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State of Vertical SaaS

23

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A Tale of Two Markets

When we published The State of Vertical SaaS last October, most of the world had never heard of Large Language Models (LLMs). Only a month later, however, the public debut of OpenAI's ChatGPT set in motion a vast transformation of the tech sector as a whole.

Within 2 months of its release, ChatGPT accumulated 100M Monthly Active Users, which established it as the fastest-growing software application in history, and the company behind it, OpenAI, is poised to achieve a $1B run rate within the upcoming year. The success of OpenAI and other generative AI companies underscores the tangible customer enthusiasm for AI-powered solutions and we are now witnessing the birth of novel product and service categories driven by this demand. Overall, LLMs have not just altered the fundamental paradigms of software development but have also reimagined how we interact with and harness the capabilities of software in our daily lives.

Although the LLM revolution has left no industry untouched, AI's permeation into the software application layer is particularly apparent within vertical SaaS. The beginnings of what Index Ventures calls the "AI Platform Shift" has abruptly catapulted vertical SaaS into its next evolutionary phase, which is characterized by a race to integrate new AI-driven features into vertical workflow software.

In the midst of this AI-driven transformation of vertical SaaS and the broader tech sector, the Federal Reserve has persisted in its departure from a protracted period of Zero Interest Rate Policy (ZIRP). This transition has been characterized by an extended sequence of vigorous

interest rate hikes which at the time of writing exceeds 5 percentage points. After a sustained period of prosperity marked by the culmination of the longest bull market in U.S. stock market history, it's safe to assume that this year has been a sobering experience for most. In our corner, prevailing narratives surrounding VC markets and software industry valuations have been particularly sour. But, we believe that the fundraising environment we're in today is much more sustainable than 2020 and 2021. While public market SaaS multiples have seen a significant decline in the past 12 months, they've comfortably settled near the 5-year average between 2014-2018. In our view, the current environment is not an anomaly—it's rather a return to normal.

The end of easily accessible, low-cost equity has forced a return to first principles thinking, where great companies are ultimately distinguished by their ability to achieve sustainable growth through operational efficiency, effective risk management, and strong business model fundamentals.

Despite macroeconomic uncertainties, we believe the advancements of LLMs present an enormous opportunity for vertical SaaS companies, especially those focused on systems of record (SoRs) for core workflows. These startups are best positioned to tap into the natural synergy between vertical SaaS and AI through their access to large proprietary industry and customer specific datasets that are critical for optimizing AI functionality. By targeting hyper-personalized pain-points with proprietary data, these startups are able to deliver optimized user solutions without unnecessary scope creep.

Leveraging Contextualized Data To Drive Strong AI Capabilities and Cement Market Dominance: The Case for Best-In-Class Vertical Systems of Record (SoRs)

Businesses are held captive by fragmented software systems that force employees to endlessly switch between multiple applications—incurring the dreaded "toggle tax" on productivity. Overcoming this challenge has been a primary driver of the ascent of vertical SaaS platforms that provide unified, industry-specific solutions. Purpose-built for their niches, these vertical players crush pain-points and optimize operations with software solutions tailored to their customers' exact needs.

These characteristics of vertical SaaS are also what continue to make it an attractive bet for investors. While raising capital hasn't been easy this year, these solutions offer clear market opportunity, require lower Customer Acquisition Costs (CACs) due to their narrow customer segments, and have a tried-and-true business model that has minted several multi-billion dollar companies over the years.

Now, the LLM revolution and advancements in AI have amplified the appeal of vertical SaaS even further. With industry-specific data moats and dialed-in workflows, vertical players boast platforms that are inherently ripe for AI augmentation. Some of the most promising applications of AI in vertical SaaS include:

- **Predictive Analytics:** Vertical SaaS platforms can leverage proprietary data and machine learning (ML) to deliver predictive insights that optimize customer decisions. By analyzing industry-specific datasets, AI uncovers hidden patterns and forecasts future outcomes tailored to each business context. The capabilities empower customers with visibility into risks, operations, and strategy unique to their niche.

- **Intelligent Workflow Automation:** Vertical SaaS platforms are primed to drive efficiency gains through AI-enabled automation of repetitive, high-volume tasks specific to their industry. Instead of static rules-based automation, ML algorithms can be trained on customer usage data to optimize and customize workflows.

- **Personalization:** Vertical SaaS platforms can tap their rich user data and AI to deliver highly tailored experiences that meet individual customer needs. By analyzing usage patterns and other attributes, ML models can dynamically customize everything from UI design to content recommendations.

- **Natural Language Processing (NLP):** Vertical SaaS platforms can utilize NLP to understand nuanced industry terminology and unstructured text data. By training NLP models on their niche datasets, vertical SaaS companies can enable conversational interfaces and intelligent chatbot assistants that are finely-tuned to problem-solve in their customer's domain.

There's no denying that AI has already expanded the opportunities for vertical SaaS companies, but an important question remains: Which players are best poised to seize the multibillion dollar opportunity created by the AI platform shift? The current vertical SaaS landscape is a broad spectrum spanning antiquated legacy systems laden with technical debt to freshly minted AI-first point solutions. In our view, companies on either extreme of this spectrum aren't optimally positioned at this time. Entrenched legacy providers face an uphill battle to modernize. Their aging architectures often intrinsically lack the flexibility needed to tightly integrate new

capabilities. Retrofitting AI into these systems can prove an arduous and expensive endeavor that compounds technical debt. AI-first solutions, on the other hand, lack the proprietary customer and user data they need for optimized solutions.

Instead, we believe the vertical SaaS startups best positioned to leverage the potential of AI tools are somewhere in the middle: namely, the recent suite of vertical SaaS startups building true SoRs that provide a unified interface and a single source of truth across critical organizational workflows. In contrast to rigid legacy systems, they can adapt with agility to solve for evolving customer needs and market opportunities. And unlike narrowly focused AI point solutions, these companies offer comprehensive product capabilities that keep users engaged for longer and thereby gather growing amounts of valuable, proprietary workflow data.

By leveraging contextualized insights across their platform, SoR-focused vertical SaaS startups can strategically improve and expand upon their core products, while also incorporating stronger automation capabilities than their competitors. This initiates a positive feedback loop, where more usage generates more data to fuel better algorithms. Over time, we can anticipate these platforms growing into indispensable, automated Systems of Intelligence (SOIs) that are deeply integrated into customer operations.

Overall, the combination of rich vertical datasets, high customer loyalty, and an AI-augmented stack will be challenging to displace. Executing on these strengths enables vertical SaaS platforms forming best-in-class SoRs to outpace threats, whether from legacy incumbents or new entrants. From our perspective, these players stand at the cusp of an incredible opportunity to cement durable market leadership through the intelligent integration of AI built upon their proprietary datasets.

The Vertical SaaS Index

The Fractal Vertical SaaS Index is a basket of 25 public companies that derive most of their revenue from industry workflow software. All but five of the companies in the index IPO'd after 2000 and more than half of the companies in the index have IPO'd since 2014. The index and analysis does not include data from public vertical

SaaS companies that were subsequently taken private (e.g., Mindbody). All data is sourced via PitchBook and current as of November 1, 2023.

Vertical SaaS Index Performance 2011-2023

Performance of vertical SaaS companies sorted by year of public listing.

Legend: Pre-2011 · 2011-2019 · Post-2020
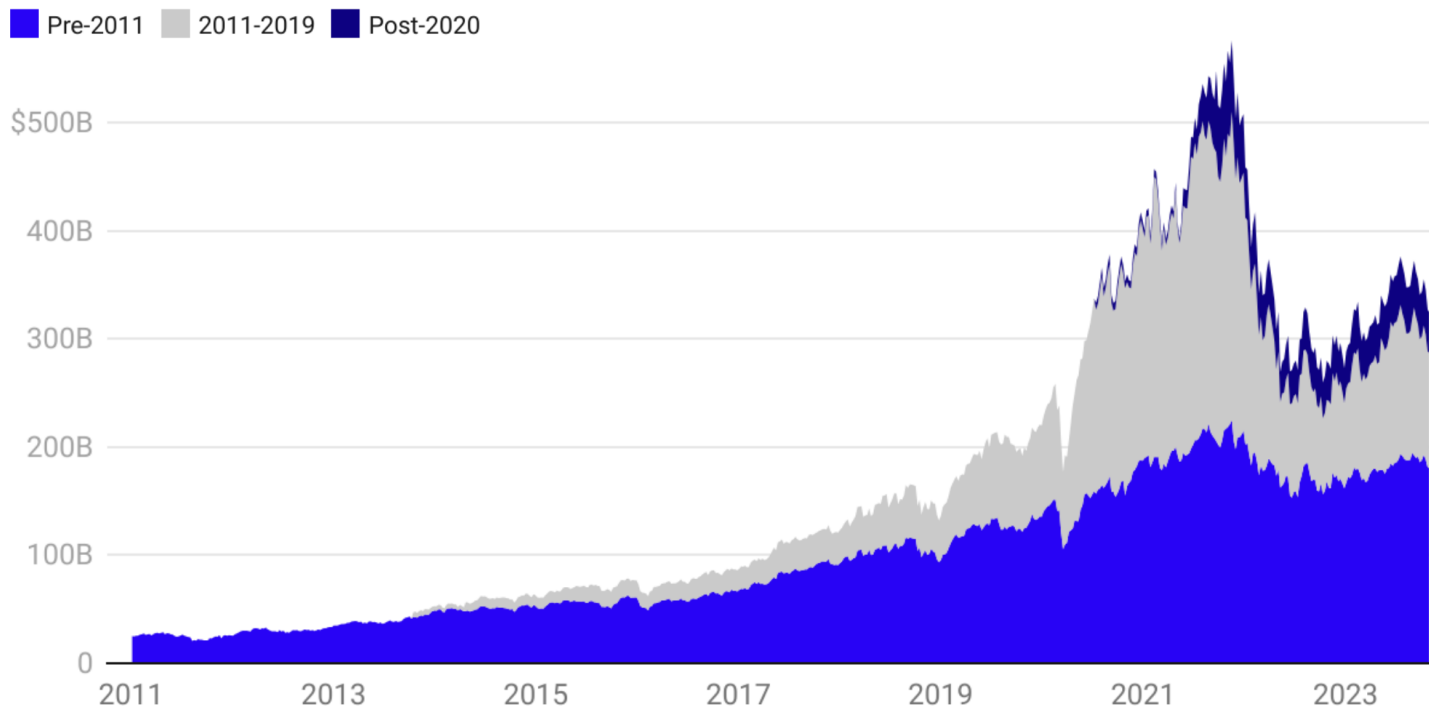
Scaling Success with Layered, Products: The Benchling Playbook

In just over a decade, Benchling has grown from a niche tool for academic researchers to the global gold standard for life sciences R&D, adopted by over 270K scientists and thousands of organizations. The company's rapid growth was highlighted in November 2021 when Benchling secured a $100M Series F funding round that boosted its valuation to a staggering $6B.

Benchling's users span cutting-edge verticals from biopharma and agriscience to fragrances and renewable energy. While Benchling has recently landed major enterprise deals with the likes of Gilead, Sanofi, UCB, and Corteva, the company has also maintained its grassroots appeal among academic institutions and biotech startups seeking to accelerate life science breakthroughs.

This broad demand demonstrates Benchling's versatility in serving labs of all sizes and the massive businesses that can be built by serving seemingly "niche" industries.

As a PhD candidate at MIT, Benchling's founder Sajith Wickramasekara witnessed the productivity morass trapping his fellow lab scientists. Researchers relied on archaic paper notebooks and disjointed legacy systems to document critical workflows like experiment planning, note-taking and results sharing. This was a stark contrast to the hyperconnected tech industry that employed many of Wickramasekara's peers: the lab process was essentially akin to a software engineer transcribing their

code onto paper and manually entering it into a machine each time they wanted to run the program. In 2012, Wickramasekara founded Benchling to change that.

The initial manifestation of Benchling was the Electronic Lab Notebook (ELN), a digitally-native version of the final paper component hindering labs.

Despite Benchling's relatively simple and narrow academic-oriented MVP, adoption of its software quickly took off. Many labs were vulnerable to the "hit by the bus" scenario, where chicken-scratch writing in paper notebooks made it such that only the author could effectively decipher its components. Moreover, researchers had long been beholden to painstakingly recording their observations in these notebooks, affixing images of gels to their pages, maintaining an inventory spreadsheet, and employing various applications to analyze their experiments. Benchling's ELN, on the other hand, unified all of these workflows on one platform. The software garnered several thousand users within only a year and as academic researchers found that Benchling could easily become their trusted SOR, its user base grew into the hundreds-of-thousands soon thereafter.

In addition to the ELN, Benchling also began offering a Molecular Biology suite with DNA editing and analysis tools. These solutions include CRISPR guides, automation primer designs, plasmid visualization, sequence

alignment, and other relevant tools. The company's enhanced feature set and heightened operability further strengthened its collaborative network effects moat, attracting more users and thus making teamwork between both individuals and dispersed groups that much easier.

As new users are onboarded to the platform, Benchling unlocks greater utility for its customers beyond being a single product to store institutional knowledge and intellectual property. Researchers can share designs and build upon the work accumulated in the broader life sciences ecosystem, which accelerates the research process by making it easier to discover and build upon the work of other researchers. And, given that every aspect of the process (aside from the experiment itself) is recorded automatically, Benchling turbocharges researcher productivity, enabling scientists to iterate on experiments with much faster speed. More recently, Benchling has expanded upon its core feature set to expand into other R&D markets, such as RNA Therapeutics and Early Development, and built robust integrations with systems like Google DeepMind's AlphaFold, an AI program which performs predictions of protein structure.

Benchling's strong traction is largely built on the foundation of the substantial downmarket user base it has cultivated. While the company's freemium strategy is not universally applicable to all vertical SaaS companies, there are valuable lessons to glean from the company's success in leveraging a multi-tiered subscription business model in combination with a portfolio of layered, high-value products. Since its inception, Benchling has successfully decreased financial barriers for low-budget customers by providing a tailored (and user-friendly) solution that directly addresses a fundamental industry-specific challenge. By promoting broader adoption within the downmarket segment, the company accumulates invaluable aggregated datasets. Leveraging these insights, Benchling strategically refines its platform in alignment with laboratory best practices and product usage, thereby expediting enhancements and additions

to their suite of tools.

This approach has empowered the company to effectively scale upmarket, catering to the needs of enterprise customers while continuing to uphold their popular central product. The platform started by catering to academics and as they transitioned into careers within the pharmaceutical and biotech industries, they brought Benchling along with them. Within their existing customer base, Benchling has given lower-tier users more reasons to upgrade by using proprietary data to thoughtfully (and efficiently) launch new products.

In 2021, less than a decade after it was founded, Benchling was estimated to have $100M+ annual recurring revenue (ARR), and was growing at about 100% YoY with 169% net retention. (In fact, 2021 was also its fourth consecutive year of achieving triple-digit ARR growth.) Interestingly, during this period, the company's user base only saw moderate growth compared to the company's booming ARR growth. This suggests that Benchling has been remarkably successful at being able to effectively upsell its existing customers and strategically drive expansion revenue, which is critical for the long term growth of any vertical SaaS company.

Benchling serves as a prime example of how a meticulous focus on streamlining a single workflow can empower vertical SaaS companies to attain widespread adoption and establish a firm foothold within their target user base. The company achieved substantial traction by effectively tackling the fundamental challenges faced by academic researchers through the digital transformation of lab notebook functionality. This seemingly straightforward approach not only enabled Benchling to address its customers' most pressing pain points, it also allowed the company to develop a deep understanding of their needs and preferences, which fueled growth into new market sectors and laid the foundation for a multi-billion dollar vertical SaaS success story.

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Vertical SaaS in Private Markets

Vertical SaaS companies in private markets have seen lethargic merger and acquisition (M&A) activity and normalized valuations over the past year amid a tightening monetary policy environment. Despite a 40% increase in the number of vertical SaaS unicorns in 2022, only two new companies, MasterControl (quality management for regulated industries) and Metropolis (parking software), joined the ranks of vertical SaaS unicorns in 2023. The total combined valuation of vertical SaaS unicorns now stands at $98.2B, with ServiceTitan continuing to make up close to 10% of the total value of all vertical SaaS unicorns at its most recent $9.5B valuation. The median vertical SaaS unicorn is now valued at $1.7B. Additionally, many recent vertical SaaS M&A deals have been relatively small as product tuck-ins have come back in fashion, indicating some mid-market activity. Overall, the slowness in private markets reflects the broader trend of declining SaaS valuations due to abruptly rising interest rates.

M&A Activity

Clariti Acquires Camino, Highlighting GovTech Growth and Vertical Consolidation

This past May marked a significant milestone for Clariti, a provider of permitting and licensing software solutions for North American government agencies. Clariti, founded in 2008, completed its acquisition of Camino—a strategic move that bolsters Clariti's position as the fastest-growing company in its space. Unlike legacy code-heavy and non-configurable systems that constrain efficiency, Clariti's cloud-based platform enables governments to nimbly meet evolving community needs. While Clariti has primarily focused on serving mid-market and enterprise customers, Camino extends its reach to smaller local governments with simplified permitting workflows. Camino also provides a first-of-its-kind permit guide solution tailored to local requirements—filling an unmet market need. With over 150M users benefiting from its solutions each day, the deal cements Clariti's category leadership and ability to cater to governments of all sizes. By acquiring Camino, Clariti is riding the wave of innovation disrupting antiquated GovTech systems, consolidating vertical SaaS market share through targeted downstream expansion.

Zendesk Gets Smart on Workforce Management with Tymeshift AI-Driven Acquisition

San Francisco-based Zendesk, a customer experience software provider—which went private at a $10.2B valuation in 2022—acquired Tymeshift in June. Tymeshift is an AI startup whose technology optimizes critical workforce management processes including demand forecasting, shift scheduling, and performance tracking for customer service teams. By integrating Tymeshift's AI solution, Zendesk aims to augment its customer service offerings with data-driven tools. Key capabilities Tymeshift provides include:

- Predictive forecasting to inform staff planning using real-time data insights and reduce costs
- Automated scheduling based on staffing requirements and projected client volumes
- Robust analytics for tracking productivity metrics and agent performance

Overall, Tymeshift's AI-powered approach will enable a more seamless experience for Zendesk clients to match customer demand with appropriately skilled agents. This strategic acquisition reflects the growing importance of leveraging AI capabilities to strengthen customer experience solutions in the SaaS industry.

Procore Maps Out Expansion By Acquiring Unearth Technologies

Construction technology giant Procore expanded its reach in September by acquiring Unearth Technologies, the Seattle-based startup behind OnePlace. Procore saw an opportunity to tap into Unearth's innovative approach to visualizing construction data.

OnePlace leverages geographic information system (GIS) technology to integrate siloed project data into interactive, map-based models. The platform allows design plans, asset locations, and more to be overlaid on digital maps, giving contractors, utilities, and Fortune 500 companies greater visibility into complex workflows.

For Procore, the acquisition strategically broadens its platform capabilities at a time of immense industry growth. Unearth's expertise in GIS allows Procore to offer enhanced spatial functionality to its 15K+ customers as their projects scale in complexity. By layering Unearth's mapping technology into its end-to-end construction platform, Procore can provide the visibility needed to keep stakeholders aligned as builds grow larger and more intricate. This deal demonstrates how M&A can enable companies to proactively augment their platforms and stay on the cutting edge, rather than reacting to industry changes.

Toast Drives Into New Territory With Acquisition of Delphi Display Systems

Toast, an all-in-one digital platform built for restaurants, extended its reach into the quick-service sector with the February acquisition of Delphi Display Systems. Delphi, a leader in drive-thru technology and digital menus, gives Toast turnkey solutions to better reach the 400K+ quick-service restaurants (QSRs) and fast casual eateries across America.

With restaurants now juggling an average of seven service models, including drive-thru, takeout, and dine-in, Toast saw an opportunity to better serve these stretched operators. The acquisition accelerates Toast's ability to make every part of a restaurant smarter and more connected. By deepening its support for customers who operate a drive-thru model, the platform can facilitate faster service, create operational efficiencies for ordering and the kitchen, and unlock new revenue opportunities for busy QSRs.

Delphi bolsters Toast's growing suite of products benefiting QSRs and enterprise brands. This includes Toast Flex for Guest, Toast Mobile Order and Pay, Toast Kiosks, Toast Online Ordering, Order with Google, and more. Together, Toast and Delphi can reimagine quick-service and beyond. The acquisition showcases Toast's commitment to becoming an end-to-end digital platform tailored for restaurants' unique needs.

What's Next for Vertical SaaS

Data Moats as a Competitive Advantage Against Legacy Vertical SaaS Incumbents and New AI-Powered Point Solutions

The explosive rise of LLMs over the past year has unleashed a wave of AI-native vertical SaaS challengers vying for market share against established incumbents. While traditional moats like economies of scale, network effects, and switching costs may temporarily shield incumbents, these advantages are already being disrupted by AI's rapid advances. As such, established vertical SaaS companies must urgently evolve their platforms to integrate AI capabilities before it's too late. Some initial high-potential AI use cases that benefit from contextualized, industry-specific data include:

- Streamlining workflows and accelerating time-to-value through AI optimization
- Unlocking unique reporting capabilities from localized data sets
- Improving customer service speed, quality and costs via public models trained on private data

Crucially, much of the initial value unlocked by applied AI is likely to accrue to vertical SaaS startups building best-in-class SoRs. They are uniquely positioned to leverage proprietary data, predictive models, and specialized workflow expertise to deliver powerful automation. Legacy vertical SaaS incumbents have rigid systems and technical debt that pose adaptation hurdles. Many new AI point solutions are too narrow to accumulate critical contextualized data needed for strong automation. Data moats will become an increasingly vital competitive edge for these vertical operating systems, driving their platforms from unified SoRs into indispensable SoIs for customers.

Beyond Payments: New Embeddable FinTech Offerings Expand Vertical SaaS Markets

Integrating financial technologies has been an effective strategy for vertical SaaS companies to expand their addressable market. Historically, payment processing has typically been the first fintech capability added to vertical SaaS products. Payment APIs were more mature than other fintech services, and payments are essential to most customers' operations. However, there is now a growing range of embeddable fintech models at scale, which allows SaaS companies to move beyond core workflows to unlock substantial new value. This presents opportunities to generate more revenue from existing customers and reach new customer segments. Some high-potential models include lending, cards, and payroll:

- Lending and financing offerings leverage software data for superior underwriting and generate interest income
- Issued cards streamline complex contractor and employee spending while capturing interchange fees
- Integrated payroll consolidates a major cost center while creating highly sticky product bundles

By strategically integrating varied fintech offerings beyond payments, vertical SaaS companies can substantially expand average contract values (ACVs), elevate customer lifetime value (LTV), and tap into previously inaccessible markets.

Strategic M&A of Underlying Customers to Become Tech-Enabled Services Businesses

More vertical SaaS companies will explore M&A strategies

that strategically integrate their underlying customer bases to transform into tech-enabled service providers. By directly interfacing with customers' physical infrastructure and operational processes, vertical SaaS companies can bridge the online-offline divide to create end-to-end solutions that are closely aligned with the physical world. This shift may be especially salient within industries that are underpinned by on-site facilities and manual labor. For instance, [parking platform Metropolis recently acquired SP Plus](#), a parking facility management services provider, for $1.5B. Beyond expanding service portfolios, such moves grant access to rich data on user workflows, pain points and industry trends. This empowers vertical SaaS companies to continuously refine their offerings in response to evolving market demands, enhancing customer loyalty and further strengthening their competitive moats over time.

Increasing Competition In The Down Market With Point Solutions

The accelerating availability of low-cost development tools and infrastructure will facilitate faster creation of specialized point solutions targeting the most price-sensitive segments in vertical markets. This escalation in competitive fragmentation for downmarket customers could incentivize leading vertical SaaS players to shift focus upmarket instead. Leveraging their greater resources, vertical expertise, and capability breadth, established vertical SaaS companies are well-positioned to deliver integrated, end-to-end solutions that are better suited for midmarket and enterprise customers.

The Foundation Remains: Reinforcing First Principles for Sustained Success in the AI Revolution

The confluence of a rapidly ascending interest rate environment and increasingly circumspect capital allocation is catalyzing a structural reconfiguration of the vertical SaaS ecosystem. Previously permissible growth paradigms predicated on amplifying top-line performance metrics, irrespective of underlying unit economics, are unsustainable in the current climate. This has forced a return to first principles where, today, great companies are ultimately distinguished by their ability to balance free cash flow and growth. The scalability of go-to-market motions matters more than ever. Landing that first marquee customer and thoughtfully ramping up to multiple AEs selling effectively demonstrates a startup's capacity to scale toward meaningful profitability.

The era of recklessly prioritizing rapid expansion at any cost is now behind us. Vertical SaaS companies now need to shift gears and get serious about running lean operations, mitigating risks, shoring up their underlying business models, and delivering consistent profits. These are not just beneficial nice-to-haves anymore—they are mandatory table stakes for surviving and thriving through the challenging times ahead. This demands operational excellence and executive maturity from management teams to navigate uncertainty. Vertical SaaS businesses who can successfully transition from unchecked expansion to refined execution will emerge significantly stronger than their competitors in the long run.

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About Fractal Software

Fractal Software launches and finances vertical SaaS companies that solve real problems for businesses in overlooked industries. We unlock entrepreneurship for exceptional individuals by providing capital, a cofounder, a business idea, and ongoing support as their company grows. Together, we'll create fast-growing vertical SaaS companies that modernize the way America's small and medium businesses operate so they can better serve their communities.

Learn more at fractalsoftware.com