislikes and other data to help mold key decisions used for a variety of purposes including customer satisfaction, customer perceptions and defining markets (Asp, 2006).

Government officials, businessmen and marketing executives use the statistical analysis of data obtained from sample surveys to make crucial decisions regarding their industries (Frankel et al., 1977). There are three crucial steps to the survey method.

The first step is to identify the population appropriate for the research. Next, select a representative sample of the population. This step is critical because a non-representative sample will result in biases and errors (Asp, 2006). The population, or sample, refers to the specific units of interest (Jolliffe, 1986). Choosing the adequate sample size is also critical in achieving valid results. The sample size should be a function of the total population size with respect to the total number of respondents (Frankel et al., 1977). This relationship of total population and the number of respondents received will affect the “tolerance” of the survey. The tolerance level is an expected range of survey responses (Asp, 2006). The size of the sample and how it represents the overall population will determine the success of the survey. For the current study, differences between the groups by geographic location are of interest. For the results to be accurate, the sample size needs to be large enough to determine significant results that will determine marketing techniques for the ILF organization.

The next step in constructing a complete survey is to properly design survey questions. A great deal of research exists on the design of questionnaires and questions, and on the task of completion of the questionnaire (Jolliffe, 1986). A few common sense principles apply. For example, every survey question should be clear and understandable (Parzek, 2011). Consumers

are easily overwhelmed by complex and overwhelming questions; it is best to report in the most simplistic manner (McGee, et al., 1999). There are many types of survey questions. However, these types can generally be broken down into two categories open and closed ended. Opinion questions are open-ended and measure from easy to hard to define and obtain a “true value” of a person’s opinion. Factual questions often are easier to develop and are more frequently used for comparison (Jolliffe, 1986). It is important to ensure questions do not lead the respondent to a desired answer, as the results will be biased (Frankel et al., 1977). Asking a variety of questions in different formats is necessary to give respondents a large opportunity to correctly and honestly answer the questions.

The final step in correctly designing a survey is to determine a margin of error. The larger the margin of error, the less confidence the researcher has in the survey (Jolliffe, 1986). The margin of error is determined in part by the sample size. This allows the population to be studied and possible biases identified. (Asp, 2006) A 5% margin of error is a standard representation of normal distribution (Frankel et al., 1977). For this project, the level of significance for any tests that will be considered “statistically significant” is 5%. The value of 5% suggests that there is only a 5% chance that the differences could have arisen by chance, when in fact there is no difference (Lamb et al., 2009).

Common Sources of Survey Bias

It is common to consider bias in survey research. It is not possible to ensure that the methods have no possible influence on the results, but it is also

reasonable for authors to take certain steps to reduce the likelihood of a common method bias (Conway et al., 2010). Bias occurs when the survey sample does not accurately measure the population being studied. Biases can arise from innumerable sources, including complex human factors (Hartman et al., 2002). The major categories of research bias are selection biases, measurement biases and intervention biases.

Selection biases occur most frequently when the groups being surveyed and compared are not representative of their populations. The differences in the corresponding populations can influence the overall outcome. The most common type of selection bias sample groups includes volunteer or referral bias and non-respondent bias (Hartman et al., 2002). Volunteer or referral biases occur when respondents volunteer for a study. They are different than the population that did not volunteer. The bias usually favors the volunteer group because research shows they are more motivated than the group made to participate. A non-respondent bias occurs when the responses from the participants who actively participated in the study differ in crucial ways than the group that did not. (Conway et al., 2010)

Measurement biases occur within the methods of collecting relevant data. In survey research, the measurement process includes the environment in which the survey is conducted, the way the questions are asked and the state of the survey respondent (Rea et al., 1997). When administering a survey, it is important to identify where measurement biases can occur and have a plan to overcome them.

The last most common type of bias is intervention bias. Intervention bias generally occurs in the comparison of two groups. Intervention bias relates to the control groups, different time allotments given for the different groups, the respondents leaving earlier or the respondents having different trainings. (Hartman et al., 2002).

Knowing where biases are most likely to occur help the researcher recognize and eliminate the potential for bias. It is important to recognize that for statistical evidence to be relevant, efforts to reduce bias are required (Conway et al., 2010). Thus, it is crucial in a study involving human respondents for the researcher to understand the types and potential biases.

Chapter 3

Methodology

Procedures for Data Collection

To determine the consumer preferences, social media habits, and general agricultural knowledge of the high school students and the target market for ILF primary data was collected through survey distribution. To receive an effective response, surveys were distributed to the chosen high school English classes and the respondents represent a variety of backgrounds ranging from grades 9-12. The surveys were administered from May 1, 2011 until May 31, 2011. The surveys were administered to roughly 100 students from each school totaling 300 expected survey results. Based on the research from Chapter 2, 300 survey results from three different high schools is an adequate sample size to achieve valid results.

This study evaluated one high school in three different geographic areas. One location will be at an urban location in the Greater San Francisco area, the other two locations will be in the California Central Valley but will represent two very different population sizes. The three high schools that will be surveyed are Willow Glen High School in San Jose, Grace Davis High School in Modesto, and Kingsburg High School in Kingsburg. Emails were sent to high school teachers throughout the state and the selected schools were chosen because they responded and agreed to allow the surveys be distributed in their classrooms.

An introduction was stated at the beginning of the survey to explain the purpose of the study. The introduction is included in Appendix 1. A presentation was prepared with the survey questions and the students received an answer sheet. As the questions were asked, the students answered within the appropriate space. This method helped eliminate some common sources of measurement biases from both the researcher and the respondent that were studied in Chapter 2.

The surveys were designed to gain an insight on the consumer preferences of the high school students that will be beneficial to the ILF organization. The survey (Appendix 1) layout consisted of 40 questions with various subjects including demographics, behavior traits, general agricultural knowledge, and questions directly relating to the ILF organization.

This survey studied demographics of the sample target including age, gender, grade, and current residency. These questions (1-4) will help determine the range of the survey respondents and the type of region in which they live.

The respondents were then asked questions 5-8 regarding the ILF organization. These questions helped determine their awareness of the program prior to the administration of the survey and their opinion of the logo. The sample target was asked if they have seen the logo before, if the logo is appealing to the individual, if they are likely to wear the logo, and finally to list three adjectives that describe the logo. This set of questions will help determine the base knowledge of the respondents and their familiarity of ILF. The purpose of these questions

was to determine a target market and utilize the responses from these questions to launch their marketing efforts.

Questions 9-13 addressed the target sample's familiarity with agriculture and farmers. This set of questions asked the respondents to list three adjectives that describe farmers, if the respondent's family is directly involved in agriculture, whether one of their parents was raised on farm, if the respondent has ever worked on a farm, and finally if the respondent has ever lived on a farm. This set of questions was asked to gauge the sample targets background with the agricultural industry and also provide insight to the respondent's perceptions of farmers.

Questions 14-19 studied the sample targets grocery shopping habits and consumer preferences that become important when grocery shopping. The survey asked respondents if the respondent or their family has ever purchased food at a roadside stand, if the respondent or their family has ever purchased food at a farmers market, if the respondent ever prepares meals for their family, who is the primary shopper in the respondents household, and how often their family grocery shops. The set of questions continued to ask the respondents which preferences become important to them when selecting groceries at the store. Their choices will include low price, appealing appearance, organic, and California grown. These questions became important when analyzing and determining the consumer preferences and purchasing patterns of the sample.

Questions 20-28 studied the samples social media and Internet usage habits and media preferences. This information is critical to future marketing efforts of the ILF organization as social media is the primary medium of communication for the organization and most effective method to reach its fans and followers. Social media also presents a low-cost marketing opportunity for the organization to reach new populations, especially the younger student generation. Therefore, it is of great interest to the ILF organization to learn specifically which social media sites the students use most often so that marketing efforts can be concentrated there.

The sample was asked which social media sites the respondents currently use, if they use Twitter, how many posts a day, how often they use social media per day, what their primary method of communication is with their friends, how often they use the Internet, which magazines they read, which television shows the respondents watch, and which Internet sites the respondents visit regularly. The purpose of these questions is to provide the ILF organization with insight regarding the samples preferences that will provide information to determine specific marketing strategies. This information is important when the organization considers where and when they place print and digital advertisements and how ILF can better reach its target markets.

Question 29 studied whether the target sample has a smart phone, and which type of smart phone. This information is important for the ILF organization to gain insight on the target markets preferences, and also to determine what

percentage of the established target market has smart phones and if a marketing mobile campaign would be effective in the future.

Question 30 asked the sample how they get their news. This is important for the ILF organization to determine which news media sources are most used by the target markets and identify which sources the organization should direct primary focus. This information will contribute to ILF's strategic marketing efforts.

Finally, questions 31-40, asked the sample general agriculture questions that helped determine the respondents knowledge of agriculture. The sample answered questions regarding a variety of aspects of the industry including California's top commodities and counties, whether various commodities are produced domestically, general animal agriculture questions, and questions that address common misconceptions within the industry such as organic produce, synthetic hormones, and genetically modified organizations. The knowledge gained from this set of questions can be used as baseline of general of agriculture knowledge of the respondents. Determining what information the target market currently knows, will give the ILF organization the opportunity to address any misconceptions about agriculture and provide non-bias information about agriculture to start the initial conversation with the target market about agriculture and how food is produced.

Procedures for Data Analysis

After completion of the surveys, the results were entered into Microsoft Excel for further statistical analysis. A statistical analysis of the data was

conducted to determine the differences in consumer preferences and for identification of the target market. Each question was assessed by statistical tests. The data was made up of nominal or ordinal data. Therefore, the data will be examined by Chi-squared tests.

Nominal data refers to a category and allows a number to be assigned for analysis. Nominal data can be counted but not ordered or measured. Nominal data is analyzed with frequencies and cross tabs that help to coordinate relationships between the variables.

Ordinal data is when responses are ranked or put into some kind of rational order. Ordinal data can be counted and ordered but not accurately measured. Ordinal data can also be analyzed using frequencies and cross tabs.

In an effort to study potential differences in students' agricultural knowledge among the three different geographic locations, a One-Way Analysis of Variance (ANOVA) test was conducted. Since ANOVA requires numerical data, the responses to agricultural knowledge questions were first assigned a numerical score based on correct and incorrect answers. Each question was worth one point, if the student answered correctly, they received one point to determine the overall grade. An exception to this method was the first question. If the student was able to recognize the first or second top commodity, they received one point. Thus, the overall score of each student becomes a ratio-type dependent variable. This score will be used as the input for the ANOVA.

In addition to investigating the specific social media sites, it is also important to compare social media use among the different geographic locations.

A Chi-Squared test for association was conducted to check for a relationship between the students' daily usage of social media and the geographic location in which they reside.

A significance level of .05 was used to determine significant relationships in consumer preferences. With a p-value greater than .05, the null hypothesis was accepted, indicating that there was not a relationship in the consumer preferences tested. If the p-value is below .05, then the alternative hypothesis was be rejected, meaning that there was a significant relationship in the consumer preferences.

The data from this study will be presented in graphs and tables for a clear understanding. The information gathered in the survey will be used to study the key differences between the students in urban and rural geographic locations. The data found in this study will help ILF better the marketing techniques used for each group.

Assumptions

This study assumes some factors to be true for the research to be testable and accurate. The information provided by the target sample of high school students is assumed to be true and accurate.

Analysis using Chi Squared tests for association was conducted under the assumptions that the variables are either nominal or ordinal and the groups (i.e. subjects) are independent. Analysis using One-Way ANOVA was conducted

under the assumptions that the data followed a normal distribution and that the variances amongst each population are equal.

Limitations

The results found in this study are representative of schools in which the research was conducted. The results may be similar for other areas in the State of California but they cannot be specifically generalized for any other area.

Chapter 4

Development of the Study

Data Collection

The surveys were distributed to high school students between May 1, 2011 and May 31, 2011 to 274 students at the 3 high school locations. The three high schools include Willow Glen High School (San Jose, CA), Grace Davis High School (Modesto, CA) and Kingsburg High School (Kingsburg, CA). The surveys were distributed in English Classes for grades 9-12.

Surveying high school students came with its own set of challenges. It was not feasible to survey each individual student during the single class period, so to receive a better response rate, a presentation was created and the students had an answer sheet. As the questions were read aloud, the students completed the questionnaire. Some of the students skipped questions, wrote additional comments, or did not fully complete questions because no one was administering the survey to them individually. In the future, to receive the most complete data, it would be best to individually complete the survey as it is read to each individual student.

Statistical Tests

The majority of the data received was categorical data. Chi-squared tests were used to determine the P-values for all appropriate questions. Chi-squared tests compared each of the two target markets identified to all of the other questions to determine if there was a significant association. When appropriate,

ANOVA tests were conducted. The results will be depicted in tables and graphs below for both of the target markets.

Data Overview

There were 274 total surveys collected. An average of 90 surveys were collected from each school. 90 survey's were collected from Kingsburg High School, 93 surveys were collected from Willow Glen High School and 91 surveys were collected from Grace Davis High School.

The majority of respondents, 35 percent, were 15 years old and the age group least surveyed was 18 year olds. Table 2 shows the breakdown of students' ages.

Table 2. Respondent age breakdown

Age	Number of Respondents	Percent of Total (n=274)
14	41	15%
15	96	35%
16	75	27%
17	54	20%
18	8	3%

More than half of respondents, 57 percent, were female and 43 percent were male. The majority of respondents were in the ninth grade. The grade with

the least amount of respondents least was the 12th grade. Table 3 illustrates the grade breakdown of the survey respondents.

Table 3. Respondent grade breakdown

Grade	Number of Respondents	Percent of Total (n=274)
9	112	41%
10	70	26%
11	87	32%
12	5	2%

When asked about their current place of residence, more than half (57 percent) of respondents reside in an urban area. Twenty-four percent of respondents live in a small town, ten percent of respondents live in a large town, and 5 percent of respondents live in a rural community both on, and off, the farm. Table 4 illustrates the breakdown of the respondent’s residential regions.

Table 4. Respondent residential breakdown

Residence of Respondents	Number of Respondents	Percent
Rural living on a farm	14	5%
Rural not living on a farm	14	5%
Small town under 25,000 people	65	24%
Large town 25,000-100,000 people	28	10%
Urban more than 100,00 people	153	56%

When asked about the ILF logo, eight percent of respondents (21) reported having seen the logo before. When asked if the respondents found the logo appealing, 69 percent of respondents indicated that they indeed found the logo appealing and 37 percent of respondents indicated that they would wear the ILF logo on their clothing.

The respondents were asked if their family was directly involved in agriculture and 27 percent of respondents indicated that they did come from a family directly involved in agriculture. 57 percent of respondent indicated that at least one of their parents was raised on a farm and 37 percent of respondents indicated that they had worked on a farm before. When asked if they currently live on a farm, 86 percent of respondents indicated that they had never lived on a farm, 11 percent indicated that they had lived on a farm in the past but not now, and three percent of respondents indicated that they currently live on a farm.

The majority, 86 percent of respondents indicated that either their families or themselves had purchased food at roadside stand in the past and 85 percent of respondents indicated that they had purchased food at a farmer's market in the past. The majority of respondents, 72 percent, indicated that they have prepared meals for their families and the majority, 83 percent, of respondents also indicated that their mom is the primary shopper in the household. The respondents indicated that the majority, 68 percent of their families grocery shop once or twice a week, 25 percent of respondents indicated their families grocery shop once or twice a month, and six percent of respondents indicated that their families grocery shop daily.

The majority, 86 percent, of respondents indicated that they use Facebook more than other social media sites. Figure 1 below shows a breakdown of the respondents' social media usage.

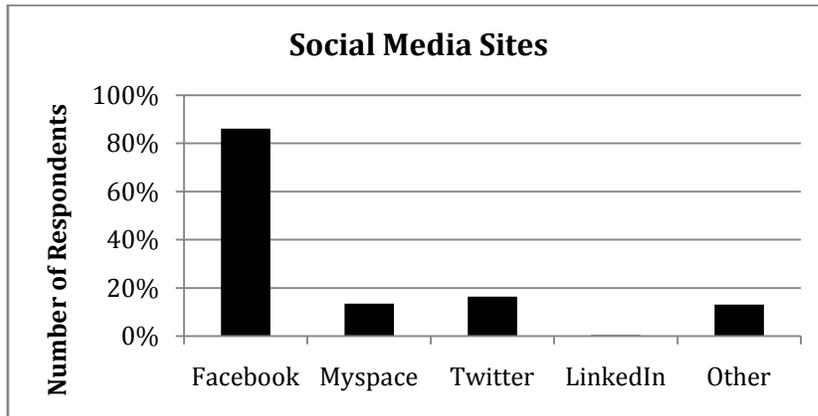


Figure 1. The respondents' social media usage.

The majority of respondents, 46 percent, indicated that their primary reason for using social media is to keep in touch. The next biggest reason for using social media among the respondents is to socialize. The respondents indicated the majority, 41 percent, use social media for 0-1 hours per day and 32 percent use social media for 1-3 hours a day.

The majority of respondents communicate the most through text messaging followed by using their phone to call. The respondents indicated that the majority, 57 percent have a cell phone with social media capabilities. Figure 2 below indicates the type of cell phone that respondents have.

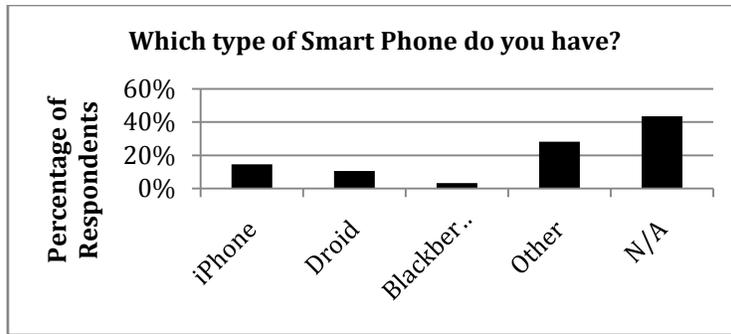


Figure 2. This graph illustrates the type of smart phone that respondents have.

When the respondents were asked how they get their news, the majority, 64 percent, of respondents indicated that they get their news from watching the television. The least popular source for getting news among the respondents is from a social media source.

The respondents were given a ten question test about California agriculture to assess their knowledge and the average score of all respondents was a 5.7 out 10 or 57%. A deeper analysis of these questions is below.

Target Market

There were two target markets identified for the ILF organization. The first target market came from Question 8, indicating if the respondents would wear the ILF logo on their clothing. The survey shows that 37.2 percent of respondents indicated that they would wear the ILF logo on their clothing. This target was chosen because this represents the population that would purchase ILF apparel and therefore support the organization.

The second target market came from Question 9. The respondents were asked to list three adjectives that described farmers. The results were analyzed and 157, or 57.2 percent, of respondents described farmers as hardworking. Respondents also described farmers are smart, intelligent, wise or knowledgeable. Strong, helpful and poor were the other most used adjectives to describe farmers. Figure 3 displays the other most used words to describe farmers. This target was chosen because this is the group of the sample that has positive opinion of farmers and could potentially become supporters of ILF.

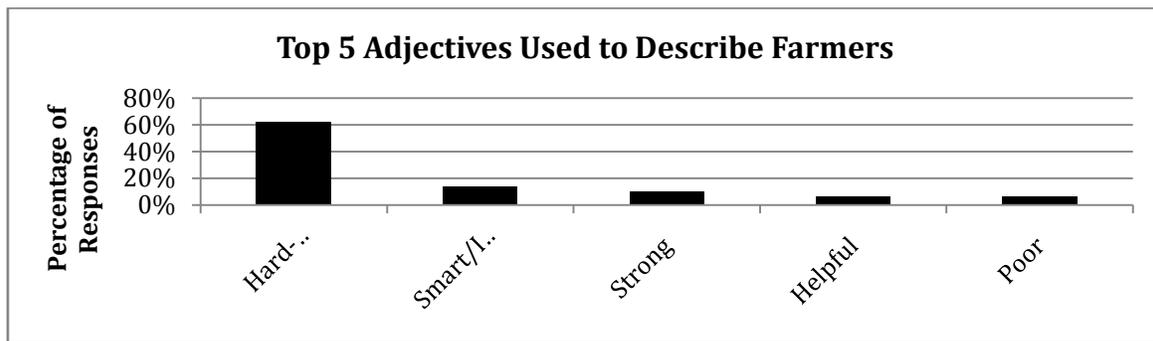


Figure 3. The top 5 adjectives respondents used to describe farmers

Analysis

Chi-squared tests were conducted on the categorical data to determine relationships among the target markets and the each of the survey questions.

Table 5 shows the age breakdown of the respondents that are likely to wear the ILF logo on their clothing. Respondents aged 16-17 comprise the largest group, 58 percent of the population, that is most likely to wear the ILF logo on their clothing.

Table 5. Age breakdown of respondents likely to wear the ILF logo

	Likely to Wear ILF Logo	Not Likely to Wear ILF Logo	Total (n=274)
Age of Respondents	<i>Percent of Column</i>		
14	13%	16%	15%
15	25%	41%	35%
16	35%	23%	27%
17	23%	18%	20%
18	4%	2%	3%
Total	100%	100%	100%

Table 6 indicates the respondents that are likely to wear the ILF logo on their clothing in respect to their gender. Females are more likely than men to wear the ILF logo on their clothing.

Table 6. Gender breakdown of respondents likely to wear the ILF logo.

	Likely to Wear ILF Logo	Not Likely to Wear ILF Logo	Total (n=274)
Gender of Respondents	<i>Percent of Column</i>		
Male	38%	46%	43%
Female	62%	52%	57%
Total	100%	100%	100%

Table 7. Grade breakdown of respondents likely to wear the ILF logo on their clothing. illustrates the grade breakdown of the respondents that are likely to

wear the ILF logo on their clothing. Sophomores and juniors comprise the largest group (70 percent) of respondents that are likely to wear the ILF logo on their clothing. This makes sense because these are the associated grades for the 16-17-year-old students that are the most likely to wear the ILF logo on their clothing. Seniors are the least likely to wear the ILF logo on their clothing.

Table 7. Grade breakdown of respondents likely to wear the ILF logo on their clothing.

	Likely to Wear ILF Logo	Not Likely to Wear ILF Logo	Total (n=274)
Grade of Respondents	<i>Percent of Column</i>		
9	29%	48%	41%
10	28%	24%	26%
11	42%	26%	32%
12	0%	3%	2%
Total	100%	100%	100%

Table 8 breaks down the residential area of the respondents that are likely to wear the ILF logo on their clothing. 50 percent of the respondents in the target market that would wear the ILF logo on their clothing are from an urban area with more than 100,000 people.

Table 8. Residential living area of respondents likely to wear the ILF logo on their clothing.

	Likely to Wear ILF Logo	Not Likely to Wear ILF Logo	Total (n=274)
Residence of Respondents	<i>Percent of Column</i>		
Rural living on a farm	11%	2%	5%
Rural not living on a farm	7%	4%	5%
Small town under 25,000 people	25%	23%	24%
Large town 25,000-100,000 people	7%	12%	10%
Urban 100,000 people or more	50%	59%	56%
Total	100%	100%	100%

The majority of respondents in the second target market that described farmers as hardworking are between 16 and 17 years old. This group makes up 50% percent of the target population. Table 9 illustrates the breakdown of the ages of the target market that described farmers as hardworking.

Table 9. Age breakdown of the target market that describes farmers as hardworking

	Described Farmers as Hardworking	Did Not Described Farmers as Hardworking	Total (n=274)
Age of Respondents	<i>Percent of Column</i>		
14	13%	17%	15%
15	24%	37%	35%
16	25%	31%	27%
17	25%	12%	20%
18	3%	3%	3%
Total	100%	100%	100%

The survey results in Table 10 show that females (54 percent) describe farmers as hardworking more than males (46 percent).

Table 10. Gender breakdown of the target market that would describe farmers as hardworking

	Described Farmers as Hardworking	Did Not Described Farmers as Hardworking	Total (n=274)
Gender of Respondents	<i>Percent of Column</i>		
Male	46%	41%	43%
Female	54%	59%	57%
Total	100%	100%	100%

According to the survey results and as pictured within Table 11, freshman and sophomores comprise the largest group (74 percent) to describe farmers as hardworking. Seniors make up the smallest group, three percent of respondents to describe farmers as hardworking.

Table 11. Grade breakdown of the target market that would describe farmers as hardworking.

	Described Farmers as Hardworking	Did Not Describe Farmers as Hardworking	Total (n=274)
Grade of Respondents	<i>Percent of Column</i>		
9	47%	36%	41%
10	27%	24%	26%
11	23%	38%	32%
12	3%	1%	2%
Total	100%	100%	100%

Respondents in an urban area with more than 100,000 residents are more likely to describe farmers as hardworking than any other residential area. As Table 12 below shows, urban students comprise the majority, 58 percent, of the population that describes farmers as hardworking.

Table 12. Residential living area of the target market that describes farmers as hardworking.

	Described Farmers as Hardworking	Did Not Described Farmers as Hardworking	Total (n=274)
Residence of Respondents	<i>Percent of Column</i>		
Rural living on a farm	3%	7%	5%
Rural not living on a farm	4%	6%	5%
Small town under 25,000 people	21%	25%	24%
Large town 25,000-100,000 people	14%	8%	10%
Urban 100,000 people or more	58%	54%	56%
Total	100%	100%	100%

Table 13 indicates that at a significance level of five percent, the target market that would wear the ILF logo on their clothing is associated with the respondents' age, grade, and current place of residence. For both target markets, the majority of students are between the ages of 16-17, in grades 9-11, and live in urban residential areas with more than 100,000 people.

Table 13. P-Values of demographic questions

	Survey Question	Likelihood to Wear <i>p-value</i>	Describe Farmers as "Hardworking" <i>p-value</i>
1	How old are you?	0.046	0.090
2	What is your gender?	0.213	0.373
3	What grade are you in?	0.006	0.553
4	Describe your current place of residence.	0.007	0.205

"I Love Farmers...They Feed My Soul!" Questions

The following results depict the analysis of questions that addressed the high school students' opinion of the ILF logo.

Table 14 illustrates that only six percent of the target market that is likely to wear the ILF logo on their clothing has seen the logo before. This is a very small percentage of the audience.

Table 14. Respondents that have seen the ILF logo and the target market likely to wear the logo

	Likely to Wear ILF Logo	Not Likely to Wear ILF Logo	Total (n=274)
Seen Logo Before	<i>Percent of Column</i>		
Yes	6%	9%	8%
No	94%	91%	92%
Total	100%	100%	100%

Table 15 shows that while only six percent of the population that is likely to wear the ILF logo on their clothing has seen the logo, 92 percent of the population thinks that the logo is appealing. This shows a magnitude of potential for the ILF organization among high school students.

Table 15. Respondents that think the ILF logo is appealing and the target market likely to wear the logo

	Likely to Wear ILF Logo	Not Likely to Wear ILF Logo	Total (n=274)
Think Logo is Appealing	<i>Percent of Column</i>		
Yes	92%	56%	69%
No	8%	44%	31%
Total	100%	100%	100%

As Table 16 shows, only 10 percent of the respondents that described farmers as hardworking have seen the ILF logo before. The majority of respondent have not seen the ILF logo

Table 16. Respondents that have seen the ILF logo and the target market that described farmers as hardworking

	Described Farmers as Hardworking	Did Not Described Farmers as Hardworking	Total (n=274)
Seen Logo Before	<i>Percent of Column</i>		
Yes	10%	6%	8%
No	90%	94%	92%
Total	100%	100%	100%

While a very small percentage of the target market that describes farmers as hardworking has seen the logo before, Table 17 shows that the majority, 62 percent, of respondents find the logo appealing.

Table 17. Respondents that think the ILF logo is appealing and the target market that would describe farmers as hardworking.

	Described Farmers as Hardworking	Did Not Describe Farmers as Hardworking	Total (n=274)
Think Logo is Appealing	<i>Percent of Column</i>		
Yes	62%	75%	69%
No	38%	25%	31%
Total	100%	100%	100%

Figure 4 illustrates the adjectives the respondents used to describe the ILF logo. The most frequent adjectives include love, colorful, trendy, and words that describe the beauty of the logo.

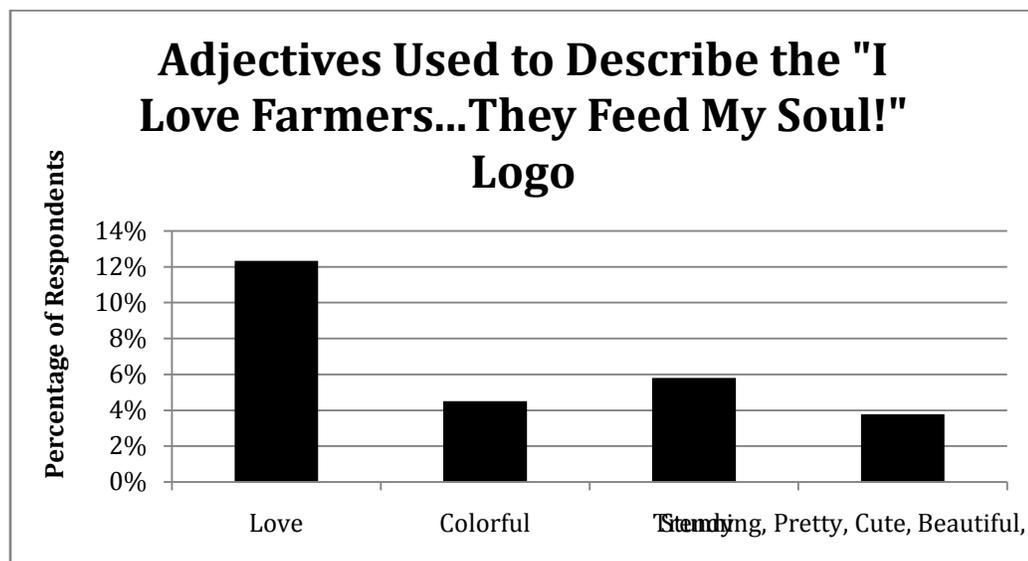


Figure 4. Adjectives Used to Describe the ILF logo

This set of questions really shows the untapped market and potential for the ILF organization. Many of the students surveyed have not seen the logo but

find it appealing and use positive words to describe the logo. This helps to confirm the importance of this type of study to determine the marketing preferences of high school students and strategies to effectively reach the students.

Table 18. Breakdown of geographic area and respondents that described farmers as hardworking

Survey Question		Likelihood to Wear	Describe Farmers as "Hardworking"
		<i>p-value</i>	<i>p-value</i>
5	Have you seen this logo before?	0.393	0.164
6	Is this logo appealing to you?	0.000	0.031

Table 18 shows that at a significance level of five percent, there is an association between the respondents that would wear the ILF logo on their clothing and also think the logo is appealing. It makes sense that there is an association here because this target market indicated that they would wear the ILF logo on their logo on their clothing, therefore it is expected they would also think it was appealing.

The data also shows that at the same significance level, there is an association between the target market that describes farmers as hardworking and thinks that the logo is appealing. This association also is not surprising because the target market that describes farmers as hardworking has a

somewhat positive opinion of farmers therefore would be supportive of organizations aimed to help farmers.

Familiarity with Agriculture Questions

This section of results is from the questions that focused on the respondent’s prior participation and familiarity with agriculture.

Table 19 shows that the majority of respondents, 64 percent, that would wear the ILF logo on their clothing do not have families that are directly involved in agriculture. The table also shows that 36 percent, approximately one-third, of the respondents that would wear the ILF logo on their clothing have family that is directly involved in agriculture.

Table 19. Cross table of survey question 10 and the target market that is likely to wear the ILF logo on their clothing

	Likely to Wear ILF Logo	Not Likely to Wear ILF Logo	Total (n=274)
Is Your Family Directly Involved in Agriculture	<i>Percent of Column</i>		
Yes	36%	22%	27%
No	64%	78%	73%
Total	100%	100%	100%

Table 20 indicates that 59 percent of respondents that would wear the ILF logo on their clothing also had at least one parent that was raised on a farm. In this case, the respondents that are likely to wear the ILF logo on their clothing

could be respecting their parents history with agriculture and farming and are showing support to the industry their parents grew up in.

Table 20. Cross table of survey question 11 and the target market that is likely to wear the ILF logo on their clothing

	Likely to Wear ILF Logo	Not Likely to Wear ILF Logo	Total (n=274)
Were at Least 1 of Your Parents Raised on a Farm	<i>Percent of Column</i>		
Yes	59%	56%	57%
No	41%	44%	43%
Total	100%	100%	100%

Table 20 shows that the majority of respondents, 68 percent, of respondents that are likely to wear the ILF logo on their clothing have never worked on a farm before. It is surprising that the majority, 46 percent of the respondents that have worked on a farm before are not likely to wear to the ILF logo on their clothing. It was assumed that those respondents with a direct connection to agriculture would be more willing to wear the ILF logo and support agriculture.

Table 21. Cross table of survey question 12 and the target market that is likely to wear the ILF logo on their clothing

	Likely to Wear ILF Logo	Not Likely to Wear ILF Logo	Total (n=274)
Have you ever worked on a farm?	<i>Percent of Column</i>		
Yes	32%	46%	37%
No	68%	54%	63%
Total	100%	100%	100%

When asked if the respondents had ever lived on a farm, Table 22 indicated that 83 percent, of respondents that would wear the ILF logo on their clothing have never lived on a farm. The majority of respondents that currently live on a farm, seven percent, indicated that they are likely to wear the ILF logo on their clothing.

Table 22. Cross table of survey question 13 and the target market that is likely to wear the ILF logo on their clothing

	Likely to Wear ILF Logo	Not Likely to Wear ILF Logo	Total (n=274)
Have you ever lived on a farm?	<i>Percent of Column</i>		
I have never lived on a farm	83%	88%	86%
I lived on a farm in the past	10%	11%	11%
I currently live on a farm	7%	1%	3%
Total	100%	100%	100%

Table 23 shows that the majority, 78 percent, of respondents that described farmers as hardworking do not have a family that is directly involved in agriculture. In fact, 31 percent of respondents that have family involved in agriculture did not use hardworking as one of their adjectives to describe farmers.

Table 23. Cross table of survey question 10 and the target market that describes farmers as hardworking.

	Described Farmers as Hardworking	Did Not Describe Farmers as Hardworking	Total (n=274)
Is Your Family Directly Involved in Agriculture	<i>Percent of Column</i>		
Yes	22%	31%	27%
No	78%	69%	73%
Total	100%	100%	100%

When the respondents were asked if they had at least one parent was raised on a farm, the majority of respondents, 62 percent, did have a parent raised on a farm and did not describe farmers as hardworking. Table 24 shows that 50 percent of respondents that would describe farmers as hardworking did not have a parent that grew up on a farm.

Table 24. Cross table of survey question 11 and the target market that describes farmers as hardworking

	Described Farmers as Hardworking	Did Not Described Farmers as Hardworking	Total (n=274)
Were at Least 1 of Your Parents Raised on a Farm	<i>Percent of Column</i>		
Yes	50%	62%	57%
No	50%	38%	43%
Total	100%	100%	100%

Table 25 indicates that the majority of respondents that described farmers as hardworking have never worked on a farm. The table also shows that 38 percent of respondents that have worked on a farm before, did not describe farmers as hardworking.

Table 25. Cross table of survey question 12 and the target market that describes farmers as hardworking

	Described Farmers as Hardworking	Did Not Described Farmers as Hardworking	Total (n=274)
Have you ever worked on a farm?	<i>Percent of Column</i>		
Yes	36%	38%	37%
No	64%	62%	63%
Total	100%	100%	100%

Table 26 shows that the majority of respondents that currently live on a farm did not describe farmers as hardworking, but 86 percent of respondents that have never lived on a farm did describe farmers as hardworking.

Table 26. Cross table of survey question 13 and the target market that describes farmers as hardworking

	Described Farmers as Hardworking	Did Not Described Farmers as Hardworking	Total (n=274)
Have you ever lived on a farm?	<i>Percent of Column</i>		
I have never lived on a farm	86%	86%	86%
I lived on a farm in the past	13%	9%	11%
I currently live on a farm	1%	5%	3%
Total	100%	100%	100%

Chi-squared tests were conducted on the categorical data from this set of questions to determine any associations between the target markets and the survey responses. The data below and Table 27 indicate that at a significance level of five percent, there is an association between the respondents who would wear the ILF logo on their clothing and the respondent's family being directly involved in agriculture. The data also indicates that there is an association between the respondents who would wear the logo on their clothing and if the respondent had ever worked on a farm before. At the same significance level, the data indicates that there is an association between the respondents who would wear the logo on their clothing and if the respondent has ever lived on a farm. The results from these tests are not too surprising, as it could be assumed that an organization like ILF would be attractive to respondents living and working on farms.

Table 27. P-Values of questions regarding the respondents background knowledge of agriculture

Survey Question		Likelihood to Wear	Describe Farmers as "Hardworking"
		<i>p-value</i>	<i>p-value</i>
10	Is your family directly involved in agriculture?	0.008	0.134
11	Was at least one of your parents raised in a farm or in a rural area?	0.626	0.060
12	Have you ever worked on a farm?	0.020	0.694
13	Have you ever lived on a farm?	0.038	0.098

Grocery Shopping Habits

Results from questions 14-19 study the high school students' grocery shopping habits and consumer preferences that become important when grocery shopping.

Table 28 indicates that the majority of respondents that are likely to wear the ILF logo have also purchased food at a roadside stand before.

Table 28. Cross table of question 14 and the target market that is likely to wear the ILF logo on their clothing

	Likely to Wear ILF Logo	Not Likely to Wear ILF Logo	Total (n=274)
Have you Ever Purchased Food at a Roadside Stand?	<i>Percent of Column</i>		
Yes	91%	84%	86%
No	9%	16%	14%
Total	100%	100%	100%

Table 29 indicates that 91%, the majority of respondents, that are likely to wear the ILF logo, have purchased food at a farmers market before. The survey also indicates that 82 percent of the respondents that are not likely to wear the ILF logo on their clothing also have also shopped at farmers markets. While this group is not necessarily the target market, it shows that farmer's markets are still a great place to reach the entire population.

Table 29. Cross table of question 15 and the target market that is likely to wear the ILF logo on their clothing

	Likely to Wear ILF Logo	Not Likely to Wear ILF Logo	Total (n=274)
Have you Ever Purchased Food at a Farmer's Market?	<i>Percent of Column</i>		
Yes	91%	82%	86%
No	9%	18%	14%
Total	100%	100%	100%

Table 30 shows that the majority of respondents, 82 percent, that are likely to wear the ILF logo on their clothing also prepare meals for their families. The data also shows that 65 percent of the respondents that would not wear the ILF logo on their clothing also prepare meals for their family. This is an interesting concept as the majority of total respondents are cooking and preparing meals.

Table 30. Cross table of question 15 and the target market that is likely to wear the ILF logo on their clothing

	Likely to Wear ILF Logo	Not Likely to Wear ILF Logo	Total (n=274)
Do you Prepare Meals for Your Family	<i>Percent of Column</i>		
Yes	82%	65%	72%
No	18%	35%	28%
Total	100%	100%	100%

Table 31 indicates that for both the target market that is likely to wear the ILF logo on their clothing, 80 percent, and the audience that is not a part of the target market, 85 percent, mom is the primary shopper in all households.

Table 31. Cross table of question 16 and the target market that is likely to wear the ILF logo on their clothing

	Likely to Wear ILF Logo	Not Likely to Wear ILF Logo	Total (n=274)
Who is the Primary Shopper in Your Household?	<i>Percent of Column</i>		
Mom	80%	85%	83%
Dad	16%	12%	14%
Me	3%	0%	1%
Other	1%	2%	2%
Total	100%	100%	100%

When the respondents were asked how often their household purchases groceries, Table 32 shows that the majority, 70 percent of respondents that are likely to wear the ILF logo on their clothing grocery shop once or twice a week.

Table 32. Cross table of question 16 and the target market that is likely to wear the ILF logo on their clothing.

	Likely to Wear ILF Logo	Not Likely to Wear ILF Logo	Total (n=274)
How Often Do you Buy Groceries?	<i>Percent of Column</i>		
Daily	7%	5%	6%
Once or Twice a Week	70%	67%	68%
Once or Twice a Month	23%	28%	26%
Total	100%	100%	100%

Table 33 indicates that the majority of respondents that have purchased food at a roadside stand before did not describe farmers as hard working. The table also indicates that 80 percent of the target market that describe farmers as hardworking has purchased food at a roadside stand before.

Table 33. Cross table of question 14 and the target market that describes farmers as hardworking

	Described Farmers as Hardworking	Did Not Described Farmers as Hardworking	Total (n=274)
Have you Ever Purchased Food at a Roadside Stand?	<i>Percent of Column</i>		
Yes	80%	91%	86%
No	20%	9%	14%
Total	100%	100%	100%

Table 34 shows that 86 percent of the target market that described farmers as hardworking has purchased food at a farmer' market before. This table continues to indicate that farmer's markets can serve as an excellent place to reach consumers of all demographics and target markets because of the amount of consumers that shop there.

Table 34. Cross table of question 15 and the target market that describes farmers as hardworking

	Described Farmers as Hardworking	Did Not Described Farmers as Hardworking	Total (n=274)
Have you Ever Purchased Food at a Farmer's Market?	<i>Percent of Column</i>		
Yes	86%	85%	14%
No	14%	15%	86%
Total	100%	100%	100%

Table 35 indicates that 72 percent of respondents that prepare meals for their families also described farmers as hardworking. This table is consistent with the first target market and indicates again that the majority of respondents are preparing meals for their families.

Table 35. Cross table of question 16 and the target market that describes farmers as hardworking

	Described Farmers as Hardworking	Did Not Described Farmers as Hardworking	Total (n=274)
Do you Prepare Meals for Your Family	<i>Percent of Column</i>		
Yes	72%	72%	72%
No	28%	28%	28%
Total	100%	100%	100%

Similar to the target market of respondents that are likely to wear the ILF logo on their clothing, Table 36 shows that respondents in the second target market, that described farmers as hardworking, also indicate that their mom is the primary shopper in the household.

Table 36. Cross table of question 17 and the target market that describes farmers as hardworking

	Described Farmers as Hardworking	Did Not Describe Farmers as Hardworking	Total (n=274)
Who is the Primary Shopper in Your Household?	<i>Percent of Column</i>		
Mom	86%	82%	83%
Dad	12%	15%	14%
Me	0%	2%	1%
Other	2%	2%	2%
Total	100%	100%	100%

Table 37 indicates that the majority of respondents that described farmers as hardworking indicate that their household grocery shops once or twice a month. The majority of respondents that grocery shop once or twice a week did not describe farmers as hardworking.

Table 37. Cross table of question 18 and the target market that describes farmers as hardworking

	Described Farmers as Hardworking	Did Not Described Farmers as Hardworking	Total (n=274)
How Often Do you Guy Groceries?	<i>Percent of Column</i>		
Daily	9%	3%	6%
Once or Twice a Week	64%	72%	68%
Once or Twice a Month	27%	25%	26%
Total	100%	100%	100%

Chi-squared tests were conducted on the categorical data from this set of questions to determine any associations between the target markets and the survey responses. The data below indicates that at a significance level of five percent, there is an association between the respondents who would wear the logo on their clothing and the respondents who purchase food at a farmer’s market. This association is not surprising because the respondents that shop at local farmer’s markets may like to support family farmers and realize they can also support family farmers through ILF. At the same significance level, there is an association between the respondents who would wear the logo on their clothing and whether they prepare meals for their families. This association is more surprising and could be because as more high school students are

preparing meals for their families, they are learning the importance of nutrition and agricultural commodities and are attracted to ILF.

The data in Table 38 indicates that at the same significance level, there is an association between the target market who would describe farmers as hardworking and purchase food at a roadside stand. This is not a surprising association because roadside stand stands may appeal to respondents that want to support local, family farmers and also like fresh, straight from the field produce. These respondents may also find the value in supporting ILF because of what the organization's key values. The data also shows that at a significance level of five percent, there is an association between the target market who would describe farmers as hardworking and the preferences that become important when purchasing groceries. This association is similar to the last in the fact that respondents have preferences when they grocery shop and in America, we are able to have those choices at the grocery store. Because of this, those respondents may be supportive of American agriculture and again the mission of the ILF organization.

Table 38. P-Values of Questions regarding the respondents grocery shopping habits.

Survey Question		Likelihood to Wear	Describe Farmers as "Hardworking"
		<i>p-value</i>	<i>p-value</i>
14	Have you or your family ever purchased food at a roadside stand?	0.081	0.010
15	Have you or your family ever purchased food at a farmers market?	0.046	0.842
16	Do you ever prepare meals for your family?	0.003	0.939
17	Who is the primary shopper in your home?	0.206	0.717
18	How often do you buy groceries?	0.527	0.080
19a	When buying groceries what becomes important: Low price versus appealing appearance?	0.444	0.005
19b	When buying groceries what becomes important: Organic versus California grown?	0.218	0.009
19c	When buying groceries what becomes important: Organic versus low price?	0.851	0.197
19d	When buying groceries what becomes important: low price versus California grown?	0.604	0.819
19e	When buying groceries what becomes important: Organic versus appealing appearance?	0.879	0.540

Media Usage Habits

Results from questions 20-28 study the target samples social media and Internet usage habits and media preferences. This information will become

critical to future marketing efforts of the ILF organization because social media is the primarily connection that ILF has to its fans and followers.

Question 20 asks respondents which social media sites they use.

According to the data and Figure 5, 236 or 86 percent, of respondents use Facebook. The top two social media sites indicated in the “Other Section” include Tumblr and YouTube.

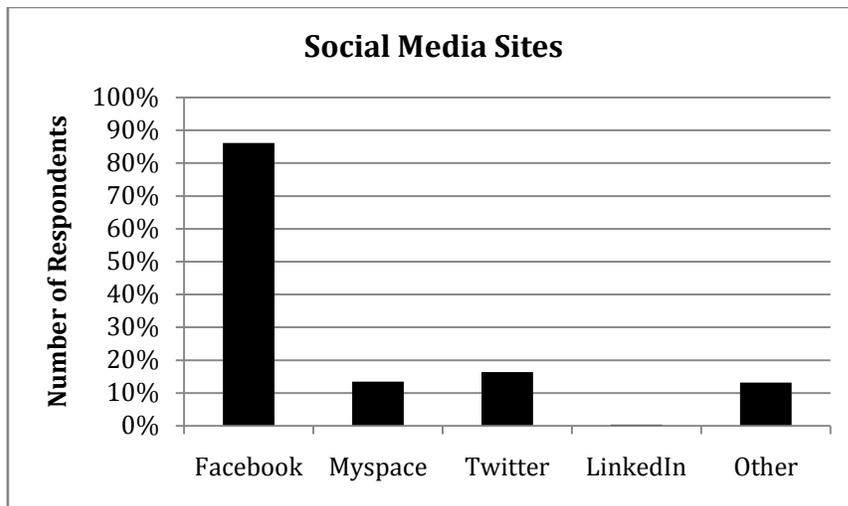


Figure 5. This graph illustrates which social media sites the respondents use the most.

Table 39 indicates that 80 percent of the target market that uses Facebook as its primary social media site is likely to wear the ILF logo. Facebook is the most used social media site for the group that is not likely to wear the ILF logo on their clothing as well.

Table 39. Breakdown of social media sites usage of the target market that is likely to wear the ILF logo.

	Likely to Wear ILF Logo	Not Likely to Wear ILF Logo	Total (n=274)
Which of the Following Social Media Sites do you Use?	<i>Percent of Column</i>		
Facebook	80%	85%	83%
MySpace	16%	12%	14%
Twitter	3%	0%	1%
LinkedIn	1%	2%	2%
Total	100%	100%	100%

Table 40 indicates that the majority of respondents, in and out of the target market, do not use twitter. Of the respondents that do use twitter, the majority, 20 percent, post 1-3 times a day and are likely to wear the ILF logo on their clothing.

Table 40. Twitter usage of the target market that is likely to wear the ILF logo.

	Likely to Wear ILF Logo	Not Likely to Wear ILF Logo	Total (n=274)
If You Use Twitter, How Posts Per Day?	<i>Percent of Column</i>		
0	74%	82%	79%
1-3	20%	10%	14%
4-5	4%	3%	3%
More than 6	3%	5%	4%
Total	100%	100%	100%

When asked how often respondents use social media per day, the majority of respondents, 77%, use social media for 0-3 hours a day. Table 41 indicates that this group is also likely to wear the ILF logo on their clothing.

Table 41. Social media usage of the target market that is likely to wear the ILF logo.

	Likely to Wear ILF Logo	Not Likely to Wear ILF Logo	Total (n=274)
How Often Do You Use Social Media Per Day?	<i>Percent of Column</i>		
Never	15%	11%	12%
0-1 Hours	50%	36%	41%
1-3 Hours	27%	35%	32%
More than 3 Hours	8%	18%	14%
Total	100%	100%	100%

Consistent with the first target market group that is likely to wear the ILF logo on their clothing, the majority of respondents that describe farmers as hardworking do not use twitter. king and post 1-3 times per day.

Table 42 indicates that majority of respondents that use twitter both describe farmers as hardworking and post 1-3 times per day.

Table 42. Twitter usage of the target market that describes farmers as hardworking,

	Described Farmers as Hardworking	Did Not Described Farmers as Hardworking	Total (n=274)
If You Use Twitter, How Posts Per Day?	<i>Percent of Column</i>		
0	76%	81%	79%
1-3	17%	11%	14%
4-5	3%	3%	3%
More than 6	3%	4%	4%
Total	100%	100%	100%

Table 43 indicates that the majority of respondents, 76 percent, use social media for 0-3 hours per day and also describe farmers as hardworking. This is important for the ILF organization to know because Facebook is the primary mode of communication for the organization and this is audience that ILF is trying to reach.

Table 43. Social media usage of the target market that is likely to wear the ILF logo.

	Described Farmers as Hardworking	Did Not Described Farmers as Hardworking	Total (n=274)
How Often Do You Use Social Media Per Day?	<i>Percent of Column</i>		
Never	8%	16%	12%
0-1 Hours	41%	41%	41%
1-3 Hours	35%	30%	32%
More than 3 Hours	16%	13%	14%
Total	100%	100%	100%

The respondents were also asked how they primarily used social media. The data and Figure 6, indicate that 45 percent of respondents chose “Keeping in Touch” as their primary reason for using social media. The second most popular reason for using social media among the respondents is to socialize. Both of these formats are similar and are also consistent with the amount of time that the respondents are spending connected to social media.

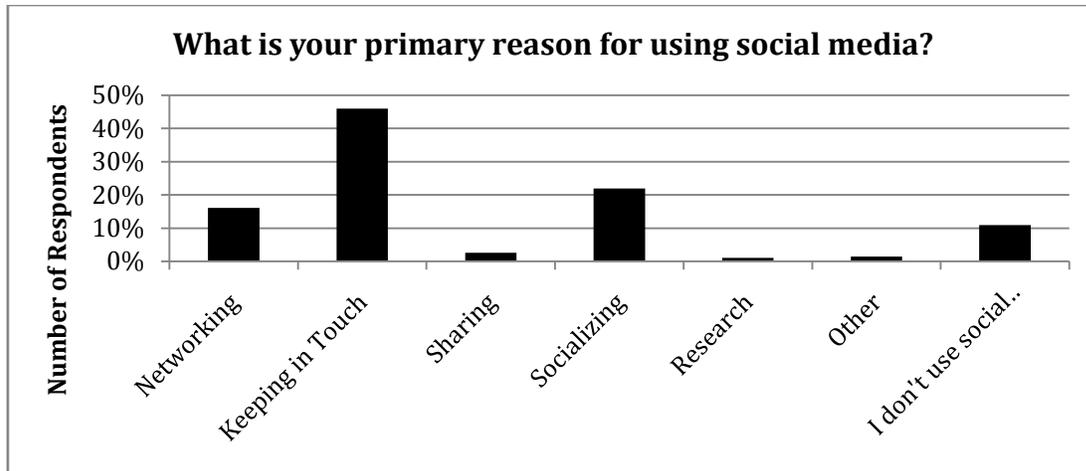


Figure 6. Illustration representing the respondents' primary reason for using social media.

Consistent with Figure 6, the results illustrated in Table 44 indicate that the majority of respondents that are likely to wear the ILF logo on their clothing, 47 percent, primarily use social media to keep in touch.

Table 44. Breakdown of how the target market that is likely to wear the ILF logo uses social media.

	Likely to Wear ILF Logo	Not Likely to Wear ILF Logo	Total (n=274)
What is Your Primary Reason for Using Social Media?	<i>Percent of Column</i>		
Networking	22%	13%	16%
Keeping in Touch	47%	45%	46%
Sharing	5%	1%	3%
Socializing	13%	27%	22%
Research	2%	1%	1%
Other	1%	2%	1%
Total	100%	100%	100%

Table 45 shows that the majority of respondents that describe farmers as hardworking, 49 percent, indicate that keeping in touch is also their primary reason for using social media.

Table 45. Breakdown of how the target market that describes farmers as hardworking uses social media.

	Described Farmers as Hardworking	Did Not Described Farmers as Hardworking	Total (n=274)
What is Your Primary Reason for Using Social Media?	<i>Percent of Column</i>		
Networking	23%	11%	16%
Keeping in Touch	49%	44%	46%
Sharing	1%	4%	3%
Socializing	17%	25%	22%
Research	1%	1%	1%
Other	2%	1%	1%
Total	100%	100%	100%

When respondents were asked how they most frequently communicate with their friends, the majority of respondents, 48 percent, indicated that text messages, followed by phone calls (35 percent), are the primary mediums of communication for the high school students surveyed. Communicating face to face was the third most popular form of communication used by the respondents. Figure 7 illustrates other means of communication used by the high school students.

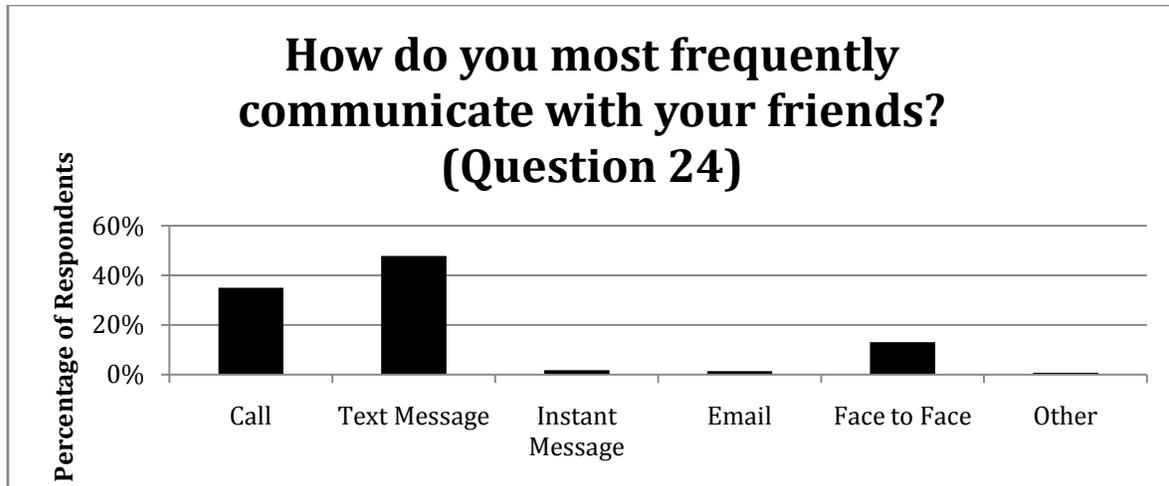


Figure 7. Illustration representing how respondents communicate with their friends

Table 46 indicates that 47 percent of respondents that are likely to wear the ILF logo on their clothing primarily use text messaging as their means of communication.

Table 46. Breakdown of how the target market that is likely to wear the ILF logo prefers to communicate with friends.

	Likely to Wear ILF Logo	Not Likely to Wear ILF Logo	Total (n=274)
How do You Communicate With Your Friends?	<i>Percent of Column</i>		
Call	34%	35%	35%
Text Message	47%	48%	48%
Instant Message	1%	12%	2%
Email	2%	1%	1%
Face to Face	15%	12%	13%
Other	1%	1%	1%
Total	100%	100%	100%

Table 47 indicates that majority of respondents, 73 percent, that are likely to wear the ILF logo on their clothing use the Internet for 1-3 hours per day. The table also indicates that 97 percent of the population that is likely to wear the ILF logo is spending between 1 and more than 3 hours connected to the Internet per day.

Table 47. Breakdown of how often the target market that is likely to wear the ILF logo on their clothing uses the Internet.

	Likely to Wear ILF Logo	Not Likely to Wear ILF Logo	Total (n=274)
How Often do You Use the Internet?	<i>Percent of Column</i>		
Never	3%	7%	5%
1-3 Hours	73%	65%	68%
More Than 3 Hours	25%	28%	27%
Total	100%	100%	100%

Table 48 indicates that the majority, 52 percent, of respondents that use text messaging as their primary source of communication did not describe farmers as hardworking. The table also indicates that 38 percent of respondents that do describe farmers as hardworking use calling as a primary form of communication.

Table 48. Breakdown of how the target market that describes farmers as hardworking prefers to communicate with friends.

	Described Farmers as Hardworking	Did Not Described Farmers as Hardworking	Total (n=274)
How do You Communicate With Your Friends?	<i>Percent of Column</i>		
Call	38%	32%	35%
Text Message	43%	52%	48%
Instant Message	2%	2%	2%
Email	3%	1%	1%
Face to Face	13%	13%	13%
Other	2%	0%	1%
Total	100%	100%	100%

Table 49 Indicates that the majority of respondents that use the Internet for 1-3 hours a day, 71 percent, did not describe farmers as hardworking.

Table 49. Breakdown of how often the target market that describes farmers as hardworking uses the Internet.

	Described Farmers as Hardworking	Did Not Described Farmers as Hardworking	Total (n=274)
How Often do You Use the Internet?	<i>Percent of Column</i>		
Never	8%	4%	5%
1-3 Hours	62%	71%	68%
More Than 3 Hours	30%	25%	27%
Total	100%	100%	100%

When respondents were asked in Question 26 what magazines they read, the majority, 25 percent, of respondents indicated that they read Seventeen or People magazines. Nine percent of respondents indicated that they read sports magazines. Because the respondents were able to list three magazines, these were the magazines that received the most consistent answers.

Question 28 asked respondents which websites they visit regularly and respondents were able to list their top three. The respondents indicated that Facebook (62 percent) and YouTube (32 percent) were the websites that they visited most frequently.

When asked if the respondents have a smart phone, the majority, 57 percent of respondents indicated that they did. Table 50 indicates that the

majority of respondents that are likely to wear the ILF logo on their clothing do not have a smart phone.

Table 50. Breakdown of the target market that is likely to wear the ILF logo and have a smart phone.

	Likely to Wear ILF Logo	Not Likely to Wear ILF Logo	Total (n=274)
Do You Have a Smart Phone?	<i>Percent of Column</i>		
Yes	49%	61%	57%
No	51%	39%	43%
Total	100%	100%	100%

Table 51 indicates the same results for the target market that described farmers as hardworking. The majority of respondents that described farmers as hardworking do not have a smart phone.

Table 51. Breakdown of the target market that describes farmers as hardworking and have a smart phone.

	Described Farmers as Hardworking	Did Not Described Farmers as Hardworking	Total (n=274)
Do You Have a Smart Phone?	<i>Percent of Column</i>		
Yes	56%	57%	57%
No	44%	43%	43%
Total	100%	100%	100%

Respondents were asked how they get their news. Table 52 indicates that the majority of respondents that are likely to wear the ILF logo on their clothing get their news from watching the television.

Table 52. Breakdown of the target market that is likely to wear the ILF logo and how they get their news.

	Likely to Wear ILF Logo	Not Likely to Wear ILF Logo	Total (n=274)
How do you Get Your News	<i>Percent of Column</i>		
Television	71%	60%	64%
Radio	7%	6%	7%
Internet Source	19%	26%	23%
Social Media Source	4%	3%	4%
Other	0%	3%	2%
Total	100%	100%	100%

Table 53 indicates that 58 percent of respondents that describe farmers as hardworking receive their news from the television and 25 percent of respondents receive their news from an Internet source.

Table 53. Breakdown of the target market that describes farmers as hardworking and how they get their news.

	Described Farmers as Hardworking	Did Not Described Farmers as Hardworking	Total (n=274)
How do you Get Your News	<i>Percent of Column</i>		
Television	58%	69%	64%
Radio	10%	4%	7%
Internet Source	25%	22%	23%
Social Media Source	3%	4%	4%
Other	4%	1%	2%
Total	100%	100%	100%

Chi-squared tests were conducted on the categorical data from this set of questions to determine any associations between the target markets and the survey responses. The data below indicates that at a significance level of five percent, there is an association between the respondents who would wear the logo on their clothing and how often the respondents use social media per day. At the same significance level, there is an association between the respondents who would wear the ILF logo on their clothing and their primary reason for using social media. Both of these associations are interesting as ILF uses social media as its primary form of communication. The target marketing is already attracted to the ILF logo and this would be a perfect audience to engage. The data also indicates that at the five percent significance level, there is an association

between the respondents who would wear the logo on their clothing and if the respondents that have a smart phone with social media capabilities. As more and more high students are starting to get smart phones with social media capabilities, a door is opening to a market and there is a need for more creative outreach efforts to engage these students.

The data present in Table 54 indicates that at the same significance level, there is an association between the target market who would describe farmers as hardworking and the respondents who use Myspace. This is an interesting association because such a bigger population of the respondents use Facebook as their primary social media site. Based on this data, ILF needs to maintain a Myspace page to effectively reach this audience. The data also shows that at a significance level of five percent, there is an association between the target market who would describe farmers as hardworking and how often the respondents post tweets on Twitter. This is also an interesting association as hardly any of the respondent use Twitter. It is important that ILF maintain a presence on Twitter as this social media site will only continue to grow in popularity. The data also indicates that at the five percent significance level, there is an association between the respondents who would describe farmers as hardworking and the respondents' primary reason for using social media. The respondents indicated that their primary reason for using social media is keeping in touch. ILF is currently using social media to keep in touch with the organizations current fans and followers and the respondents may have learned about farming through their social media profiles. At the same significance level,

there is an association between the respondents who would describe farmers as hardworking and those who read Seventeen or People magazines. This association may occur because these magazines have health features and respondents may learn about agriculture indirectly through the magazine. The data also shows that at a significance level of five percent, there is an association between the target market who would describe farmers as hardworking and how the respondents get their news. This association may occur because the respondents could learn about farming and agriculture through the news and become aware of the commodities that farmers produce and issues within the agricultural industry.

Table 54. P-Values of Questions regarding the respondents media usage.

Survey Question		Likelihood to Wear	Describe Farmers as "Hardworking"
		<i>p-value</i>	<i>p-value</i>
20	Which of the following social media sites do you use? (Facebook)	0.757	0.936
20	Which of the following social media sites do you use? (Myspace)	0.122	0.003
20	Which of the following social media sites do you use? (Twitter)	0.674	0.796
20	Which of the following social media sites do you use? (Linked In)	0.302	0.571
20	Which of the following social media sites do you use? (Other: Tumblr)	0.117	0.083
20	Which of the following social media sites do you use? (Other: YouTube)	0.853	0.014
21	If you use Twitter, how many posts a day?	0.164	0.079
22	How often do you use social media per day?	0.024	0.188
23	What is your primary reason for using social media?	0.027	0.040
24	How do you most frequently communicate with your friends?	0.924	0.409
25	How often do you use the Internet?	0.236	0.195
26	What Magazines do you read? (Seventeen or People)	0.126	0.017
26	What Magazines do you read? (Sports Magazines)	0.474	0.087
28	Which Interent do you visit and how often - Facebook?	0.802	0.537
28	Which Interent do you visit and how often	0.618	0.600

	- YouTube?		
29a	Do you have a phone with social media capabilities?	0.052	0.770
29b	If yes, which phone type.	0.148	0.536
30	How do you get your news?	0.412	0.036

Agricultural Knowledge Questions

Questions 31 through 40 tested the respondents' knowledge of the agricultural industry. An ANOVA: Single Factor test was conducted to observe the variances in the geographic locations based on their agricultural knowledge.

Table 55. Results from One-Way ANOVA Test.

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Modesto	90	524	5.82222222 2	1.72084893 9
San Jose	90	535	5.94444444 4	1.62609238 5
Kingsburg	90	496	5.51111111 1	2.47740324 6

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	8.9851851 85	2	4.4925925 93	2.3140419 69	0.1008404 86	3.0295971 37
Within Groups	518.36666 67	267	1.9414481 9			
Total	527.35185 19	269				

The null hypothesis is the that the overall test scores of students from Modesto are equal to overall test scores of students from San Jose which are equal to overall test scores of students from Kingsburg. The alternative hypothesis is that at least one of the mean overall test scores in one geographic

location is different from the others. At the five percent significance level, Table 55 illustrates the results of this test and indicate that we fail to reject the null hypothesis ($p=0.1008$). There is a small F test statistic, indicating that there is little evidence against the null hypothesis that all geographic locations are equal in terms of their agricultural knowledge.

As stated in the data overview, the mean test score of all respondents is a 5.7 score out of 10. Table 55 depicts, the averages for each of the schools. San Jose had the highest average (5.9), followed by Modesto with an average of 5.8, and Kingsburg had the lowest average of 5.1. This is surprising because the students in Kingsburg live in the most rural community. To become a more agriculturally literate society, a deeper understanding of agriculture is needed by all students, regardless of their geographic area.

A chi-squared test was conducted to see if there was a relationship between both target markets simultaneously and the geographic location. Table 56 provides insight to geographic areas of the target market. The respondents that are most likely to wear the ILF logo on their clothing are from Kingsburg, CA.

Table 56. Geographic breakdown of the target market that is likely to wear the ILF logo.

	Likely to Wear ILF Logo	Not Likely to Wear ILF Logo	Total (n=274)
Geographic Area	<i>Percent of Column</i>		
Kingsburg, CA	42%	27%	33%
San Jose, CA	36%	33%	34%
Modesto, CA	22%	40%	33%
Total	100%	100%	100%

Table 57 illustrates the geographic regions and how the respondents described farmers as hardworking. Kingsburg described farmers as hardworking more than the other geographic locations. This is not surprising as they may have a better opportunity to see the work that farmers do every day.

Table 57. Geographic breakdown of the target market that describes farmers as hardworking.

	Described Farmers as Hardworking	Did Not Describe Farmers as Hardworking	Total (n=274)
Geographic Area	<i>Percent of Column</i>		
Kingsburg, CA	39%	24%	33%
San Jose, CA	33%	36%	34%
Modesto, CA	28%	40%	33%
Total	100%	100%	100%

Table 58 indicates that at the 5 percent significance level, students that both described farmers as hardworking, and would wear the ILF logo are associated with the geographic area.

Table 58. P-Values of both target markets and the geographic location.

Geographic Location	Likelihood to Wear	Described Farmers as Hardworking
Kingsburg	.0037	.017
San Jose		
Modesto		

A test was conducted to see if there was a relationship between the high school students surveyed falling into both target markets and their geographic locations. Table 59 indicates that with a p-value of .002 and a significance level of 5 percent, it is concluded that both target markets together are associated with the geographic areas.

Table 59. P-Values of the respondents that answered “Yes” and the geographic locations.

Geographic Location	Answered “Yes” to both Target Markets
Kingsburg	.0019
San Jose	
Modesto	

At the five percent significance level, students' daily amount of social media usage is strongly associated with the geographic location in which they reside ($p < 0.001$). Figure 8 shows a breakdown of the respondents number of hours per day spent using social media, separated by the respondent's

geographic location. No definitive conclusions can be drawn because results vary both by hour's used and geographic region.

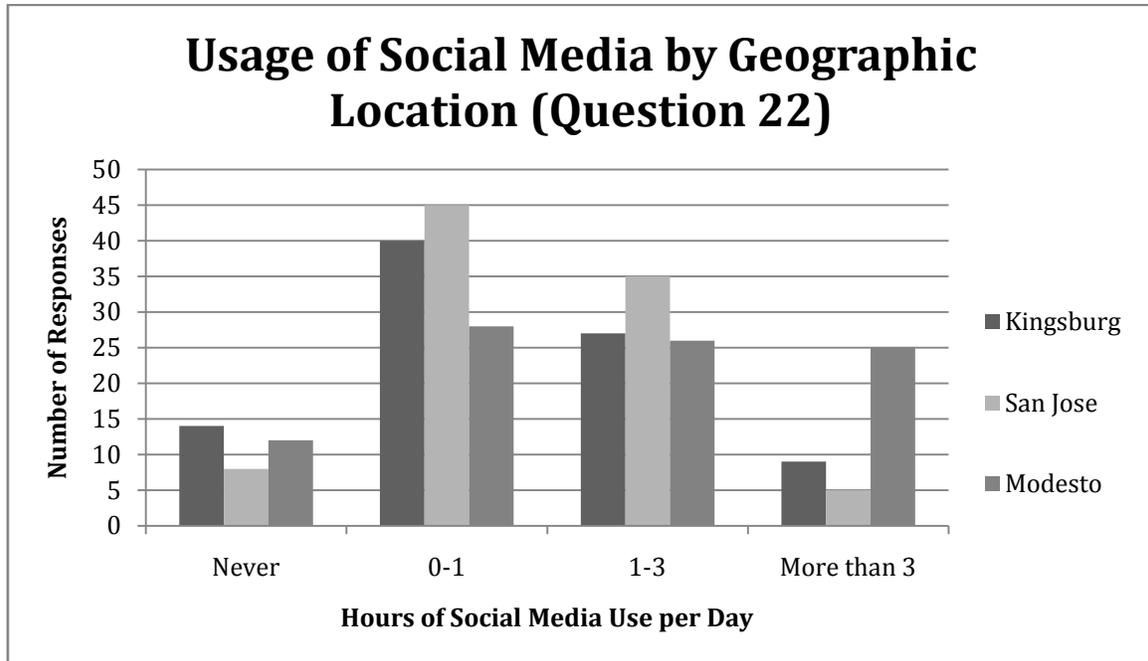


Figure 8. This figure illustrates social media usage separated by geographic location.

The interpretation of these results will be discussed in the discussion in the section to follow.

Chapter 5

Summary, Conclusion, and Recommendations

Summary

The purpose of this study was to research and determine the target market of the ILF organization and establish marketing techniques for the organization. Research was conducted prior to the survey to provide existing knowledge of the perceptions of agriculture among high school students. A survey was developed and administered to 274 high school students in three geographical areas throughout California including Kingsburg, Modesto, and San Jose. The results of the survey were analyzed to test the study's hypothesis and complete the objectives of the study.

The hypothesis stated that through a thorough analysis of the market and testing at a significance level of .05, there would be significant associations in the consumer preferences of the high school students surveyed that would identify marketing techniques and strategies for the ILF organization. The hypothesis was proven to be true because several significant associations were determined in each category of questions including demographics, opinions of the ILF logo, familiarity with agriculture, grocery-shopping habits, and media use habits.

The study had one main objective. The main objective was to determine whether there were significant differences in agricultural knowledge and social media use among high schools in three geographic settings. Based on the main objective, three more specific objectives were identified. The first was to collect

data on agricultural knowledge and social media use from high schools students in three geographic areas throughout California. These areas included the San Francisco Bay Area, a large city in the Central Valley and a smaller community in the Central Valley. The second was to determine whether the students in each region had statistically significant differences in any of the factors mentioned above. The third was to discuss findings about the differences in the target market segments and how that could be useful to the ILF organization for their marketing efforts. Two target markets were identified. The first target market is the respondents that are willing to wear the ILF logo on their clothing and the second target market is the group of respondents that described farmers as hardworking.

Conclusion

A series of statistical research was conducted that gave insight to the high students' agricultural knowledge and social media usage. This information was used to draw conclusions and make recommendations for the ILF organization. For questions that relate to the demographics of the survey, the majority of respondents were 15 years old (35 percent), female (57 percent), in the ninth grade (41 percent), and lived in an urban area (56 percent).

The data shows that eight percent of respondents have seen the ILF logo before. While this is a rather low number, it can be expected because there have not been formal marketing efforts directed at California high schools. Using the research regarding social media usage determined in this survey, ILF will have

the tools to conduct strategic marketing efforts in high schools. The data also shows that 69 percent of students surveyed find the ILF logo appealing and 37 percent would wear the ILF logo on their clothing. The top four adjectives that students used to describe the logo include love, colorful, words to describe trendy, and words to describe the beauty of the logo. Overall, the students surveyed have positive associations with the ILF logo, and based on the data, the design of the logo is appealing to both target markets.

For both target markets, the majority of respondents came from an urban area that consisted of more than 100,000 people. This is interesting as the urban student respondents were both likely to wear the ILF logo on their clothing and also describe farmers as hardworking more than the other residential areas. While it seems that the urban population has a positive understanding of agriculture it is still important for organizations like ILF to provide agricultural information that will help lead to an agriculturally literate society.

Furthermore, the data shows that 27 percent of respondents indicated that their family was directly involved in agriculture and 37 percent of respondents have worked on a farm. The data also shows that 57 percent of respondents indicated that at least one of their parents was raised on farm. Yet the overwhelming majority, 85 percent, of respondents have never lived on a farm. This set of questions show that a change occurred from one generation to the next, and also proves the importance of organizations like ILF because it aims to keep younger generations connected to agriculture. The reason for this change is uncertain, but there is obviously a change from one generation to other.

The survey data shows that 86 percent of respondents or their families have purchased food at a roadside stand before, and 85 percent of respondents or their families have purchased food at farmer's market. This is interesting because the respondents and their families have purchased food directly from the farmers and ranchers that produce it and could suggest that the respondents and their families want to support local farmers and ranchers.

The data indicated that 72 percent of respondents that described farmers as hardworking and 82 percent of respondents that would wear the ILF logo on their clothing prepare meals for their families. Because of the direct connection that these students have to food, they are learning the importance of nutrition and agricultural commodities and therefore could suggest they want to help support family farmers because of the variety of food choices available in America. This particular finding was surprising but is a perfect market for the ILF organization and their mission to connect young people to their food source.

The student respondents were asked to list the magazines they read, television shows they watch, and websites they visit. The students listed a wide variety of magazines. The top two consistent responses included 25 percent of respondents indicating that they read Seventeen or People magazines and nine percent of respondents indicating they read sports magazines. If the ILF organization were to place print ads, these should be publications to consider. The television shows that the high school students listed showed extremely large variance, and because of this variance, it would not be effective use of the marketing budget to target television ads. The top two websites that the students

listed were Facebook and YouTube. This further supports the idea that focusing on social media websites will allow the ILF organization to reach the majority of its target markets.

The survey also studied the respondents' general knowledge of the agricultural industry based on their difference in geographic location. The study indicated that there was not an association between agricultural knowledge and geographic location. This is rather surprising because it was expected that students in the rural location, where they are exposed to more agriculture, would know more than students in San Jose who may have limited exposure to agriculture.

Based on the results of the 10-question agriculture knowledge test, the average score of all respondents was 5.7 out of 10 or 57 percent. The geographic location that had the highest score was San Jose (59%), followed by Modesto (58%), and Kingsburg (55%). More than anything, this proves that agricultural information and marketing efforts should be available to all geographic locations because based on this research, rural communities do not have a better understanding of agriculture.

The data also indicates that there is an association between the students' daily amount of social media usage and the geographic location in which they reside. The reason for this difference is inconclusive and needs further investigation into the specifics of their social media usage. For example, an investigation should look into what Facebook applications they are using and

how are they spending their time on Facebook. The data does indicate that 40 percent, of the high school students spend less than one hour on social media per day. The majority of respondents, 86 percent, use Facebook, and the respondents' primary reason for using social media is to keep in touch. From the data collected on this survey, this could suggest that the students are using social media to stay connected with their friends and not research organizations or other interests.

Another interesting finding is that 76 percent of the target market that describes farmers as hardworking does not use Twitter and 74 percent of the target market that is likely to wear the ILF logo on their clothing does not use twitter. As popular as text messaging is among the respondents, it is surprising that a bigger percentage of respondents do not use the social media site. However, there was a significant association between the target market that describes farmers as hardworking and the respondents twitter usage. ILF does have a presence on twitter and the respondents could be following like-minded organizations to learn more about agriculture and the commodities we use.

Additionally, the data shows that there is an association between both of the target markets and the geographic locations in which they reside. The reason for the difference is inconclusive, however, the survey results show that the majority of respondents that would wear the ILF logo on their clothing (62 respondents) live in Kingsburg, followed by San Jose (37), and then Modesto (22). The survey results also show that while we cannot determine the reason for the difference with the target market that described farmers as hardworking, the

majority of respondents are also located in Kingsburg (62), followed by San Jose (51), and then Modesto (44).

Furthermore, there was a significant association between the target market that describes farmers as hardworking and how the respondents get their news (p-value: .036). 71 percent of respondents that are would wear the ILF logo on their clothing and 58 percent of the population that described farmers as hardworking get their news by watching television. The reason for this significant association could be because the respondents are learning about cooking and nutrition through their news station or they are becoming more aware of issues in agriculture throughout the state.

Recommendations

The results of this study are the basis for several recommendations for the ILF organization. The main recommendations are below.

Continuing to use Facebook as the primary means of communication for the organization will be highly beneficial because 86 percent of survey respondents indicated that they use Facebook as their primary social media site. Marketing on Facebook should be quick and to the point because the majority of students spend less than one hour per day on the site. Instead of running ads on the social media sites, the ILF organization should encourage high school students that already follow the organization to share their posts because it will show up in their news feed, where their friends, that are not followers of the organization, are more likely to see posts by the ILF organization. Based on the

results of the survey, students are more interested in their news feed and keeping in touch friends, and are more likely to see the organization's information.

The survey also concludes that there is not a difference in agricultural knowledge among the geographic locations. The ILF organization should promote general agricultural information to California high schools throughout the state because students that live in a rural environment do not have a better understanding of agriculture than students in an urban environment. This also gives the ILF organization the opportunity to promote agricultural information and correct misconceptions about the industry to the audience.

The survey indicated that for both target markets, the majority of respondents prepare meals at home for their families. This could potentially be a new target for the ILF organization. ILF could provide a healthy recipe segment to their social media site or website and highlight different commodities each week or month. This would help the respondents with ideas of meals to prepare for their families while providing information about the agricultural industry.

The survey indicated that the majority of respondents or their families have purchased food at a roadside stand or farmers market. This is very interesting information and can be very beneficial to the organization. It is somewhat unfeasible to market consumers at every roadside stand throughout the state, but farmer's markets present a great opportunity to market the organization because of the amount of consumers that purchase food at the

market. This is another opportunity for the organization to present agricultural information to not just high school students, but the general public as a whole.

Additionally, the survey indicated that the top responses for magazines read by the high school students surveyed include Seventeen or People and sports magazines. This provides the ILF organization with the opportunity place print ads in these magazines that focus on all of the great things that agricultural commodities can provide the human body. All of these magazines give readers tips on health, body image, beauty, and the organization could relay how agriculture can help provide all of these things. The organization could also reach readers in these magazines with celebrity endorsements that will appeal to high school readers.

Furthermore, the students were asked to identify their primary mode of communication. Nearly 50 percent of students indicated that text messaging was how they primarily communicate. This information could be useful to the future of the ILF organization if they ever wanted to organize a mobile text messaging campaign or disseminate information via text message like coupons or special offers regarding their apparel.

For others looking to expand on this research or perform a similar study, there are a few different areas where it would be beneficial to collect more data.

The survey results indicated that more than half of the respondent's parents were raised on a farm, and yet the overwhelming majority of respondents indicated they were never raised on a farm. It would be interesting to further

study the drastic change that has occurred in the time span of one generation. This question alone also relays the importance of organizations like ILF and its efforts to keep the younger generations connected to agriculture.

Another interesting area of study would be to focus on what the high school students do when signed into social media sites. The majority of respondents from this survey indicate that they spend less than one hour on social media sites per day, however there is a large group of respondents that spend more than three hours each day on social media. Are the students logging in multiple times each day for a few minutes? If this is the case, then getting the ILF organization into their news feed is critical. However, the respondents could be logging in one time a day for multiple hours playing an application that is very time consuming (such as Farmville, that requires multiple hours of participation). If this is the case, the ILF organization should determine what these applications are and place advertisements into the popular applications. Either way, it would be beneficial for the organization to determine how the students spend their time on social media so they can tailor their marketing efforts.

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Appendix

Appendix 1: Survey

Introduction:

Good morning. My name is Mindy Burris. I'm currently a graduate student studying Agricultural Business at Cal Poly in San Luis Obispo. I'm here today to conduct a survey of your classroom as part of my thesis for Cal Poly. My thesis focuses on gathering information about the knowledge and preferences of high school students regarding agriculture and social media.

Your teacher has been kind enough to allow me to speak to your class today and conduct my survey. I will pass out a blank answer sheet. As I read each question, please write your answer in the space provided for that question.

Are there any questions before I begin handing out the survey?

Survey:

1. What is your age:
13 14 15 16 17 18 19

2. What is your Gender:
Male Female

3. What grade are you in?
Freshman Sophomore Junior Senior

4. How would you describe your current place of residence?
Rural living on a farm
Rural not living on a farm
Small Town under 25,000 people
Large Town 25,000-100,000 people
Urban 100,000 people

Read Aloud: I am going to place a logo on the screen. Please answer the following questions.

5. Have you seen this logo before?
Yes No

6. Is this logo appealing to you?
Yes No

7. Please write down 3 words that describe what you think this image portrays.

8. Would you wear this logo on your clothing?
 Yes No
9. This survey is about agriculture and farmers. List three adjectives that describe today's farmers.
10. Is your family directly involved in agriculture?
 Yes No
11. Was at least one of your parents raised on a farm or in a rural area?
 Yes No
12. Have you ever worked on a farm (Either for pay or for volunteer)?
 Yes No
13. Have you ever lived on a farm?
 I have never lived on a farm
 I have lived on a farm in the past?, but not now.
 I currently live on a farm
14. Have you or your family ever purchased food at a roadside stand?
 Yes No
15. Have you or your family ever purchased food at a farmers market?
 Yes No
16. Do you ever prepare meals for your family?
 Yes No
17. Who is the primary food shopper in your home?
 Mom Dad Me Other
18. How often do you buy groceries?
 Daily Once or twice week Once or twice a month
19. When you buy groceries, what preferences become important?
 Low Price or Appealing appearance with no
 marks
 Organic or California Grown
 Organic or Low Price
 Low Price or California Grown
 Organic or Appealing appearance with no
 marks
 California Grown or Appealing appearance with no
 marks

20. Which of the following social media sites do you use (Circle All That Apply)?

Facebook Myspace Twitter LinkedIn

Other: _____

21. If you use Twitter, how many posts a day?

0 1-3 4-5 more than 6

22. How often do you use social media per day?

Never 0-1 hours a day 1-3 hours a day More than 3 hours a day

23. What is your primary reason for using social media?

Networking
 Keeping in touch
 Sharing
 Socializing
 Research
 Other
 I don't use social media

24. How do you most frequently communicate with your friends?

Call
 Text Message
 Instant Message
 Email
 Face to Face
 Other

25. How often do you use the Internet?

Never 1-3 hours a day More than 3 hours a day

26. What magazines do you read and how often?

27. What television shows do you watch in a typical week?

28. What websites do visit regularly?

29. Do you have a phone with social media capabilities (a smart phone)?

Yes or NO

IF YES, which:

iPhone Droid Blackberry Other:

30. How do you get your news?

Television Radio Internet Source Social Media Source
Other

Agricultural Knowledge Test

1. Below are 5 items that California produces, please rank them from 1-5 (volume or value)?
Dairy
Broccoli
Almonds
Grapes
Lemons

2. Which of the following counties in California's top producing county?
Ventura
Fresno
Merced

3. Most of the bananas sold in U.S. supermarkets are grown domestically?
True False

4. Which of the following products are produced only in California (but not in the rest of the US)?
Almonds
Cotton
Artichokes
Broccoli

5. Synthetic hormones are used in the production of poultry.
True False

6. A cow can produce milk without having a calf.
True False

7. Integrated Pest Management is a system that works to increase the amount of pesticides used on a farm.
True False

8. Organic production means that no herbicides, pesticides or fertilizers are used on the crops.
True False

9. Beef cattle spend most of their life eating corn
True False

10. Genetically modified crops, or GMO's are created using radiation to encourage genetic mutations.
True False