

What to Know About Work

For the soon-to-be employed, newly employed, or the employed but confused

Karl Geiger - IEEE Buenaventura CS Chapter - 8 Nov 2023
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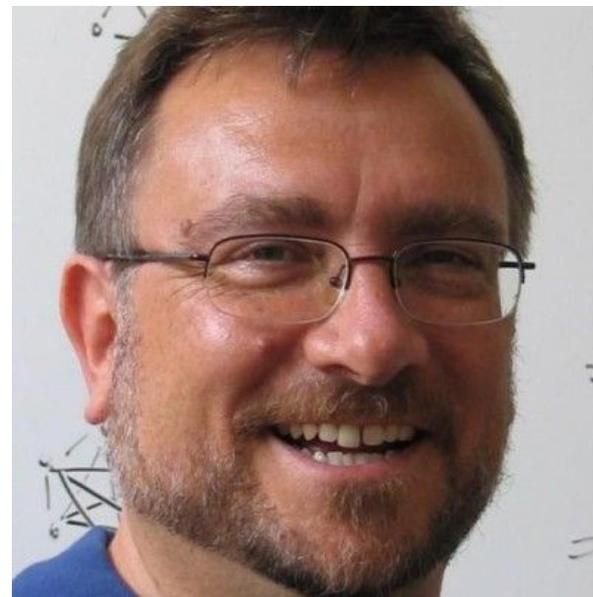
About the Presenter

40 years experience working in

- ▶ Large higher education (University of Southern California)
- ▶ Large private industry (Amgen Inc.)
- ▶ Start-ups & VCs in Silicon Valley and southern California
- ▶ Volunteer organizations: IEEE, school districts

Positions Held - Wide Range

- ▶ Software developer, architect, and project manager, aka an “individual contributor”
- ▶ Full-time manager in charge of team building, team management, hiring, termination, budgeting, and layoff/downsizing



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Disclaimer

NOTHING SHOWN OR DISCUSSED HEREIN IS LEGAL ADVICE.

THE INFORMATION PRESENTED HEREIN IS ANECDOTAL AND REFLECTS PAST EXPERIENCE. DIFFERENT EMPLOYERS, WORKPLACES, AND JURISDICTIONS MAY HAVE DIFFERENT RULES AND POLICIES THAT THIS PRESENTATION DOES NOT ADDRESS.

IF YOU HAVE QUESTIONS ABOUT YOUR SPECIFIC WORKPLACE, CONSULT YOUR EMPLOYEE HANDBOOK OR ASK YOUR MANAGEMENT AND HUMAN RESOURCES PERSONNEL FOR SPECIFICS.

IF YOU ARE HAVING PROBLEMS, LEGAL OR OTHERWISE, WITH YOUR EMPLOYER OR MANAGEMENT, SEEK OUT AND GET ADVICE FROM AN EMPLOYMENT LAWYER.

Understanding a Firm

A “firm” is any organization with multiple people working together.

- ▶ May be for-profit, not-for-profit, governmental or school agency, university, etc.
- ▶ A firm may form a *corporation*, which is a legal entity to operate, enter into contracts, own bank accounts
- ▶ Many types of corporations: LLC, S-Corp, C-Corp
- ▶ Private: held by a few investors, banks, corporations
- ▶ Public: held by investors, eg, stock owners

This presentation keeps it general. Understanding the specifics of a incorporation or forming some sort of firm is another topic.



Understanding a Firm

A firm is a *going concern*. In the long run a firm must sustain itself on its *revenue*.

Sustainability arithmetic:

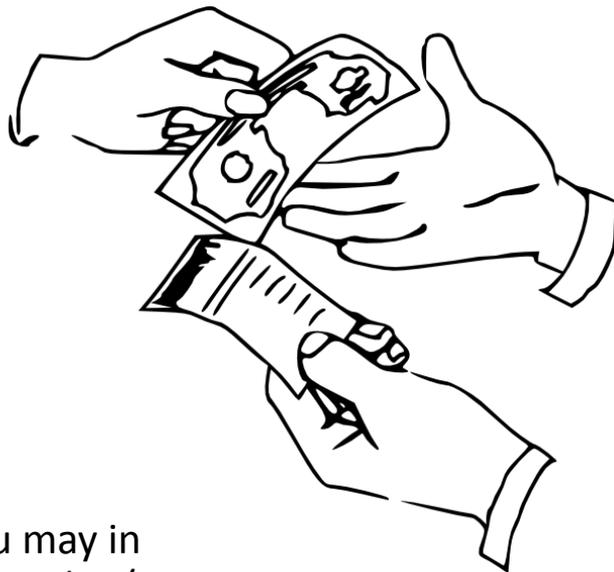
- ▶ Revenue must be greater than or equal to Costs
- ▶ For-profit firms: Profit = Revenue - Costs

Revenue comes from Customers / Payors.

Firms are defined by who buys their products and services.

- ▶ Analogy: the paying audience defines what a performer sings, e.g. Taylor Swift fans vs Drake fans.

Conversely, if you aren't paying, you're not a customer, and you may in fact be the product, e.g., Social media, ad-supported broadcast radio / television.



Know the Firm's Line-of-Business

Google

- ▶ Advertising market maker
- ▶ Cloud services
- ▶ Some device revenue, eg, Pixel

Microsoft

- ▶ Software sales / rentals
- ▶ Cloud computing
- ▶ Business productivity (ERP, CRM)

Apple

- ▶ Hardware and software tech
- ▶ Client cloud services (iCloud)
- ▶ Entertainment (music + movies)

SpaceX

- ▶ Orbital launch
- ▶ Global satellite Internet
- ▶ Global satellite phone service

Tesla

- ▶ Automotive transport (car, truck)
- ▶ Home solar and storage
- ▶ Software, A.I. cloud services

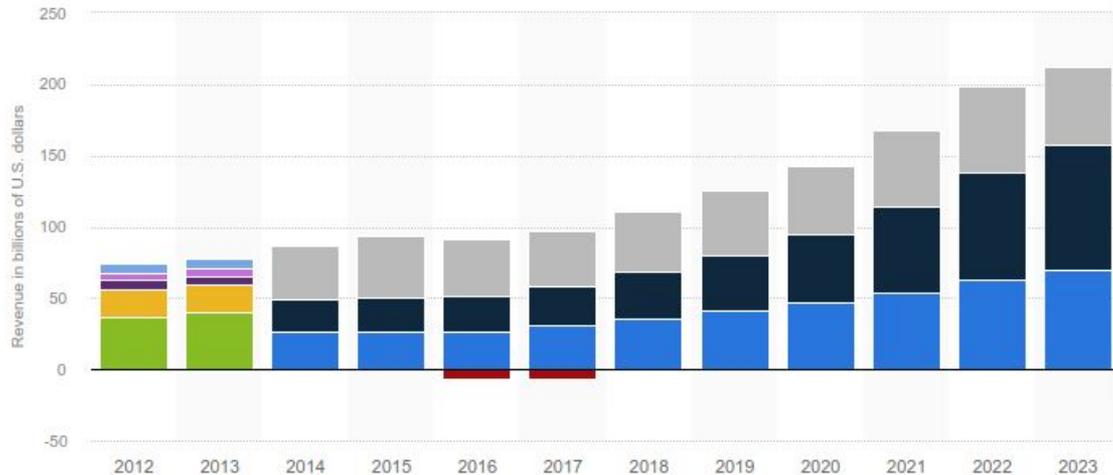
Big Schools, eg, UCLA, USC, Stanford

- ▶ Education (undergrad, grad, CE)
- ▶ Research (gov't, private contracts)
- ▶ Medical services (Hospitals)

INTERVIEW TIP
Ask “Who are your *real* customers?”



Line-of-Business Example: Microsoft's 2013 Pivot



Satya Nadella reorganized Microsoft in 2014 to focus on software-as-a-service instead of software & product sales. Insight: no one wants to *own* software. They want to *use* it to do their work.

New business lines seem to be succeeding. Revenue has more than doubled even after adjusting for 2013-2023 inflation of 32%.

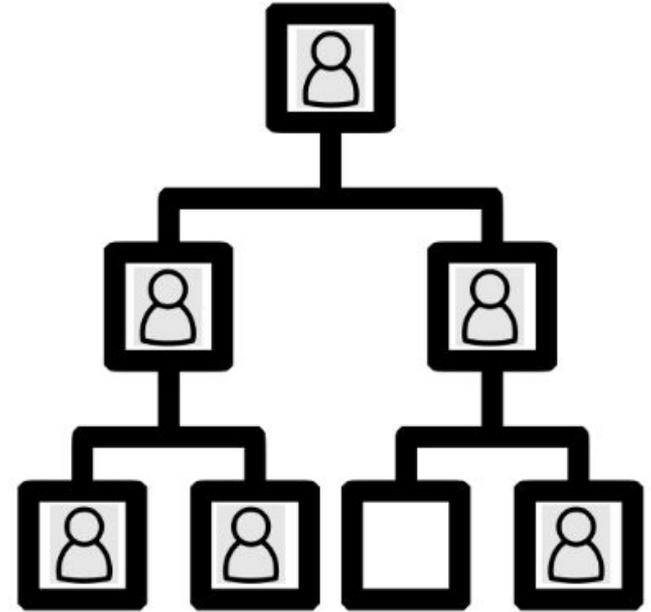
Positions at a Firm

It's not an *employee's* job. It's the *firm's* job.

- ▶ A firm has a certain type of work to be done.
- ▶ The firm *defines* the work, the tasks the work performs, and amount of effort needed to do it.
- ▶ The firm *allocates* a number of positions based on estimated effort to complete a task.
- ▶ The firm then *hires* staff to fill these positions.
- ▶ The firm *oversees* work to ensure it gets done.

Work may be ongoing, that is, support tasks, or project oriented, that is, short-term tasks.

Managers spend their time defining tasks and organizing, allocating, and tracking money, effort, and people (*resources*). That's the job firms define and assign to management positions.



Hiring into a Position

Hiring managers want to know three things:

1. Can this person do the job (technical skills, quick learner)?
2. Will this person do the job (show up, be productive)?
3. Does this person get along (work in teams, communicate)?

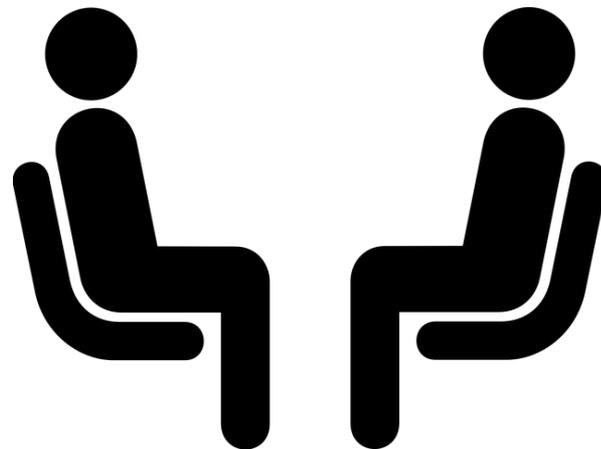
Technical skills are *table stakes*. Many firms over-emphasize technical questions during interviews.

Showing up and being productive are *assumed*.

That leaves team interaction and communication skills.

- ▶ Speak clearly and articulately and address the point.
- ▶ Slow down and speak deliberately instead of talking fast.
- ▶ Listen to questions and understand them *before* answering. Ask for clarification or examples if needed.

Do the same after being hired. Being polite, clear, and brief goes a long way.



Workplace Rhythms and Cycles

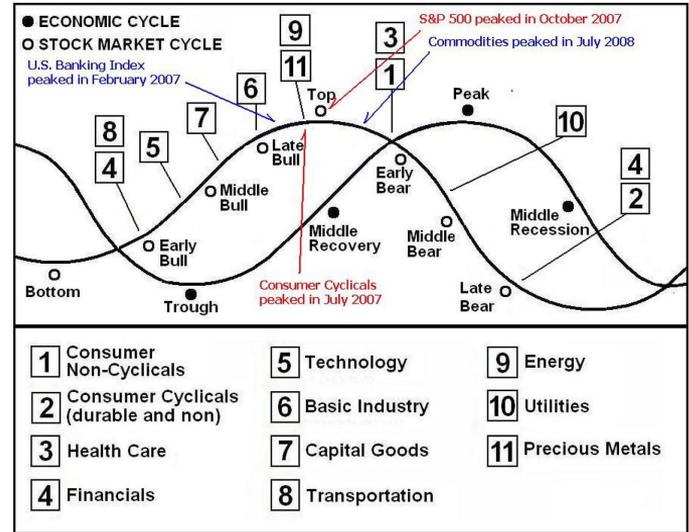
Most firms have rhythms and an annual activity cycle.

- ▶ Retail: holiday shopping
- ▶ Schools and Universities: start of fall semesters
- ▶ Federal agencies and contractors: October 1st (start of the Federal budget year)
- ▶ Software: scheduled product launches

Management aligns budgeting, purchasing, hiring, and work scheduling along these cycles. More, firms must consider the over-all business cycle of their industries.

Larger firms may have divisional cycles, eg, Sales and Marketing working towards a major industrial conference vs IT aligning maintenance work when employees go on holiday.

Unlike school, work is ongoing. Every day is quiz or midterm day. Finish one task, project, or phase, start the next immediately.



INTERVIEW TIP
Ask about the firm's work cycle, product launch schedule, etc.



Leaving a Position

California is an “At Will” Employment State

- ▶ Either party may terminate employment at any time with or without prior notice in California.
- ▶ California State and Federal law apply; other rules apply state-by-state.
- ▶ Contract law defines rules when employed under a written employment contract.

Voluntary Termination

- ▶ Typically to seek or take on a new position elsewhere.

Involuntary Termination (“Fired”)

- ▶ May be “for cause”.

Once more, this info is not legal/HR advice. Seek an employment lawyer or legal counsel.



When Firms Shed Positions

Positions Change, Sometimes Often (“Organizational Restructuring”)

- ▶ If the requirements for the work or that work changes or vanishes, the position may vanish.
- ▶ Firms may try to retain employees because hiring new people is costly and time-consuming.
- ▶ Should the company “pivot” or “pick a new direction” an entire department or division may be laid off.

It is not a reflection on you, it is management choosing a new business direction or deciding to change size for any number of reasons, among them:

- ▶ Falling revenue (market change, loss of contracts).
- ▶ Failed product / abandoned product line / bankruptcy.
- ▶ Restructuring to make new products and services.
See earlier Microsoft example.



Work Boundaries - Employer Property

Tangibles: petty cash, goods, physical plant, tools and equipment.

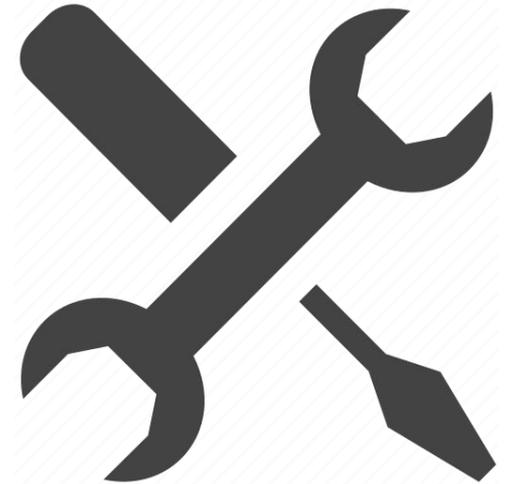
Intangibles: software licenses, bandwidth, spectrum, compute time.

Intellectual Property (IP) — “Work for Hire”:

- ▶ Things employees think of and do on the job may belong to the employer.
- ▶ Things thought of while out of the office / off the clock may also belong to the employer if business related.

IP and Proprietary Info Examples - Partial List:

- ▶ Trade secrets, patents, formulae, business process docs and SOPs, software code, data/databases, project info, reports.
- ▶ Finance: budgets, contracts, insider information (illegal to invest using insider info), non-public financials.
- ▶ Business info: customer lists, employee directories, salary schedules, organizational charts, internal communications / memos / email & Slack / Teams / Git comments / project tracking systems chatter.



Work Boundaries - Employee Property

My best advice: never use personal property or services for company business.

- ▶ Devices: phones, computers, cameras, memory cards, ...
- ▶ Communications: TXT/SMS, Signal/IM/Messenger, GMail, ...
- ▶ Storage: private/public cloud e.g. DropBox, Google Drive, AWS ...
- ▶ Logins and Identities: social media, finance sites, LinkedIn, ...
- ▶ Finances: insurance, cash, bank accounts, ...

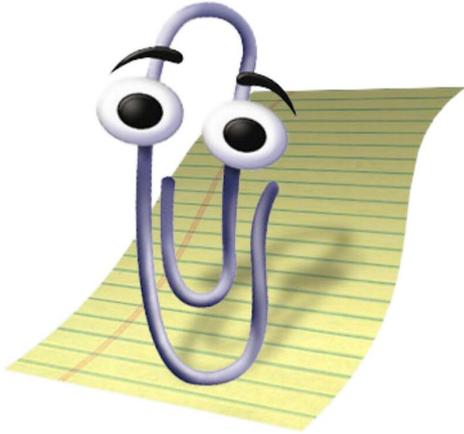
Why?

- ▶ Company risks come into your personal life
- ▶ Legal actions against the company - courts can subpoena your stuff
- ▶ Tax agencies may come looking for additional “revenue opportunities”



If the firm wants its employees to have something for work, the firm should issue it.

What If It Doesn't Work Out?



- ▶ Tasks may not be what the offer letter or written job description say they are.
- ▶ Supervisor may ask for work substantially outside a defined role or job description.
- ▶ The work environment may be disagreeable (numerous reasons). **Again, consult a lawyer.**

Unless under contract, at-will employment law may apply. There is work elsewhere inside larger firms or at another firm.

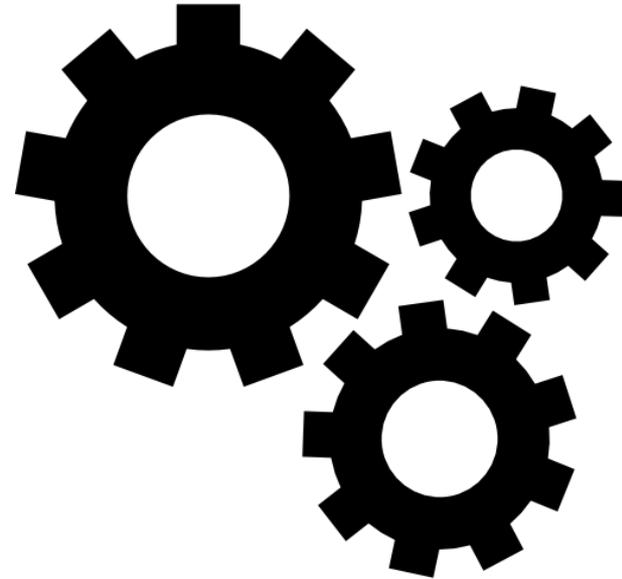
Good News for Job Seekers

The U.S. has a structural skilled labor shortage.

- ▶ Demographic trends show a smaller cohort of new workers.
- ▶ Manufacturing is moving back on-shore due to low energy costs in the U.S. and access to the North American free-trade zone.
- ▶ Capital is relatively cheap and easy to raise in the U.S.

New industries and niche opportunities are rising, e.g.,

- ▶ Hollywood A.I. screenwriters. Who trains and runs the A.I.s?
- ▶ Medical care has become about patient info and physician management. Who builds and integrates that?
- ▶ “Broken” systems that need attention
 - Why do Google & Facebook show me ads for stuff outside my interests?
 - Where’s my favorite show streaming?



“There are no problems, only missed business opportunities.”

Employment Reframe - A Business of One

An employee is a business of one with one customer, the employer.

- ▶ See above “Understanding a Firm”; the *customer* pays.
- ▶ Employees sell the customer their time, attention, IP, and effort.
- ▶ Bargain for the best price and sell to the highest bidder.
- ▶ Make the customer happy.

The self-employed spend a lot of time and energy on non-work effort.

- ▶ Drumming up new business (“cost of sales”, “marketing”).
- ▶ Closing deals and writing and negotiating contracts.
- ▶ Paying taxes, license fees, and buying insurance (business “errors and omissions”, personal & health).
- ▶ Buying and maintaining tools and equipment.

Employment (work-for-hire) simplifies labor, concentrates effort on productive, value-added tasks, and reduces overhead. Ronald Coase won the 1991 Economics Nobel Prize for proving his idea ... from 1937.



Employment Reframe - Get All the Things

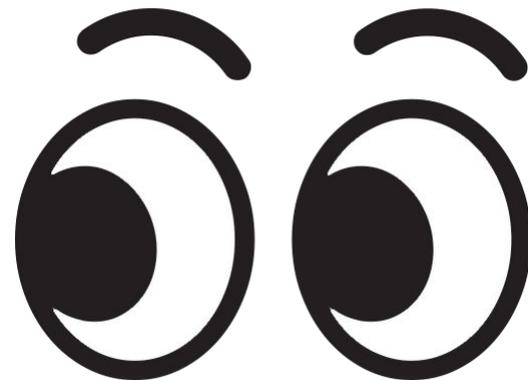
Never leave money on the table. Take what the customer is willing to pay:

- ▶ 401K retirement fund matching
- ▶ Employee stock purchase plans and stock option plans
- ▶ Paid-for professional society memberships, eg IEEE
- ▶ Tuition and fees for advanced training or degrees
- ▶ Business travel and conferences

Soft or freebie benefits: listen to the customer & friends:

- ▶ Fellow employees, managers in your and other areas
- ▶ Temporary employees especially technical contractors
- ▶ Company customers and vendors (sales people).
- ▶ Industry-related business publications and general business publications, conference attendees.

Most people are simple *dying* to tell you what they know. **Let them.**



In Brief ...

A firm supplies good and/or services to its customers. Employees need to know **who** the customers are to understand better what they do day-to-day.

Employees are a firm's means for supplying these goods and services. Employees need to know **what** they are and how customers use them to understand how to work.

Employers hire people into the positions to do work. Positions are subject to change based on external factors such as market conditions, customer base, and more.

Under "at-will" laws people are free to leave a position and move about internally or externally. It's not a marriage. The current (2023) U.S. job market is rife with opportunities.

Keep a sharp dividing line between employer-owned and personal equipment and information. That means everything right down to paper, pencils, and coffee.

Treat your employer as your #1, best, and only customer. Take all the "pay" the employer offers, especially other's advice and experience.

Resources

The following resources have proven useful to me.

These are suggestions, not endorsements.

The IEEE does not endorse them.

If you've found other resources useful let the group know.

Resources

Get a Passport. Many U.S. citizens have no Passport.

Being able to travel outside the country on business is very valuable to you and employers, vacation travel notwithstanding.

They're also valuable for flying in the U.S. and proof of identity, e.g., filling out I-9s when getting hired. For an extra fee you can get a travel card good for passing TSA checkpoints when flying between U.S. destinations.

Be sure to keep on top of your renewals —Passports are valid for ten years.

Once you have a passport, renewing is easy: send in the old passport with new photos and a cheque. New passports come in a few weeks.



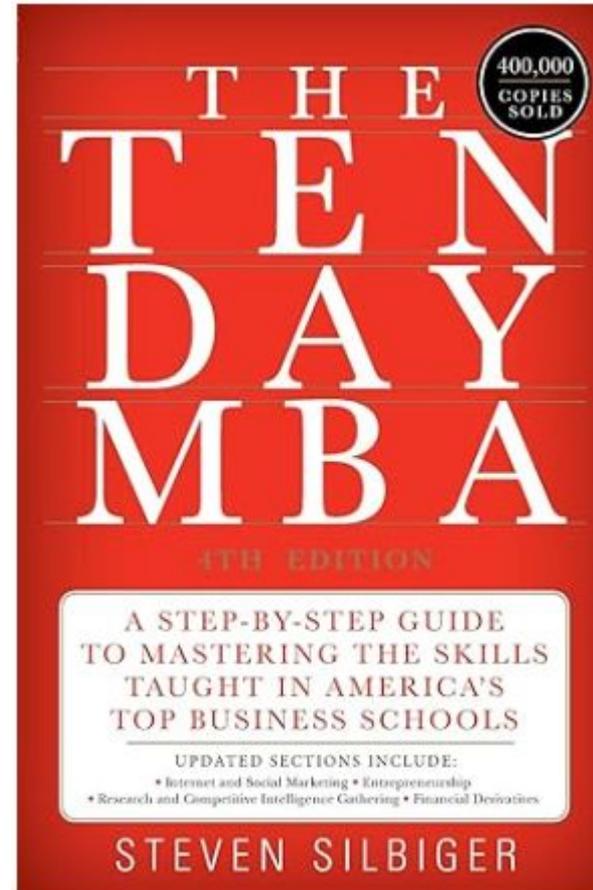
Resources

What management-track MBAs know mostly fits in this book.

It's more like "The Three Week MBA" if read carefully and time taken to digest it.

Pay particular attention to "biz-speak" and other jargon.

"All professions are conspiracies against the laity."
~~ G. B. Shaw

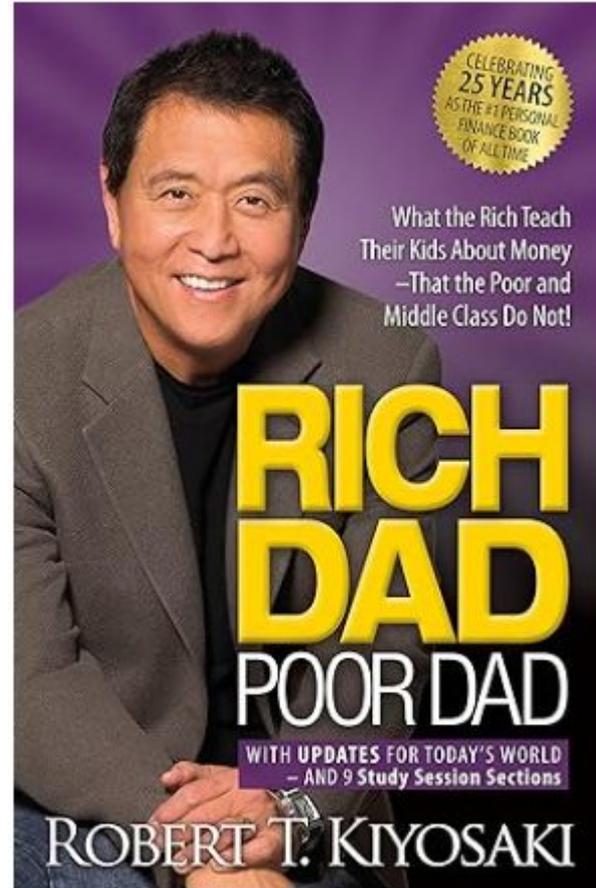


Resources

Change your emotional relationship to wealth.

Wealth is not money. Wealth is the ability to deal with your world and your wants easily and comfortably.

Financial success and freedom come from *having things work for you* instead of *you working to have things*.



Resources

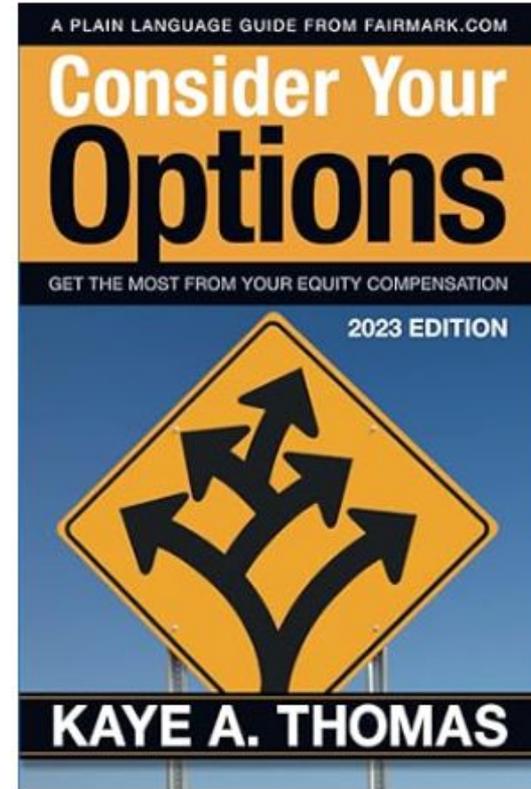
If equity/stock is part of your compensation package read and use this book.

Work the U.S. tax code. Keep the tax man at bay.
Get a good tax accountant.

Never buy a \$100,000 couch.

Understand the risks you have in options, shares,
and grants.

DIVERSIFY like the big people.



Resources

Much “news” is infotainment, click bait, or junk designed to make readers feel good about themselves in order to sell ad space.

A great news source

- ▶ helps make decisions
- ▶ explains what’s happening in your industry
- ▶ is what the bosses read (ask them)

If you agree 100% with “your news”, you may need more, different news sources.

Beware Gell-Mann Amnesia.



Resources

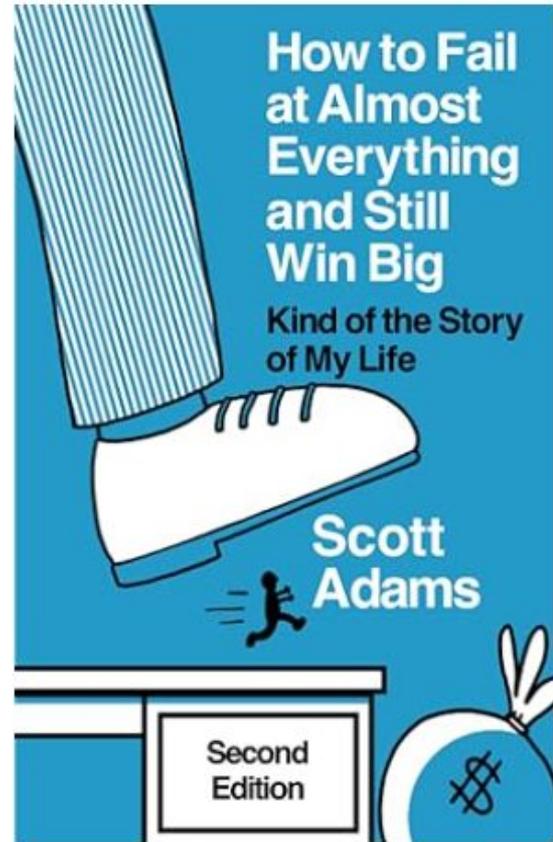
Cultivate and integrate multiple skills that work together and apply in many different areas.

Consider Tesla Inc. Tesla makes cars, batteries, solar panels, home power, autopilot driving software, charging stations, and now A.I. cloud services.

Car batteries are home batteries. Solar charges cars, home batteries, & charging stations. Batteries provide grid storage. Car metallurgy helps SpaceX rocket metallurgy. A.I. trains car autopilots. Car software can be leased or sold. A.I. cores can be leased or modeled to customer specification or drive X news feeds.

They all fit together in various lines of business.

Be a Tesla.



Resources

Invest in yourself and your career.

Join professional organizations

- ▶ it tells the boss you're serious
- ▶ learn things from other pros
- ▶ your company may pay for it (ask)

Take classes outside your expertise

- ▶ 2nd degrees are highly valuable
- ▶ align training to your future



Afterword

No epitaph reads “I wish I had spent more time at the office.”

Twenty years from today the only people who will remember you worked late night after night will be your friends and family.

Your time has value. Be sure to get the most in trade from your employer, your business, your customers. Take the highest bid you can get. **Be the “business of one”.**

Further Reading - Mentioned Items

Ronald Coase's *The Nature of the Firm* summary at Wikipedia

https://en.wikipedia.org/wiki/The_Nature_of_the_Firm

State of California Department of Industrial Relations (Labor Law site)

<https://www.dir.ca.gov/DLSE/dlse.html>

Just Watch - solving the problem of where to find streaming television shows and movies

<https://www.justwatch.com/>

Institute for Electrical and Electronic Engineers - join today at

<https://www.ieee.org/membership/join/index.html>