

THINKING LIKE AN ENTREPRENEUR

LESSON 2: HOW DO I KNOW WHICH PATH TO MARKET IS RIGHT FOR ME?



Lesson Handout



Before or after reading this lesson, see the **video lecture “Thinking Like an Entrepreneur: Which path is right for you?”** for a summary of different commercialization pathways.



After this reading this lesson, use the **activity worksheet “How do I know which path to market is right for me?”** to apply your learning.

1.0 Introduction: Considering different paths to market

There are many ways to move a product out of the research and design (R&D) phase and into the hands of the people who are using or buying it.

This is called **commercialization**: the process of bringing your product to market. There are many pathways to commercialization. For example, you could go it alone, raise investment, work with large strategic partners, or pass the innovation on to others and *they* can commercialize it. How do you choose which is right for you and your product?

This lesson describes a few of the most common paths to commercialization and then walks through the steps for performing a market analysis. By combining the previous work with the self-inventory and this outward-facing information, you will be able to get a strong sense of which paths might be most appropriate.

2.0 Pathways to commercialization: What are the options?

There are many ways to get a product into the market. Sometimes an innovator can stick with one path. Often, they will mix-and-match or switch options because personal circumstances or the external conditions change. To keep it simple, let's start with 3 high-level pathways to commercialization:

- New venture, or startup
- Partnership
- Licensing



By thinking about these options early, you may be able to save time and money by checking to see which opportunities are a fit for your goals, your market, and potential stakeholders' needs.

2.1 New venture, or startup

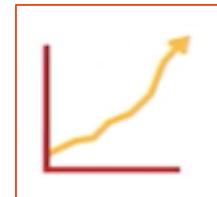
The first pathway is to create a **startup** venture, which is a completely new organization that decides its own direction and new sources of funding.



There are 3 categories of startups:

- Fast-growth,
- Slow-growth, and
- Non-profit.

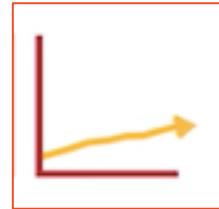
Fast-growth startups are the kind that we frequently hear a lot about: they have a special technology or access to a market that is underserved and growing. They raise investment in order to grow quickly. However, for every deal done by the average angel investor or venture capitalist in the USA, they have rejected 90-100 others! Fast-growth startups that raise investment usually have a few things in common:



- **Huge opportunity:** There is a large market that is willing to pay, with the potential to make more than \$100M per year within a few years. If there is the possibility for significant profit, then it is more attractive to investors and partners.
- **Investment = shared control.** Investors buy a portion of ownership of the company and usually offer valuable guidance during the commercialization process. Founders often must share control of the company with these new partners.
- **Experienced founders:** The founder(s) are expected to move quickly because they have relevant industry experience and/or have started a business before.
- **Proprietary element:** the venture has a strong brand that attracts a valuable and exclusive customer base; code, know-how that is a trade secret, or designs protected by a patent (see the Resources at the end of the course)
- **Planning for an “Exit:”** The founders and the investors are aligned that someday they will sell major portions of the company in order to get their money back. It might take different forms: usually they are either an **Initial Public Offering (IPO)** in

which stock is sold to the public (think: Facebook) or when a larger company **acquires** the startup (for example, Facebook buys Instagram).

Slow-growth startups often have other names, such as “organic-growth startups” or “small and growing businesses (SGBs).” Ideally, a slow-growth startup does not require millions of dollars of investment and can be started with some money from savings, or loans from friends or family to get started. These startups then grow “organically” when profits are re-invested into the company so that it can expand. Founders might choose slow-growth startups so that they can keep control of the vision, or because the idea is not proprietary enough to attract private investment. Unlike the fast-growth startups, they might operate in a specific region or serve a unique but small market; this makes them less attractive to investors seeking significant returns, but they still may be viable small businesses. These startups have between 1-500 employees and, according to the US Small Business Administration, make up over 90% of the employers in the USA. Local restaurateurs, or artisans selling on Etsy are examples of small-business entrepreneurs.



Non-profit organizations can also be considered startup ventures. Their goal is to offer a product or service that supports their mission. They could serve niche local markets or large global markets, depending on the need. As a legal entity, a USA non-profit can still make something and sell it, but there are no “owners” and any profit from the earned income goes back into the business to continue its mission. Otherwise, non-profit startups might grow with financial support of donors, members, grants or contract revenue. This is never going to make you rich, but this path could still be the right one for your goals, for getting your product to customers who need it.



2.2 Partnerships



Partnerships can take many forms. The key characteristic of any partnership is that you both **share the risks and rewards** of commercialization together.

Partnership with a larger company can be helpful if you need additional resources or expertise. For example, partners can offer manufacturing capacity and know-how that you can't get from a contract-manufacturer or consultant, or they could offer research expertise or access to testing equipment in exchange for sharing your results with the partner (or, even co-developing the product). Additionally, you may want to partner in order to access to their existing sales channels in a heavily-regulated

market, in exchange for the partner sharing access to your unique customer base. Sometimes these are called **joint-ventures**.

There are also reasons why a partnership may not be the right path for you. Partnerships can be difficult for many reasons, such as setting up the partnership or getting decisions back from the larger company might take a long time because more people are involved, or legal fees for setting up the partnership might cost more than expected. Additionally, you will likely share decision-making on strategic issues during the product commercialization process, and you will likely negotiate how you both will share assets, such as technology or cash, and the partner might have more negotiating power than you do.

Especially in a global context, partners can be extremely helpful. They may be able to connect you to local officials, support distribution logistics, and introduce you to end-users who can share insights for the usability of your designs. However, it will also be important to budget for the time and travel that may be required while setting up the relationship.

At the end of the partnership, there is the possibility that you want to rent, sell, or give away your ownership of the product's intellectual property (patent rights or trademarks) to them. In that case you could negotiate a licensing deal (see below), or the partner may prefer to buy the product or company in an **acquisition**.

2.3 License

3.



Licensing

Licensing to another person or company can be a good path if you don't want to found a long-standing company. There are two ways to think about licenses: **royalty-based** and **open-license**.

If you have intellectual property, you can make money by allowing others to license the right to make and sell your technology in exchange for giving you a **royalty**. Royalties are usually a percentage of the value of the product sold, which would be paid to you. It is beneficial because you don't have to invest in manufacturing, distribution, and sales infrastructure. *Why doesn't everyone do it?!* As a result, you would also receive a much smaller part of the profits than you might if you did it all yourself. The licensing pathway also requires you to invest money in protecting intellectual property by filing patents and defending them in court if needed. If you have developed and protected intellectual property, such as filing for a design or utility patent, you might consider licensing your technology for others to make and sell.

NOTE: Not every relationship is necessarily a partnership. Notice if the transactions are with multiple vendors or distributors and the transaction is "cash-for-something." If you purchase supplies from someone, they are a **vendor** or **supplier** to you. Conversely, if they purchase from you or take a fee to sell to someone else, they are a **sales channel**, **distributor**, or **broker**.

If you want to make the design or technology freely available for commercialization, distribution, or modification by others, **open license** is potentially the best option. Open licensing is made famous with Linux and Mozilla Firefox, and is powerful because it can influence entire industries. There is low likelihood of raising investment for development (because investors won't get a payout if everyone already has access), but depending on your innovation, grants may be available to help you (or your new venture) to build and share it.

3.0 High-level market analysis: Is it worth it to commercialize?

Looking at the different commercialization pathways, you might notice that each one is impacted by market size or addresses certain challenges in that the market. By conducting a market analysis, you will be able to look at the level of risk and reward that you are facing.

First, this section describes how you can define your target market. Then it shows how you can estimate its size, and how to analyze other factors in the market landscape. With this information, you will be able to brainstorm your commercialization path, choose an alternative market, or decide to pursue a different idea entirely.

3.1 Markets & Segments

Before calculating the size of the market and deciding if it's safe to jump in, let's define what a "market" is.

The **market** is the group of consumers or organizations that have the interest *and* ability to buy a product or service in exchange for money. Because someone usually can't sell to the entire market when they are starting out, they break their market into more specific segments.

A **market segment** is a group of people that share the same need and are likely to look to each other as a source of advice to solve the problem. If two different sets of people can use your product to solve different needs, or they prefer to buy it in a completely different way, then they should be divided into 2 segments.

3.2 Sizing the Market

Sometimes innovators can be so excited about their idea that they have a "gut feeling" that this is just a big opportunity. But, if you plan to make the idea into a reality, *how many people could really be reached? If they all paid a fair price, would it generate enough money to create a business? Would it create so much money that investors would be willing to take the risk with you?* Calculating the market size will help you know.

Total Addressable Market (TAM)

The **TAM** is the answer to the question: *"if everyone in your market globally bought your product and you had 100% market share (no one else was a competitor), how many dollars could you make in one year?"*

Serviceable Addressable Market (SAM)

The **SAM** is a bit more complicated because it can be a matter of perspective. First, brainstorm ways you could narrow down the entire global market you used in your TAM to a few specific segments. You could break the segment(s) down to region, willingness to pay at a certain price point, gender, or other key reasons your customer needs might be different. It answers the question *"if everyone [in a certain market segment] bought your product with 100% market share, how much money would you realistically make in one year?"*

Calculating TAM and SAM

There are 2 methods for calculating market size: top-down and bottom-up. Because they are both rough guesses that are based on a lot of assumptions, it is wise to do a mix of both in order to arrive at a logical estimated market size.

A **top-down** calculation is often the number you will find on the internet from an industry trade group or market research report. It is a benchmark: it can tell you if too many people are already doing what you're doing, or that the market is so tiny that your massive bottom-up calculations are probably unrealistic.

A **bottom-up** calculation estimates the market size more realistically by multiplying the number of users (or purchases) by the amount they'd likely pay for the product. This can be difficult to obtain because sometimes you don't know how many users there are, or how much they will pay. However, by understanding your customers' needs and habits by talking with and observing them, you can often get an estimate. By combining top-down and bottom-up market sizes, you at least get a sense of the size of the opportunity.



EXAMPLE

Scenario: Carlos has designed a new, ultra-comfortable, ergonomic car seat.

Targeted market segment: car seats in luxury vehicles for the USA

Top-down approach:

Carlos goes online and a report says "Global revenue for the automotive industry is \$10 trillion in 2017." It might feel like he hit the jackpot, but he should be careful: this number is so big and vague, it doesn't really tell anything about the market opportunity. Instead, being able to narrow the market to "automotive accessories"—with a TAM of \$394 Billion—becomes more specific about the size of the overall opportunity. Next, after he finds out that the car seats make up 10% of the value of

the car, his top-down estimate for the global TAM of automotive car seats is \$39.4 Billion. Then, assuming that his market segment will be luxury car owners in the USA, and that is 10% of the revenue for the TAM; then his estimated SAM is \$3.94 billion.

Bottom-up approach:

Carlos goes back online and finds three articles that say there are between 1.8 and 2 million luxury cars sold in the USA every year. He finds another report that the seats might be worth about \$1,000 for each car made. His estimated SAM is $\$1.9M * \$1,000 = \$1.9$ billion.

Conclusion: Now Carlos has a dilemma. The good news is that his SAM is large! The bad news is that the SAM estimates differ by \$2 billion, so now he should keep digging deeper to find more data points. He will be more specific about what his target market is during his web searches and perhaps he will attend an auto trade show where he will interview people about the luxury cars they sell in order to get more accurate numbers. He will never have the perfect answer, but these data points will help him make a realistic projection.

Market size considerations

Market size can have a big impact on whether you want to continue to pursue your idea, and who else on your commercialization pathway might be willing to join you.

Generally, if you plan to launch a high-growth venture, investors will think an attractive and realistic SAM is in the range of \$100-500 million annually. Keep in mind that bigger markets are not always better:

- Investors are more interested in your ability to define a smaller market segment of which you can gain 60%+ of the market share—because you deeply understand your product's value to a specific set of customers—than blindly claiming 2% of a multibillion-dollar market.
- A massive market can signal that it is already saturated with competitors and that customers are already getting what they need (discussed below).

If your market estimates are much smaller, such as \$1-10 million annually, what then? Your venture is unlikely to attract investors, but you have other options:

- If you plan to have an organic-growth or lifestyle business, with few or no employees, this is a quite accessible path for self-employment. Similarly, if you or your family can bankroll startup costs, the option to switch to other pathways is easier later on in the business's development.
- If you are not attached to the financial gains, consider continuing as a hobbyist or open-licensing your innovation so that others can still benefit.

- If your heart is set on creating a high-growth venture, you might be able to start with this “niche” market and then use your technical development to pursue market opportunities that are connected to it. Or, it might be time to find a new market, new pathway, or idea altogether.
- If you were hoping for a partnership or licensing deal, it is unlikely (though not impossible) that the partner will go through the effort to pursue a “small” opportunity. It might be time to find a new market, new pathway, or idea.

For non-profits, the question of market size can feel a bit strange. Paul Polak's [Business Solution to Poverty](#) is a great resource. In your case, it is still important to count the people you hope to impact, and to figure out how much they (or a donor) would be willing to pay to benefit from your innovation. The next section about the market landscape will be especially helpful for working with donors or partners to estimate their willingness to pay; in your case, if the cost of making and distributing is more than a donor is willing to spend on the mission, this would be the sign to re-evaluate the commercialization plan.

3.3 Market Dynamics: Risks and Opportunities

If the market size is compelling enough, the next step is to consider other market factors that could impact your commercialization plans. The three most critical factors are competition, regulatory issues, and market growth. Each of these factors carry risks and benefits that will help you decide which path makes sense for you and your product.

Competition

There will always be someone or something competing for the attention of your customers. Sometimes, your innovation is so unique that it can be difficult to know where to look.

First, consider the **status quo**: what do people do currently to solve their problem, even if that solution is nothing like yours? Do the customers have the choice to just do nothing? Next, research **substitutes** and look-alikes. Google and Amazon are easy places to look to see if others are working on similar innovations.

Then, consider how crowded the marketplace is. If it's *empty*, keep digging for unexpected competition and plan to move quickly before other competitors also see the opportunity. If the market is already *crowded*, look for places where your product could succeed where others have failed. If the market is *saturated*, and 30 people are already working on similar things with happy customers, perhaps it's worth moving on to a different idea, or at least to a different market.

Regulatory issues

Many industries have regulations. For example, water technologies or disinfectants might need certain certifications from the US Environmental Protection Agency, and even movies are MPAA-rated. Regulatory issues can be frustrating and expensive because of the time and money it can take to get the required tests and permits. However, they can also be beneficial because it can block competitors from being able to join you as quickly. Look at the competitors' websites in order to get an idea of requirements you may need to meet. Attend trade shows or attend industry-focused events, and ask people: *are they aware of tests or permits you'll need?*

Growing or shrinking?

As you research about your market needs and market size, you will see trends about its growth. If the market is part of a dying industry, be cautious and curious. *Are people in the industry investing in innovation to stay alive, or are they not spending money because they're just trying to stay alive?* If the market is new and growing, the outlook is better. During your research, you might notice that industry information will often be fragmented and vague because it's just so new. New competitors are joining each day, but it also means that you might be able to get in and grab market share if you move quickly enough!

4.0 Connecting the dots: Market Dynamics & Commercialization Paths

Innovators will often blend different pathways to market, depending on personal needs, market size, and market conditions.



EXAMPLES

New venture creates social impact with partners & investors

Tricia Compas-Markman was an engineering student who created an innovative way to purify water for people who have experienced a natural disaster. She and a friend co-founded a new venture called DayOne Response.

They wanted to be a high-growth venture so that they could reach large scale and impact millions of people per year, and knew they would need funds to pay for a lot of product-safety testing. They wanted to bring in experienced investors who could counsel them, and were willing to share ownership of the company in exchange. Market conditions were compelling to investors, customers, and partners because the best alternative was to ship bottled water, which is expensive and heavy. Investors and grantors realized both the potential for social impact and the potential to generate revenue. By selling 100,000 water bags to an aid agency at \$30/kit they could generate \$3 million in revenues and provide 400,000 people with water for 2 months during disaster recovery.

DayOne relies on partnerships in order to work effectively all over the world. Procter & Gamble is a manufacturing partner for the additives to purify the water; Toyota purchased water bags for donation to Hurricane Harvey survivors; international aid agencies can buy inventory in preparation for disasters; small non-profits and local governments in over 20 countries coordinate with the agencies to distribute them when needed.

New venture transitions from open-license & organic growth to high-growth

Steve Blank, a serial entrepreneur, professor, and author of *The Startup Owners' Manual* wanted to teach his methodology to aspiring entrepreneurs. He and two friends co-founded a new for-profit startup in 2012. They designed a curriculum, made instructional videos, and made a software that helps innovators track their progress.

He chose a mix of commercialization pathways. The venture grew organically during the first few years and then raised investment for faster growth in 2015. As a for-profit company, it charges fees from its clients who use the platform. Then, it open-licensed the videos and lesson plans under a Creative Commons license, and posted them to Slideshare, Udacity, and Venturewell.org. This makes the ideas available for people who can't afford the software subscription (and is a good marketing strategy to attract paying customers).

University researchers partner with pharmaceutical company

A tenured faculty member at a globally-renowned university was working on new ways to make sure that new mothers could safely give birth to a child. Her latest research brought together a team of biomedical engineering PhD candidates and a chemist to create a new device for inhaling a life-saving drug. They knew that the research could take many years and that they lacked the expertise to obtain regulatory certifications and to manufacture the drug-device combination. The faculty member also had a family to provide for and a comfortable job at the university; she was not interested in starting a new company from scratch.

The university was able to build connections with a multinational pharmaceutical company that manufactured the drug. They built a partnership in which the company helped pay for the research and gave guidance on designs, while they also received the exclusive license to the designs so that they could reach over 5 million new patients per year.

4.1 Lesson Summary:

Personal goals and external market conditions influence commercialization pathways

There are many options as you build your path to commercialization, including building a new venture, pursuing partnerships, and offering licenses.

Part of the decision to follow certain commercial pathways are influenced by your personal self-inventory:

- Aspirations for commercial and social impact
- Work style and desire for control
- Current financial, career, and personal circumstances

The other part of the decision is influenced by external conditions. Certain conditions within the market will influence who is willing to work with you:

- Size of the market opportunity,
- Competitive landscape,
- Regulatory opportunities/ challenges
- General trends

By analyzing these factors, you can not only figure out whether working on commercializing your idea is worth your time, but you will also understand its value for potential co-founders, investors, partners, or others.

Next Steps:



See the **video lecture "Thinking Like an Entrepreneur: Which path is right for you?"** for a summary of the commercialization pathways.



Use the lesson 2 **activity worksheet "How do I know which path to market is right for me?"** to apply your learning.