

Needs Pains and Solutions

Dr. Jack M. Wilson, Distinguished Professor of Higher Education, Emerging Technologies, and Innovation

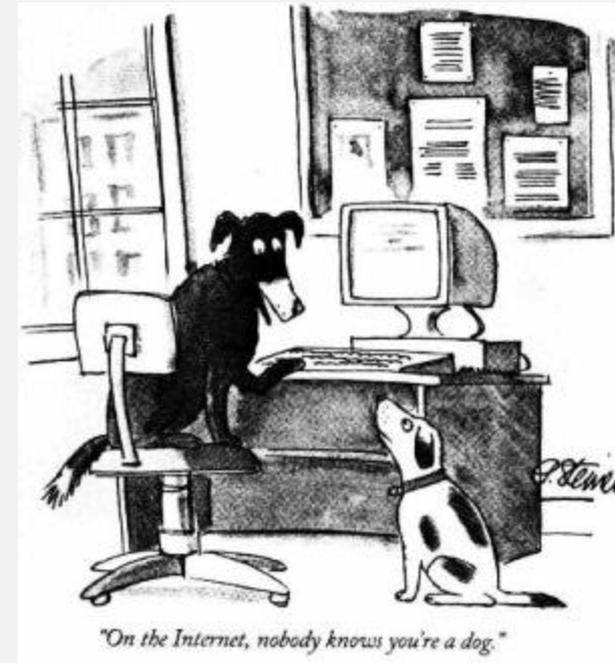


Need to have or like to have?

- Your product or service should address someone's pain.
- The more acute the pain and the more your solution can relieve the pain, the more likely it is that someone will buy your product.
- “Are you selling vitamins or aspirin?”
 - Josh Linker Detroit Venture Partners
- Vitamins are nice to have. Aspirin for a headache or other severe pain is a “need to have.”
- “Businesses that service burning demands and visceral human needs tend to accelerate faster and require far less marketing push than those that offer stuff customers can easily live without.” (Linker)

Need driven

- Owning an automobile in an urban area is a difficult and expensive proposition. Solution: [Zipcar](#)
- Some of us absolutely hate to go shopping (yep, that would be me) but we still want to buy things. Solution: **Amazon.com** or **eBay**.
- Some of us want to sell things. Solution **eBay**.
- Meeting potential dates in a new place can be awkward and time consuming. Solution: **Tinder**
- We all like to tell others our opinions on everything, but no one listens. Solution: **Twitter**
- We want to share a picture but only for an instant. Solution: **SnapChat**
 - Many users were embarrassed to discover that users could save their pictures!
- I want my music and I want it now! Solutions: **iPod**, **iPhone**, **Spotify**, **Pandora**, etc.
- The traffic is terrible! Solution: **Waze**
- Notice that many of these need driven innovations were enabled by technology.



Supply and Demand

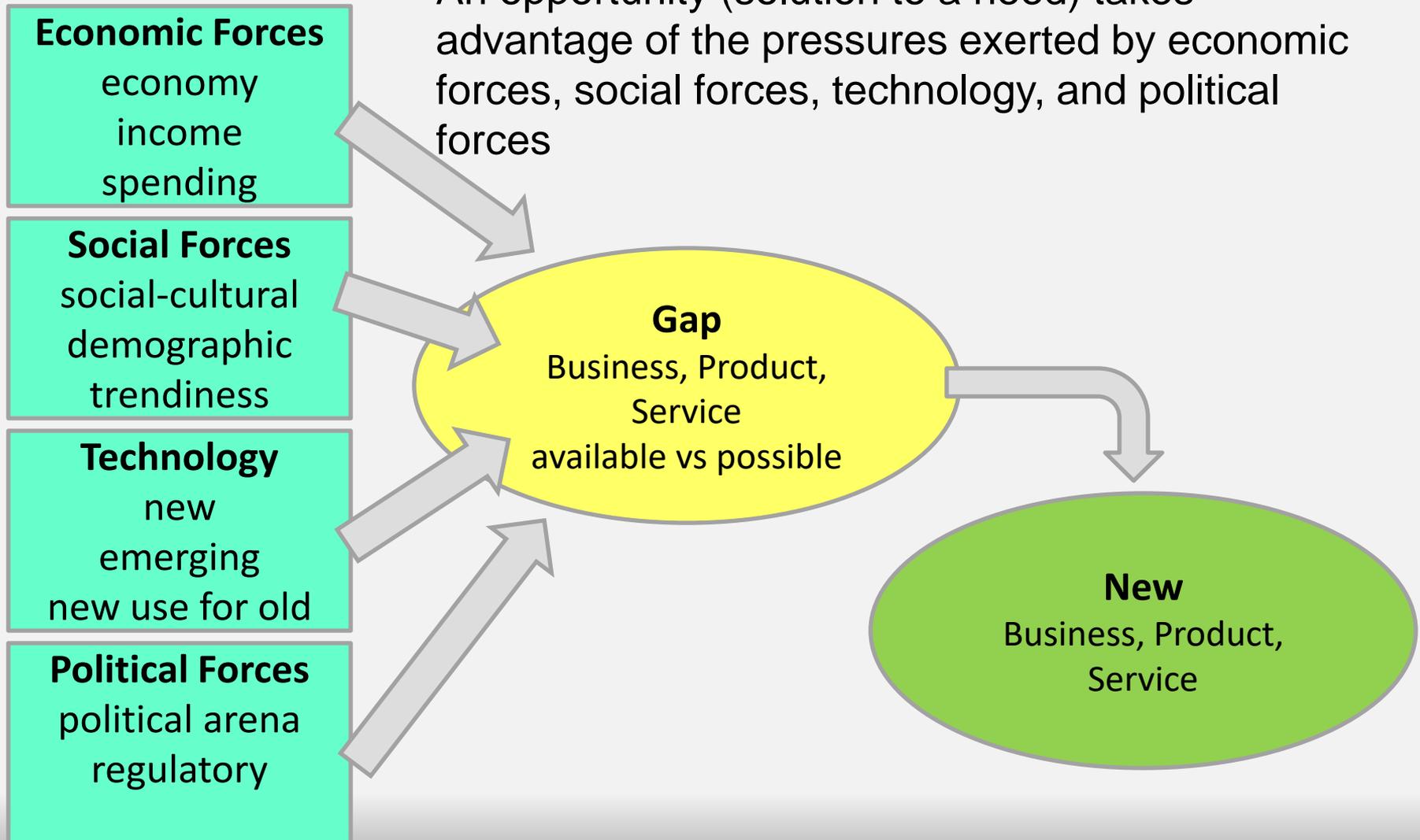
- Supply and demand suggests that when the price goes up the demand goes down.
- Price elasticity of demand.
 - If price greatly influences demand for a product or service, then we say there is high price elasticity.
 - If demand does not change much with changing price, then this is called “inelastic.”
 - Demand for water, air, basic food, or aspirin is inelastic.
 - Demand for designer clothing, jewelry, real estate, and automobiles is quite elastic.
- Supply and demand works both ways. An inexhaustible supply (the air we breath) keeps the price down. Shortages of supply keep the price high.
- Netflix shows that it can be both.
 - For casual viewers, it is “Nice to have” access to videos when they want to watch.
 - For regular avid video watchers it removed the severe pain of trips to Blockbuster and paying late fees when returns are inconvenient. It was a “need to have.”

Drivers of Innovation

- **Knowledge Push** – New knowledge or research suggest some new opportunities
- **Need Pull** – When an unfulfilled need is present and someone comes up with an idea to fill that need.
 - Note that these two are often related. Frequently a new technology enables a previously unfulfilled need to be fulfilled.
- **Process Innovation** – making an existing process work better
 - Total quality management, business process re-engineering, Six Sigma, Lean Management, etc.
- Discovering customers at “**The Base of the Pyramid**” as Prahalad described. We covered this in the chapter on [Globalization](#).
- **Crisis Driven** –Need pull on steroids. Zika Virus vaccine
- **Mass Customization**: Have it your way. Dell Computer, in 80s and 90s built PCs to order and shipped direct to customer. Converse allows customers to order personalized athletic shoes.
- **User Innovation** – crowd sourcing and extreme users
- **Imitation** –Often the first source of innovation in emerging economies.
- **Recombinant Innovation** –New combinations of existing things.
- Changes in **regulatory** and legal processes.
- **Design driven innovation** – Apple always focused on design even when releasing products that were not that much different than existing products.
- **Pure accidents** –discovery of penicillin, Post-it notes, Viagra, [Teflon](#)

From Trends to Opportunity -Remember

- An opportunity (solution to a need) takes advantage of the pressures exerted by economic forces, social forces, technology, and political forces



Compelling unmet need?

- Identifying the pain –a clear unmet need – is a great start.
- As we have seen in our discussion of Effectual Entrepreneurship, many entrepreneurs start with what they know. We call this the bird in the hand principle.
- Perhaps they have experienced some personal pain that they feel others have experienced and would pay to solve.
 - [Tommy John undershirts](#). Tom Patterson was tired of having his undershirts come untucked.
 - [Micro-lending](#). Muhammad Yunus saw that he could lend to women and both get a good return and help them establish small businesses.
 - [Zipcar](#). Saw that owning a car in the city was too expensive, but there were few alternatives.
 - Facebook. It was hard to meet prospective dates.
 - [Snapchat](#). It is fun to communicate quickly and graphically with friends, but you may not want those pictures to go too far.

Questions on compelling unmet need:

- Size: how many people suffer from the pain you are addressing?
 - Clearly a larger market is preferable.
 - If your solution does not impact enough people it will probably have a hard time getting market share. Other less effective alternatives may just be good enough.
 - The number of people feeling the pain that you are addressing is called the “**total addressable market.**” (**TAM**).
- What is the intensity of the pain each user feels?
 - The greater the pain, the more inelastic the price demand is.
- Is this pain felt once, or over and over again?
 - Pharmaceutical companies find that drugs taken for chronic diseases like diabetes, high blood pressure, HIV, depression, and others are more profitable than “one and done” treatments like vaccines for tetanus, whooping cough, small pox, etc.
 - This latter has been important in the moral and ethical issues around drug discovery, drug production, and drug pricing.
 - A more mundane example is that Gillette makes far more money selling blades than it does by selling razors.

DailyWorth and Amanda Steinberg ([Case](#))

- A successful computer programmer, Amanda was earning six figures, but she had built such an expensive life that even her best attempts at saving and investing were wiped out by life's unexpected complications.
- Frustrated by her inability to build net worth, she launched DailyWorth from an attic office in Philadelphia with a newborn in her arms.
 - Today, DailyWorth's newsletter reaches more than 1 million subscribers and growing.
- In 2015, she started digital investing service, WorthFM, which received front-page coverage in The New York Times Business section
- Oprah selected her for the inaugural SuperSoul 100, and Forbes named her one of 21 New American Money Masters. Amanda has also appeared on GMA, Today, CNN, and MSNBC.
- She's also the author of Worth It: Your Life, Your Money, Your Terms released in February 2017.
- Financial planning, budgeting, and goal-setting only work for a small percentage of people. Worth It flips the paradigm on “financial advice” for women and delivers it in fresh, unexpected ways.
 - <https://www.dailyworth.com/meet-our-founder-amanda-steinberg>

Durability and Timeliness

- Enter a market too early and the market is not ready.
- Enter a market too late, and the market has moved past you.
- Marty McFly - Johnny B. Good
 - “*Back to the Future*”
- His moves were a little ahead of his audience!
- And some trends do not last.
 - Durability
 - Y2K programming
 - Blackberry smartphome
 - Flipphone
 - Fanny packs



MGHPCC

-The Massachusetts Green High Performance Computing Center

The Need and the Pain:

- There was no High Performance Computing Center or Super Computing Center in the Northeast.
 - Illinois was the first
 - San Diego, Research Triangle North Carolina, Pittsburgh
- The Pain: To be great research universities you need access to high performance computing.
 - Massachusetts had five great research universities
 - Had to use outside centers for their research
 - Had to provide expensive local facilities run with a lot of expensive electricity.
 - Problems with high cost of electricity and providing suitable facilities to host computers.
- [Case: MGHPCC](#)



Tesla Motors -all electric high performance cars

- Economic Trend – increasing gas prices
- Social Trend –desire to be green
- Technology Advances –Battery and motor improvements
- Political Regulatory Trend – favorable treatment and support for alternative energy systems.

