

## **Beyond Entrepreneurship: How Innovation and Entrepreneurship Changes the World**

**-Jack M. Wilson**

### **Chapter 6 Business Models**

Alexander Osterwalder: *"A business model describes the rationale of how an organization creates, delivers, and captures value"*

Steve Blank: *"Unless you have tested the assumptions in your business model first, outside the building, your business plan is just creative writing."*

#### *The Business Model*

This chapter will take a more detailed look at how a company develops a business model. The business model reveals how a company uses its resources, structures its relationships, interfaces with customers, creates value, and returns revenues and profits. It illustrates the core logic of the business.

Looking at the business model tells you how an enterprise can become self-sustaining. This is true for every kind of enterprise –whether it is for-profit or not for profit. A social enterprise has to find a way to be self-sustaining –just as do entrepreneurial firms, life style firms, or salary substitute firms.

The business model helps one to know whether a business make sense? How does it make money? How does it create value? In many ways it provides an ongoing feasibility analysis for the business.

It can also help you understand how the pieces fit together to make a compelling whole. It provides the rationale for why the various stakeholders (customers, suppliers, employees, investors, etc.) want to, and need, to work together. It articulates a company's "**core logic**" to all stakeholders, including the employees and potential investors.

The core logic articulates the mission and business model of the new venture.

To understand business models, it is best to look at specific examples of business models. It is particularly useful to compare business models of companies in similar businesses to see how **business model innovation** may create opportunities for new ventures and provide a competitive advantage to existing ventures. We will consider two examples first. One of them, Uber, is a more recent business model innovation and the story continues to evolve each day in the news. The other, Dell Computer, is one of the older and most successful examples of technology driven business model innovation, but the company has needed to continue to innovate as circumstance change.

#### *Uber*

Uber was founded in 2009 by Garrett Camp and Travis Kalanick as "UberCab." They met at LeWeb in Paris, France in 2008. Camp was annoyed by, wanted to solve, the Taxi problem in San Francisco. They came up with a plan to recruit drivers with private cars and then pair them up with people who needed a ride. The original pitch split the cost of a driver, a Mercedes S Class car, and a parking spot and organized this with an iPhone app.

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In January 2010, the service was first tested in New York, and then launched in July 2010 in San Francisco. From May 2011 to February 2012, Uber expanded into Seattle, Boston, New York, Chicago, and Washington D.C.. It proved instantly popular with customer and drivers.

They did their first international expansion into Paris, France in December 2011.

Garrett Camp was a graduate from University of Calgary with a Bachelors in Electrical Engineering and a Masters degree in Software Engineering. He had already been a successful entrepreneur who was the founder of StumbleUpon, a web-discovery engine which he sold to eBay for \$75 million in 2007. He also founded Expa in 2013 as a startup studio that worked to develop and launch new products.



**Figure 1 Uber** (Photo via Business of Apps)

Travis Kalanick was another one of those university dropouts who become entrepreneurs. He dropped out of UCLA in 1998 to found Scour Inc. with some classmates. Later he became the founder of Red Swoosh. Both were peer-to-peer file-sharing companies. Scour filed for bankruptcy in 2000 to protect itself from a major lawsuit. Until 2017, Kalanick was serving as the CEO of Uber, but he was fired following some controversy over employee treatment and diversity.

They were quite successful in raising money and had early investments from Lowercase Capital, First Round, Menlo, Benchmark, Goldman Sachs, and Google Ventures.

Let us now examine the business model as it was in the early years. Over the years the business model has evolved and may have even changed since this writing.

Uber acts as a middleman between drivers and their clients, and takes 20 percent of each driver's earnings. Uber controls the rate and can raise or lower rates as they please reacting to market conditions or other changes in circumstance. Drivers are responsible for gas and repairs to their own cars. Until March 2014 they were also responsible for insurance, but now Uber does that. Clients rate the drivers and those ratings encourage competition between drivers. Better ratings leads to more clients resulting in more money. Drivers also rate the clients, which has led to unfriendly clients being shunned. As you can imagine this has led to some contention.

Uber's presence has resulted in protests and unionization by drivers in many cities -both by their own drivers and by competing taxi drivers. Uber did not require drivers to have a commercial license, which became another item of contention with local governments.

Uber also aggressively sought out partners. In a partnership with AT&T, the Uber app was built into the AT&T android phones and the AT&T users would also get discounts. They created a partnership with the NFL Players Association in which players get \$200 worth of credits in an effort by the NFL to market Uber as a safe alternative to driving home. With GM and Toyota they organized financing and leasing deals for Uber drivers. In an effort to appear more charitable they partnered with the American Red Cross and donated 20% of total fare to the Red Cross Disaster Relief Fund.

Uber expanded rapidly over the early years and was in over 100 cities and 45 countries after the first four years. It has been constantly looking to expand to places like Las Vegas, Daytona, or even Jakarta. Due to this growth, competition has grown, and Uber does not have patents protecting their service. Lyft and Sidecar are almost identical services, just with different apps and prices.

Because Uber is a strong and well established brand they seem to maintain a solid competitive advantage over other entrants into the industry.

Uber has certainly faced some challenges. In particular, Uber has faced scrutiny over taxi regulation worldwide. Among those places where they were challenged were Australia, Belgium, Germany, Poland, Republic of Korea, the United Kingdom, India and the USA.



**Figure 2 Uber Map of Challenges**

Taxi service is a highly regulated industry that usually requires licenses and inspections for the cars as well as for the drivers. They also often require special insurance, which Uber originally did not, but now does carry. Taxi commissions, drivers, and owners, in many cities have protested because Uber did not have to play by the same rules they did.

Many states and municipalities have sent Uber cease-and-desist letters including Massachusetts, Virginia, and San Francisco, but those efforts are often beaten back by both Uber and determined customer base. These efforts have also led to governmental and legal scrutiny. Many localities accuse Uber of using unauthorized measurement methods to charge fares as well as other violations of the Taxi regulations. San Francisco and Massachusetts have since

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reversed those actions, as national standards were changing and public pressure was put upon officials by Uber users and operators as well as by other entrepreneurial leaders who saw this as an attempt to stifle innovation.

Uber has also suffered from some adverse public relations including employing drivers with criminal records, drivers denying service to the disabled, and car accidents including those involving pedestrians. Most dramatically Uber was accused of creating a culture of sexism and saw many of its highest ranked employees depart. Eventually Kalanick was forced out.

In this chapter, we are most interested in how they found and executed their business model. Consider this side by side comparison:

<b>Uber</b>	<b>Taxis</b>
<ul style="list-style-type: none"><li>• Company not licensed as taxi company</li><li>• Drivers do not need commercial license</li><li>• Drivers own cars</li><li>• Drivers provide gas and maintenance</li><li>• Cars are called with a mobile app</li><li>• Company provides insurance –since 2014</li><li>• Rates are unregulated</li><li>• Drivers can refuse clients</li><li>• Clients rate drivers online</li><li>• Drivers rate clients online</li></ul>	<ul style="list-style-type: none"><li>• Company licensed by government</li><li>• Drivers specially licensed by government</li><li>• Company owns cabs</li><li>• Company provides gas and maintenance</li><li>• Cars are called by phone.</li><li>• Company provides insurance</li><li>• Rates are government regulated</li><li>• Drivers cannot (legally) refuse clients</li><li>• Nobody rates anybody</li></ul>

It reveals the profound differences between the business models of the two businesses and does articulate the core logic of each. It makes quite apparent the competitive advantage Uber enjoys. They don't worry about licensing. They do not have to make large capital investments to buy taxis. They don't worry about gas and insurance expenses. Calling an Uber is both easier and more reliable. They can charge pretty much whatever they want and this means they charge a lot more at times when lots of people are trying to find a ride. They provide a better quality of ride since the cars are newer and the drivers are being rated! Of course all of these advantages are under counter attack all over the world.

Now you can see how this articulation of the core logic can help all of the stakeholders understand the mission and operation of the business.

#### *Components of the Business Model*

What are the components of a business model? Can we make this more formal? Here are the accepted components:

1. The value proposition: what innovation, service, or feature makes the enterprise valuable and attractive to the customer?
2. The target market: what market, and segment of that market, is willing to pay for this? (Market segmentation)
3. Who would be the suppliers to the enterprise?
4. What activities would the organization engage in and how would they conduct those activities?
5. What kind of value and how much value might be created by the organization?

These also address:

1. Core Strategy –how a firm competes
2. Strategic Resources –how it acquires and uses resources
3. Partnership Network
4. Customer interface

It is worth noting that the business model does NOT consider competitors at this point. The completion is not part of the model. Yes, the business model will later be compared to competitors, just as we did with Uber and taxis.

### *Dell Computer*

Consider now a business model comparison for Dell Computer shortly after it was founded by Michael Dell in his dorm room at the University of Texas.

<b>Dell</b>	<b>Existing computer companies (HP, IBM..)</b>
<ul style="list-style-type: none"> <li>• Customer Places Order by phone or web</li> <li>• Suppliers see order and ship components</li> <li>• Dell assembles computer</li> <li>• Maintains Customer relationship</li> <li>• Ship to customer via UPS/FedEx</li> </ul>	<ul style="list-style-type: none"> <li>• Forecast demand</li> <li>• Obtain subcomponents from suppliers</li> <li>• Make basic components</li> <li>• Assemble Complete PC</li> <li>• Inventory</li> <li>• Ship to retailer</li> <li>• Retail inventory/display</li> <li>• Consumer</li> </ul>

Once again the business model shows why this example of business model innovation gave Dell a huge competitive advantage. They did not have to maintain expensive inventories of supplies. They did not have to sell through wholesalers and retailers. They did not have to maintain expensive inventory on retailer's shelves. They also did not have to take back unsold inventory. Dell had a relationship directly with the customer. The other companies may not even have known who the customer was –unless they convinced them to register.

Dell was one of the earliest pioneers of a business model innovation called **disintermediation**, and it is a very powerful innovation. Amazon later used this to blow away bookstores. Netflix used this to destroy blockbuster. The Apple iTunes store crushed the music business model for record stores, music publishers, and even the musicians. Today musicians earn so little money from music sales that they have to be on tour constantly to earn much.

### *Other examples of business model innovation*

- *Warby Parker* does direct internet sales of eyewear to customers -bypassing eyewear stores or optometrists. This is another example of disintermediation.
- *Shopkick* gives customers credit for visiting brick and mortar stores with an iPhone app recognizes when user enters a partner retail establishment. The shopper is given kickbacks, discounts, ads, and so on. Shopkick then gets a commission on sales.
- *Solar City* installs solar electric collectors on customer's roofs and shares in the savings and in sales and tax credits. Usually the company receives tax credits which they may use or sell, and many locations mandate that utilities buy the power generated from the customer. In Massachusetts, the utilities must purchase the electricity produced at retail prices and they do not like this one bit. When regulations do not allow power purchase agreements, the company may do it with lease payments instead.

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- *Spotify* pioneered the RENTAL of music instead of the purchase.
- *Skype* provided FREE voice and video calls with voice over IP (VoIP). They use the Freemium model in which the basic service is free but they earn revenue from premium services. They also license software to others for resale as part of their products, and sell advertising, and strike up hardware partnerships.

One of the most important parts of any business model is how you plan to earn your revenue. Surprisingly, that is often neglected in some new ventures. The internet has made revenue models more difficult to develop but here are examples of six distinct ways (business models) to make money online

1. Affiliate Programs –commissions from merchant to web site
2. Pay-per-click –Advertiser places ad on website and pays for each click-thru
3. Direct Ads –banner ads, skyscraper ads, pop-up ads, interrupting ads
4. E-Commerce –direct online sales from the merchant (ie Amazon or Dell)
5. Subscription Services ask the customer to pay a regular fee for access.
6. Freemium Models- Basic web service is free, but a fee based premium service offers far more functionality.

### *The fatal flaws in business models*

There are at least two fatal flaws that will ruin any business model.

The first is when the venture does a **complete misread of the customer**. This is one of the reasons why the Lean Launchpad emphasizes the customer discovery process.

Iridium by Motorola provided a painful example of a misread of the customer. Motorola concluded that everyone needed a satellite phone useable everywhere in the world. Motorola invested about \$5 billion dollars to build and launch at least 66 low earth orbit satellites ready to relay your satellite phone calls anywhere in the world.<sup>1</sup> Not really. Very few people really wanted a satellite phone with all of the expenses and the poor quality of calls. The rise of a ubiquitous cellular system in most countries relegated Iridium to an expensive and rare device. - Iridium failed to attract the large customer base that they expected.

Apple Newton: apple thought that customers were ready for a clunky tablet computer in 1993. No they were not. Only a hard core group of early adopters bought the Newton. This is an example of a product that was not timely. They were simply too early for the market. When Apple later brought out the iPad in 2010, customers were ready and bought in droves. There is a window of opportunity. Windows of opportunity open at some time and then they close. If you are too early the customer is not ready, and if you are too late the customer has already committed to other alternatives.

The second fatal flaw is when there is **utterly unsound economics**. There is an old joke about the entrepreneur explaining to an investor that “We lose money on every item, but make it up in volume.” Enough said.

### *The Core Strategy*

The Core strategy include the components:

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<sup>1</sup> <https://www.airspacemag.com/space/the-rise-and-fall-and-rise-of-iridium-5615034/>

- Mission statement-
- Product/market scope –Defines the product and markets which the company will address, and this can evolve. Amazon began as online bookseller and now it sells everything. Google began as search engine, then added maps, navigation, books, etc.
- Market segments –Dell Computer chose to target business and government, and HP targeted individuals, small business, and first time computer buyers. Both evolved into the others space over time.
- Differentiation basis –How are you different than existing products. You could try a cost leadership strategy, but this often requires economies of scale that are hard for new companies. Most execute a differentiation strategy around unique products or capabilities. Walmart and Target compete on a cost leadership strategy while Abercrombie and Fitch tries to differentiate itself on the basis of quality, timeliness, and service. It is amusing that Target tries to use a little of the differentiation strategy by differentiating itself by positioning Target as a little more upscale than Walmart!

### *The Business Concept Blind Spot*

Many companies have failed because they had a business concept blind spot. How many railroads became airlines? How many buggy manufacturers became automobile companies? Blockbuster was destroyed by Netflix. Digital equipment missed the PC revolution.

Here are a few recent examples that have been fatal or near fatal.

- Xerox considered itself “The Document Company.” Its focus was on reproduction (old stuff!), and it missed the creation and printing of digital documents. HP now dominates this market.
- Kodak and Polaroid were in the photography business, but they were mainly chemistry companies and very good ones. They each saw digital photography coming but their core expertise meant that they could not accommodate to digital photography.
- Wang, Digital, Data General, Prime, and other computer companies were all created in northeastern Massachusetts! They felt that computing was professional and not personal. Computers were to be controlled by operators and not end users. These minicomputer makers failed to see how the microcomputer would make computing ubiquitous.

### *Product and Market Scope.*

We have seen how Amazon and Google both started in one target market with limited market scope, but then expanded into others. A similar thing happened for Dell and HP. Getting the right product and market scope is critical for a new venture, and is another reason that customer discovery is so important –along with the ability to iterate and pivot as required.

It is important for a venture to figure out how to use its **strategic resources** to find a **sustainable competitive advantage**. A company may have core competencies, things the company does better than others, to create that competitive advantage. They may leverage resources using their core competencies to target new markets, and this is important in the longer term.

A new venture may also have **strategic assets** to create that sustainable competitive advantage which is the absolute key to success. These strategic assets need to be unique and not easy to imitate. Examples of strategic assets include plant and equipment, location, brands, patents, customer data, highly qualified staff, or distinctive partnerships

### *Partnerships*

Every new venture has a **partnership network** of suppliers and most have a supply chain with a network of all the suppliers from raw materials to finished product. When Apple was creating its iPhone it locked up aluminum CNC supplies so that others could not imitate their product because they could not get access to the needed equipment. Supply chain management is an important skill. There are some strategies available when considering partnership in the business model. Some do insourcing in which a partner moves inside the company! Others do outsourcing by getting external partners or suppliers to do things that the company does not do well or profitably. There are always dangers here - partnerships do founder at times.

Key types of business partnerships include:

- Joint Ventures (JV) -two organizations join to create a new JV
  - Sony-Ericsson was a joint venture by the Japanese consumer electronics company Sony Corporation and the Swedish telecommunications company Ericsson to make mobile phones. The stated reason for this venture is to combine Sony's consumer electronics expertise with Ericsson's technological leadership in the communications sector. Sony later bought out Ericsson.
- Network- Hub and spoke coordinated group of peers
- Consortia-Peer network of similar groups similar to a network but more formal.
- Strategic Alliance – not a joint venture but a win-win business relationship
  - Starbucks and Barnes and Noble in the early days had a strategic alliance.
  - Microsoft and many smaller software creators have one today.
  - Sprint and Microsoft provide business and consumer applications delivered via Sprint's wireless services as well as solutions that provide network security and reliability.
  - Trade Associations are often important for government relations and general public relations
    - Example- API –The American Petroleum Institute deals with contentious issues in fossil fuels and addresses both public concerns and lobbies governments.

### *Customer Interface*

The customer interface is a critical part of the business model. It is how the firm interacts with its customers. One need to segment the market and find your target market. You also need to discover how to get to the customer (Fulfillment and Support). We will focus on marketing more intently in a later chapter. For example pricing -one of the famous "4Ps" of marketing is a critical factor. The four Ps are: Product, Price, Place, and Promotion, (more in later chapter).

All of these factors are brought together on the Business Model Canvas (BMC) which we will explore in the next chapter. The Business Model Canvas was proposed by Alexander Osterwalder in 2008 as a concise graphical description of the business model. Steve Blank adopted it as part of his lean Launchpad approach. Here are the BMC section<sup>2</sup>s:

- Value Proposition – What value does the company bring to the customers?
- Customer Segments – What market segment(s) are being targeted by the company?

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<sup>2</sup> [http://en.wikipedia.org/wiki/Business\\_Model\\_Canvas](http://en.wikipedia.org/wiki/Business_Model_Canvas)



- Channels – How do they reach the customers –go to market (market, deliver, and support)?
- Customer Relationships – How does the business develop and retain the customer relationships?
- Key Activities – What activities need to occur to make the company successful?
- Key Resources – How does the company get its resources?
- Key Partners – Who are the key partners?
- Revenue Streams – How does the company generate its revenues?
- Cost Structure – What costs does the business incur?

Each of these sections is then recorded on one sheet of paper.

<b>Key Partners</b> Who are our Key partners? Who are our key suppliers? Which Key Resources are we getting from suppliers? What key activities do partners perform?	<b>Key Activities</b> What key activities are required by 1. our value propositions? 2. our distribution channels? 3. our customer relationships? 4. our <b>revenue streams</b> ?	<b>Value Proposition</b> What value do we deliver to the customer? What problem(s) are we solving for our customers? What bundles of products and services are we offering to each customer segment? What customer needs are we satisfying?	<b>Customer Relationships</b> What type of relationships do customers expect? Which ones are already established? How do those relationships fit with our business model? What is the cost of maintaining those relationships?	<b>Customer Segments</b> What customers do we create value for? Who are our most important customers?
	<b>Key Resources</b> What key resources do we need for: 1. our value propositions? 2. our distribution channels? 3. our customer relationships? 4. our <b>revenue streams</b> ?		<b>Channels</b> Through which channels do our customers wish to be reached? How do we reach them now? How do those channels fit together? Which work best? Which are most cost efficient? How do we fit them into customer routines	
<b>Cost Structure</b> What are the most important costs in our business model? What key resources are most expensive? What key activities are most expensive? Is this business more cost driven or value driven? Fixed versus variable expenses? Are there economies of scale?		<b>Revenue Streams</b> What value are our customers ready to pay for? For what do they currently pay? How are they currently paying? How would they prefer to pay? How much does each revenue stream contribute to the overall revenue?		

*The Customer Discovery Process*

We have seen that a complete misread of the customer is a fatal flaw in any business model. It is only a small extrapolation then to suggest that discovering the customer and what their needs might be and what they are actually willing to pay for should be a key step in building a business

model. We shall see that the Lean Launchpad enshrines this as part of a formal process. Failure to take this most essential step is a great way to fail.

*Segway: or How to fail at Customer Discovery*

Let us consider the case of the Segway, invented by the successful inventor and entrepreneur, Dean Kamen. (Segway Case Study: <http://www.jackmwilson.net/Entrepreneurship/Cases/Case-Segway%20Case.pdf> ).

In mid 2001, there began many months of hints from Kamen and speculation in the press about what he was up to. There were a few weeks of intense hype and mystery. He had given the project the code name "Ginger," and speculation about what it was ranged from a personal helicopter to an anti-gravity machine. The fact that the latter is impossible under elementary physics did not stop some from suggesting this.

On Dec. 3, 2001 the inventor Dean Kamen unveiled it on Good Morning America, and demonstrated that it was a self-balancing two wheel transport device. Some observers were underwhelmed, while others, perhaps blinded by Kamen's many previous brilliant successes, hailed it as a world changing technology. To the latter, this heralded a new form of personal transport.<sup>3</sup>

John Doerr, one of the most famous venture capitalists in the US said it was: "As important as the internet" Steve Jobs, the brilliant Apple co-founder, claimed: "Cities will be built around it." They set up a factory that could produce 40,000 Segways per month. They were certain that the market was huge and ready and willing to pay for this new new thing.

Investors are fond of saying that they would rather invest in an "A" team even if it was a "B" product, rather than investing in a "B" team with an "A" product. There was no doubt that this was an "A" team with an "A" product. What could possibly go wrong?

Dean Kamen attended Worcester Polytechnic Institute, but dropped out to invent a variety of product. He invented the first drug infusion pump and started a company, AutoSyringe, to market and manufacture the pump. His company DEKAResearch (NH) patents various products including: technology used in portable dialysis machines, an insulin pump (based on drug infusion pump technology), and an all-terrain electric wheelchair known as the iBOT. In total he was awarded over 440 Total Patents in his name. He was also very active a supporter of engineering and science education. He Founded FIRST in 1989 which is an acronym: **F**or **I**nspiration and **R**ecognition of **S**cience and **T**echnology.

The product could easily be seen as an "A" product as well. The Segway technology was adapted from his brilliant gyroscopic all-terrain wheelchair. Segway was a technological tour de force. The technology worked perfectly and exactly as designed and advertised. It passed extensive field testing and environmental stress testing. What happened?

We can do our own feasibility analysis on Segway:

- We can begin by noting that the founder is both brilliant and experienced. (JMW-BE-Chapter 9: Building your team)

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<sup>3</sup> <https://www.wired.com/2009/12/1203segway-unveiled>

- We have seen that the product worked exactly as intended and was proven reliable and innovative. (JMW BE-Chapter 11: New Product Development)
- The company had excellent patent protection for its Intellectual Property. (JMW-BE-Chapter 12: Intellectual Property)
- The product had outstanding public relations and free advertising. (JMW-BE-Chapter 13: Marketing)
- The company had more than adequate resources to launch the product. (JMW-BE-Chapter 14: Finding the Financing)
- The company had no competitors.

This new venture sounds like a slam dunk. If the greatest silicon valley venture capitalist, John Doerr, invested in it, it must be a no-brainer.

Instead it failed miserably. Instead of selling 40,000 per month, it sold 300 per month. In 2010 Segway was sold to a British Millionaire –Jimi Heselden. Unfortunately he died in a Segway accident on September 27, 2010. He apparently fell off a 30-foot cliff into a river while riding a Segway near his home in West Yorkshire, UK. Police found Heselden's body and a Segway personal transporter in the river.

In April 2014 Segway was purchased by Beijing-based Ninebot, which makes a range of short-distance motorized transport devices. It may be that they wish to combine the Segway's patented gyroscopic two wheel balance system with robotics that they already produce.<sup>4</sup>

In 2016, Ninebot and Google launched a joint venture to create a robot to self-drive the Segway.<sup>5</sup>

To the present, police and security organizations have become the major purchasers. Compared to the exalted expectations, this was one of the greatest failures of all time. Given all the great things going in Segway's favor, what was the missing piece?

*The customer was the missing piece.* Who was the customer and how would that customer want to use this device? It was also important to consider some of the political and regulatory obstacles. Segway really needed to do a Customer Development process as described in JMW-BE-Chapter 7: The Lean Launchpad.

Consider some of the political, logistical, and regulatory issues facing Segway:

- Is this a motor vehicle?
- May it travel on roadways?
- May it travel on sidewalks?
- Where do you park it?
- How do you get it from place to place over longer distances? – Car? Train? Bus?
- Are cities designed to accommodate this? – (Did Steve Jobs REALLY believe that cities would be redesigned for this?)
- Who represents the potential market and how large is it?
- Who do you target first?
- What happens when you run out of charge?
- Will you build re-charging stations?

<sup>4</sup> <https://www.usatoday.com/story/money/business/2015/04/15/segway-china/25810851/>

<sup>5</sup> <https://techcrunch.com/2016/01/07/segway-has-created-a-robot-that-connects-to-your-two-wheeled-scooter/>

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There were also some safety issues to be considered;

- Driver safety and training?
- Pedestrians in the area.
- Would you rather try to drive this in New York City traffic or on a crowded New York City sidewalk?
- What about an LA Freeway?
- On a snowy Massachusetts street?
- In a rainy Portland road?
- Segway requires two hands and thus cannot be used by anyone that needs to have a free hand.

Some cities, San Francisco for example, outlawed it immediately!

The Customer Discovery Process could have answered many of these questions. Markets probably exist, but were not targeted. Instead they targeted everybody and nobody. The price was too high at \$4950. Did financing pressure force the broad target?

They might have avoided the push back from cities if they had done a competition to pick a first city as Google and others have done with their self-driving cars. This could get the leaders on your side, and build publicity and excitement. It could even create envy in other cities. Then Segway could ramp up slowly and potentially create an artificial shortage.

Most importantly, they could have segmented the market and found an appropriate first target group. Perhaps it might have included police, tourists, and the military.

Segway presents a case that demonstrates the importance of the issues that we will raise throughout the course. In the next chapter, we will look more deeply into the customer discovery process as it is developed in the Lean Launchpad model and as used in the National Science Foundation iCorps program.

What is certain, however, is that failure to do a proper feasibility analysis and customer discovery process doomed the Segway to disappointment.