Curiosity, Creativity, Courage, and Hard Work

Ken Stauffer
What is an Entrepreneur?

a person who organizes and manages any enterprise, especially a business, usually with considerable initiative and risk.

--- dictionary.com

a person who starts a business and is willing to risk loss in order to make money

--- Merriam-Webster
Traits of Entrepreneurs

- Not Satisfied with the Status Quo
- Curious / Creative
- Self Starters
- Embrace Risk
  - Explorer
  - Pilot’s Seat vs Business Class
  - Comfortable with no safety net
- Highly Competitive
- Willing to go “all in”
  - Timewise, Socially, Financially
- Active coping skills – can fail, recover, and gain from the experience
- “Freedom’s just another word for nothing left to lose” – Janis Joplin

“Dicey At Best”
Red River Gorge
Rated 5.9
First Ascent
July 1979
photo by pkananen
Traditional Large Companies vs Entrepreneurial Start-ups

- Management Layers
- Politics
- Annual Budget
- Meetings
- Policies

- Support Staff for:
  - Legal
  - HR
  - Finance
  - Marketing/Sales

- Benefit Plans

- Partners and Investors
- Personalities in a pressure cooker
- Live off what you drag in
- Skype and social media
- You get to trust your gut

- You’re looking at it
  - Produce your own
  - Value shop it
  - Do without

- Ping pong tables and pets
Plato’s “Allegory of the Cave”

- Levels of Curiosity
- Levels of Risk
- Levels of Understanding
Shadows of Plato

“\textit{I have no special talents. I am only passionately curious}.”

--Albert Einstein
So You Have an Idea, But is it a Product?

- An idea can be
  - A technical solution to a problem
  - A process change – operationally
  - Something totally new from a business perspective
  - Or all three (SpaceX)

- The idea can be (a service) or (a product)

- Someone (a customer) needs to find it compelling enough to buy it

- But at what (price)?

- How many people of what type will buy it (the market)?

- Can you make money– is it be a business or a hobby?

Ideas Don’t Matter, Execution Matters!
Idea vs Product Process

- Build a Prototype
- “Get a Customer”
- Understand the Supply Chain
- Develop the Business Case
Let’s Use an Example --- a Technical Idea in the IoT space

- Wireless sensor to read tank gauges
- Uses a Hall Effect transistor and A - D voltage conversion
- Transmits info and displays “% full” tank levels
- Software transforms data into information and displays data on a laptop, tablet, smartphone, etc.
Example Product, Customer, Market, and Technical Solution

STARTUP MADLIBS – Founder Institute

My company ___”Fill it Up”_________ (name of company)

is developing ___a tank monitoring solution___(a defined offering)

to help_________ fuel dealers _________________(a defined audience)

_________know the level of their tanks, remotely____( solve a problem)

by ____an IoT wireless sensor network and web portal ____(secret sauce)

“If you can’t explain it simply, at some point you don’t understand it well enough.”

--- Albert Einstein
What Does a Customer Look Like – Why Would They Buy It?

- Someone who has to fill the bulk tank when it runs out
  - each “truck roll” to the tank is expensive ($50 in US)
  - can optimize your routes based on nearly empty tanks
  - can drop more fuel for each truck roll
  - can guarantee the customer they won’t run out – homes and businesses
  - can offer a “pay as you go” feature

- Sounds like a fuel dealer is the customer
  - they have many retail consumers
  - this product can gain them 25-30% efficiency
  - it can increase customer satisfaction
  - it can lead to revenue gain
  - it provides stickiness
What Market Does it Target—Are There Other Products Like It?

- Consumable bulk tank storage market
  - tanks that go down—heating oil, propane, diesel fuel, water, etc.
  - tanks that go up—waste oil, used restaurant cooking oil, water, etc.

- Cellular, satellite, WiFi, fixed wireless spectrum technologies in play today

- Wired or wireless connections to tanks sensors

- Energy supply to radios
  - grid connection
  - battery life
  - solar

- What is your Unique Selling Point (USP) vs Competition?
  - price
  - usefulness / operational efficiencies
  - technology—battery life, different tanks, etc.
Do You Have a Business, a Hobby, or a Charity?

- Two methods for developing a Business Case
  - top down based on total market size and market share over time
  - bottom up based on unit cost, unit price, and how many can be sold over time

- Three important buckets to any simple business case
  - Revenue -- based on sales over time, or market penetration over time
  - Costs -- based on organization, production, cost of sales, cost of goods, etc
  - Profit -- based on Revenue – Costs

- Many other metrics -- “Operating Margin”, “Net Margin”, EBIT, EBITA

- A Business Case is your “product” vision over time in financial language

\$, £, €, ¥, ZMW, etc.
Challenge Your Assumptions To Expose Any Bias

- Find a real customer, ask how much it is worth to them
- Find experts in that industry and let them tear apart your assumptions
- Don’t seek friendly faces, seek honest answers
- Redo the business case many times – worst case, best case, most likely case
- Sometimes no is the best answer

"Your pain is the breaking of the shell that encloses your understanding"
--- Fortune Cookie

- Go or No Go Decision
Is It Time to Form a Company?

- What type of company?

- Both legal and financial implications
  - liability exposure
  - tax implications
  - stock ownership

- Do you need a business partner?
  - assist with seed financing
  - complement your skill set

- Are you equal partners—who’s the Boss?

- What makes a good partnership?

- How many employees do you need or can you afford—should be in your Business Case?
Intellectual Property Protection

- Patents are Strategic, Offensive, and Defensive
- Do I have a unique process or design?
- Should I file a patent?
  - Provisional patent
  - Design patent
  - Utility patent
- What would I do if I have a patent and someone violated it?
- Do I want to license the technology instead of developing it?

One Can Steal Ideas, But No One Can Steal Execution!
The US Patent Process

1. **Step 1**: Applicant
   - Has your invention already been patented?
     - Yes: End
     - No: Go to Step 2

2. **Step 2**: Applicant
   - Design Patent (provisional or nonprovisional)
   - What type of application are you filing?
     - Patent (New Entity of Invention/Prototype
     - Utility Patent (most common)
       - Useful process, machine, article of manufacture, or composition of matter
   - Patent Application

3. **Step 3**: Applicant
   - Determine Filing Strategy
     - Yes: File internationally
     - No: File in U.S.

4. **Step 4**: Applicant
   - Need international protection?
     - Yes: Go to Step 5
     - No: End

5. **Step 5**: Applicant
   - Consider expedited examination
     - Provisional Examination
     - Accelerated Examination Program
     - Fast-Track Prosecution
     - Patent Prosecution Highway
   - Patent Application

6. **Step 6**: Applicant
   - Who should file?
     - This person (or their )
     - Use a Registered Attorney or Agent (Recommended)
   - Patent Application

7. **Step 7**: Applicant
   - Prepare for electronic filing
     - Determine Application processing fee
     - Apply for a Customer Number and Digital Certificate
   - Patent Application

8. **Step 8**: Applicant
   - Apply for Patent using Electronic Filing System as a Registered filer (Recommended)
   - Patent Application

9. **Step 9**: Applicant
   - USPTO examines application
     - Check application status
       - Yes: Allowance
         - No: Applicant files replies, requests for reconsideration, and appeals as necessary
       - Yes: Applicant pays the issue fee and the publication fee
         - No: USPTO grants patent
   - Patent Application

Download Utility Patent Application Guide
Product Development

- **Technical**
  - Hardware development – sensor, chip, radio
  - Software development – portal, dashboard, database, expansion framework
  - Wireless frequency development – satellite, cellular, wireless spectrum

- **Marketing, Brand Creation**
  - Identify paths to market
  - Cost of customer acquisition
  - Brand identity in the market
  - Product name, web site, press releases, ads
  - White papers, conferences, trade shows
  - Social media

- **Sales Method**
  - Direct sales
  - Distribution / Resalers

Remember that “80% of all sales are made on the 5th to 12th contact”
Financing Options – Methods, Pros and Cons

- Boot strap on your own and grow organically – easier for service companies
- Take in funding from friends and family
- Crowd funding web sites – Idea.me, Kickstarter.com, etc.
- Micro-funding
- Banks
- Angel funding from wealthy individuals – approx. $10,000s to $100,000s
- VC funding – approx. $100,000s to $ Millions

No Right Answer
All these options have pros and cons
“Ukitaka kwenda kasi, nenda peke yako. Ukitaka kwenda mbali, nendeni pamoja”

“If you want to go fast, go alone. If you want to go far, go together.”

~~ African saying translated into Kiswahili
Why Millennials Favor Startups or “New Age” Companies

- “New Age” companies mirror their lifestyle (Uber, Airbnb, Square, etc.)
- These companies are often structured like a cluster of small start-ups
- Management structure is leaner; org lines are blurred
- Less political -- able to advance quickly based on ability
- Easier to move between companies based on expertise
- Abundance of role models for start-ups (Elon Musk, Mark Zuckerberg, etc.)

- **Authenticity, Social Networking, and “Keeping Your Options Open”**, are key to millennials!