The Growth of US Tech Startups in the Face of Software Corporations

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On my honor as a University student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

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Many tech startups in the US thrive despite the market dominance of major software corporations. According to Uber's CEO, Dara Khosrowshahi, "Uber was born out of a watershed moment in technology. The rise of smartphones, the advent of app stores, and desire for on-demand work supercharged Uber's growth" (2019). Uber found success in the new market of ridesharing and grew into one of the largest transport companies in the US. Unlike Uber, however, 90% of similar startups fail (Haworth, 2023). Although many fail, the ten percent of startups that succeed despite competition from both other startups and software corporations manage to thrive. A similar startup, DoorDash, grew immensely from its inception as PaloAltoDelivery.com in late 2012 (Maloney, 2021). By mid 2013, they incorporated as Doordash and were in a top market position in 2019 (Clark, 2019). Amazon, which is now a massive delivery corporation, grew from a startup. An article from their press center states "In just its four weeks of operation, the company shipped books to customers in all 50 states and more than 45 countries" (Pedersen, 1995).

Several factors explain these startups' success. First, while established corporations tend to pursue long-term projects, startups, often applying Agile development methods, are nimbler and more versatile. Second, startup' advantages as employers attract good developers. Tech corporations also support smaller startups when beneficial, through ownership, partnership, or selling business tools. Lastly, Silicon Valley's existing technical talent, open-minded investors, and innovative spirit in the US increases the chances of startup success.

Literature Review

Hietaniemi (2024) wrote for the London Business School on the tendency for high performing technical workers to aim for startup jobs over existing companies. Hietaniemi found that nearly half of STEM PhDs and MBA students desired to join startups over tech corporations due to greater flexibility, independence, and equity payout. Technical experts with a lower preference for financial gain and job stability over autonomy tended to prefer startups. There was an observed preference for early-stage internships, as the equity that these high performers earn, despite the lower salary, is much higher in the early stages. This research supports that there is a significant interest in startups from job seekers despite their uncertainty.

Bauer and Prado (2022) covered the relationship between Big Tech acquisitions and the resultant willingness to fund startups. Using data between the years 2010 and 2020 on acquisitions from companies like Amazon and Microsoft, they found "a statistically significant increase in the venture capital activity in response to Big Tech start-up acquisitions in different geographical breakdowns." Essentially, Big Tech's activity in acquiring startups could improve the chances for other startups' success with higher odds to get funding. The effects of acquisitions were found to last a few months.

Bergquist and Goncalves (2022) found explanations for the adaptability and innovation of startups. They used a model with four stages to innovative thinking: generation, conceptualizing, optimization, and implementation. With their qualitative data they concluded that agile startups can efficiently move through these stages. The successful startups also tend to "promote an agile culture, which means collaboration across company boundaries, make it easier to move knowledge from the inside out and vice versa, retain growing knowledge for the

company and enable rapid adaptation to new opportunities." They concluded that implementation of Agile methodology and culture is a significant factor for startup success.

A study by IJITEE researchers (Mkpojiogu et al., 2019) was conducted to determine the reasons why most software startups use Agile software development methodology (ASDM). By using an online survey of startups in Saudi Arabia, they determined the top reasons for using ASDM, top Agile practices, and top methodologies. Their results followed trends of startups in the US. They also line up with common qualitative data regarding Agile.

Speed and Utilization of Agile

With less organizational complexity, startups have the advantage of faster adaptability and innovation. Agile is a methodology for project management, mostly used with smaller teams with faster transitioning on projects. By using agile methods, most startups can move quickly on projects, speeding deployments and reviews of their products. The COO Khushwant Dhayal of Finoit (2023), a software outsourcing company, wrote that "With agile, exhaustive requirements gathering workshops and uninteresting weekly/monthly status meetings are all eliminated." Because of the nature of Agile methodologies, feedback on progress from clients is greatly involved in every step of the process. Agile helps a team of varying technical and non-technical backgrounds to work together effectively, giving startups a significant tool for success.

In a study on Agile adoption (Mkpojiogu et al., 2019), most startups adopted Agile software development methodology (ASDM) due to their "need for accelerated product delivery, enhanced ability to manage changing priorities, increased software maintainability, simplified development process, and need for enhanced delivery predictability." Statistics in this study also showed that a majority of 66% of the targeted startups from 35 countries choose Agile methodologies over traditional ones. Prioritizing initial project success, startups choose Agile for

its speed and adaptability. Statistics provided by a PWC (2017) consulting document showed that Agile projects are 28% more likely to be successful than traditional methodologies, such as the waterfall model. They stated that Agile addresses low usage of software features of users "by focusing on creating the minimum viable product (MVP) by delivering the minimum set of features that will deliver perceived value to the users." PWC is just one of the consulting groups recommending and providing services based around Agile for fledgling companies. Outside of consulting, there is a big push to use Agile because of its results in successful startups.

The use of Agile or similar methodologies in startups has not gone unnoticed by bigger companies either. An article on JPMorgan Chase's site ("Why big companies") stated that "Startups are masters at surfacing major problems and addressing them right away. It's not by accident. They use an effective approach known as validated learning, which involves listening and embedding customer feedback into every step of the process." Through observing strategies commonly used in successful startups, JPMorgan Chase has taken measures to improve their own innovation and adaptability.

Primary to Agile, many startups thrive with their focus on speed. Ilya Pozin (2016), founder of development studio Coplex, wrote on startup speed saying that it's better to "launch a startup quickly while simultaneously releasing versions of your product along the way. There is no concrete plan, but rather a series of experiments that test assumptions about your company and product." The small size of startups also aids their speed. Mistakes they make have much smaller costs with time and resources. This allows for more testing on the market. Pozin also stated that, "If something turns out to be a mistake or not resonate with the market, it's on a much smaller scale than a traditional launch process. Just analyze what data you've gathered and make a new decision based on that information."

Agile is not claimed to be infallible, however. Colin Bryar and Bill Carr (2021) who worked at Amazon into the 2010s wrote on the problems with this method and its associated speed. They stated that "The fundamental problem with agile, as many companies use it, is that its relentless pace biases developers. They want to get out a minimum viable product in only a few weeks, so they skimp on scoping out just what the product should accomplish." With their experience, they suggested utilizing a hybrid of Agile and Amazon's "working backwards" approach. Essentially, this "requires a fully realized vision of a proposed product, embodied in a written press release for the product's launch."

Agile provides startups with a tool that benefits their smaller size. With pressure to use it, many are able to quickly produce results. Like any tool, it can still be used incorrectly. There are many startups that fail by going too fast. However, the methodology is still used successfuly by many startups.

Startup Employment Over Corporation Employment

There are many differences between employment at startups vs. corporations. Although benefits from working in Big Tech are better known, there are reasons to choose startups instead. Software engineer Gergely Orosz, who worked at Uber after it grew, passed on the words his coworker Willem Spruitjt told him on startup and Big Tech jobs (2023). Spruitjt was an experienced software engineer who left Uber and ran his own startup for many years. Doing time in both Big Tech and startup positions, he found the benefits of each. First, startup jobs give more opportunities to learn a variety of new topics and systems. Without the structure and rules that are found in corporations, smaller teams need to fill gaps in experience and knowledge. With this, startup employees gain more diverse learning opportunities than in Big Tech. Spruitjt also emphasized the importance of individual impact in startups. Usually lacking a strong hierarchy,

individuals can expect to influence more decisions made for the startup. The smaller team means the work is divided between less people, allowing larger impacts on the project.

Coley Gmeinder, a writer for startup job search site Wellfound (2022), wrote on similar sentiments to Spruitjt. She stated that “Startups have smaller teams so all the work you do will make a big difference, and you will be able to see the fruits of your labor, like building a website as a web developer, much sooner.” Similar to Spruitjt’s advice, she said “If you’re looking to expand your coding skills in a variety of languages in a short amount of time, startups may be your best bet.” However, she also detailed the stability of existing companies and that “big companies are known for providing a stable salary and great benefits to their employees.”

Much of the workforce still seeks corporate jobs over startup positions. Nia Michael and Anna Okuneva, both experienced professionals who've worked in big corporations and startups, relayed comments on their preference for corporate positions at Philips (Safran, 2019). Okuneva responded, “In a big corporation such as Philips, I found, I have more focused responsibilities. This empowers me to become an expert in my field.” On existing companies, Michael stated they “have the resources to invest in people through education, skill development, and career assistance programs, aligning the individual’s personal career goals with positions they would like to work towards within the company.”

Given these multiple factors, startups, even at an early stage, can find applicants to increase their chances of success. Many technical experts with a focus on autonomy are more likely to join a startup position over working in big tech. With a smaller size, startups are more affected by each individual’s decisions and work, providing positive feedback for results that may not be present in positions at existing corporations. Rather than providing absolute overall benefits over Big Tech positions, startups offer jobs with a unique experience that attracts its own

group of talent. The difference in values between members of the technical workforce keeps a stable flow of workers that startups can pull from.

Tech Corporation's Support and Influence to Startups

Big Tech often plays a direct role in startups, outside of competition. The CEO Dexter Carr Jr. of Game4Good, a startup connecting esports and STEM education, said "When it comes to big companies like Microsoft, they have the capability of doing what you're doing as a startup. At Game4Good, we've had to find a way to navigate quickly where even if a Big Tech company thinks it's a good idea, that we find a middle ground in adding value to what they're doing in a way that they want to work with us as a startup – and not just take what we're doing or want to buy us" (Davis, 2023). Game4Good's growth is supported by cooperation with Microsoft, utilizing their APIs for their platform. Corporations have many choices with startups. These include buying the company, claiming ownership of its products, or exchanging services. Startup success could be being bought out for a good price. One of the bigger startups Microsoft has bought was GitHub, provider of project management and developer tools. On June 4th, 2018 they bought the startup for $7.5 billion with Microsoft CEO Satya Nadella claiming "we strengthen our commitment to developer freedom, openness and innovation" (Microsoft, 2020). GitHub's previous CEO Chris Wanstrath said positively "Their focus on developers lines up perfectly with our own, and their scale, tools and global cloud will play a huge role in making GitHub more valuable for developers everywhere" (Microsoft, 2020). Wanstrath succeeded in combining their software and products with Microsoft's resources, gaining billions from selling GitHub. Others like Dexter Carr Jr. do not have this goal, however. Although he got Microsoft's support and cooperation, he desired Game4Good's separation. To do this, Carr focused on exchanging a service that wouldn't be available with Microsoft's ownership. Carr stated "If

Microsoft were to acquire us and use the technology itself, they couldn't do it because we provide them information for their competitors, since the data we collect isn't just for Xbox – it's also a Playstation, PC gaming, and Nintendo mobile. We can give them data information on their competitors without their competitors being able to ask them to cease and desist. That's our value add." (Davis 2023).

A writer for the Harvard Business Review, David Jegen (2022), described his experience as someone who went through "11 different acquisitions from multiple perspectives: as a founder, an investor, and a Board member." Jegen defined the term negotiating leverage as it "determines who wins on deal-breaker points," and the term knowledge leverage as it is "predicated on knowing what you can win on without jeopardizing the deal." He detailed his interactions with Big Tech in terms of leverage as a startup: "There's little you can do to change your negotiating leverage — you either have a competitive acquisition process or you don't. However, you can change your knowledge leverage. You just need to know what to ask for – you might be surprised at how much the acquirer will agree to, but only if you ask." It is clear that the majority of startups will be disadvantaged with Big Tech negotiations on acquisitions. However, many can still find success in acquisition with an appropriate knowledge base.

Even with startups avoiding acquisition, there is a short term effect on other startups after one occurs. One study found an increase in VC activity for months after successful acquisitions (Prado & Bauer, 2022). VC activity refers to venture capital, investments that are usually put towards private, early-stage companies. Accel's investment into Supercell is an example of what venture capital can do for startups. On their site, Acell stated that they "led Supercell's Series A investment in 2011 when it was a small, pre-launch game studio transitioning from Facebook

games to focusing on emerging mobile platforms" (Acell, 2024). Supercell is known for releasing some of the top grossing mobile games of all time, such as Clash of Clans (2024).

Tech corporations often directly interact with startups, whether for acquisition, services, or other reasons. Rather than being obstacles or competition, they can also provide many opportunities for new tech companies to succeed. Directly or indirectly, existing corporations can aid in the goals of startups.

Silicon Valley's Innovative Spirit with Startups

Silicon Valley in California is often associated with US tech startups, and for good reason. Many of the Big Tech companies like Google and Apple found success starting there. In a paper by Kushida (2015) on Silicon Valley, he detailed characteristics that benefit tech startups and other businesses. One of these was its "extremely *deep human resources pool* in which people from all over the world come to compete." Outside of the external pool of talent, top universities like Stanford, UCSF, and UC Berkeley provide a consistent source of technical experts that join businesses in the area. A US National Research Council book (Wessner, 2013) described the pivotal role of Stanford in Silicon Valley: "As of 2011 nearly 5,000 companies existed which could trace their roots to Stanford, including Hewlett-Packard, Cisco Systems, Sun Microsystems, Yahoo, and Google." When speaking on Stanford, Berkeley professor David Patterson said, "What sets Stanford apart is the startup culture. I have this sense that it's an almost unwritten rule that you have to start a company to be a successful professor at Stanford" (Abate, 2006).

Another important characteristic of Silicon Valley Kushida (2015) mentioned is its business infrastructure, as "law firms, accounting firms, mentor networks, and other aspects provides value to entrepreneurs and startups beyond the direct financing or services rendered."

Continuing, Kushida states that “Law firms that specialize in serving startups, for instance, are often paid only if the startup is successful, so they do their own screening when taking on new firms as clients.” These businesses’ interactions with existing tech startups have produced experienced companies that in turn help and support newer startups. Kushida also stated that “Silicon Valley itself has the most *competitive venture capital market* in the world.” Often these venture capitalists offer extra functions outside of financing. These include access to interpersonal networks and connecting these new companies to clients and customers.

On the University of Silicon Valley’s page (2021), they detail why Silicon Valley benefits startups. They state that “The opportunities of finding an innovative job or completing an advanced degree in Silicon Valley, right where the action is, are truly endless. The jobs offered here come with high starting salaries and the talent pool is large and well-connected.” Again they support the common characteristic that startups who embrace Silicon Valley attract a talented workforce, both locally and beyond. USV also mentions that access to neighboring startups creates a supportive environment. On this they state that “The best way to get to know the ins and outs of running a startup successfully is to dive in head-first and be around other startups. Although it may seem daunting at first, by being in Silicon Valley, you’ll have great visibility into what other entrepreneurs are doing right and what you can be doing better.” The importance of these connections have also led to the creation of new businesses. OVHcloud (Clarke, 2023) is such a company which described their ecosystem approach for successful startups. Jonathan Clarke of OVHcloud stated that “Areas in which connectors can help include business development, capital raising, finding the right talent, and developing partnerships to encourage business growth.”

Silicon Valley is an area that naturally benefits both Big Tech and startups, but highly encourages startup culture. With high level colleges, a significant pool of technical talent, established business infrastructure, and ample venture capitalist activity among other things, Silicon Valley allows many startups to thrive in its supportive business ecosystem.

Conclusion

There are a wide variety of factors that contribute to the success of startups in an economy filled with tech giants. With an environment and culture that supports their creation and growth, many stand to gain from their success. Whether it's the infrastructure of VC and law firms surrounding them, Big Tech companies hoping to acquire the startups' best new innovations, or technical labor looking for jobs that fit their values, tech startups are offered many opportunities to thrive. Even if many do fail, the benefits of startup success motivate entrepreneurs and experts to continue the startup culture. These details about the environment of Silicon Valley and startup strategies could possibly be used to create innovative business beyond the US. With such a great focus on innovation, there will be no shortage of startups anytime soon.

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