CHAPTER

2

The Role of Research in Design Thinking

Don't Assume: Ask!

Data can be intimidating, elusive, and enlightening. Obtaining it, specifically taking the time to conduct meaningful research, can seem like an obstacle to progress. It's not. Research facilitates progress's emergence from the primordial soup of data so it can begin to take shape and form a solution.

When faced with a business challenge and using design thinking to help develop a solution to the challenge, you need research.

Your initial reaction is probably one or more of these three:

- I don't have time for research.
- I don't have the budget for research.
- I don't have the patience for research.

Sadly, most small businesses and entrepreneurs will skimp on research when time and budget are perceived issues. In this chapter, I demonstrate that you do have the time, budget, and patience for research, and that research is an absolute imperative in design thinking to keep you from chasing rabbits down trails that lead to nowhere.

Design Thinking Research Is Different

Research in the design thinking context is not the static search we employed during late nights in the library or online hunting for facts to support our theses. It is not simply a means to an end. In design thinking research is an inquisitive quest for insights and perspectives that constantly evolves and truly has no end. It is purposeful in its pursuit of information, and it uses the results to inform business decisions.

Research in design thinking takes the form of asking a question—which can be done in numerous ways—and documenting the answer. Research doesn't need to be large-scale quantitative surveys that undergo regressive analysis to arrive at actionable answers. (Thank goodness, because how many entrepreneurs and small-business owners can conduct regressive analysis? Not I.) Nor does design thinking research need involve expensive, elaborate, in-depth, long-term qualitative studies.

Note Design thinking research is purposeful, affordable, and actionable. Why assume when you can know?

Granted, design thinking research certainly has the capacity to be as elaborate as your budget and time will allow. Most notably, it can be inexpensive, simple, and scalable. What it fundamentally cannot be is omitted.

Quantitative versus Qualitative

For our discussion, we classify research into two categories: quantitative and qualitative, often referred to as "quant" and "qual." Each has its own strengths and weaknesses; neither is superior to the other. There are some business cases in which it is perfectly acceptable to conduct only one of the two research categories, but these are few and far between. I recommend that you refrain from putting all of your research eggs into one category's basket, because a balanced approach will be more informative and more likely to reveal a broader scope of opportunity to develop solutions to your business challenge. Eschewing one type for the other will not save you any time or money, so plan for both.

The "Quant"

Quantitative research is characterized by its focus on measurable data that can be extrapolated and applied to a population greater than the one tested. It is commonly used to gather demographic data, measure opinion using a predefined scale, and collect customer or user behavioral data. Surveys are the poster children of quantitative research because they can be constructed, distributed, and evaluated easily. Whether delivered online, via telephone, or through regular mail, surveys collect data in limited categories using predominantly closed questions. The length of a quantitative survey typically is dictated by what data are known currently and what data need to be collected to complete the desired data set.

Quantitative data can also be gathered through web analytics (page views, original visitors, click-throughs, etc.), point-of-sale software, online polls, and customer feedback forms.

The "Qual"

Qualitative research is characterized by its exploratory nature. It is more about depth than breadth, and results are not as easily extrapolated to larger populations. However, the information collected is rich in a level of detail and nuance that isn't possible in quantitative research. The stereotyped image of qualitative data is the focus group. Despite focus groups being characterized and parodied in popular media, this interview method is valuable because it provides an opportunity for deeper exploration into the consumer's opinions, purchasing behavior, and lifestyle factors that might influence that behavior. The nature of the topic being researched will dictate the type and size of group and the demeanor of the interview. If you are discussing potty training with a group of young parents, the questions will likely be light and humorous and the atmosphere convivial. However, if you are discussing financial investments and retirement funds, the questions will take a more serious tone, and the atmosphere will likely reflect that.

Other means of gathering qualitative data include one-on-one interviews, in-store interceptions (in which a shopper is interrupted briefly to be asked questions about their immediate purchasing decisions), and observation of your potential consumers in their natural habitats.

The Four Roles of Research

Research in design thinking plays the roles of Equalizer, Archeologist, Interpreter, and Devil's Advocate. Research levels the knowledge field and puts all of your team members on the same page, understanding your business challenge from the same data set. It helps uncover the roots of the challenge so you don't take it simply at face value. It translates the needs and wants of the customer into insights on which you can take action. It can be the tempered balance to enthusiasm that shines a cautionary light on a solution's potential flaws.

The Equalizer

Surveys are the ideal equalizer in design thinking research, because they can provide a measured overview of the market, the competitive environment, customer demographics, purchasing patterns, and similar broad-scope views that give the lay of the land. Surveys essentially level the playing field for businesses because they can be conducted cheaply and quickly and can be quite pointed in their questions.

If you find yourself working in a vacuum with no known data, surveys can remedy that situation. You can gather even the most basic of data—like customer names. Consider this scenario: you have a new formula for laundry detergent that minimizes environmental impact without sacrificing the perceived level of cleanliness that customers expect. You have plenty of industry data, and perhaps even consumer data harvested from several markets across the country. However, you haven't launched your product yet, so you have zero customer data unique to you. You have a general idea of your target customer based on the existing information you gathered, but you want to ask specific questions to discover who among the vast universe of people who do laundry in your launch markets would choose your new greener, but slightly more expensive product instead of their usual choice.

Tip You don't have to work in a data vacuum. Use surveys to gather even the most basic information from customers to jump-start your research.

You can distribute a survey to a population that looks like your general target customer and collect data from scratch. That data set might include questions about income, family size, geographic region, current product preference, frequency of use, purchase behavior, and opinions about the environment. Once the data are collected and analyzed, you'll be able to identify the consumer groups most likely to make the switch to your product. The outcome could read something like this: "Women age thirty to forty-five with children living at home, with an annual household income of more than $60,000 who buy laundry detergent at least once every six to eight weeks, and who are somewhat or very concerned about the environment." You now have a well-defined, specific consumer segment—supported by data!—to whom you can begin to market.

Alternatively, you may have some consumer data to work with but need more details. For established businesses with modest data capture capabilities, this is common. You may have some customer contact details and past purchase history, but not much more. In that case, the scenario may look like this: you are an automobile dealer, and during the process of selling a vehicle, you collect age, race, marital status, home ownership status, income level, and credit score data. If you accepted a trade-in vehicle for the new purchase, you also gathered data on the make, model, and year of that vehicle. At this point, you have a fairly detailed picture of your customer, but you want to know more.

After the purchase, you distribute a brief survey—via mail or email—that asks the customer additional questions about his or her experience at your business (a potential indicator of repeat or word-of-mouth referral business), what other dealers they visited and/or considered before making the purchase (a measurement of who they perceive the company's competitors to be), and how many other vehicles they own (an indicator of consumption capacity for this type of purchase).

All of these data are merged with the data collected during the vehicle purchase. Combined, it goes into your database of customers, which now contains much more robust content to better inform and direct your company's leaders when they begin to explore new business opportunities or face new challenges.

The Archeologist

Qualitative research, at least in my mind, resembles the romanticized image of the archaeologist, that intrepid explorer bent on unearthing hidden treasures, truths, and beliefs that can shed light on how and why we do what we do as humans and consumers. Think about it: somewhere, someone conducted some research among a group of consumers a lot like you to determine what type of teapot they would most prefer to purchase. Then they used the data from that research to design precisely that type of teapot.

I find qualitative research fascinating, highly valuable, and eminently important to the design-thinking process. My preferred means of qualitative exploration are focus groups and customer intercepts. Those are the qualitative research methods we explore next.

Before we jump into the details of how to conduct this type of research, it's good to note that collecting the insights revealed during either of these activities are best recorded with video and supplemented with written notes. Fortunately, you aren't recording for a screening at the Sundance Film Festival, so the quality of your video doesn't have to be anything more than comprehensible. Using a video app on your smart phone is sufficient. As mentioned in the previous chapter, it is imperative to have your participants agree to recording their likeness and signing a waiver to that effect. Logistically, getting a waiver signed during a customer intercept might be a hassle, but it is always better to err on the side of caution and cover your bases.

Customer Intercepts

Customer intercepts are a quick, somewhat informal way to get brief answers to limited questions that are relative to what a customer is doing in real time. To conduct these, you truly intercept customers during their activity—be it shopping for or using the product or service for which you are conducting research. Therefore, the way you approach customers is critical, as is the brevity of your interaction with them. As you are considering the questions you want to ask customers and the way you will approach them, put yourself in their shoes. Construct the intercept in such a way that if you were the customer, you would willingly answer a few questions posed by a stranger.

Because our culture propagates a distrust of strangers, your countenance and body language are important in getting a response. Your actions speak louder than words here. For successful customer intercepts, the interviewer should be open, friendly, curious, approachable, and somewhat extroverted without coming across as overbearing or obnoxious. I encourage senior leadership to conduct interviews when possible, as they get the opportunity to hear the customer feedback firsthand. However, anyone on your team who matches this description would be a good choice as an interviewer.

Before conducting any intercepts, determine the questions for which you need answers. You'll want to identify no more than two main questions, with a follow-up question for each. That's it—short and sweet. You should also think through questions that might be asked of you by the customer and formulate your answers. If your interviewer is not involved with determining the questions, be sure he or she understands what information you want to glean from this process so they are well informed going into the activity.

Next, determine where these intercepts will happen. For locations anywhere other than your own place of business, you'll need to secure permission from the appropriate people, like store managers. If you plan to conduct your intercepts in public spaces, take the time to investigate whether you need permits or permission from local authorities. Once you have your location, schedule dates and times during which you are most likely to encounter the type of customers you want to interview. Don't just go to where your customers are, go *when* they are there.

Let's illustrate all of this customer intercept information with an example.

> You operate a small business that provides locally produced, artisanal cheese using milk from grass-fed, free-ranging goats on your small farm just outside of the city. Your cheese is distributed through a regional grocery retailer and is shelved alongside three national brands and two other local brands. You want to conduct

customer intercepts to better understand the decision-making process buyers go through when selecting goat cheese. Your interviewer is placed near enough to the cheese case to be able to see what cheese is selected but not so close that he or she is obtrusive. Once a customer selects a package of goat cheese—regardless of the brand selected—your interviewer will then approach him or her. She should introduce herself and indicate that she is interviewing customers about their preferences in cheese. She should not share the brand of the cheese for which she is conducting the interviews unless specifically asked by the customer. Sharing that information up front could influence the customer's answers, as most people do not want speak ill of a brand directly to a brand's representative.

After the introduction, your interviewer should inform the customer that his answers are being recorded for research reference only and obtains the customer's verbal permission (if the interview is being recorded). Then the questions can begin. In this scenario, the lead question could be "Why did you select that brand of goat cheese?" If the customer's answer is not specific, for example, "I don't know," the follow-up should be more direct, such as, "Did you find the packaging more appealing than the others? Or did you select the product based on the price?" Your second main question could be about the product being locally produced and the importance that fact did or did not play in the customer's choice. If the customer didn't select your brand, your interviewer could inquire about what product features would prompt him to switch to your brand. At this point, the interviewer is done and should thank the customer for their help. The customer may engage your interviewer in conversation, and that is fine as long as your interviewer isn't missing opportunities to speak to other customers.

Focus Groups

Focus groups are the stuff of which advertising legends are made. The focus group as portrayed in television and film—think *Mad Men*—is a stereotype of the experience. Although there is always some kernel of truth in a stereotype, focus groups don't have to be expensive, complicated, or dramatic. They won't make or break a product or service. They will, however, provide the opportunity to explore, somewhat in depth, the "why" behind customer behavior.

Marketing strategist and former psychologist George Silverman explains focus groups like this:

> *The open-ended interaction of focus groups leads to stimulation of thoughts and emotions, the revelation of material which is not ordinarily forthcoming in an individual interview, the examination of how people in various roles interact, and the observation of important behavior.*[1]

The open-ended nature of focus groups make the research technique appealing. They are inherently exploratory, framed by two or more investigative, collaborative activities through which a moderator guides the group to reveal relevant insights from the customers' perspectives. Focus groups are best used when more detailed, nuanced information is needed or when the customer's decision-making process is complicated. Health care and finance are prime examples of industries that benefit from focus group research when developing their products and services.

The primary ingredient for focus groups—with the exception of target customers—is the moderator. I consider personality to be critical when selecting a moderator. He or she must be able to make connections with the focus group participants and quickly build a comfortable rapport, yet maintain enough distance and control to keep the group on task. The moderator is not a part of the group but is their guide. I consider moderating a group to be similar to supervising other people's children: the moderator is friendly, likable, and engaging, but always in control. If you have the opportunity to contract with an independent moderator, I encourage you to do so. Conducting a focus group requires a certain amount of skill, finesse, and experience. If you don't have a budget for a moderator, don't let that be a barrier to using focus groups to your advantage. With a little studying and preparation, you could lead the group yourself. It's not ideal, but it can be done.

The second critical component for a focus group is the moderator's guide. This is a written document that outlines how the group will spend its time together. If an independent moderator is used, the guide will likely contain granular detail, including scripted copy for the moderator's welcome, introduction, instructions, and so on, as an added benefit to you, the client. An independent moderator will want to ensure that you are informed of all the focus group procedures. If you are serving as your own moderator, the guide should provide as much detail as you need to stay focused and communicate clearly with the group. The moderator's guide is a document for the moderator's own use, so it doesn't need to be pretty, just thorough.

[1] George Silverman, "How to Get Beneath the Surface in Focus Groups," http://mnav.com/focus-group-center/bensurf-htm/.

With a clear understanding of how the focus group will flow and having selected a moderator, it's time to recruit participants. I have moderated groups with as many as twelve participants and as few as three. My ideal focus group is no fewer than three but no more than six. There is no magic to that number; I find the group size manageable for a moderator and engaging for a participant. If you have a group larger than ten, you run the risk of group think (the natural tendency of groups to gravitate toward a harmonious outcome while forsaking their individual opinions) taking hold and skewing your results.

The participants you invite to the focus group should reflect the characteristics of your target market as closely as possible. Going back to our goat cheese example, if the primary target market for your product is women, ages thirty to fifty, who have children, with household incomes of more than $60,000 a year, and who exercise three or more times a week, then your focus group should consist of that same type of person. Furthermore, you should organize your focus group participants so that the group is as homogeneous as possible, for example, stay-at-home moms with stay-at-home moms, working moms with working moms. By grouping like participants together, you help create rapport among the group, and they can build on one another's answers and thoughts. You can recruit focus group participants in many ways, the most popular and cost-effective of which include social media, your personal and professional networks, and word-of-mouth referrals.

Whether you've selected an independent moderator or have taken on that role yourself, it is extremely valuable to summarize the focus group's proceedings, the insights learned, the "take-aways," and their implications within a day or two after the focus group is completed. (If you've worked with a moderator, a summary report should be a part of the scope of work for which you contracted him or her.) Summarizing the experience and insights soon after the focus group will help you not only document what you saw and heard, but also capture thoughts and impressions that you may not have noted while the focus group was under way.

The Interpreter

There is a wealth of inquiry-driven research tools that can complement focus groups or stand alone. These tools serve as interpreters of customer insight and are particularly beneficial in providing added clarity to customers' responses to the questions asked. Without a doubt, the majority of these tools resemble games, and many of them are captured in a wonderful encyclopedic resource called *Gamestorming*, written by Sunni Brown, David Grey, and James Macanufo. Rather than regurgitating their work, I focus on two of my go-to interpreter tools that generate a lot of discussion among research participants and yield a lot of insight.

Photo Sort

If a picture is worth a thousand words, you should use them to your research advantage. They are especially advantageous if you're researching areas of consumer behavior rooted in deep-seated emotions, or nebulous topics such as brand personality. The photo sort activity is perfect for use in small focus groups or individual interviews.

The images used in the photo sort exercise are generally sourced from magazines and the Internet, and the process of gathering the images is incredibly contemplative, prompting the researcher to think through all aspects of the exercise and the intended outcomes. Images pulled from magazines and the Internet are protected by copyright laws; you shouldn't run into any legal issues with using them because you will use them for noncommercial purposes, as I am describing here.

In practical terms, you'll want to use images that are in color, at least as large as your palm, and on a white background. If you have to cut out an image from a magazine and glue it to a sheet of white paper, do it. If you will be using the images with some frequency, perhaps with multiple groups of research participants, then you would benefit from having them laminated at your nearest copy shop so they will be more durable.

How, exactly, do you go about selecting images to use in this exercise? It is entirely dependent on the topic being researched. The key is that each image represents an emotion in some way. If you can find images that represent emotions *and* contain people who represent your target market, then all the better! (Those can be difficult to find, though.)

At this point, the photo sort activity may seem a bit vague, so let's consider this example: a financial services firm wants to use the photo sort activity in a focus group that will be discussing customers' perceptions of investing money. The insights derived from the photo sort activity will help direct the firm in developing new investment products and communicating their benefits effectively to their target customer: men age forty-five and older, married or divorced with children, and with household incomes of more than $75,000. Before sourcing the images, you and your research team (whoever you've tapped to help you) need to brainstorm a list of emotions or emotional states that your target customer might experience in connection with investing money. Some of those could be fear, a sense of being overwhelmed, confident, tentative, procrastinating, empowered, and disengaged.

Once you have your list of emotions, the search for images begins. Major search engines, such as Google, allow you to search for images by keyword, for example "confident" or "unsure." You can also use photo-sharing sites as a resource. You will get thousands of results, so finding the images isn't the challenge. Selecting them is. Put yourself in your target customer's mindset when you review the images and try to determine what will resonate. Your goal is to compile a collection of diverse but representative images that reflect your list of emotions and emotional states.

Tip Don't wait to build your image library. Whenever you come across an interesting or iconic image in your daily consumption of news and information, save it!

With your images selected and your focus group in place, the activity begins. Using the financial services example, you or your moderator is working with a group of five men who mirror your target consumer. With the array of images spread out in the center of the table, in front of the focus group participants, you ask the question, "Which of these images represents how you feel when you think about making financial investments?" The participants sift through the images and select as many as they like. The obvious follow-up question to each participant is "Why?" Be sure to allow each person time to explain his perspective and why he chose the image or images he did.

Documenting this activity, and capturing the insights revealed, is much like documenting any focus group session: audio and video recording is ideal, with additional written notes as needed.

Dot Voting

When researching opinion on existing products or services or perspectives on the customer experience, the Dot Voting exercise is an excellent choice. It is a good activity for gleaning insights from larger groups. This activity is like a visual manifestation of the 1–10 point rating means of measurement, and that visualization can spark wonderfully rich discussion. The activity itself is incredibly easy to conduct, which makes it universally appealing.

Display a poster along one wall in which a continuum of opinion can be represented, with the least positive response on the left endpoint and the most positive response on the right endpoint. It's helpful to provide some points of measurement along the continuum to give your participants guideposts. Consider marking the center of the continuum or marking the quarters. I recommend not going as far as to mark each guidepost, 1 through 10, on the continuum. You want the continuum to be somewhat flexible in its interpretation, save for the center or quarter marks you provided.

Give each participant small round stickers—the kind you find in office supply stores that are typically in primary colors—in enough quantity to answer each of the questions you'll be posing, with one sticker representing one answer. In the financial services example, the moderator might ask the participants, "On a range from 1 to 10, where 1 is 'least important' and 10 is 'most important,' how important are your friends' or families' recommendations regarding investment decisions?" Then have each of your participants answer by placing a sticker along the continuum at a place that represents the importance of those recommendations. Once everyone has placed a dot, you can ask if anyone would like to share why they answered the way they did. Then, move on to the next question.

To help you interpret the results, assign each question a specific color of dot for the answer. At a glance, you'll be able to differentiate the answers by topic. To use the financial services example again, ask your participants, "How important is mobile banking?" The participants respond by placing a blue sticker on the poster along the continuum. Next, you ask, "How important are printed monthly statements?" and the participants answer, but this time with a yellow dot, and so on. What if you have more questions than you do colored dots? You can achieve the same outcome using markers.

The best way to document the Dot Voting activity is twofold. First, observe the participants' behavior and take written notes. More important, the second means of documentation is the culminating result of the activity: the poster. A tangible document in this context is generally referred to as an artifact, and it's a wonderful representation of the activity. Save it!

The Devil's Advocate

Whereas the previous research tools and activities are focused on providing feedback and revealing opportunities for the researcher, the tools that I classify as devil's advocates are used to try and find gaps, reveal weaknesses, and generally question all assumptions associated with the product, service, or idea at the center of the research. These activities add balance to qualitative research efforts.

The 5 Whys

My all-time favorite devil's advocate tool is called The 5 Whys. You'll feel like a toddler during the process as you ask "Why" at least five times, but trust me: it reveals some great insights. The 5 Whys emerged as an effective problem-solving technique during Toyota's pursuit of innovative improvements in its manufacturing process. Used in either a focus group setting or as a stand-alone exercise, The 5 Whys peel back the layers of perception and opinion to get to the core of what is being researched.

The process is simple. Start with a premise relative to what you are researching. In the financial services example, that premise could be "Our target customer wants to manage his investments online, without the assistance of an advisor." You ask your research participants, "Why?" The group discusses the possibilities of why and decides that the customer wants to manage his investments online because he wants the convenience that the online environment provides. You ask, "Why does he want convenience?" The group responds, and the process continues with a "Why?" followed by a group discussion and conclusion, and so on until collectively, all participating feels like they've uncovered the core issue and there is no more reasonable answers to "Why?" In the financial services example, ultimately the core could be that the customer doesn't want to pay a service fee that he assumes would be involved if he worked with an advisor.

The 5 Whys can be used in a focus group setting or online via a collaborative platform such as Basecamp[2] or even through an online survey service, such as Survey Monkey,[3] by using open-ended questions. Audio/video recording is the best choice for documenting the activity if you are conducting it live with a group. The data capture from conducting the activity in an online format is sufficient documentation, as it produces an artifact that can be saved and referred to repeatedly.

Caution Devil's advocate activities and tools can easily take on a negative tone and turn into gripe sessions. Be alert and ready to redirect the conversation to be more productive.

Cannonball

Another excellent devil's advocate tool is called Cannonball, the goal of which is to "punch holes" in the idea, product, service, or process being researched. This tool is best used in a group setting with a moderator leading the discussion. Because participants are often shy at the beginning of the activity, they typically will punch holes gently, couching their thoughts as tentative suggestions. Don't let that hesitation fool you; this activity can easily accelerate into a barrage of hole-punch attempts, which often leads into lively discussion and debate.

Once again returning to our financial services example, Cannonball might focus on punching holes in the website developed to answer the target customer's desire for convenience. Research participants might punch holes in the way the website functions, what services are available through the website, and the way a user has to navigate the website.

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[2] http://basecamp.com/.
[3] http://www.surveymonkey.com/.

Using Cannonball comes with a cautionary disclaimer: the moderator needs to understand that the discussion could easily turn negative in tone, and he or she needs to be prepared to redirect the conversation or reset the tone when necessary to keep the activity productive.

Summary

Research helps eliminate the dangers inherent in making assumptions, which can be detrimental to your success. Design thinking research methods—both qualitative and quantitative—are affordable, accessible, and incredibly user-friendly, so you have no reason to skimp on it. The bottom line is that any of these research activities are frameworks for asking questions and getting answers that you can leverage to help you succeed. Remember, the only dumb question is the one not asked.