

Conducting Market Research Using Primary Data

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Overview

Market research is often conducted to address one or more of the “4 Ps” of marketing (product, price, place, and promotion). The purpose of market research should be clearly defined prior to conducting the research. This means the problem that needs to be solved and the information necessary to find the solution should be outlined before undertaking any research (Salant & Dillman, 1994). In the case of food and agricultural producers seeking to identify customers for their products, this often translates to the following questions:

- Who are the potential customers?
 - What are their demographic characteristics (income, education level, family size, etc.), attitudes, or concerns?
- What products appeal to customers?
 - If hoping to meet a niche’s needs, what product characteristics appeal to that niche? Can the characteristics of an existing product be altered to meet those needs?
- When are customers purchasing products?
 - Is the product’s appeal seasonal in nature? Is there a day of the week or time of day the product will be most appealing?
- Where do potential customers purchase similar products? How should products be distributed to reach these customers?
 - Should the product(s) be sold direct through farmers’ markets or CSAs (community supported agriculture), or retailed through specialty stores?
- Which promotional outlets should be used to reach these customers?
 - Should radio advertising be used, newspaper ads, bulk mail, or other?

Primary and Secondary Data

Secondary data is information that has already been collected and is usually available in published or electronic form. Secondary data has often been collected, analyzed, and organized with a specific purpose in mind, so it may have limited applications to specific market research. However, some of the advantages of using secondary data for market research include both cost and time savings. Data that has been published by government agencies is readily available and free of charge, while data collected and analyzed by private companies may require permission for use. Secondary data can be found through company reports, government agencies such as USDA’s Economic Research Service (USDA-ERS) and Agricultural Marketing Service (USDA-AMS), newspaper articles, Extension publications, etc. Further information on secondary data can be found in the “additional resources” section at the end of this fact sheet, as well as in fact sheet WEMC FS#8-08, “Estimating Market Potential Using Published Data: A Trade Area Analysis Example” included in this publication.



Primary data is collected specifically to address the problem in question and is conducted by the decision maker, a marketing firm, a university or Extension researcher, etc. Unlike secondary data, primary data can not be found elsewhere. Primary data may be collected through surveys, focus groups or in-depth interviews, or through experiments such as taste tests.

Surveys

Surveys are perhaps the most common method of primary data collection. There are a variety of different survey collection methods, including mail surveys, telephone surveys, face-to-face (in-person) interviews, Internet surveys, and dot surveys. Less formal surveys methods may also include observation and informal interviews. The choice of which survey method to use depends on many factors, including the number of respondents the surveyor desires, the time frame in which the data must be collected, the characteristics of the population to be surveyed, and, of course, the budget. Below are just a few of the advantages and disadvantages of these different survey methods. It is important to note that with all of these data collection methods, the collected data is hypothetical in nature, meaning that an individual may say that he or she is willing to pay a certain price for something in the market, or that they value certain product characteristics, but that does not mean the person will actually pay that price or purchase a product with those characteristics in the real world.

Mail Survey

Mail surveys can be an effective way to reach a large population in a relatively inexpensive fashion. A mail survey is a written survey that the surveyor mails out to a sampling of households. When conducted by marketing firms and universities, the goal is to have the surveys reach a random sampling of households in the area of interest (i.e. county, state, region), or to reach a targeted population of individuals (for example, persons who held a state fishing license in a given year, or people who belong to an environmental organization). However, in the context of smaller agricultural firms looking to gain more information about potential customers, a mailing list of households can be made by using a local phone book, or Internet resources such as the online yellow pages (www.yellowpages.com), both of which are free of charge. The survey is generally mailed out with a postage-paid return envelope so they can be mailed back at no charge to the individual.

One disadvantage of mail surveys is that response rates (the number of people who return their completed survey) are typically low unless more than one piece of communication is sent to the person, in the form of an advance notice that a survey is being sent out, a post card reminding the person to complete the survey, or additional surveys. This increases the costs of the survey, both in terms of money and time. Other disadvantages are the lag time that often occurs between when a survey is mailed out and when it is returned, if it is returned at all, and the fact that sometimes surveys are returned, but are too incomplete to be useful.

Telephone Surveys

Telephone surveys are conducted by calling individuals and having them answer questions over the phone. While an advantage of the telephone survey over the mail survey is the fact that the interviewer can encourage the person to complete the survey and the responses can be analyzed immediately, people wishing to conduct market research on a small budget may find the wage paid to the interviewers prohibitive. As with mail surveys, researchers conducting a

large-scale telephone interview need access to a large, random sample of individuals, but for a smaller firm with budget considerations, a list of people to call can be made up from a phone book, or online directory.

In-Person Interviews

In-person interviews have some of the same advantages and disadvantages of telephone surveys. On the plus side, an in-person interview can be an effective way to get completed surveys, and the responses can be analyzed immediately. On the negative side, in-person interviews are costly to conduct, and some individuals may be put off by being approached for a survey or may not be willing to reveal some information about themselves to a stranger. However, another potential benefit is that a very specific population can be targeted using in-person interviews. For example, if individuals who shop at certain grocery stores or farmers' markets are the population of interest, then the interviews can be conducted in front of, inside, or near the store or market. In most cases, it will be necessary to have permission from the store or market to conduct such interviews.

Internet Surveys

The advantages and disadvantages of Internet surveys are a sort of hybrid of those of telephone, mail, and in-person surveys, although they have their own unique characteristics as well. To begin, an Internet survey will only be useful if the population of interest has Internet access. Of course, the person conducting the survey must have a modicum of Internet savvy as well. Once this is assured, there is the issue of determining how to contact the population of interest. It is possible to mail out postcards or letters inviting individuals to participate in the survey, or there are companies who specialize in marketing via the Internet (Survey Monkey, for example, has services to both host surveys and contact a random or targeted sampling of individuals to take the survey). Advantages of Internet surveys are that they may be completed faster than mail surveys, and depending on how the survey is hosted, may be less expensive to conduct than the other survey types. Additionally, some Web survey hosts offer resources to analyze the data for the user, making the process a bit more simplified for surveyors without prior surveying experience or strong statistical skills. Disadvantages include contacting the individuals in the targeted population, as well as getting those individuals to complete the survey once they have been contacted. And as with some of the other survey methods, some individuals may be skeptical about providing sensitive information (such as annual household income, the amount of money spent on groceries, etc.) over the Internet.

Dot Surveys

Dot surveys or posters are used to focus on only a few important questions (Lev et al., 2004). The dot survey technique consists of a limited number of questions (usually no more than four) that are displayed on easels in a public location, such as a farmers' market. Participants indicate their responses by using colorful round stickers (i.e. dots) in the columns which represent their response. For example, a dot survey at a farmers' market may ask respondents to indicate their area of residence, which they would do by placing a sticker in the proper category on the poster. Dot surveys are an alternative to traditional survey techniques like written questionnaires and oral interviews, and have been found to increase response rates over alternative techniques. However, a major drawback of dot surveys is the fact that respondents can see the responses

other respondents have given, and may therefore be swayed by what they see (although there is also the argument that this tendency may mimic real-world consumer behavior, such as fads and impulse purchasing).

Informal Interviews and Observation

Informal interviews and observation may be slightly less scientific in composition than the other survey methods, but may be the right tool for some agribusinesses. An informal interview consists of asking the same simple but specific questions of many individuals to get an idea of what people are thinking. Observation consists of observing consumers and taking note of their behavior. Both of these methods may be especially useful to businesses that direct market to their customers, who can be used for both interview and observation. For example, an operation that already grows organic produce, but has not been certified due to costs, could ask current customers how they feel about organic produce and whether or not they would be willing to pay more for the assurance that the produce is certified organic by a third party. In the observation sense, the operation could also find out how much the same products that are certified organic are being sold for by other operations. Another example is that of an operation that is considering producing a new crop or product. Interviews can be used to determine what products current customers would like to have access to, while observation can be used to determine which products are popular through other vendors.

Survey Strategies

Focus groups or pilot surveys are frequently used by researchers to “test” a survey before it is distributed to the population of interest. This allows researchers to assess questions in advance to see if they may be confusing or worded incorrectly, or if respondents are going to find the structure of the survey too complicated. In the interest of time and money, friends, family members, employees, neighbors, etc., can act as a focus group. However, if this approach is used, it is essential that the focus group understands that their honest, unbiased opinion is necessary to determine the usefulness of the survey. It is also important to keep in mind that people who are involved with agriculture or agribusiness will have different responses than customers, as they know more about agriculture and so will have a different set of perceptions and knowledge.

The questions that end up on the market survey are just as important as the method used to distribute the surveys. While it can be tempting to try to take advantage of the opportunity to ask the survey respondents as many questions as possible, there is a point at which additional survey questions will not contribute anything additional to the survey results, as respondents experience fatigue. In light of this, it is important to keep the survey simple and as short as possible. It is also essential to avoid language that can be interpreted differently by different people, such as “generally” or “usually.”

There are a variety of ways to pose questions to survey respondents. Researchers have spent decades trying to determine the advantages and disadvantages of each question type, and have found that the best structure of a question depends on the information the surveyor wishes to obtain. Some commonly used question formats are multiple choice, rating scales, and open-ended.

Multiple Choice

The multiple choice format poses a question to the survey respondents and then provides them with a list of responses to choose from. The multiple choice format can offer the respondent three or more responses, or just two: yes or no (this question format is known as *dichotomous choice*). While respondents must choose either “yes” or “no” with the dichotomous choice format, the multiple choice format can have respondents choose one or more responses. It is essential that when writing the survey (for mail and Internet surveys) or administering the survey (for telephone and in-person surveys), the surveyor include clear directions for the survey respondent as to how many responses to provide. A major benefit of multiple choice questions is that they are fairly simple to understand, while the yes/no format is so simple that research has found it to have a positive effect on the number of surveys that are returned. Downsides are that respondents do not always follow directions and may provide more than one response even when the directions indicate otherwise, and analyzing the results may be difficult for the inexperienced.

Examples of Multiple/Dichotomous Choice

1. What is your primary motive for attending this farmers’ market? (*choose only one*)
 - Purchase produce
 - Purchase packaged goods
 - Purchase arts/crafts
 - Social interaction
 - Events/activities
 - Concerts/music
 - Purchase ready-to-eat foods (vendors)

2. Which of the following types of foods do you purchase? (*select as many as apply*)
 - Organic
 - Natural
 - Local
 - Pesticide-free
 - Free range/Cage-free
 - Grass-fed
 - None of these

3. Do you feel more inclined to purchase food products if samples are provided?
 - Yes
 - No

4. Is this your first time visiting this farmers’ market?
 - Yes
 - No

Analysis of Multiple/Dichotomous Choice

To analyze the results of multiple and dichotomous choice questions, it is necessary to assign a numeric value to each question response, which can be done fairly easily using Microsoft Excel or other spreadsheet software. For example, with questions (3) and (4), the “yes” responses may be coded as “1” and the “no” responses as “2.” Once this is done, the “count” function in Excel can be used to determine the number of each of the responses, while a pie chart can be used to graphically show how many of each response was given. For the multiple choice questions, the responses are typically coded in the order they appear on the survey. For example, in question (1), “Purchase produce” would be coded as “1,” “Purchase packaged goods” would be coded as “2,” and so on.

Figure 1 shows an example of how the responses to question (1) may have turned out. In column A are the identification numbers of the ten survey respondents (Survey ID). Column B contains the survey responses to the question (Q1).

Figure 1: Question (1) Data

	A	B
1	Survey ID	Q1
2	1	1
3	2	2
4	3	2
5	4	1
6	5	1
7	6	1
8	7	4
9	8	6
10	9	7
11	10	1

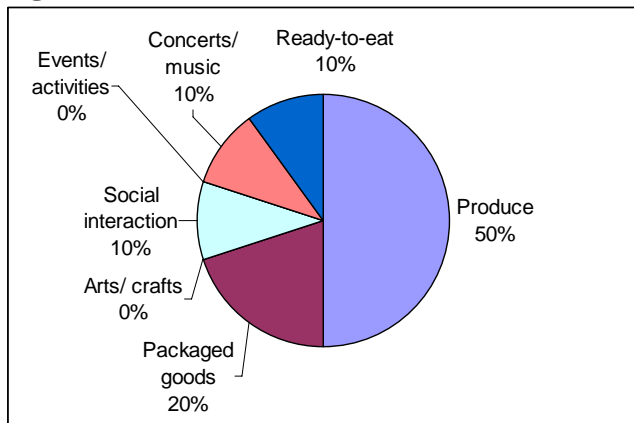
Figure 2 shows a potential next step in analysis, which would be to count the number of individuals for each response category and create a table of these responses. Under “Q1” is each response category, while “Count” lists the number of responses for each category. The “Formula” column shows the formula that was used in Excel to count the responses, based on the row and column location of the responses in Figure 1. The “Count” column shows that half of the respondents (5) came to the market for produce, while two came for packaged goods, and one each came to the market for social interaction, music, and ready-to-eat foods.

Figure 2: Question (1) Data Analysis

Q1	Count	Formula
Produce	5	=COUNTIF(B2:B11,1)
Packaged goods	2	=COUNTIF(B2:B11,2)
Arts/ crafts	0	=COUNTIF(B2:B11,3)
Social interaction	1	=COUNTIF(B2:B11,4)
Events/ activities	0	=COUNTIF(B2:B11,5)
Concerts/ music	1	=COUNTIF(B2:B11,6)
Ready-to-eat	1	=COUNTIF(B2:B11,7)

Figure 3 gives an example of a pie chart. Pie charts can be created in Excel fairly simply using the Chart Wizard (instructions on how to use the Chart Wizard can be found in Excel’s help menu). The data in the pie chart is the same as in Figure 2, but this different representation shows the percentage of total responses for each category. Pie charts are one way to compare response categories with one another. If a surveyor asked this question in an effort to determine whether or not to start further processing of his/her greens to create a salad mix for sale, the results are mixed. On the one hand, half of the respondents specified that they come to the farmers’ market for produce; however, 20% (2 respondents) said they come to the market for packaged goods. In this case, it may be a good idea to try a small trial of salad mix before committing to the plan.

Figure 3: Question (1) Pie Chart



Rating Scales

Rating scales allow survey respondents to indicate their level of agreement with a statement, or to rate the level of importance of a specific feature of a product or service. Benefits of rating scales are that they are relatively straightforward for respondents to understand and are less difficult to analyze than some of the other question formats. A drawback to rating scales is that they can only be used for certain types of questions.

Examples of Rating Scales

5. Please specify if your level of agreement or disagreement with each of the following statements.

Statement	Strongly Disagree				Strongly Agree
	1	2	3	4	
I am concerned about the safety of my food	1	2	3	4	5
I purchase foods that are already prepared (salad mixes, marinated meats, etc.)	1	2	3	4	5
I am concerned about the origin of my food	1	2	3	4	5
I prefer purchasing foods that have third-party certification (i.e. certified organic, certified pesticide-free)	1	2	3	4	5

6. When making purchases from a specific farmer/producer at a farmers' market, how important are the following farmer/producer features?

Farmer/Producer Features	Not important	Somewhat important	Important	Very important	Extremely important
Farmer/producer has a variety of products	1	2	3	4	5
Farmer/producer has low prices	1	2	3	4	5
Farmer/producer has organic products	1	2	3	4	5
Farmer/producer is present at market	1	2	3	4	5

Analysis of Rating Scales

Rating scales can be fairly simple to analyze. Because the responses are already in numeric form, it is not necessary to recode them. Rating scales may be analyzed through the average response, which will show how respondents feel, on average, about the statement or question. It may also be helpful to analyze the responses by count, using either a pie chart or bar chart to show the responses relative to one another.

Figure 4 shows an example of how the statement “Farmer/producer has organic products” may have turned out for question (6). Column A shows the survey ID number, while column B lists each individual’s response to the question (where 1 is “Not important” and 5 is “Extremely important,” as on the survey).

Figure 4: Question (6) Data

	A	B
1	Survey ID	Q6-Organic
2	1	3
3	2	4
4	3	4
5	4	5
6	5	5
7	6	5
8	7	4
9	8	4
10	9	4
11	10	5

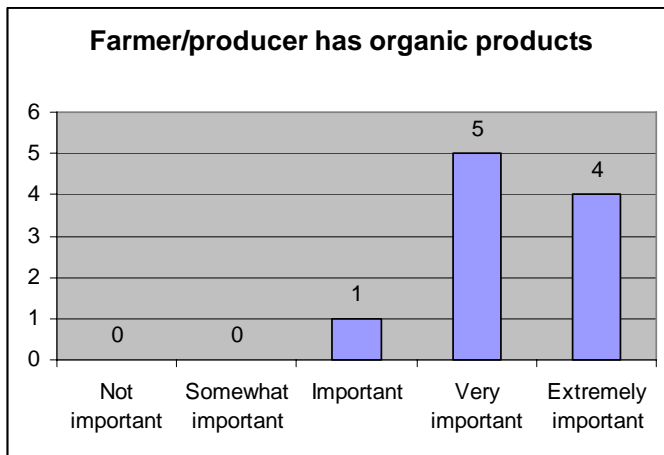
Figure 5 shows the number of responses for each category (“Count”) and the formula used to obtain each count. Also shown is the average. The average value of 4.3 shows that on average, respondents found this statement to be “Very important.”

Figure 5: Question (6) Data Analysis

Q6-Organic	Count	Formula
Not important	0	=COUNTIF(B2:B11,1)
Somewhat important	0	=COUNTIF(B2:B11,2)
Important	1	=COUNTIF(B2:B11,3)
Very important	5	=COUNTIF(B2:B11,4)
Extremely important	4	=COUNTIF(B2:B11,5)
Average	4.3	=AVERAGE(B2:B11)

Figure 6 shows a bar chart of responses to question (6). Like a pie chart, a bar chart is a way of comparing the number of responses between questions. As the bar chart shows, the majority of respondents found the statement “Farmer/producer has organic products” to be “Very” and “Extremely” important. If a producer asked this question in an effort to determine whether or not he or she should proceed with plans to obtain organic certification, the results of this question may indicate that such a move would be attractive to customers.

Figure 6: Question (6) Bar Chart



Open-Ended Questions

An open-ended question poses a question to the respondent and asks him/her to write out his/her response. While open-ended questions can provide a lot of information, they are problematic enough that many researchers try to avoid them. To begin with, they require more effort on the part of the respondent, and so may lead the respondent to skip the question or quit the survey entirely. The open-ended nature also leaves the interpretation of the question up to the respondent, so the responses may not be entirely what the surveyor was looking for. Finally, because there are virtually infinite ways to answer an open-ended question, they can be a bit difficult to analyze, unless respondents tend to answer the question similarly. However, open-ended questions can be useful in focus groups. If a researcher poses an open-ended question to a focus group, the responses given can then be used to reformat the question into multiple choice.

Example of Open-Ended Questions

7. When making purchases from a specific farmer/producer at a farmers’ market, what farmer/producer features do you find most appealing?

8. What is your primary motive in attending this farmers’ market?

Analysis of Open-Ended Questions

One of the difficulties in using open-ended questioning is analyzing the results. If the surveyor is not planning on administering the survey to a large number of people and is looking for very general information, then open-ended questions can be helpful in a sort of “comment card” sense. However, if the survey is being given to a large number of people and the surveyor wishes to achieve specific responses, open-ended questions may not be the best format. If many open-ended questions need to be analyzed, though, it can be done. In this case, it may be necessary to go through the responses looking for common “themes” in the responses. For example, in question (7), respondents may offer many of the same responses, such as “price,” “quality,” and “reputation.” The person analyzing the data may wish to code all responses pertaining to “price” as “1,” “quality” as “2,” and so on. Once the data has been coded numerically, it can then be analyzed using pie and bar charts to show how the responses stack up against one another.

Summary

The purpose of this fact sheet is to provide a basic overview of survey methods and primary data analysis in market research. While it is a good idea to check to see if there is relevant secondary data available to avoid unnecessary primary data collection costs, the benefits of primary data are specific answers to specific market research questions. Surveys, of which there are many different types, are one of the most popular methods of collecting primary data. The type of survey used and the question formats on the survey should take into consideration the type of information the surveyor is looking to collect, the population of interest, and the skills of the surveyor or survey team.

Additional Resources

The USDA-ERS (Economic Research Service) collects data on sales and consumption of food and agricultural products in the U.S., including consumer survey data. ERS data can be found online at www.ers.usda.gov/Data.

The USDA-AMS (Agricultural Marketing Service) provides data and publications on marketing agricultural products and focuses on direct outlets. AMS data and publications can be found online at www.ams.usda.gov.

Survey Monkey provides a survey internet hosting service at a low cost. Visit www.surveymonkey.com/ online for more information.

Marketing research companies and economic consulting firms can be hired to conduct primary data collection and analysis. RTI international is just one example. Information on RTI can be found at www.rti.org.

References

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