



A strategic behavior analysis of why ventures are risky for young people in Japan but not in Silicon Valley



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ABSTRACT

The phenomenon of young people (under 30) starting or working in ventures is common in Silicon Valley but rare in Japan. Avoiding cultural attributions upon which many international comparisons of entrepreneurship are truncated, we apply strategic behavior theory to uncover a rational-choice basis for this phenomenon. We identify individual and organizational players, consider their strategies, and compare equilibria in the institutional context of Japan and the US. We pay close attention to how competition in Japanese educational, labor, and marriage markets differs from such competition in the US to identify factors which raise the career attraction of big firms and thereby fuel adverse selection that hurts ventures. Our conclusions challenge the stereotype that the founders and employees of Silicon Valley ventures are heroic risk-takers whereas the Japanese are much more risk-averse.

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1. Framing the research question

Apple, Microsoft, Yahoo, Google, Facebook, and Twitter are among the most influential information technology (IT) firms operating in the United States, Japan, and around the world. These “Big Six” firms started out as ventures founded by small teams of young (under 30) Americans. All of them are based on the Pacific Coast of the United States: Microsoft near Seattle and the rest near San Francisco (Silicon Valley). The Big Six represent three decades of IT entrepreneurship: Apple and Microsoft transformed from tiny ventures into powerful corporations during the 1980s, Yahoo in the late 1990s, Google in the early 2000s, and Facebook and Twitter in the late 2000s. As of mid-2015, Apple has by far the biggest market capitalization of any company in the world; Microsoft and Google are among the top five. Table 1 summarizes key facts about the Big Six and their founders.

During the three decades that saw the Big Six rise to global dominance and their founders join the ranks of world’s richest people, not one young Japanese entrepreneur has started an IT

venture whose global reach, revenue or market capitalization even approaches the same order of magnitude.¹ This was not due to a lack of resources or knowhow. Japan was not lagging the United States in capital, technology, human resources, or other inputs necessary for success in the IT industry during the same decades. Indeed Japanese firms led in closely related industries such as consumer electronics (e.g., Sony) and digital entertainment (e.g., Nintendo), and supplied many of the components inside the iPhone and other products on the cutting edge of the IT industry.² If Japan could muster the investment, engineering, and marketing to gain world leadership in televisions, audio/video recorders, digital cameras, game consoles, video games, and components why couldn’t it also produce even one venture led by young entrepreneurs to rub shoulders with the Big Six?

¹ Softbank and Rakuten come to mind but they are not comparable to the Big Six. Softbank was not an IT venture (it did not grow by developing a new IT-based product or service). Hiroshi Mikitani, the founder-CEO of Rakuten, was over 30 when he quit his bank job and became an entrepreneur.

² The convergence of computing, communication, consumer electronics, and digital content during the first decade of this century forces us to use “IT” as a broad category that includes devices, software, e-commerce, search, and other online services such as social networking and gaming.

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Table 1
The “Big Six” IT ventures started by young American entrepreneurs. Co-founders are omitted. Average annual return assumes monthly compounding.

Entrepreneur	Company	Line of business	Year of birth	Highest academic degree	Start of entrepreneurial activity		IPO		Metrics as of 21 July 2015 (1USD=124JPY)				
					Year	Age	Date	Age	Years from start	Market cap (100 M yen)	Employees	Return since IPO	Avg annual return
Bill Gates	Microsoft	Software	1955	High school	1975	20	1986/3/13	31	11	470,605	117,354	48,969%	24%
Steve Jobs	Apple	Personal computers	1955	High school	1975	20	1980/12/12	25	5	924,581	92,600	25,148%	17%
Jerry Yang	Yahoo	Portal	1968	Master's	1995	27	1996/4/12	28	1	46,227	11,000	2,789%	19%
Evan Williams	Twitter	Social network	1972	High school	1999	27	2013/11/7	41	14	29,735	3,900	–18%	–11%
Larry Page	Google	Search	1973	Master's	1998	25	2004/8/19	31	6	561,199	55,419	1,220%	27%
Mark Zuckerberg	Facebook	Social network	1984	High school	2003	19	2012/5/18	28	9	342,612	10,082	157%	35%

The Big Six and their founders represent the pinnacle of entrepreneurial success. To understand the overall phenomenon – high-tech venturing by those under 30 – we must also look below the pinnacle. Under the legendary founders worked many employees, some of whom profited enormously via stock options. Many of the founders were first funded by individual (angel) investors whose early trust in the ventures was rewarded with enormous returns. Ranking below the Big Six, there were many other ventures founded by young Americans, some of which grew fast while many others lagged or closed. Most of these ventures too relied on employees and investors. Likewise, in Japan there were many ventures started by young entrepreneurs, some of which grew fast while many others lagged or closed. Table 2 presents 22 IT ventures that have been started by young Japanese and have made an initial public offering (IPO). Comparing Tables 1 and 2 reveals the big gap between the successful Japanese ventures and the Big Six. Even though Japan's GDP is about a third the US GDP, the number of ventures, founders, venture employees, and venture investors, as well as the capital invested in and revenue generated by ventures in Japan are all a very small fraction of the US case.

Our research question is why relatively many Americans and relatively few Japanese start ventures, obtain jobs in ventures, and invest in ventures. We will take the following approach. First, we focus on IT ventures founded by entrepreneurs under 30 years of age. That is, we leave out all new businesses started by experienced businesspersons, all firms whose mission is not IT innovation, and all firms which do not intend to grow fast and exit via a public offering or acquisition in order to generate capital gains for founders, investors, and employees. We confine our attention to this very narrow subset of new businesses because it was this kind of firms that grew into the Big Six. Although fast-growing ventures in other high-tech fields such as biotechnology (e.g., Genentech) or low-tech fields such as restaurants (e.g., Starbucks) are also of research interest, we focus on information technology because IT has been the largest area of venturing over the last several decades, because barriers to entry faced by young entrepreneurs are relatively low, and because restricting attention to a single industry simplifies analysis. We focus on young founders because their motivations, risks, and capacity for bold innovation are different from those of the older, more experienced, and more vested cohorts of entrepreneurs.

Second, we focus on individual decision makers: the person deciding whether to start a company or where to get a job, the investor choosing where to invest, the firm choosing whom to employ and on what terms, the young person choosing a spouse, and the parents choosing how to guide their children. Our fundamental assumption is that individual Americans and Japanese have the same basic goals and preferences. Both in Japan and the US, entrepreneurs, employees, and investors want to minimize risk and

maximize income. In both countries firms want to attract and retain the best workers while incurring the least cost and risk. In both countries, parents want to raise children who are able to earn a comfortable living, attract spouses, and raise children of their own.

Third, we avoid invoking differences between US and Japan in terms of culture or national character, or in terms of the psychology, preferences or abilities of their citizens.³ In particular, we avoid the often-heard assertions that the Japanese are relatively more risk-averse, that American culture is more individualistic, or that Japanese workers are inherently more loyal to their employers. By assuming that there are no inherent differences in people and paying close attention to the differences in payoffs and risks faced by those living in Japan and the US, we aim to substantiate (i.e., identify an underlying rational basis) or refute these and other common claims about how the two countries differ. In this regard, our approach aligns with Ono's (2007) empirical demonstration that employer-employee relations exhibit more bilateral loyalty in the case of Japanese workers employed by Japanese firms in Japan than in the case of Japanese workers employed by foreign firms in Japan. Like Ono, we argue that what is rational for a Japanese (or American) worker derives not from him being Japanese (American) or living in Japan (US), but from the employment policies of his current employer and potential future employers. Since what is rational for a young person also derives from selection criteria prevalent in the local education and marriage markets, we extend the argument beyond labor markets to also consider “embeddedness” (Granovetter 1985) in education, marriage, and parenting.

Fourth, following Aoki (2001), our method is to apply strategic behavior theory (game theory) to conduct comparative institutional analysis. In our framework, individuals (founders, employees, investors, students, prospective spouses, parents) and organizations (ventures, big firms, schools) are *players* who choose *actions* and receive *payoffs*. The payoffs depend on *institutions* and the actions chosen by all the players. Each player chooses a *strategy* to maximize its own payoff while assuming that all other players also choose strategies to maximize their payoffs. An *equilibrium* is the set of strategies chosen by each of the players such that no single player can increase its own payoff by choosing a different strategy. Each country has its own players and institutions and thus consti-

³ Kiefer's (1970) overview and the experiments reported by Elliot et al. (2012) are among the efforts to examine such differences and relate them to entrepreneurial propensities. Although our framework does not rely on such differences, it can help explain them as long-run consequences of or adaptations to the equilibria played by Americans in the US and Japanese in Japan. In a similar vein, Nakane's (1970) classic study of Japanese society also makes the effort to explain such differences as consequences of the incentives faced by individuals within a society rather than accept them as *a priori* facts of culture or psychology.

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