**How to estimate market size: Business and marketing planning for startups**

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Sizing the market is a necessary task for business and marketing planning, and budgeting for all startups, especially those that seek third-party financing such as venture capital (VC). Even though their investment philosophies may differ, most VCs and angel investors would like to know that they are investing in a market with a large potential size (typically, at least $1 billion).

**Understanding your market potential**

Even if you do not seek external financing, understanding your market potential is essential for a range of different strategic decisions, in areas such as:

* Product development
* [Partnering](https://www.marsdd.com/mars-library/partnerships-as-a-market-development-strategy-for-startups/) and [distribution](https://www.marsdd.com/mars-library/distribution/)
* Organizational design and critical employee skills

Startups must also evaluate the size and nature of their market when arranging more tactical issues such as selecting a bank, an accountant or legal representation.

**Starting point for estimating market size:  
Know the problem you are solving**

The starting point for estimating the market size is to understand the problem you solve for customers and the potential value your product generates for them.

Depending on your technology, you may have to choose which [**customer problem**](https://www.marsdd.com/mars-library/identifying-market-problems/) to solve first. If this is the case, completing the exercise below may help you better grasp the market size for each application. This will make it easier to prioritize which problem to solve first.

**Exercise: Estimating market size**

This exercise consists of five steps to help you estimate the total market potential for a product. In each step, we build on a case study that assumes the problem we solve relates to patient safety in hospitals.

**Step 1. Define your target customer**

All startups must define their target customer. ([This article](https://www.marsdd.com/mars-library/marketing-strategy-for-startup-success-identifying-and-understanding-your-target-customer-and-market-segments/) outlines the key steps to do this. The creation of a “day-in-the-life summary” will also help you analyze the nature of the customer problem you are solving.)

Your target customer equals the person or company for whom your technology solves a specific problem. To define your target customer you must:

1. Determine who your target customer is.
2. Create a profile of your typical/expected target customer.

Given the importance of defining your target customer, it is crucial to set aside enough time to do a proper analysis of this first step.

**Case study:** We have analyzed patient-safety procedures in a few hospitals. We have determined that our technology would generate the most value in the largest hospitals (the top 25%, ranked by size).

**Step 2. Estimate the number of target customers**

Estimate the total number of target customers in the market—companies who have a profile similar to that your target customer.

You can use industry databases such as those offered by Statistics Canada, U.S. Bureau of Economic Analysis or Hoovers to help you quantify your market.

**Case study:** By studying publicly available sources, we have found out that in our target group there are 1,300 hospitals in Canada and the United States.

**Step 3. Determine your penetration rate**

Refine your market size by assuming a penetration rate for your category of product. The penetration rate is a function of the nature of your product. Assume a high penetration rate if your category of product is mission-critical or mandated through regulation; assume a low penetration rate for products with a specialized purpose.

**Example:** penetration rates of computers versus business intelligence systems:

* **Computers, word-processing and Internet:** It is almost impossible today to operate a business in the developed world without a computer that has word-processing capabilities and is connected to the internet. While the penetration of those three technologies has not quite reached 100%, it is close enough to use that assumption for business planning.
* **Business intelligence systems:** In theory, most companies would benefit from having a business intelligence system—a type of software that is used to manage and analyze data about finance, sales, and marketing activities, in addition to more specialized purposes.  
  In practice, however, few ventures have the combination of the scale, skills and business practices required to make business intelligence systems a worthwhile investment.This limits the penetration rate to very large organizations that make up maybe less than 1% of all businesses in the developed world. Nevertheless, while 1% may not sound like a lot, it still represents a much larger number of target customers than a start-up could effectively pursue.

**Case study:** We have studied the factors that drive improvement in patient safety across North America, and found that it depends on provincial and state regulations. Based on areas where patient-safety regulations are strict, we can assume **a penetration rate of 70% for our technology**.

**Step 4. Calculate the potential market size: Volume and value**

**Market volume**

To find the overall market potential (that is, the potential market volume), multiply your number of target customers by the penetration rate (see steps 2 and 3 above).

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| --- |
| Market volume = Number of target customers × Penetration rate |

**Case study**: Using our fictitious example, where the number of target customers is 1,300 and the penetration rate is assumed to be 70%, the potential market volume would be calculated as follows:

1,300 hospitals x 70% = 910 hospitals

**Market value**

To calculate the monetary value of the market, multiply the market volume by your average value (that is, price expectations).

|  |
| --- |
| Market value = Market volume × Average value |

**Case study:** We assume each sale to a hospital will yield an average value of $2.5 million. To find the market value, we calculate the following:

910 hospitals x $ 2.5 million = $ 2.275 billion

**5. Apply the market-size data**

Following these steps to estimate your market size (value) is by no means an exact science. Still, there are ways to maximize the effectiveness of this exercise:

* At the time you make your first estimate, examine each assumption you make and what would cause it to change. To factor in the risks of change, calculate best-case and worst-case scenarios in addition to your expected scenario.
* Over time, monitor the accuracy of your initial assumptions and whether you need to modify them.

**Case study:** Our patient-safety technology may appeal to hospitals of a smaller size than initially assumed, especially if new regulations mandate tighter patient-safety procedures from all hospitals. While such a change would more than double the number of hospitals in our target market, smaller hospitals would not be able to pay as much, in turn driving the expected average price per sale down to $2 million.

**Note:** This exercise aims at estimating the *total* market potential for a product. It is important for startups to recognize that both early adopters and laggards are included in those numbers. While early adopters will likely be your customers in years 1 and 2, the laggards may not enter the market until year 20 or later. In terms of our case study, this would mean that the size of the market in year 1 would be about $100 million if early adopters comprise 5% of the overall hospital market for patient safety. For a more detailed understanding of how markets develop, read the article [Technology adoption lifecycle](https://www.marsdd.com/mars-library/technology-adoption-lifecycle-talc/).