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NOTE ON MARKET RESEARCH

INTRODUCTION AND OVERVIEW

Market research often is considered a tool used only by big brand-based companies. While it can be a key to success for large firms that devote extensive resources towards fine-tuning the slightest variations of a single product – from the combination of colors on the label to the position of the product on a grocery store shelf – market research also can drive success for entrepreneurs. Entrepreneurs can use market research to gain insights on issues such as the market size, market growth, and customer need for a product or service, and answer fundamental questions on the viability of their business concept and business model.

While market research for early stage companies is limited by the reality of time and money constraints, the value gained through improved insights into the market and customers should not be underestimated. The goal of this note is to provide entrepreneurs with an understanding of how to use market research and market information to test the validity of a business concept and to refine a business plan. It will introduce the key questions entrepreneurs should consider, the techniques entrepreneurs could use to gather information to address those questions, and the practical considerations for collecting and interpreting data.

Key questions

At the initial stage of starting a new business, entrepreneurs need to gain a rapid understanding of the market size, market dynamics, and customer need for the product or service they plan to offer. Even start-up teams with many years of industry experience should not rely solely on their collective experience and intuition to develop a viewpoint on these fundamental issues. The best way to test market assumptions and to develop insight into customer needs is through market research. Analysis of market research data can provide important insights, which increase the odds that the company will be meeting a valued customer need and that the initial strategy will be successful.

Alicia Seiger prepared this case under the supervision of Robert Chess as the basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.

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There are three overarching questions that an entrepreneur should seek to answer with any market research plan. They are:

- (1) Is the business concept viable from a market and technical perspective?
- (2) What are the major risks and information holes in this venture and what information is needed to characterize and minimize these risks?
- (3) Is our strategy and business model likely to succeed?

For example, an entrepreneur might be considering starting a business to provide landlords with eviction, credit, and work record information to enable them to evaluate the credit-worthiness of potential renters. Before going forward with this business concept, an entrepreneur would want to develop enough understanding to feel confident answering questions such as:

- Is there a real need for this service? If so, is the market large enough to justify starting the business and to interest investors?
- Is the value proposition compelling enough for landlords to buy a new service from a new company?
- Will the sales cycle be so long that building the business may not be practical?
- Can the service be sold at a price that will enable profitability of the venture?

A well-conceived market research program done before investing significant time and resources in the business should be able to help answer these questions.

Process

The market research process for entrepreneurs is different than the process for established companies. The questions are much broader and more fundamental, the available resources are fewer, and the time urgency is usually greater. In addition, entrepreneurs often have an incomplete understanding of the market for their product and limited direct experience with potential customers. The recommended process for conducting entrepreneurial market research reflects these differences by including: (1) prototyping of business designs to focus market research work, (2) an emphasis on expert interviews to help identify information needs and jump-start market understanding, (3) greater use of exploratory (broad-based, open-ended) tools, and (4) multiple iterations of data gathering to enable honing of the business concept based on market research inputs. Entrepreneurs can employ the seven-step process outlined below to pursue the answers to market research questions:

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| Step 1: | Prioritize information needs based on using prototype business designs to identify key assumptions, and unknowns upon which the success of the business concept hinges. |
| Step 2: | Conduct expert interviews in order to identify and verify information needs and gather market, customer, and business insights. |
| Step 3: | Develop a secondary and primary research data-gathering plan. |
| Step 4: | Conduct secondary data review and initial primary research. |
| Step 5: | Revise assumptions and the data-gathering plan based on initial learning. |
| Step 6: | Conduct further expert interviews, primary research and review additional secondary data. You may need to iterate Steps 5 and 6 several times. |

Step 7: Review and revise business assumptions and initial strategy, and assess viability of the business concept based on interpretation of the data.

STEP 1: PRIORITIZE INFORMATION NEEDS BASED ON PROTOTYPE BUSINESS DESIGNS

Step 1a – Develop Prototypes for Business Designs

The initial step for an entrepreneur who wants to test a business concept is deciding what questions to ask and what research data to gather. It is generally not efficient to broadly research a market area without first clearly identifying the key assumptions and unknowns upon which success of the business concept hinges. Early focus is needed since resources and time are limited. But there is often a chicken and egg problem in developing your list of market research needs. In order to identify the key assumptions and unknowns, you need to define the basics of the business such as the sales channel, product or service offering, and target market. On the other hand, it is difficult to design a business model without the market research data.

One way out of this conundrum is to develop a small number (one to three) of prototype business designs. Similar to using rapid product prototyping to refine product ideas and test consumer acceptance, you can use business design prototypes to quickly explore, through economic modeling and market research data, which types of business models are most promising and which, if any, are viable. The prototypes should be different enough to highlight key choices.

For example, you might be considering starting a business based on a chemical that, when added to toothpaste, whitens teeth better than anything currently available. Rather than broadly researching toothpaste distribution, market size, need, competitive space, consumer needs, development costs, product pricing, you can focus your market research on a few potential business designs. One business design could be to develop a new toothpaste that would be marketed directly to consumers, positioned at the high end, detailed to dentists, and distributed through drug stores and high end grocery stores. At the other end of the spectrum, another design would be to license the use of the chemical to multiple current toothpaste manufacturers, build an R&D capability to develop improved chemicals to license, and to look for other whitening applications of the chemicals. The economics, business model, key assumptions and success factors for these two business designs will be very different. Researching the market potential, risks, viability, and key issues for each design will focus your market research and lead to understanding that will enable you to develop an optimal business model.

Step 1b – Prioritize needs based on prototype business designs.

Once you have developed prototypes for your business designs, the next step is to prioritize your information needs. In developing your information priorities, factor in the importance of the information to your business success, whether this information will significantly reduce risk, and the difficulty of gathering the information. Below are lists of key questions on various topics about which market research can help you gain greater insight. The key assumptions for your business will likely include one or more of the following:

On the market opportunity and competitive environment:

- Is the market big enough and at what rate is it growing or shrinking?

- Is there a need compared to current and expected alternatives?
- Is the value proposition compelling enough to buy from a new player?
- How does our offering compare to what competitors are doing now and expect to be doing?

On the business model and strategy:

- Are pricing assumptions realistic?
- How would the market react to different business models?
- What are the economics of the value chain and where can I realistically enter?
- Does the segmentation and entry strategy match market realities?
- Which segments are most attractive? Which are easiest to enter?

On the sales and distribution channels:

- What is the purchasing unit and is there a cost effective way of reaching it?
- How does the sales cycle and adoption rate affect the financial model?
- Are there sufficient early adopters to support the company?

On using benchmarking to develop and vet assumptions:

- What are realistic R&D development times and costs?
- What production costs and capital investment assumptions should be used?

Entrepreneurs invariably are operating on limited budgets and condensed time lines; therefore prioritization is critical to every step of the process. Market research demands constant evaluation of the attractiveness of different prototype designs. As you collect more data, you will need to eliminate or modify prototypes. Keep your research focused and discard less than optimal ideas quickly.

STEP 2: CONDUCT EXPERT INTERVIEWS

An excellent way to jump-start your market research program is through early use of industry experts. Industry experts are people with in depth understanding of markets and customers relevant to your new business. They typically have a broader perspective than individual customers. Experts can (1) give you initial “reality checks” on market and customer assumptions, the value proposition for your product or service concept, and how your product compares to competitive offerings, (2) provide ideas on how to refine your business concept and strategy to increase your chances of success, (3) raise additional questions that should be addressed during your market research and help refine your prioritization of information needs, and (4) help locate sources of secondary data and primary interview subjects. Experts can be current or retired executives or professionals in the field, consultants, industry stock analysts, investors, or industry association staff. Experts can be identified through networking (alumni, friends, mentors, professional contacts, professors, stock analysts), industry news stories, and industry associations.

Since experts will have different perspectives and knowledge bases, you should try to conduct early interviews with at least 3-5 industry experts. The value of the data gathered from expert interviews in accelerating a market research program can be enormous. It can allow you to identify the key issues and to modify prototype business designs months earlier than if you relied only on secondary and primary customer research.

STEP 3: DEVELOP A DATA GATHERING PLAN

Once you have prioritized your information needs, and reviewed and modified them based on industry expert interviews, the next step is to develop a plan to identify tools, sources and methods for gathering market. The two main categories of information gathering techniques are primary research (includes data gathered directly from potential customers using interviews, focus groups, surveys, choice modeling, and concept testing) and secondary research (any data gathered collected by one party and then put to use by a second party). Any market research plan will include a mix of generating primary data and reviewing secondary research.

Secondary data

Secondary data – data developed by others – provides general background information and broad-brush market size and competitive information. Since it is typically faster and easier to use data generated by others than to develop the data yourself, secondary research is usually the first step in collecting market information. There are a number of sources for collecting secondary data including:

- Market reports (source: market research firms, stock analysts, census and government data)
- News/Trade Journal/Research/Magazine articles
- Competitor literature and websites
- Industry organizations

There are several considerations to take into account when surveying secondary data. The source may have segmented the data in a way that does not match your needs (i.e. the computer printer market may be \$10 billion, but that does not tell you the market for a high quality, high throughput color printers), the data you find may be few years old, or it may be biased (stock analysts and market researchers often are not objective), and in some cases, the quality of the work is unknown. Despite these concerns, a thorough review of the secondary data will allow you to learn of key industry trends, gather much of the aggregate customer and market data needed to develop market size and growth estimates, perform initial competitive intelligence, and identify where to focus your primary data generation work.

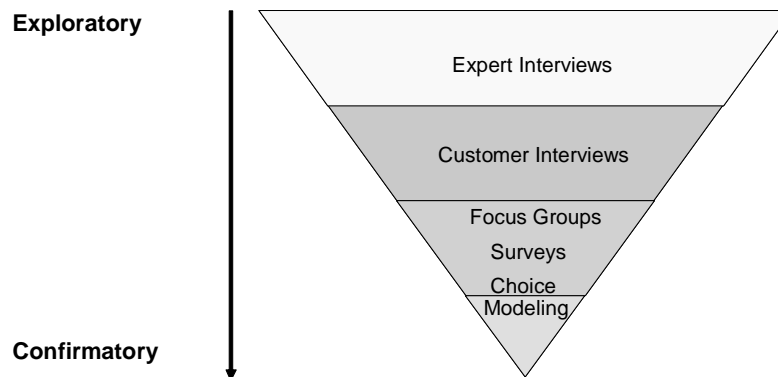
Primary Data

There is no substitute for direct interviews and feedback with potential customers when it comes to understanding whether a proposed product or service meets customer needs, determining how the offering should be modified to increase the odds of success, and for gaining an appreciation of the sales cycle and value proposition. While the data from primary research is sometimes

messy, contradictory, and inconclusive, the insights and market intuition gained from direct interaction with potential customers can be invaluable.

There are two categories of primary data collection – exploratory and confirmatory. Exploratory data collection tools are used to gain broad-based understandings and insights from a single market research interaction. Exploratory data collection techniques include interviews with potential customers, expert advisors, and sometimes focus groups. Exploratory techniques typically yield a wide range of valuable customer insights, but imprecise data. Business viability, however, rarely rests on small differences and exact answers at the initial stages of venture formation. Usually entrepreneurs are seeking “ball park” estimates to test their assumptions - i.e. do 10,000 or 100,000 people need high-end microscopes? Will the sales cycle take three months or 18 months? Can this product be priced for \$20,000 or \$200,000?

Tools for confirmatory data collection include: focus groups, surveys, choice modeling and concept testing. Entrepreneurs do not tend to employ these tools until the market is well understood and the company’s challenges have been clearly identified. This is typically after a business plan is developed and financing is secured. Confirmatory data collection should be used earlier if there is an important issue for which having a more precise, higher confidence answer is key to the viability of the business concept.



Primary Data Gathering Techniques

- **Interviews** – Interviews with potential users, distributors, and buyers should be part of nearly every market research plan. They are often the best source of information for testing assumptions with regard to the value proposition, segmentation, buying unit, and sales cycle and for gaining an intuitive feel for customer requirements and needs. Once the data needs are prioritized and initial expert interviews are held, conducting exploratory customer interviews should be one of the next steps in your market research

program. Typically, ten to twenty interviews per market segment will elicit the vast majority of customer needs.¹

- **Focus groups** – Focus groups consist of a collection of potential customers (usually from 5 to 10), and are typically moderated by a professional. They are most effective when exploring specific issues and testing reactions, but they can also be helpful in assessing the basic need for a product or service, and for generating ideas on segmentation. As with interviews, focus groups can run the risk of not being representative. To mitigate this risk, focus groups should not be your sole source of information, rather they should be used as a form of validation and gaining insight into other ways of looking at issues and customer segments/needs. Remember, participants will expect to get paid (or otherwise compensated) for their time. Focus groups can cost between \$5,000 and \$50,000, and take time to assemble. Because of the costs and the time they take to assemble, focus groups are not frequently used at the business concept and business plan development stage.
- **Surveys** – Surveys are mostly used for validation of need and market characteristics. It is difficult to know which issues to address in a survey until you have conducted enough research to have some understanding of your customers and your market. When conducting surveys, it is important to identify the right list of questions to ask, to understand the representativeness of your responses, and the effect of your response rate. Web-based surveys can be easier and cheaper than mail or telephone, but be prepared to spend time and money on any survey. Surveys typically are not used at the concept or business plan stage unless there is an issue where precision is critical to answering a question fundamental to the viability of the business or significantly strengthens the story to potential investors.
- **Choice modeling and concept testing** -- Two other sources of primary data, choice modeling and concept testing, tend to be less useful for entrepreneurs at the early stage of developing a business strategy because of their narrow applicability. Entrepreneurs can use these sources for confirmatory work on a critical issue. These market research techniques are targeted towards answering specific questions on product design, marketing campaigns, pricing, etc. Choice modeling attempts to answer the question of what product or service attributes drive the purchase decision. An example of choice modeling would be to ask subjects to rank order different permutations of product attributes shown on cards or computer screens, with the primary goal of defining the optimal product configuration. Conjoint analysis² and direct attribute weighting³ are two among several possible methods of utilizing choice modeling. Concept testing is used to determine which among a small number of variables stimulates the greatest response. A typical use of concept testing would be to collect data on response rates to different

¹ Griffin, Abbie and Hauser, John R. "The Voice of the Customer." *Marketing Science*. Winter, 1993. pp. 1-27.

² Conjoint analysis is a confirmatory process used to determine the best optimal combination among many combinations of feasible or plausible features.

³ Direct attribute weighting has more exploratory potential than conjoint analysis and is used to address situations in which attributes of an existing product are weighed to find those that are most likely to favorably influence customers' decision process.

product promotions to enable better modeling of the costs of a marketing campaign and anticipated revenue gains.

Study Design

Once you have selected your market research tools, the next step is to design your studies. Elements of a design include study objectives, research methods, sample sizes, and subject selection criteria. In entrepreneurial market research, you often will not have the time and resources to gather data that meets strict definitions of statistical significance. You should design your studies to facilitate rapid learning that will enable you to make judgments about your market and business. Some considerations for study design include:

- Focus your research on learning about customer needs, not just reaction to your specific concept. A deeper understanding of the customer can lead to ideas on how to better design your product or service concept and your business model.
- For most industrial and many consumer products or services, the inter-relationships between the buying unit, those who influence the buying unit, and the product or service users can be subtle and complex. Motivations can vary markedly depending on a person's role in the purchase decision and whether they expect to be a user. Your market research study should be designed to identify the various buying, influencing, and usage players and their roles, and to highlight their concerns and needs.
- Your sample size will need to balance your time and resources with the need to gather sufficient data to make critical business judgments. While the size for surveys can be calculated based on the acceptable level of confidence of the results, there is no such formulaic method for determining the optimal number of interview subjects. It is important to make your sample large enough to ensure you will not have to make business judgments based on individual or a very few number of data points. Also, be sure to collect data from different customer segments, including customers that are at varying points on a potential adoption curve. Sample size can be an iterative process – if you find a lot of consistency in responses early on, and there is sufficient variation in the type of subjects, you can stop your research on that issue and move on. Similarly, if there is a scatter of input, the sample size may need to be increased or additional market research tools used.

Order of research

Your plan for primary data collection should enable you to reduce uncertainty, within your cost and time constraints. The order of your research is important because what you learn initially might change the research you conduct later on. It is best to start with exploratory tools to build a broad base of understanding and then use confirmatory tools to gather more exact data on key issues. Starting with secondary research, which consumes less time and resources, will allow you to avoid gathering data that others have collected for you and enable you to identify your remaining needs. Also, starting with secondary data will facilitate narrowing the scope of the information you need to collect from primary sources.

Once you start primary research data gathering, it is usually best to conduct some interviews first, modify your plan based on your learning, and then proceed with additional interviews and other primary research studies. Often the learning from initial work enables you to pinpoint critical questions where more work is needed and identify new information needs that were not originally anticipated. Creating time lines, budget and resource requirements will help manage these inevitable mid-course adjustments.

STEP 4: CONDUCT SECONDARY DATA REVIEW AND INITIAL PRIMARY RESEARCH

The two most common components of entrepreneurial market research are secondary data reviews and customer interviews. As MBA students, you should be familiar with conducting secondary research. You may have less experience with market research interviews. What follows are some recommendations for how to gather your secondary and primary interview data.

Secondary Data Gathering

Conducting a secondary data review is the most effective way to begin your research. The difficult part often is gaining access to expensive industry reports and data generated by analysts that is not widely distributed. Ways to access secondary sources on a limited budget include:

- Utilizing a library that has analyst and industry reports.
- Making calls to industry organizations.
- Conducting competitor website searches and getting copies of competitor literature.
- Finding industry consultant data references in their own press releases, marketing literature and websites as well as in magazine articles.
- Having an industry expert provide you access to reports.

Primary Data Interviews

While conducting a secondary data review is generally straightforward, primary research is by nature far more difficult. Customer interviews can be hard to set-up and are time consuming to conduct. It is easy to introduce biases into your questions and your interpretation of your subject's answers. There are several practical considerations that are critical to conducting efficient and effective interviews that yield quality results:

- Spend time in advance to develop interview guides so that you are sure to cover key issues. Be willing to deviate from your guide if a key insight can come from it.
- Keep questions simple and focused on critical questions – do not overburden subjects with overly long or complex interviews. Ask open-ended questions that encourage subjects to talk. If you have only yes and no and multiple choice questions, it is difficult for you to gain insights that you did not anticipate when you developed the interview guide.
- Be considerate of subjects' time. Few will want to spend more than 30-40 minutes.

- If possible, have multiple people participate and observe multiple subject groups. Different people hear different things in interviews.
- Be careful not to sell the concept during interviews. Try to get an honest reaction.
- Start with in-person, local interviews and test assumptions later with a more geographically diverse sample.
- Telephone interviews can save time, but subjects are typically less open on the phone than in person. If you have limited time for in-person interviews, do the in-person interviews early in your process to gather broad-based information and then use the telephone interviews for additional data gathering and confirmation.
- Develop a standard methodology for evaluating interview responses.
- When reviewing data collected from interviews, identify representative interview subjects, and assess biases and experience base for relevance. Be aware that thought leaders are often earlier on the adoption curve and may not be representative of the broader customer population.

Additional Practical Considerations for Conducting Research

Getting access to potential customers and research subjects, and their agreement to participate, can be difficult. You can induce subjects by reminding them that participating will give them several unique opportunities including: learning about a new product or service that may be of use, having the ability to influence development of that product or service, and exposure to general market intelligence. Some subjects welcome the change from their normal routine and the opportunity to think more broadly. You may also offer to share a summary of the results of your research, though be careful not to supply any individual replies or other info that can be traced to specific interview subjects. Be prepared for many rejections and have a list large pool of potential interview candidates.

Wherever possible, use prototypes and visual aids during your research. Prototypes are particularly important for new concepts and products where the interview subjects will not have an accurate mental picture of what the company would be offering. It is much easier for people to react to a concept if they see a model or example. Rapid prototype development can be very helpful for refining your product or service concept. Prototypes can also facilitate insights on how to change the product in order to expand your market opportunity. Examples of visual aids include screen shots for software products, flow chart showing service offering, and plastic models of a product.

STEPS 5-7: INTERPRETATION, FURTHER RESEARCH, AND BUSINESS CONCEPT REVISION

Market research data is not a quantitative science for entrepreneurs; rather it provides inputs to allow you to make better judgments. Tabulation and quantification is the first step of analysis, but for entrepreneurs this is usually only the first step. You will need to apply judgment on what data is representative, how to interpret the data, and in some cases, whether to pay attention to the data at all. For important issues where the data is unclear, try to “triangulate” by using data gathered from multiple market research sources and by multiple techniques. Also, try to go back to the understanding you gained from learning about your customer.

Keep in mind that you need to match your results to your segmentation. Be sure not to generalize to entire markets if your results are only applicable to a specific customer subset. You may need to readjust your segmentation if dictated by the data. One difficult conflict that can arise is when data from “visionaries” does match data from the broader base of potential customers. Look at many different differentiation and segmentation cuts to glean the most from the data.

One of the goals of performing market research is to develop an understanding of customer needs and market dynamics so you can make informed judgments on issues where an analysis of the raw data itself does lead to clear conclusions. For revolutionary ideas where it is difficult for the market research subjects to fully appreciate the product value or application, data interpretation can be especially difficult. In these situations, you may need to rely principally on judgments based on your market research- informed intuition on likely customer reaction once the product is introduced.

Be Willing to Iterate and Modify Your Plans

The purpose of market research is not to complete the research plan, but to identify ways to increase your odds of success, expand your potential market, improve your value equation, and mitigate risks. During the course of conducting market research and when it is complete, ask yourself what you have learned about the customer need, the fit of your service or product to that need, the buying process, the competitive environment, and the market size and projected growth. Be sure to question your original assumptions in light of the data collected, test the overall viability of the business concept, and modify your offering and strategy in light on the market research results. Be open to unexpected insights and new directions which will force you to repeat research phases and more importantly, to change your business direction and plans. If you identify a key insight late in the process that is fundamental to your business, don't be afraid to go back to early participants to validate it. Look for modifications to your business and product concept that would vastly increase your value equation and market size.

Market research can be a never-ending process, but if you begin early you can improve your chances of raising capital on more favorable terms by eliminating risk and fine-tuning your business strategy. Market research is a valuable tool entrepreneurs can employ to manage the allocation of limited time and money towards the pursuit of an increasingly viable strategy.