MAKING IT IN THE MIDDLE: MID-SIZE TECHNOLOGY FIRMS FIND BALANCE IN A FAST-CHANGING BUSINESS ENVIRONMENT

Briefing paper

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About this report

Making it in the middle: mid-size technology firms find their way in a fast-changing business environment is an Economist Intelligence Unit (EIU) report, sponsored by Wells Fargo. This report explores key challenges facing mid-size technology companies in US and how they can position themselves for growth despite these challenges. The report draws on detailed desk research and in-depth interviews with the following experts (listed alphabetically by last name):

- **Richard Burke,** CEO, Envoy Global
- **Brad Hollister**, co-founder and CEO, SwanLeap
- **Christine Rutherford**, sales director, Rhythm Systems
- **Jessie Woolley-Wilson**, CEO, DreamBox Learning

We would like to thank the interviewees for their time and insight. The EIU bears sole responsibility for the content of this report. The findings do not necessarily reflect the views of the sponsor.

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Executive summary

Companies across the business landscape are scrambling to keep pace with accelerating change, and mid-size US technology firms (those with approximately US$50m-US$1bn in annual revenue) are no exception.

Often lacking the resources and name recognition of multinational tech giants or the nimbleness of start-ups, mid-size tech companies face a distinct set of challenges in responding to rising competition, escalating customer demands, digital upheaval and deepening talent shortages.

Yet some have discovered that being in the middle does not necessarily mean being squeezed. Successful tech companies have been able to remain relevant by:

- targeting neglected market niches;

- proactively shaping customer expectations; and

- engaging more deeply with customers' business challenges.

Meanwhile, in order to manage digital disruption and talent gaps, successful tech companies are working to be flexible and creative, such as by utilizing a consultant to source vendors, adapting incentive packages to recruit foreign workers or retraining their employees to handle new systems and meet new challenges.

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Breaking out from the pack

Tech companies face an expanding roster of competitors in virtually every product line and geographic market. For example, the number of software companies globally ballooned from around 10,000 in 2007 to 100,000 in 2017, and this number could reach 1m by 2027, according to market research firm Forrester.[1]

Within the growing tech sector, waves of US-based start-ups on hockey-stick growth trajectories—sometimes backed by deep-pocketed entrepreneurial investors—wow customers in areas such as robotics and artificial

Growth of software companies globally, 2007-2027
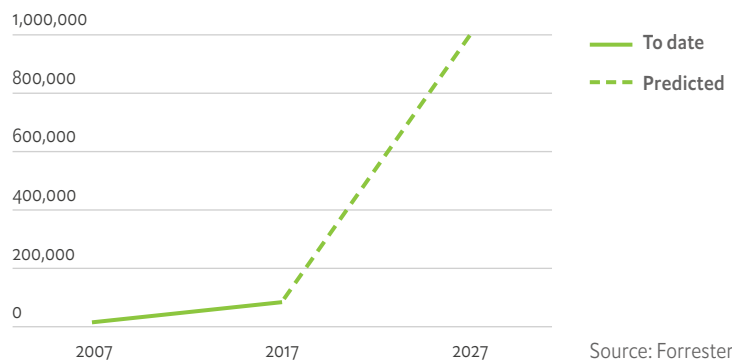
Source: Forrester

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1. Jay McBain, Forrester, "The Channel Software Stack – A Comprehensive (And Critical) Look At The Future Of The Industry", November 6th 2017, https://go.forrester.com/blogs/the-channel-software-stack-a-comprehensive-and-critical-look-at-the-future-of-the-industry/

intelligence (AI), while foreign rivals based in emerging low-cost tech markets such as China and India bring cutthroat price competition to developed markets.

This rising competition threatens customer relationships, market share and the profit margins of mid-size tech firms. In response, while also recognizing that they often cannot beat large companies on price or match their research and development (R&D) prowess, mid-size tech firms are defending market share and preserving pricing power by differentiating themselves from competitors.

Willing to ditch plan A

In some cases, this differentiation entails putting an innovative spin on common business practices, while also retaining sufficient flexibility to pursue fast-changing business plans in response to successes (and failures).

This approach lies behind SwanLeap's emergence as one of the fastest-growing tech companies in the US: co-founder and CEO Brad Hollister ditched his original plan of creating "the eBay of freight", opting instead to design a customized logistics platform using AI to help big companies reduce shipping costs and manage their supply chains better. This niche has proven to be fruitful and allows SwanLeap to focus on aligning with customers rather than fighting off competitors.

"What we're selling in the market, they can't find elsewhere," says Mr Hollister "So we actually are able to be pretty choosey based on who we want to do business with at this point. We want to make sure there's a fit, where people want to pursue the solution."

Adding depth and diversity

Others set themselves apart by creating more full-service solutions to deepen relationships with clients and diversify their offerings.

For example, Envoy Global stands out in the immigration services market with an integrated package of software, consulting and legal services to help corporate clients shepherd foreign employees through the complex US immigration process. This comprehensive offering gives Envoy an edge over competitors that have purely technical solutions, which may not always deliver the desired result for their customers: visas for their workers.

Envoy also builds marketplace credibility by investing in thought leadership, including an annual survey of human resources professionals and hiring managers on immigration issues.[2]

"All we do is employment-based immigration," says Richard Burke, CEO of Chicago-based Envoy, which has grown to 130 employees from 80 over the past year. "We combine lawyering and proprietary technology to expedite the process."

Rising competition threatens customer relationships, market share and the profit margins of mid-size tech firms...[who] are defending market share and preserving pricing power by differentiating themselves from competitors.

2. Envoy Global: https://trends.envoyglobal.com/

Finding an opening

Tech companies can also tailor value propositions for customers whose needs do not align with the standardized offerings of industry giants.

For example, Blackbaud, a software company based in Charleston, South Carolina, has carved out a significant market niche as the leading supplier of cloud computing services to churches, schools, foundations and other nonprofits.

"We're the only cloud software company in the world...positioned to serve and connect the entire philanthropic ecosystem," CEO Mike Gianoni told investors on a recent conference call.[3]

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3. Seeking Alpha, "Blackbaud Inc.'s (BLKB) CEO Mike Gianoni on Q3 2018 Results - Earnings Call Transcript", October 30th 2018, https://seekingalpha.com/article/4216009-blackbaud-inc-s-blkb-ceo-mike-gianoni-q3-2018-results-earnings-call-transcript?page=2

Customer demands: burden or opportunity?

New technologies and increasing sensitivity to social and environmental issues have sparked a sea change in customer expectations. Like all companies today, tech firms are under pressure to meet rapidly evolving demands for customization and variety, faster delivery, and sustainable, socially responsible production and distribution practices.

"We see more and more demand for user experiences to be customizable for each and every user," says Jessie Woolley-Wilson, CEO of DreamBox Learning, a company that provides elementary and middle school math software.

"This means we need to be able to deliver mass customization of personalized learning at scale."

These expectations pose steep challenges for companies without the resources and reach of multinational corporations. Operationally, customization often undermines the production efficiencies that come with standardization, diluting economies of scale and squeezing profitability. Basic business functions such as sales forecasting, procurement and production planning become more difficult as proliferating product varieties make future demand and input requirements less predictable.

Lead customers, don't follow

Similar to managing increasing competition, many tech companies also find that excelling in an underserved niche and engaging more deeply with particular business challenges are effective responses to shifting customer demands.

Successful firms take a step back, re-evaluate their capabilities and decide which customer demands they can meet without overtaxing operations and forfeiting profits. For example, SwanLeap adjusted its business practices to lead customers, rather than following customer demands.

"We're in a unique position where we can shape those expectations by telling them what they get rather than having to adjust our business," says Mr Hollister.

Successful firms take a step back, reevaluate their capabilities and decide which customer demands they can meet without overtaxing operations and forfeiting profits.

"We used to do things early on in our company where we were over-servicing our clients, and they weren't paying for a lot of things, and it actually became quite dangerous because we were always in this cycle of apologizing for things that we couldn't possibly have prevented," he explains. "We've looked at that as a potential weakness in our business and we've been able to shape customer expectations since then."

Digitization: an essential investment

In order to better compete in the market and understand customers, tech companies also need to evaluate their internal technologies rather than just their client-facing ones. Utilizing big data, AI, the Internet of Things (IoT), robotics and other new technologies can help middle-market companies gain the speed and agility needed to anticipate and adapt to changing business conditions.

Costly and disruptive as technology can be, tech companies have no choice but to keep pace with accelerating digitization, just like their clients.

A Deloitte survey of US mid-size companies across industries found that the top three areas where digital disruption will have the biggest impact on operations over the next year are:

1. increasing worker productivity with technology;

2. reducing operational cost; and

3. enabling new ways to interact with customers.[4]

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4. Deloitte, "Technology in the mid-market—Embracing disruption. Appendix—Full survey results", August 2018, https://www2.deloitte.com/content/dam/Deloitte/us/Documents/deloitte-private/us-private-tech-appendix-2018.pdf

Moreover, some of the top potential benefits of IT investment, according to respondents to the Deloitte survey, include using analytics to anticipate and predict business trends and outcomes, as well as developing new products and services.

As a result of these benefits, mid-size companies that lack the R&D capabilities of large firms and the immediacy of start-ups can utilize technology internally to better compete.

For example, data gleaned from IoT sensors attached to vehicles, machinery and other industrial assets can lead to predictive maintenance insights at hardware companies, which can save costs. And software companies with strong internal systems—eg, customer relationship management platforms and marketing analytics tools—can better understand how their offerings perform in the market.

"We're trying to help our employees make better decisions about how to spend the limited time they have with each other and with our customers," says Ms Woolley-Wilson. "That requires investment in internal systems and operations to make it easier for your employees to do the job they want to do."

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Christine Rutherford,
sales director, Rhythm Systems

Adding the right tools is no cakewalk

While the benefits are clear, choosing the right internal technology can be challenging.

"We're not seeing the technology we need in the market such as an internal server for company files and single sign-on capabilities," says Mr Hollister. "So we can actually relate to our clients on the shipping side that can't find the technology they need. What's out there for our needs is way too clunky and doesn't work the way we need it to work."

Even when companies do find the right technology, they need to ensure implementation does not slow down progress in other parts of their businesses.

"We find a very low barrier of disruption to the organization is key. Flawless training and onboarding have to outweigh the DIY approach for any system implementations or enhancement," says Christine Rutherford, sales director at Rhythm Systems, a company that offers software and consulting for strategic planning and execution at middle-market firms.

Rather than completely overhauling technology stacks in one fell swoop, mid-size companies may find success in breaking up the process into more manageable parts. "We have had to modularize our offerings into bite size pieces and embark on a journey that takes users to the required destination," adds Ms Rutherford.

Winning the talent war

Of course, finding the right technology is only valuable as long as there is the right staff in place to fully exploit it.

Tech companies often struggle to attract and retain qualified workers at a time when talent has become perhaps the most important single factor in competitive differentiation. Tight labor markets, a shortage of software engineers and other workers educated in STEM (science, technology, engineering and mathematics) subjects, and newly restrictive US immigration policies have made it harder for companies of all sizes to find workers with the skills to design, develop and deliver the type of products wanted by today's customers.

The odds seem stacked against mid-size tech companies, which need the same data scientists, AI experts and other highly skilled workers coveted by well-known industry giants and buzzworthy start-ups.

"Mid-size companies can be in a bit of a bind because they can't offer the allure of the promising start-up and they can't offer this whole suite of perks and benefits and brand recognition on your resume that the Apples and Googles of the world can," says Envoy's Mr Burke.

Markets matter

Geography also works against mid-size companies. Many have only one or two locations, which can limit their recruiting efforts. Unless they're in a particularly attractive locale, convincing candidates to relocate can be difficult.

"There's a huge vacuum for us being in Madison [Wisconsin], and it's a little tough for us to have remote programmers at this point because we're innovating so quickly," says Mr Hollister.

Larger employers, by contrast, can offer workers a choice of locations around the world.

"Some of the largest tech companies are now, in an attempt to get more talent, expanding beyond their original headquarters," says Mr Burke. Technology giants such as Apple, Salesforce and Google have all announced plans for major satellite operations in large population centers far from their home bases.

Sourcing foreign talent

Adding to these concerns is the fact that tech companies cannot expect talent shortages to ease soon. Mr Burke points out that the number of STEM degrees conferred by US colleges significantly lags demand for trained technology workers.

Thus, US firms have often looked abroad to fill the talent gap. But that safety valve has been squeezed lately, as the US has generally taken a more restrictive approach to H-1B visas, a key conduit for tech workers coming to the country. Officials are rejecting more H-1B applications, approvals are taking longer and once-routine visa renewals have become less certain, although the government has recently floated

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reform ideas to simplify the H-1B application process.[5] As it stands currently, however, foreign technology workers and students looking to leave markets such as India and China are increasingly considering alternatives to the US, such as Canada, says Mr Burke.

The visa crackdown is a particular concern for mid-size tech companies, he adds, many of which have relied heavily on the H-1B program to fill jobs. Unlike larger tech firms, they may have less visa options available to them, heightening their dependence on the H-1B program. However, Mr Burke says many companies are still largely relying on foreign national talent and are tackling the H-1B visa challenge by helping foreign workers improve their immigration status. Many now offer to sponsor an immigrant employee for permanent residency status after just one year, down from two or three years as in the past.

"It's very attractive to foreign nationals because once they have their green card, they can stay here permanently as opposed to being subject to the vagaries of visa renewal," he says. "And we're also seeing companies adding in many other benefits to attract these foreign nationals such as trips home, housing allowances and intercultural training."

5.   Sara Ashley O'Brien, CNN, "Trump administration proposes changes to popular H-1B program", November 30th 2018, https://www.cnn.com/2018/11/30/tech/dhs-h1b-merit-proposal/index.html

Expanding the talent pool

In addition to recruiting foreign workers, tech companies can also find strong talent by adapting their search criteria to include the many individuals who have relevant skills but may not have the background that some businesses expect.

For example, Ms Woolley-Wilson serves as a board member for two different types of organizations that offer alternative pathways to learning technology skills:

1. **Western Governors University:** an online college formed by state governors with relatively affordable tuition—the school offers competency-based programs, where students advance after demonstrating specific competencies, rather than simply progressing after a class ends.

1. **Black Girls Code:** a non-profit that teaches coding to young women, ages 7-17, from underrepresented communities—the organization aims to expand the pipeline of talent to help fill projected shortages of technology workers in both the short and long term.

"We need to continue to find ways to cultivate more options for a broader array of young talent," says Ms Woolley-Wilson.

Companies can also expand their talent pools through collaboration. Working with colleges, tech schools and industry coalitions, they can develop internships, apprenticeships and other training programs that help produce a strong pipeline of candidates with the right skills.

For example, New York City's ApprenticeNYC program connects residents with employers who need so-called 21st-century skills, including in technology, which benefits both aspiring workers and companies in the process.[6]

In another case, APT Manufacturing Solutions, an Ohio company that assists manufacturers in automating assembly lines, helps train local high school students to program robots. Dozens of students have completed apprenticeships with the company and have helped APT fill vacancies across its rapidly growing workforce.[7]

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6. NYC Small Business Services, "New York Works: City Launches First Program as Part of $5 Million Investment to Create 450 Apprenticeships for New Yorkers", March 28th 2018, https://www1.nyc.gov/site/sbs/about/pr20180328_ApprenticeNYC.page
7. APT Manufacturing Solutions, "APT Training Center Completes 3rd Year", June 21st 2018, http://aptmfg.com/2018/06/21/apt-training-center-completes-3rd-year/

Creating the right environment

Tech companies can also overcome talent challenges by improving their ability to forecast future hiring needs, develop talent internally and hone their recruiting pitch. A key first step is investing in human resources capabilities. A strategically oriented human resources team can develop better forecasting tools and help establish training and career advancement programs. In many cases, companies already have talented staff in-house that can adapt to new technology challenges and customer needs, provided that they have the right training in place.

In addition, mid-size tech companies can make their size a selling point. They can explain that new hires at middle-market employers have more responsibility and mission-critical work than they might otherwise get at a large company, with less of the instability that a start-up might face, says Mr Burke.

Lastly, companies can simultaneously attract and retain talent as part of upgrading their internal technologies to better serve customers.

"We believe if we invest in more smart technologies focused on internal operations, we will make the work experience more enjoyable for our teammates and, in doing so, we will cultivate a healthier work environment that makes people feel like we are investing in them as we invest in the business overall," says Ms Woolley-Wilson.

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Jessie Woolley-Wilson,
CEO, DreamBox Learning

In the middle, not stuck

It can be tough to stand out in the middle, especially in technology markets. Mid-size tech firms tend to lack the market power of global juggernauts or the pizzazz of fast-growing start-ups.

These limitations hinder some tech companies as they try to navigate powerful cross-currents of change sweeping across global business landscapes. Like all companies, mid-size tech firms must adapt to increased competition, evolving customer expectations, widening digitization and a race for the skilled workers essential to success in today's markets.

Those that break away from the pack often find success. They don't wade into price wars with low-wage competitors that have a built-in cost advantage or mimic the latest headline-grabbing innovation. Rather than chasing trends, they shape customer expectations by demonstrating the untapped possibilities of new technologies.

Concurrently, they zero in on underserved market niches and find where they can deliver customer solutions not available from their competitors. Lastly, in the high-stakes competition for talent, they are building new talent pipelines and sharpening their recruiting pitches to show workers that the middle can be a sweet spot.