

BEE/CSS 371 Business of Technology
Winter 2017
Lecture 3

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Tonight's agenda

1. Steve Jobs videos
2. Chapter 1. Entrepreneurs
3. The concept of a business
4. Chapter 2. Opportunities

Steve Jobs

The image is a screenshot of a web browser displaying a YouTube video. The browser's address bar shows the URL <https://www.youtube.com/watch?v=UF8uR6Z6KLc>. The YouTube search bar contains the text "steve jobs stanford commencement speech 2005". The video player shows a man in a black graduation gown speaking at a wooden podium with the Stanford University seal. The video progress bar indicates 1:15 / 15:04. Below the video, the title "Steve Jobs' 2005 Stanford Commencement Address" is displayed, along with the Stanford University channel name and a "Subscribe" button with 390,887 subscribers. The video has 20,526,044 views, 139,911 likes, and 2,386 dislikes. To the right, there are two video recommendations: "Bill and Melinda Gates' 2014 Stanford Commencement Address" by Stanford (176,565 views, 24:41 duration) and "Oprah Winfrey's 2008 Stanford Commencement Address" by Stanford.

Steve Jobs commencement address at Stanford in 2005.
<https://www.youtube.com/watch?v=UF8uR6Z6KLc>

What were the 3 stories?

3 stories

1. Connecting the dots.
2. Love and loss.
3. About death.

Connecting the dots

Connecting the dots

Dropped out of college, a story that started at birth.

What was the story about his birth?

Connecting the dots

What was the story about his birth?

1. His unwed biological mother wanted Steve to be adopted by college grads.
2. Lawyer set to adopt Steve but decided they wanted a girl.
3. Parents on waiting list but never graduated college.
4. Biological mother extracted promise that Steve would go to college.

Connecting the dots

What was the story about Reed College?

Connecting the dots

What was the story about Reed College?

1. Went to Reed, very expensive.
2. No idea what he wanted, spending his parents' savings.
3. Dropped out. Best decision he ever made.
4. Could stop taking required courses that didn't interest him, could drop in on the ones that looked more interesting.

Connecting the dots

How did he support himself?

Connecting the dots

How did he support himself?

1. Slept on floor in friends' rooms.
2. Returned Coke bottles to buy food.
3. Ate dinner every Sunday at the Hare Krishna temple.

Connecting the dots

What did he learn at Reed and how did that change the world?

Connecting the dots

What did he learn at Reed and how did that change the world?

1. They had the best calligraphy instruction in the country.
2. Jobs learned about serif and san serif typefaces and what makes great calligraphy great.
3. At the time, no practical application.
4. Ten years later, he designed it into the Mac.
5. If he had never dropped in to that class, the Mac would never have had beautiful typography.
6. And because Windows just copied the Mac, no personal computer would have had beautiful typography.

Connecting the dots

What would Jobs like you to learn from this story?

Connecting the dots

What would Jobs like you to learn from this story?

1. You can't connect the dots looking forward, only looking back.
2. You have to trust in something.
3. Believe in following your heart even when it leads you off the well-worn path.

Connecting the dots

What would Jobs like you to learn from this story?

1. You can't connect the dots looking forward, only looking back.
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Is there anything else we can learn?

Love and loss

Love and loss

What was the love?

Love and loss

What was the love?

1. Found what he loved early in life.
2. Started Apple in parents' garage at age 20.
3. 10 years later, \$2B company with 4000 employees.
4. Had just created the Macintosh.

Love and loss

What was the loss?

Love and loss

What was the loss?

1. Fired at age 30.
2. Had hired Scully from Pepsi for his marketing skills.
3. Went well for a year or so, then a falling out.
4. Directors supported Scully and Jobs was out.

Love and loss

How did he feel?

Love and loss

How did he feel?

1. Felt like a failure, like he had dropped the baton.
2. Tried to apologize to Bob Noyce and David Packard.
3. Very public failure.
4. Still loved what he did.
5. Rejected but still in love.

Love and loss

How did he reflect on this? What was replaced?

Love and loss

How did he reflect on this? What was replaced?

1. Getting fired was the best thing that could have happened.
2. The heaviness of being successful was replaced by the lightness of being a beginner.
3. In the next 5 years, he started NeXT, later bought by Apple, and Pixar, the most successful animation studio in the world.
4. He found a wife.
5. None of this would have happened if he hadn't been fired.

Love and loss

What does he want you to learn from this story?

Love and loss

What does he want you to learn from this story?

1. Sometimes life hits you in the head with a brick, don't lose faith.
2. Find what you love. Do what you love.
3. Work will fill a large part of your life.
4. The only way to be satisfied is to do what you believe is great work.
5. The only way to do great work is to love what you do.
6. Don't settle. Keep looking.

About death

About death

How does he live each day?

About death

How does he live each day?

1. At 17, he read a quote: *“If you live each day as if it’s your last, someday you will be right.”*
2. If today were the last day of his life, would he want to do what he’s doing today. If the answer is no too many days in a row, he needs to make a change.

About death

What happened to him?

About death

What happened to him?

1. Pancreatic cancer, expected to live 3 to 6 months.
2. Told to “Get his affairs in order.” Prepare to die.
3. Biopsy found a rare form of cancer that’s curable with surgery.

About death

How did that affect him?

About death

How did that affect him?

1. Remembering you'll be dead soon is the best way to avoid the trap of thinking you have something to lose.
2. It made him realize there's no reason not to follow your heart.

About death

What is his advice?

About death

What is his advice?

1. No one wants to die, not even those who want to go to heaven.
2. Death is a change agent, clearing out the old to make way for the new.
3. Your life is limited. Don't waste it living someone else's life.
4. Have the courage to follow your heart and intuition. They already know what you truly want to become.

Stay hungry, stay foolish.

-- Whole Earth Catalog final issue.



1980 Steve Jobs, 4 years before Macintosh
<https://www.youtube.com/watch?v=0lvMgMrNDlg>

Designed computers for themselves because they couldn't afford to buy a computer on the market.

Liberated parts from Atari and HP.

40 hours to build one + 20 to 30 hours to debug.

Lots of friends who could liberate parts.

Got the idea for a PCB they could sell.

Raised \$1300 selling van and calculator.

Byte shop wanted 50 but fully assembled and tested.

Got \$10K parts on “thin air” and “enthusiasm”.

Built 100 computers.

Sold for cash to pay off distributor in 29 days.

50 left over. Started worrying about marketing.

Man is a toolmaker, amplifying human ability, e.g., efficiency of man on bicycle vs. condor.

Apple name if no one came up with a better idea by 5:00 pm, came before Atari in the phone book.

What did he say about the
future of the Apple II?



1984 Introducing Macintosh.

<https://www.youtube.com/watch?v=2B-XwPjn9YY>

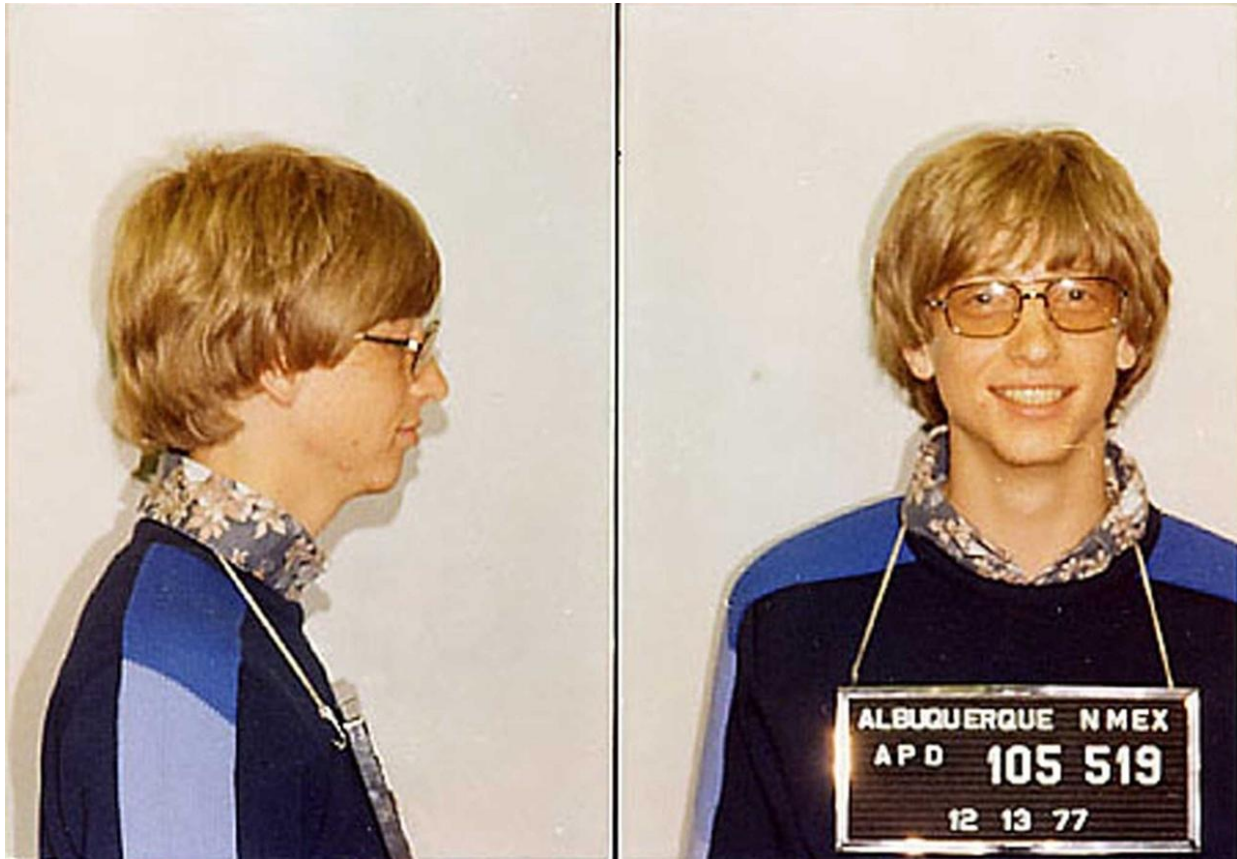
The image shows a browser window displaying a video on the website devour.com. The video player shows a man with a beard and glasses, wearing a blue shirt, speaking and gesturing with his hands. The video player interface includes a progress bar at 0:25 / 2:21, a play button, a volume icon, and a settings gear. Below the video player, there are three buttons: 'LIKE / 68' (blue), 'TWEET / 41' (teal), and 'DEVOUR / 0' (red). Below these buttons is a text description of the video content.

Steve Jobs Explains The Blue Box

STEVE TELLS HOW HE AND THE OTHER STEVE BUILT ILLEGAL BLUE BOXES TO MAKE FREE LONG DISTANCE CALLS, AND HOW THERE WOULD BE NO APPLE TODAY IF THEY HADN'T BEEN SUCH HOOLIGANS. ALSO, IS IT JUST US, OR DOES THE KEYPAD ON THAT BLUE BOX REMIND YOU OF THE IPHONE HOME SCREEN?

<http://devour.com/video/steve-jobs-explains-the-blue-box/>

Bill Gates



Also something of an outlaw.

Source: <http://www.boomsbeat.com/articles/71/20140109/50-things-you-didnt-know-about-bill-gates.htm>



2007 Steve Jobs and Bill Gates.

<https://www.youtube.com/watch?v=vvhW8cp15tk>

Chapter 1.

Entrepreneurs

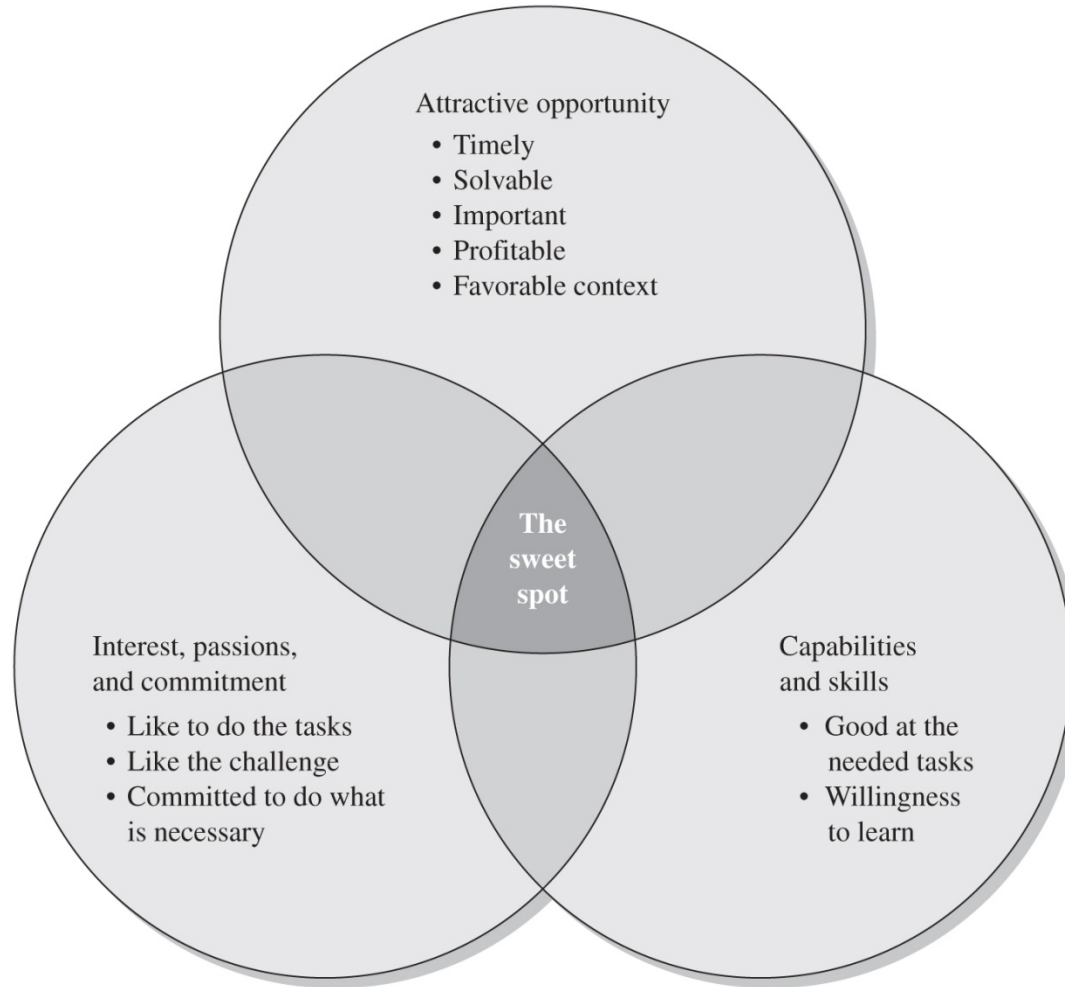


FIGURE 1.1 Selecting the right opportunity by finding the sweet spot.

What does it take to be successful?

TABLE 1.3 Eight skills of entrepreneurship.

- Entrepreneurs initiate and operate a purposeful enterprise.
 - Entrepreneurs operate within the context and industrial environment at the time of initiation.
 - Entrepreneurs identify and screen timely opportunities.
 - Entrepreneurs accumulate and manage knowledge and technology.
 - Entrepreneurs mobilize resources—financial, physical, and human.
 - Entrepreneurs assess and mitigate uncertainty and risk associated with the initiation of the enterprise.
 - Entrepreneurs provide an innovative contribution or at least a contribution that encompasses novelty or originality.
 - Entrepreneurs enable and encourage a collaborative team of people who have the capabilities and knowledge necessary for success.
-

TABLE 1.4 Required capabilities of the entrepreneurial team.

- Has talent, knowledge, and experience within the industry where the opportunity occurs
 - Seeks important opportunities with sizable challenges and valuable potential returns
 - Able to select an opportunity in a short period: timely
 - Creatively explores a process that results in the concept of a valuable solution for the problem or need
 - Able to convert an opportunity in to a workable and marketable enterprise
 - Wants to succeed: achievement-oriented
 - Able to accommodate uncertainty and ambiguity
 - Flexibly adapts to changing circumstances and competitors
 - Seeks to evaluate and mitigate the risks of the venture
 - Creates a vision of the venture to communicate the opportunity of staff and allies
 - Attracts, trains, and retains talented, educated people capable of multidisciplinary insights
 - Skilled at selling ideas and have a wide network of potential partners
-

How do people decide to become entrepreneurs?

TABLE 1.6 Factors people use to determine whether to act as entrepreneurs.

Positive factors or benefits	
■ Independence: Freedom to adapt and use their own approach to work and flexibility of work, autonomy	■ Self-realization: Recognition, achievement, status
■ Financial success: Income, financial security	■ Innovation: Creating something new
	■ Roles: Fulfilling family tradition, acting as leader
Negative factors	
■ Risk: Potential for loss of income and wealth	■ Work effort and stress: Level of work effort required, long hours, constant anxiety

TABLE 1.7 Five questions for the potential entrepreneur.

- Are you comfortable stretching the rules and questioning conventional wisdom?
 - Are you prepared to take on powerful competitors?
 - Do you have the perseverance to start small and grow slowly?
 - Are you willing and able to shift strategies quickly?
 - Are you a good deal closer and decision maker?
-

The business

TABLE 1.2 Four steps to starting a business.

1. The founding team or individual has the necessary skills or acquires them.
 2. The team members identify the opportunity that attracts them and matches their skills. They create a solution to match the opportunity.
 3. They acquire (or possess) the financial and physical resources necessary to launch the business by locating investors and partners.
 4. They complete an arrangement or contract with their partners, with investors, and within the founder team to launch the business and share the ownership and wealth created.
-

An organization may be based on:

1. Radical innovation
2. Incremental change
3. Imitation
4. Rent-seeking

- 1. Radical innovation.** Something no one has ever seen before.
- 2. Incremental change.** Faster, better, cheaper.
- 3. Imitation.** Do something already being done but perhaps a little better.
- 4. Rent-seeking.** Make money by owning stuff.

Rent seeking

Rent is income you receive because of what you own, not because of what you do.

Examples

1. Rent on an apartment
2. Royalties on a patent
3. Software license fees
4. Franchise fees
5. Benefits of being a monopoly, like a cable company
6. Interest on a municipal bond
7. Dividends on a stock

If you receive rent, you are a *rentier*.

ren·tier **noun** \rēⁿ-'tyā\ a person who lives on income from property or securities

Former Microsoft executive, Nathan Myhrvold's *Intellectual Ventures*



Intellectual Ventures - Wi x

← → ↻ https://en.wikipedia.org/wiki/Intellectual_Ventures       

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Intellectual Ventures

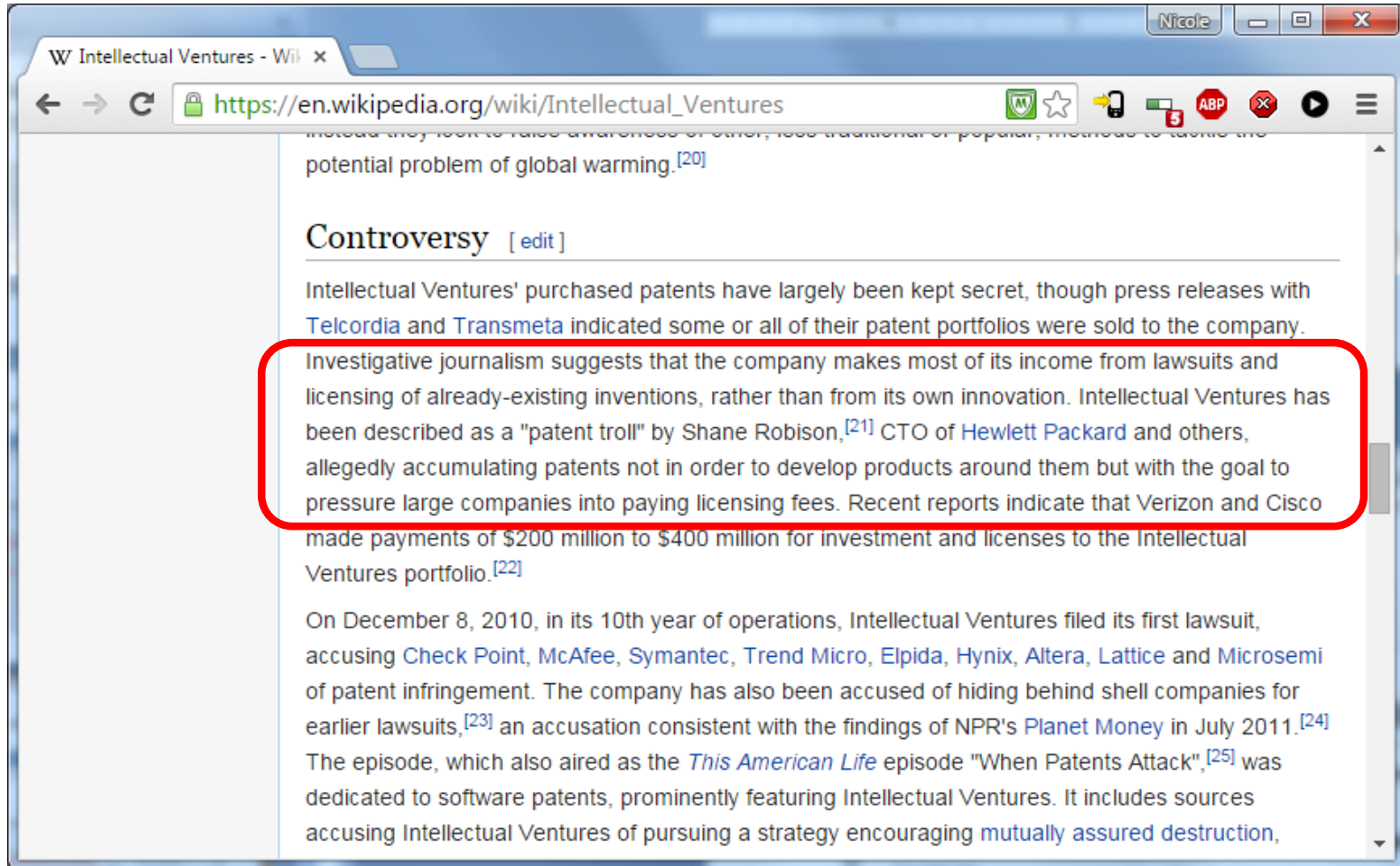
From Wikipedia, the free encyclopedia

Intellectual Ventures is a private company notable for being one of the top-five owners of U.S. patents, as of 2011.^[1] Its business model has a focus on buying patents and aggregating them into a large patent portfolio and licensing these patents to third parties. Publicly, it states that a major goal is to assist small inventors against corporations. In practice, the vast majority of IV's revenue comes from buying patents,^[2] aggregating these patents into a single portfolio spanning many disparate technologies and tying these patents together for license to other companies under the threat of litigation, or filing lawsuits for infringement

Intellectual Ventures

Type	Privately held company
Industry	Patent monetization
Founder	Nathan Myhrvold Edward Jung Peter Detkin Gregory Gorder
Headquarters	Bellevue, Washington, United States
Number of locations	10
Number of employees	800
Website	www.intellectualventures.com 

Claimed to be a “patent troll”



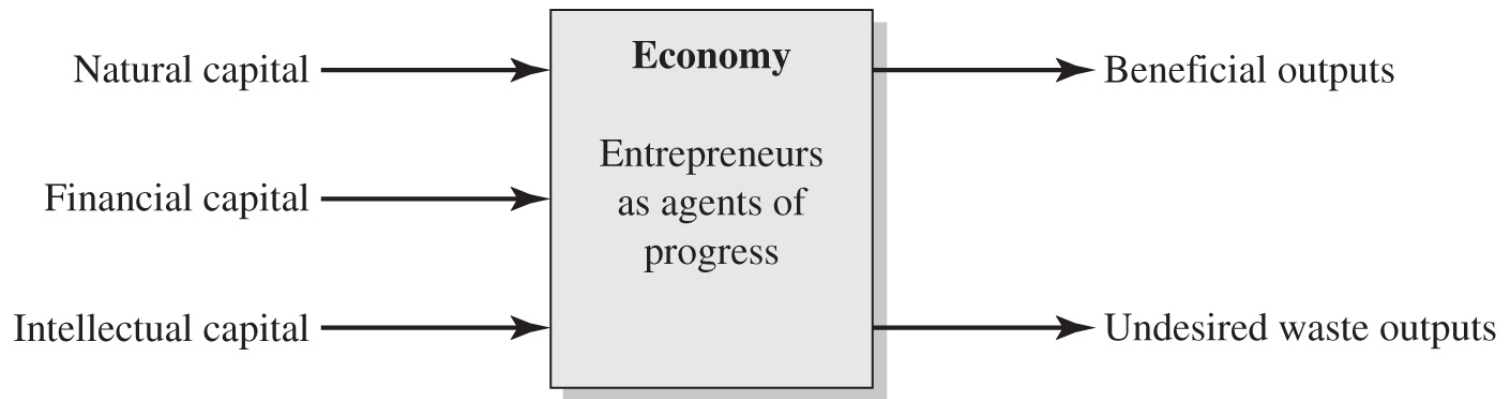


FIGURE 1.2 A model of the economy.

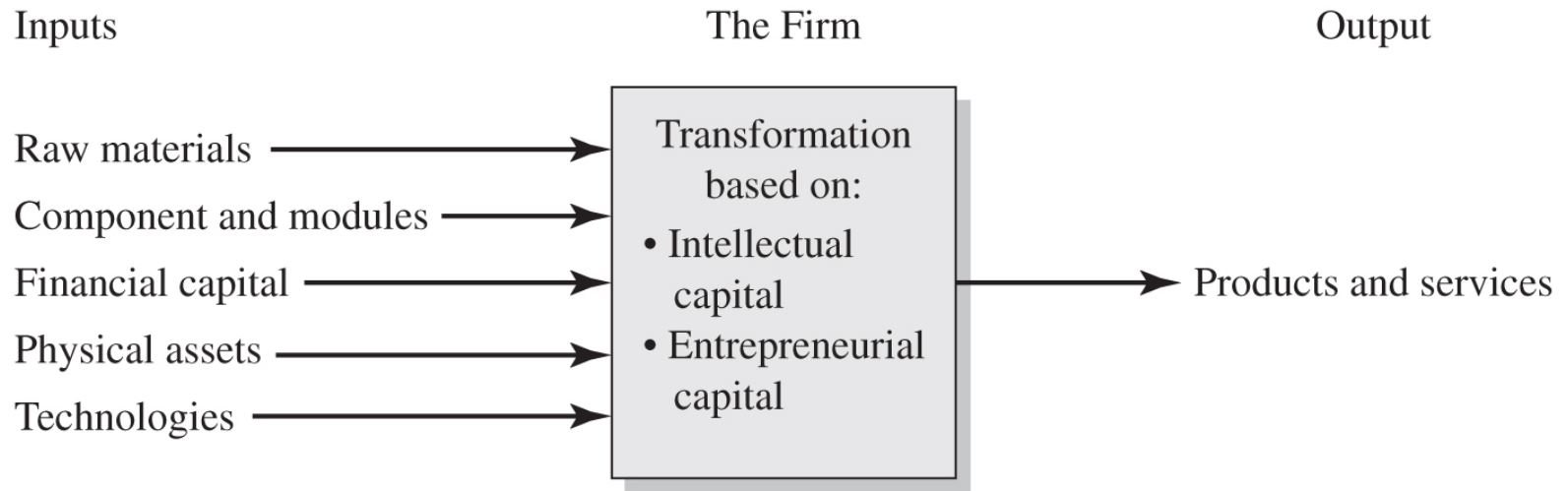


FIGURE 1.3 The firm as transforming available inputs into desired outputs.

TABLE 1.9 Three elements of the intellectual capital (IC) of an organization.

Human capital (HC): The skills, capabilities, and knowledge of the firm's people

Organizational capital (OC): The patents, technologies, processes, databases, and networks

Social capital (SC): The quality of the relationships with customers, suppliers, and partners

$$IC = HC + OC + SC$$

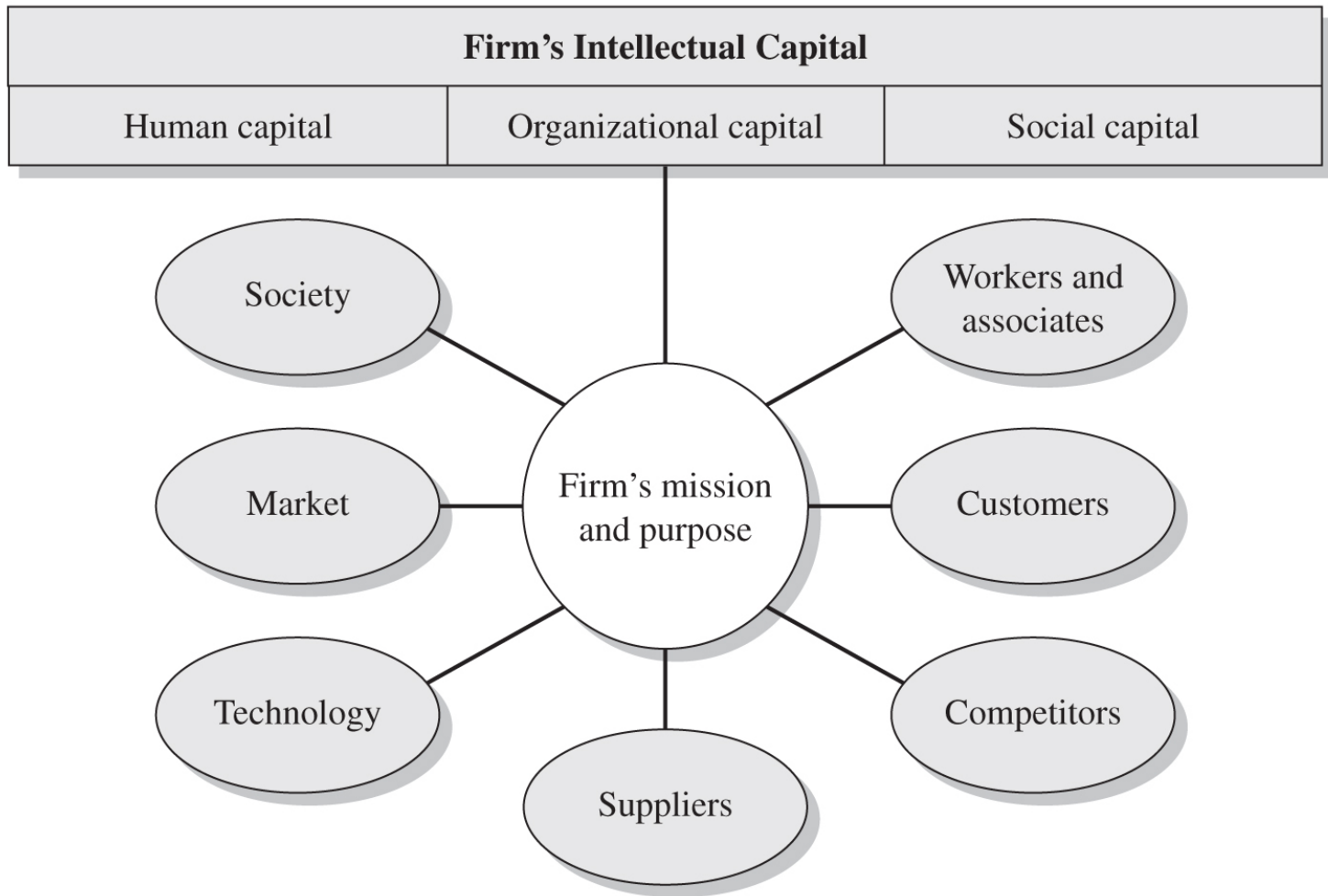


FIGURE 1.4 A firm's theory of business depicts how it understands and uses its total resources, activities, and relationships.

Entrepreneurial capital

Entrepreneurial capital = Competence x Commitment

Entrepreneurial competence is the ability to

1. Recognize and envision taking advantage of opportunity
2. Access and manage the necessary resources to actually take advantage of the opportunity

Entrepreneurial commitment is a dedication of the time and energy necessary to bring the enterprise to initiation and fruition.

Chapter 2.

Opportunities

Opportunities are created when the world changes.

Something becomes possible that wasn't before.

The image is a screenshot of a web browser displaying a YouTube video. The browser's address bar shows the URL https://www.youtube.com/watch?v=_uXtWlg_A7M. The YouTube interface includes the logo, a search bar, and navigation buttons like 'Upload' and a notification bell. The video player shows a man in a red shirt sitting at a desk with a computer, looking directly at the camera. The video progress bar indicates the video is at 0:12 of a 0:30 duration. Below the video, the title '2002 DirecTV DSL "End of the Internet" commercial' is visible, along with the channel name 'lugnutsoldcrap'. A recommended video thumbnail for 'Online Brides - Or with Lisa Ling' is also shown.

https://www.youtube.com/watch?v=_uXtWlg_A7M

What makes this funny?

What made search engines possible

The insight was that you could do it.

You could spider the entire web and make and index your own private copy of the whole thing. Processors, bandwidth and storage were so cheap you could do it.

When MSN Search went live in Jan 2005, we had 10 rows of 500 machines, each with a copy of 1/500-th of the entire web = 10 complete copies.

Innovations

		Basic design concepts	
		Reinforced	Overturned
Linkages between modules	Unchanged	Incremental innovation ("faster, better, cheaper")	Component or modular innovation
	Changed	Architectural innovation	Radical or disruptive innovation ("brave new world")

FIGURE 5.4 Four types of innovation.

Types of innovations

1. **Incremental.** Faster, better, cheaper.
2. **Architectural.** Changes the way in which things are linked together. Reconfiguration of an established system in a new way.
Examples: Facebook, eBay, HDMI replacing S-Video, USB replacing RS-232, DirecTV challenge to cable TV in 1994, wireless replacing wired networks.
3. **Modular.** New components and modules replacing old ones.
Examples: Flat panels replacing desktop CRTs, LED and CFL bulbs that fit in standard light sockets, driverless cars that work on the same roads and use gas, smartphones replacing dumb ones on the same networks.
4. **Radical or disruptive.** New modules and new architecture.
Example: Tesla, with electric cars and a network of free solar-powered recharging stations.

Do you think people will steal
your new idea?