

Being an Engineering Consultant: What Does It Take?

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For charts and resources, see
<<http://www.hasys.com/tutorials.html>>

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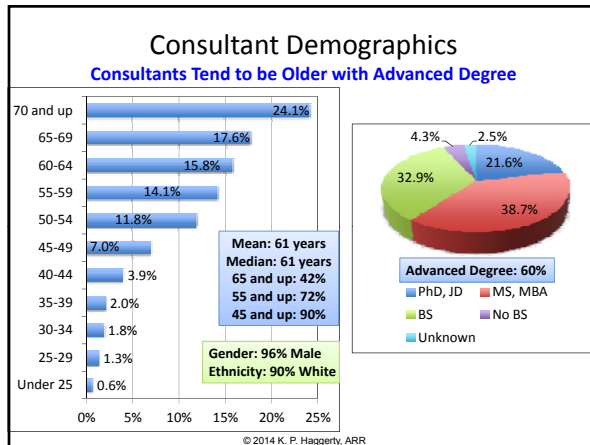
Consulting Presents You with a Wide Variety of Projects

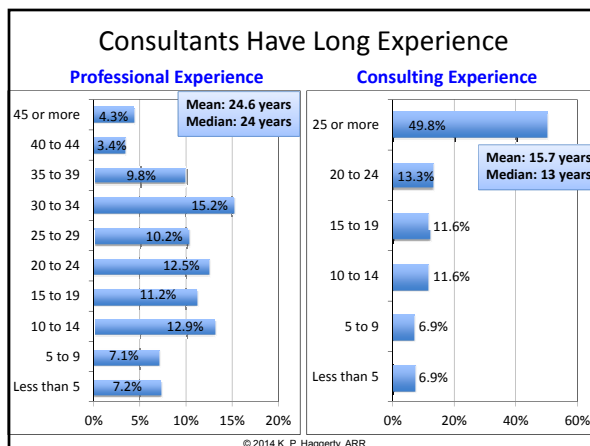


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Outline

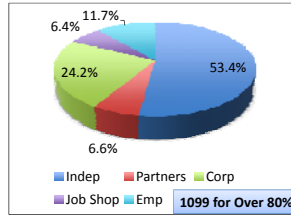
- Consultant Demographics and Business Structures
- Business Issues (IRS, ACA, etc.)
- Getting Clients
- Fee Setting
- How to Get Started





Most Consultants Operate as Independent Contractors

- Independent Means:
 - Satisfy IRS Factors for:
 - Behavioral Control
 - Financial Control
 - Type of Relationship
 - Paid by 1099, Not W2
- Incorrect Classification
 - Client Pays Back Taxes
 - Client Comes After You



- Note: Rates for Job Shops Significantly Lower
 - Model is Salary Plus Cash in Place of Some Benefits
 - About 25% to 35% over Salary
 - Preferred by Large Corporations, but Controlled by Single Client

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Independent Contracting Has Advantages and Disadvantages

Advantages

- Potential for Higher Income
- Independence
- Creative Freedom
- Pride in Accomplishment
- Free from Employment Antiperks
 - Performance Reviews
 - "Ethics" Training
 - Other Corporate Indoctrination
 - No FUTA, SDI, etc. taxes
- Consulting Perks
 - Control Retirement with SEP-IRAs
 - No Collective Bargaining Agreement Career Constraints

Disadvantages

- Uncertain Income
- Lack of Flexibility
- Responsibility and Effort
- Risk and Investment
- Consulting Antiperks
 - Getting Paid
 - **Independent Contractor Rules**
 - Can't Keep Security Clearance
 - No unemployment/disability pay
- No Employment Perks
 - Retirement Plan
 - Paid Time Off
 - **Insurance – BIG DEAL NOW**

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Independent Contractor vs. Contract Engineering (Job Shopping)

Independent Contractor

- Multiple Clients
- Independent Business
- Follow IRS Sec 2106
- 1099 from Clients
- Advertise Services to Public
- Find Own Clients
- Own Insurance/Pension
- Large Companies Must Need [You](#)

Job Shop

- Single Client
- Employed by Job Shop
- Temporary Employee
- W2 from Job Shop
- Job Shop Finds Assignments
- Minimum Benefits
- Large Companies Prefer Job Shops

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US Policy Inadvertently Hostile to Entrepreneurial Employment *

IRS Crackdown (2009 – Now)

- Targets companies using independent contractors
 - Startup companies hit hard
 - IRS harassment
 - No problems using overseas consultants
- IRS rules refocused on 3 areas
 1. Behavioral Control
 2. Financial Control
 3. Type of Relationship

IRS expects that services are **not** a key aspect of client's regular business activities

Affordable Care Act

- Preexisting conditions change doubles the cost
- Health insurance not cancelled means "Cadillac" plan with 20% surtax built in
- **Health insurance now bigger expense than mortgage**

Startups are at an all-time low

*Tim Kane, *The Collapse of Startups in Job Creation*, 9-2012, Hudson Institute, www.hudson.org
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GONE: The 20 Common Law Factors Meet a Preponderance of the 20 Factors

Section 1706 General Rule: Client has the right to control or direct only the result of the work of an independent contractor and not the means and methods used by the contractor to accomplish the result.

- | | |
|---|---|
| 1. No instructions | 11. No interim reports |
| 2. No training | 12. Paid by job |
| 3. Work is not essential to client | 13. Pays own expenses |
| 4. Services don't have to be rendered personally | 14. Own tools and materials |
| 5. Control own assistants | 15. Significant investment |
| 6. Not a continuing relationship | 16. Possible profit or loss |
| 7. Own work hours | 17. Working for multiple firms |
| 8. Choose clients | 18. Offers services to the general public |
| 9. Control job location | 19. Limited right to discharge |
| 10. Controls work order | 20. Limited right to quit |

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Independent Status Determined by Behavioral Control, Financial Control, and Type of Relationship

- | | |
|---|--|
| <ul style="list-style-type: none"> • Behavioral Control <ul style="list-style-type: none"> – No Instructions – No Training – No Evaluations or Progress Reports – Not Required to Perform Services Personally – Choose Own Work Hours – Choose Work Location • Financial Control <ul style="list-style-type: none"> – Pay Own Expenses (Travel) – Significant Investment – Provide Own Materials | <ul style="list-style-type: none"> – Paid by Job, not by Time – Can Have a Profit or Loss – Own Assistants • Type of Relationship <ul style="list-style-type: none"> – Services not part of client's regular business activities – Services Available to Public – Written Contract <ul style="list-style-type: none"> • Termination Controlled by Contract • Specifies Independent Contractor Relationship • Limited Duration of Contract (usually 1 year or less) • No Employee Type Benefits |
|---|--|

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Additional Evidence You Will be Asked for

Expected Evidence to Provide

- General Liability Insurance Certificate
 - Client as additional insured if working on-site
 - 1M\$ Each Occurrence
 - 2M\$ Aggregate
 - Cost: about \$1,400/year
- Own Health Insurance
- City Business License
- Certifications (PE, CMP, CPA, etc.)
- Proof of Ownership of Equipment

Evidence You Should Never Provide

- Schedule C Tax forms and corresponding 1099 forms for other Clients
- Copies of invoices and check stubs from other Clients
- Employment tax forms for your employees

Evidence You May Need to Provide

- Professional Liability Insurance Certificate
 - Depends on Client and Industry
 - Expensive (\$4,000 - \$10,000/yr)
 - 42% Carry Professional Liability
 - I Don't

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Health Insurance Cost May Kill Your Consulting Business

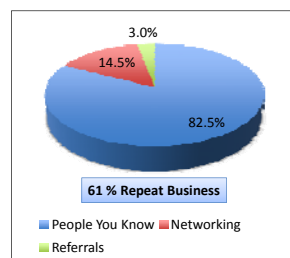
- ACA Policies
 - Deductable >> HSAs
 - Expensive and Exploding
 - EPOs (Bad)
- Independent Market Policies that Were Not Cancelled
 - Cadillac Plans (Surtax)
 - ~\$50,000/year Out of Pocket
- Have a Job with Health Insurance?
 - Don't Quit
 - Don't Retire unless ≥ 65
- Avoiding ACA Penalty (No insurance)
 - Make Sure You Owe Tax
 - Can't garnish for ACA Penalty
 - Can Only Deduct from Refund
- Legal Alternative (link below)
 - 4 Grandfathered Health Care Sharing Ministries
 - For 3, must be Active Professing Christian
 - One Takes Anybody
 - NOT Insurance
 - Lifestyle Restrictions
 - Out of Pocket >> \$10,000/year

<http://www.openmarket.org/2014/03/25/how-matt-drudge-and-other-obamacare-victims-can-escape-the-liberty-tax/>

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Most Clients Come From People You Know

1. People You Know
 - Previous Clients
 - Former Employer Colleagues
 - Friends
2. Networking
 - Professional Activities
 - Technical Activities
 - Volunteer Activities
3. Referrals
 - Directories
 - Referral Services
 - Cold Calls
 - Print Ads
 - Web Sites



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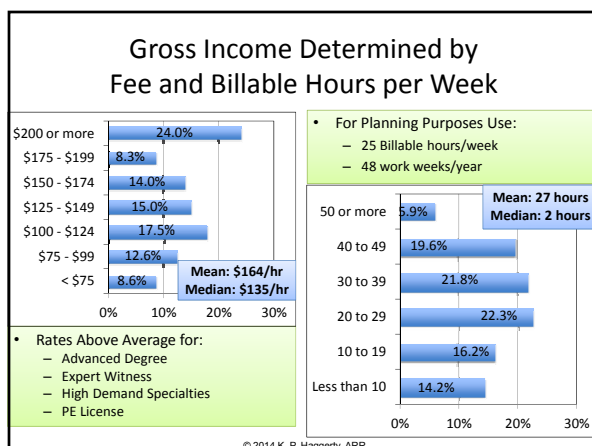
Pricing Models and Surveys Help You Set Your Fee

- Business Cost Time Model**
 - Total Annual Costs over Annual Billable Hours
 - Costs Include: Benefits, Employers part of FICA, Overhead, Expenses, etc.
 - Complicated to compute (See rates.xls on my web site)
 - Evidence Against Financial Control
- Simple Time Model**
 - 2 to 3 times Desired/Last Salary
 - Adjust Based on Salary Survey Data
 - Approximation of Business Cost Time
 - Evidence Against Financial Control
- Value Model**
 - Fixed Price
 - Based on Value to Client
 - Not Hours of Work
 - Hard to Do
 - 18% Bill this Way
 - Evidence of Financial Control

Compensation Methods

- Hourly: 71.7%
- Fixed price: 18.1%
- Daily: 6.5%
- Other: 3.7%

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Early Career Steps Support Later Consulting Practice

- Find a Niche
 - Become an Expert
 - Long term: Be an Authority
- Seek out Technical Breadth
- Get 5-10 years of experience
- Get your PE License
- Consider Advanced Degree
- Tangible Niche Skills Easier to Sell
 - Reliability Analysis
 - Network Set-up/Management
 - Microwave Filter Design
 - Windows C++
 - etc.

Specific Domain Knowledge is Critical

- Radar → Airborne Synthetic Aperture Radar
- Digital Control → Digital PWM Control of Power Converters
- Embedded Software → Texas Instruments MSP430 Developer Network

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Make Personal Lifestyle Choices

- Success Takes Longer than You Think
 - Save "Quitting Money" (Start-up Funds)
 - Live below your means
 - Expect 1-2 Years without significant income
- Need Business Continuation Funds
 - Uneven Income
 - Income Gaps up to 1/5 of years
 - Exit Funds
- **Personality of Consultant**
 - Self-Starter
 - Likes Other People
 - Leadership Ability
 - Responsible
 - Organized
 - Hard Worker
 - Decisive
 - Trustworthy
 - Persistent
 - Healthy
 - Energetic

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How to Transition to Consulting

Warning: Pretending is More Fun than Succeeding

- Develop Salable Skill
- Have Experience
- Gather Sufficient Financial Reserves to Survive Start-up
- Have the Personality to Succeed
- Be Willing to Take the Risk
- And ... Have an Exit Plan
 - Accept Failure and Quit
- Look Like a Business
 - Real Business Cards
 - Separate Phone Lines
 - Good Computers, Software Tools, and Internet Access
 - Fax Service
- Act Like a Business
 - Follow IRS Section 1706
 - Common Law Factors
 - Get City Business License
 - Carry General Liability Insurance

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Should I Be an Independent Consultant?

- Yes, If ...
 - Have an affordable health insurance option (e.g. Medicare)
 - Have a Salable Skill not core to target businesses
 - Have Experience
 - Have Sufficient Financial Reserves to Survive Start-up
 - Have the Personality to Succeed
 - Willing to Take the Risk
 - And ... Have an Exit Plan
- Otherwise
 - Maybe Try Contract Engineering
 - Or Continue that Job Hunt

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