

Building Your High-Tech Start-up



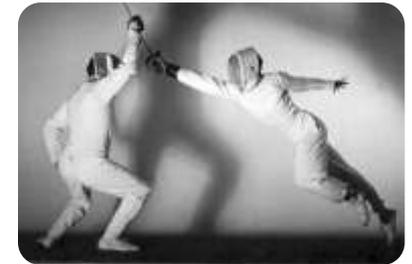
Many of you have already decided and others are seriously considering to build a high-tech start-up company.

Why ?



the 4 most cited reasons

- ✓ **30%** self employment, autonomy/freedom
- ✓ **20%** income, wealth
- ✓ **15%** like the challenge
- ✓ **10%** achievement, accomplishment
- ✓ **25%** other



first, a definition



What is a start-up ?

A startup is a **temporary** organization used to establish and develop a **repeatable** and **scalable** business model.



- Business model found
- i.e., Product / Market fit
- Customer finding
- Repeatable sales model

no recipe to success, just some valuable tips

There is absolutely no secret “recipe” or well known checklist that ensure success to your startup.

There is, however, a remarkable number of wise considerations and suggestions that you can consider generated by decades of experiences in starting-up technology businesses.

This chapter #1 of today’s lesson guides you through a number of those valuable tips as to:

“how do I increase my chances of success ?”

and, in the same time:

“how can I stay far from the most frequent reasons of failure?”



focus on the DOs and the DONTs



My aim of today's lesson is then to provide you with a number of “**DOs**” and “**DONTs**” that are suggested by my experience in starting-up and managing high-tech enterprises as well as by the experience of many others around the world who sailed the (very often) pretty rough waves of “**I-start-my-own-enterprise**”.

some basic math

Before anything else, all young high tech entrepreneurs should consider the simple and basic math of success in start-ups:



- you have roughly a one-third chance of losing time and/or money



- a one third chance to breaking even



- and a good one third chance of becoming substantially successful and wealthy



way to success



✓ First and foremost remember that it takes a great deal of determination and perseverance because

✓ Starting a company is a process, not an event

✓ There is no such thing like and elevator to success, you have to take the stairs !

ways to fail

The 6 most frequent reasons for failing in your start-up or business venture:

1. inadequate knowledge of the market
2. ineffective marketing or sales
3. underestimating competition
4. undercapitalization i.e., unplanned operating expenses
5. weak business plan
6. weak leaders or management team

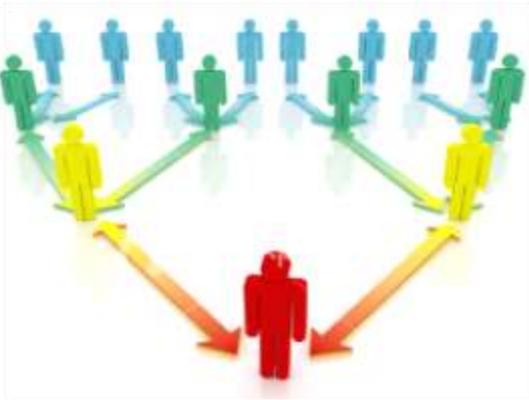
The latter is by far the most frequent and most fatal.

- A. Founders / Management Team**
- B. Products & Services**
- C. Markets and Customers**
- D. Business Plan**
- E. Funding**

the importance of the Team

- ✓ A **weak** Management Team is the most frequent deal-killer for almost all investors and Venture Capitalist even if the proposed idea or product is outstanding (i.e., VCs **do not** invest in weak teams).
- ✓ Strong executive teams, instead, have significantly higher chances to become successful on a weaker Business Plan while weak Management Team are unlikely to be successful even with a great Business Plan.

the ideal Team



CEO

Team Leader



VP S&M



CTO

the values of a successful Team

1. **Problem solving** - thoroughness, practicality, analytical ability, creativity, broad perspective
2. **Motivation** – drive, **determination**, persistence, initiative, goal orientation
3. **Work habits** – **self-discipline**, responsibility, **integrity**, dependability
4. **Organization / planning** – setting priorities, punctuality, flexibility
5. **Interpersonal Characteristics** – self-confidence, stability, friendly attitudes
6. **Leadership** – delegation, firmness, participation, example



the DON'Ts of start-uppers



1. lack of integrity
2. lack of motivation
3. trying to retain all control
4. give poor directions
5. make business decisions for non-business reasons
6. hire ineffective friends or relatives
7. being slow to correct operational problems
8. inability to learn from the past i.e., repeat mistakes

1. Founders / Management Team
2. **Products & Services**
3. Markets and Customers
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Most people, especially engineers, believe they have invented the perfect product or perhaps they need to invent a perfect new product to start a business. In real life, that is not so !

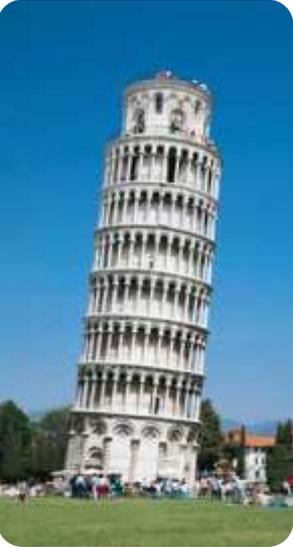
product

➤ As funny as it may sound, the definition of the product or service around which you build your start-up is MUCH less important than most people think.

➤ It is in general advisable:

- to strive for a superb execution in developing and marketing a perhaps less-than-excellent product rather than

- for a less-than-excellent execution in developing and marketing a superb product.





No “single” anything in your start-up !

- no single product,
- no single customer,
- no single supplier,
- no single investor.



Remember to diversify every aspect of your business in order to diminish the risk.

the important new products and technologies

1. innovation in energy

- energy saving
- new “green” sources of energy

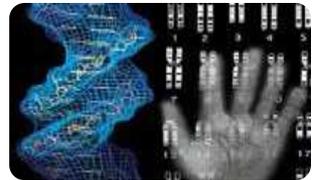
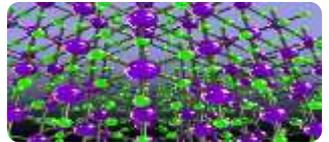
2. next generation chips and memories, nanotechnologies-based

3. wireless communications of all kinds

4. new medical equipment, preventive medicine

5. life-sciences, genomics analysis

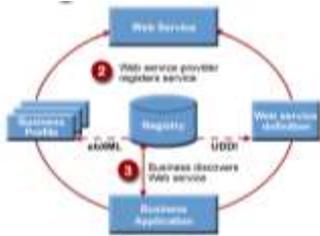
6. personalized medicine i.e., the right drug, for the right patient, at the right time and stage of the disease i.e., not just the “cut-burn & poison” type of medicine.



the important new products and technologies



7. sensor networks and all its applications, the Internet-of-things
8. services for institutions and enterprises
9. WEB services of all kinds (but be creative !)
10. security services (surveillance, scanners etc.)
11. search & access services
 - enterprise search
 - access to information
 - visual access
 - geographic access
 - semantic access



Additional “product” considerations



1. study product positioning
2. maintain patent protection or other **IP advantages**
3. play in large enough markets
4. do not try to compete Microsoft, Johnson&Johnson or Procter&Gamble
5. recognize that markets and competitors are **moving targets**
6. identify concrete, real customers
7. make your product easily and clearly understandable
8. well quantify gross margins and collateral revenues

Looking in the future: top 10 technology trends

In May 2011 Stanford Research Institute (SRI) Proposes Top Ten Technology Trends of the next decade



1. **Age Before Beauty** – Product and services for “Baby Boomers”



This population is now aged 45 to 65 and the this trend is very related to the aging population issue and to the future distribution / concentration of the purchasing power

Looking in the future: top 10 technology trends



2. **The Doctor Is In** - Toward complete automation: a combination of artificial intelligence, the Internet, and very low-cost medical instrumentation to provide high-quality diagnostics and advice—including answering patient questions—online to a worldwide audience.

We see this trend happening already, but the focus will be first on specialized medicine. The trend will be very slow to adopt to a mass market. Privacy, culture, and behavioral issues will make changing over to online medical practices a long road.



3. **Made for Me** - Practical, one-off production of physical goods in widely distributed micro-factories: the ultimate customization of products. I see this trend happening, but the focus will be first on specialized medicine.

The trend will be very slow to adopt to a mass market. Privacy, culture, and behavioral issues will make changing over to online medical practices a long road.

Looking in the future: top 10 technology trends



4. **Pay Me Now** - Technology and business models based on attracting consumers to share large amounts of information exclusively with service providers.

Information can be very valuable. This knowledge is becoming a key asset and a major competitive advantage for the companies that gather it and analyze it. Businesses will become increasingly smarter and more aggressive in convincing us to share our information with them and not with their competitors.

This all ties into the trends of privacy, cloud computing / storage, and database analytics trends. Businesses who figure out how to use analytics to make sense of all the information they gather will know better how to target and customize services to individuals that are most likely to buy.

Looking in the future: top 10 technology trends

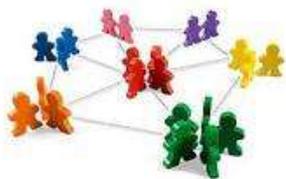


5. **Rosie, At Last** - Robots becoming embedded in our environments, and taking advantage of the cloud, to understand and fulfill our needs.

Rosie was the Jetson's robot who did most everything for the Jetsons and even had a personality anyone did like. This will be another long term trend. We are not going to see explosive growth overnight. However, there will be a gigantic industry in the future all around the robot and robot Industry ... both for consumers and businesses.

6. **Social, Really** - The rise of true social networks, designed to maintain real, respectful relationships online.

The key here is the word relationships. The value of social technology can enable better relationships. If businesses can find ways to leverage social technology to form better relationships, then their sales will benefit.



Looking in the future: top 10 technology trends



7. Augmented Reality - Hyper-resolution augmented reality and hyper-accurate artificial people and objects that fundamentally enhance people's experience of the world.

AR will transform how we receive and process information throughout the day. The AR trend will take another 15-25 years to take hold in the mass market, but it will take a lot longer (100 years?) to get to the point where AR is indistinguishable from actual reality.



8. Engineering by Biologists - Practical, engineered artifacts, devices, and computers based on biology rather than just on silicon (convergence of computers, biology, chemistry, and nanotechnology).

This is all about the convergence of computers, biology, chemistry, and nanotechnology. This is another of the long-term trends that will have profound impacts on human lives over the next 200-300 years, but still we won't see much impact in the next 25 years.

Looking in the future: top 10 technology trends



9. Embedded Security - Cyber defense through widespread adoption of simple, low-feature software for consumers and businesses.

This trend deals with the security industry. That is, the need for security solutions will only increase as technology becomes embedded in every part of our business and personal lives. While these solutions may look simple and low-featured, there will be a huge technology capability under the covers.



10. Reverse Innovation - Developing countries to turn around the flow of innovation: Silicon Valley will begin to learn more from them about innovative applications than they need to learn from us about the underlying technology.

1. Founders / Management Team
2. Products & Services
3. **Markets and Customers**
4. Business Plan
5. Funding

define the market

➤ It is far better to select a market and define a product or service for it than to develop a product and then go seek a market for it.

➤ Tirelessly check if your proposed product or startup does in fact have a market:

- what is my/our value proposition ?
- what real value does my product/service offer to the customer ?
- does my product eliminate a major pain to the customer ?
- am I going to help the customers make more money ?
- am I going to save them any money ?



size the market



- Entrepreneurs shall carefully size the market segment they are targeting and as carefully evaluate how many competitors can exist in such segment.
- The “rule of X” simply states that in any particular market there is room for only X viable competitors.
- X is variable depending upon the characteristics of each specific market.
- In high-tech and capital equipment, for example, very often X is not greater than 7, with average market penetration of 15-16%.
- If the market is “operating systems for desktop computers”, then X is 1, spelled “M-i-c-r-o-s-o-f-t”.

a thorough competitive analysis



- All entrepreneurs shall run a detailed and thorough competitive analysis of the specific products and markets they want to address.
- A superficial knowledge of just the existence and names of competitors and their products is not enough
 - determine who all your competitors are
 - accurately determine what their products are and their features
 - rank all such features by giving each one a weight
 - plot the relative product positioning to find out where your product stands.

importance of distribution

Do not underestimate the difficulties, costs and time necessary to build a distribution network. It usually takes longer to build the sales network than developing the product/s.



During product development, find and consolidate distribution alliances.



1. Founders / Management Team
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business model

- Before writing a business plan, you shall carefully consider if you have a solid and clear **business model**
- If you cannot describe your business model in less than 10 easy words, you do not have a business model.
- At M31 we have helped start in 2008 a quite successful startup called **CenterVue** that in 2013 is going to sell \$15+M of products and that it likely will go public in the US stock market within 2 years.
- In 2008, the founders described CenterVue's business model:
 **“Fully automated, cost effective, WEB connected instruments for the early detection of sight/vision threatening pathologies”**



business model

- Be specific
- Keep it simple
- Study precedent cases
- Avoid business jargon

eBay : to charge a listing fee plus a commission

Google: to make all the human knowledge easily accessible

- Ask women's opinion (9:1)

1. The problem you address and resolve
2. The solution you propose
3. Your Business Model (how do you make money)
4. Your technology, IP, Secret Sauce
5. Market
6. Competition
7. Marketing & Sales
8. Management Team
9. Key metrics and Financial Projections
10. Status, Roadmap, Timelines

writing your business plan



- Writing the business plan for your start-up is not an easy task, but it is for sure the most important phase in the process of creating and developing a new enterprise.
- It usually takes no less than 3 months and in some cases up to one year to elaborate a solid and thorough business plan.
- Writing a business plan is all about “planning”, i.e., thoroughly thinking and studying in advance all the various aspects of the business that you are willing to start.



Success is much more dependant on accurate planning than on just straight execution.

business plan shall be flexible

➤ If you have difficulties or are not able to write a solid and appealing business plan, you will obviously not get funded, but, in addition, think carefully about the case for you to “ad-venture” into starting the enterprise.



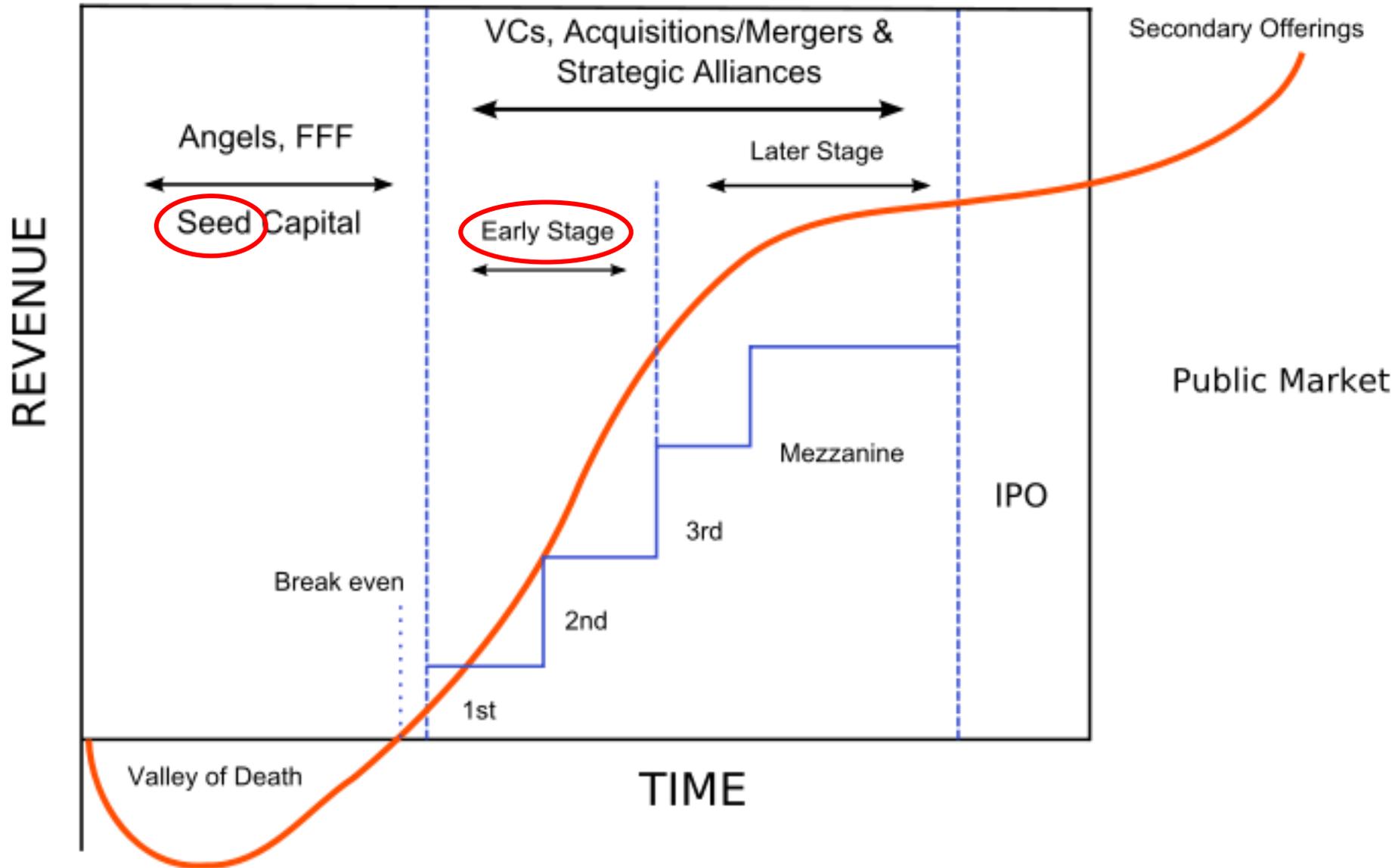
➤ On the other hand, business plans should not be considered invariable: numerous startups have achieved great success with a business strategy that turned out to be very different from the strategy set forth in their initial business plan

business plan outline

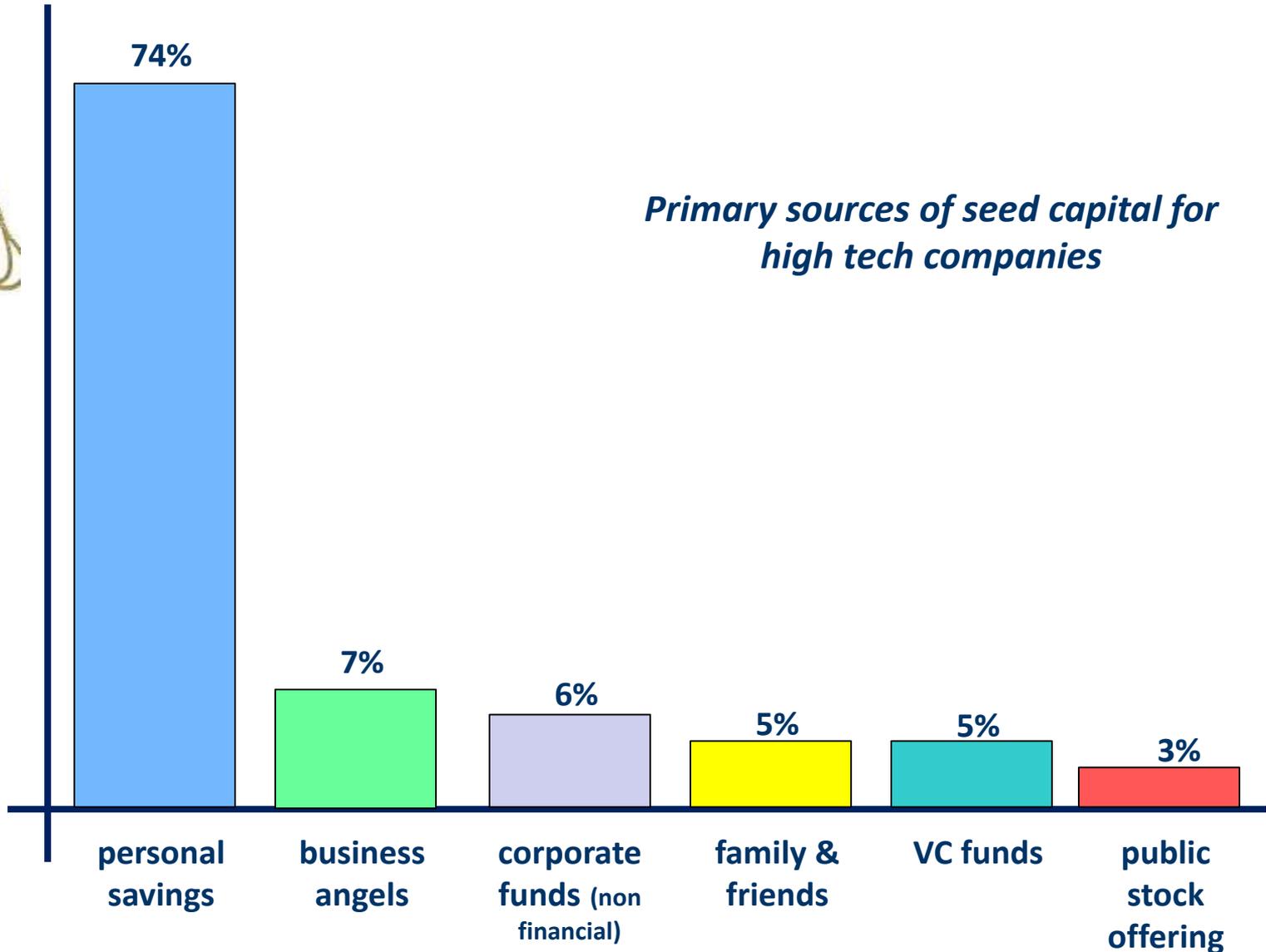
- 1. Executive Summary** – a few pages of key concepts and highlights, which is written last
- 2. Company Description** – legal establishment, shareholding, governance, organization, network
- 3. Product / Service** – value proposition, R&D, IP, product development, features, specifications, manufacturing
- 4. Market Analysis** – customer ID, market ID and sizing, competitive analysis, pricing, planning, positioning, service
- 5. Strategy and Implementation** – business objectives and milestones, action plan and timelines, track results and control
- 6. Management Team** – description of the team, roles and responsibilities
- 7. Financial Analysis** – budget, 3 year plan, balance sheet, income statement, cash flow

1. Founders / Management Team
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funding your startup



primary sources



types of investors



➤ **Angel investors:** are wealthy private individuals who provide capital for a business start-up (their own money), usually in exchange for convertible debt or ownership equity. A small but increasing number of angel investors organize themselves into angel groups or angel networks to share research and pool their investment capital.

➤ **Corporate funds:** are investment funds created by large corporations (Intel, IBM, Cisco, Oracle, HP etc.) that invest for strategic reasons in start-ups related to their core business or in companies that directly or indirectly help increase the sales of their core products.



types of investors



➤ **Venture Capital (VC):** is a private equity fund investing other peoples money to provide for early-stage, high-potential, growth companies in the interest of generating a return through a liquidity event such as an IPO or trade sale of the company. Venture capital investments are generally made in cash in exchange for shares in the invested company. It is typical for venture capital to look for high risk, high return investments.



➤ **The new models:** is a type of business angel, a very new model of “businesses accelerators” that has developed in the last few years (IdeaLab, H-Farm, M31). Those investors combine the incubation, seed funding and management assistance functions to speed-up the business, reduce the risk and allow the young entrepreneurs to get earlier to success.

do not run out of cash



Do not underestimate the financial needs to bring your startup to the point when it makes enough sales, profit and positive cash flow.



Plan your cash needs very carefully.

Running out of cash a few months before starting sales is the worst risk (and the worst nightmare) of every high tech entrepreneur.



NEVER GIVE UP

Go over, go under, go around, or go through.
But never give up.

Many thanks for your attention

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