Server & Enterprise Software

Come together, right now; A look at Collaboration Software

Industry Overview

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Equity
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GARP = growth at a reasonable price

Sector shakes off its post-COVID hangover – dive in now

We argue that now is the time to revisit the collaborative work management (CWM) software category. A previous COVID favorite, as it enabled more effective remote work, the sector then suffered as pulled-forward IT budgets normalized again. Category multiples have since compressed, declining almost 80% from their peak in 2021 (as compared to broader software group multiples, which are down about 60%). From here, though, the $12.5bn category is projected to grow at a 15% CAGR (2023-2026E) as improving macro translates into top-line reacceleration and compounding EBITDA growth.

Impending valuation reset on the horizon

We see several catalysts for multiple expansion in 2024, including the following: (1) increasing investor focus on FCF/EBITDA multiples where vendors appear particularly undervalued; (2) a bottoming of vendor key metrics; and (3) more interest from a wider base of investors (value, GARP, etc.). We also view a dovish Fed and the potential for mounting risk-on appetite as supportive of re-rating for the high-growth category. We flag that the average non-GAAP operating margin for Asana, monday.com, and Smartsheet exiting CY 2024 is expected to be roughly 22 percentage points higher than CY2022 levels.

Reacceleration bull case has teeth

Several variables suggest growth could reaccelerate in the sector before most software subgroups: (1) vendor skew toward product-led, growth-driven algorithms, which are likely to be reinvigorated as macro pressures ease; (2) myriad greenfield opportunities (roughly 70% of deals in the category), which limits deal scrutiny and shortens sales cycles; and (3) ease of CWM product adoption and implementation.

Picking winners in a large, high-growth market

The CWM software industry is fragmented with no dominant leader for non-technical cases. This provides an opportunity for outsized returns for those that can accurately identify outperformers. In this primer, we help investors differentiate between industry participants by providing a deep dive on the competitive environment, identifying key themes likely to command investor debates, and summarizing the characteristics of the top 10 public and private vendors in the space.

Vendor consolidation theme favors public companies

When customers consolidate spending, the rich get richer. We expect accelerating CWM 'platformization' to be a key theme in 2024, as enterprises seek to cut costs, limit tech sprawl, and realize functional benefits (see our software Year Ahead 2024: AI, Consolidation, Cloud report). Viewed as viable long-term partners and equipped with the balance sheets/infrastructure to revamp top-down sales efforts, we think category leaders like Asana, monday.com, and Smartsheet are likely to capture wallet share.

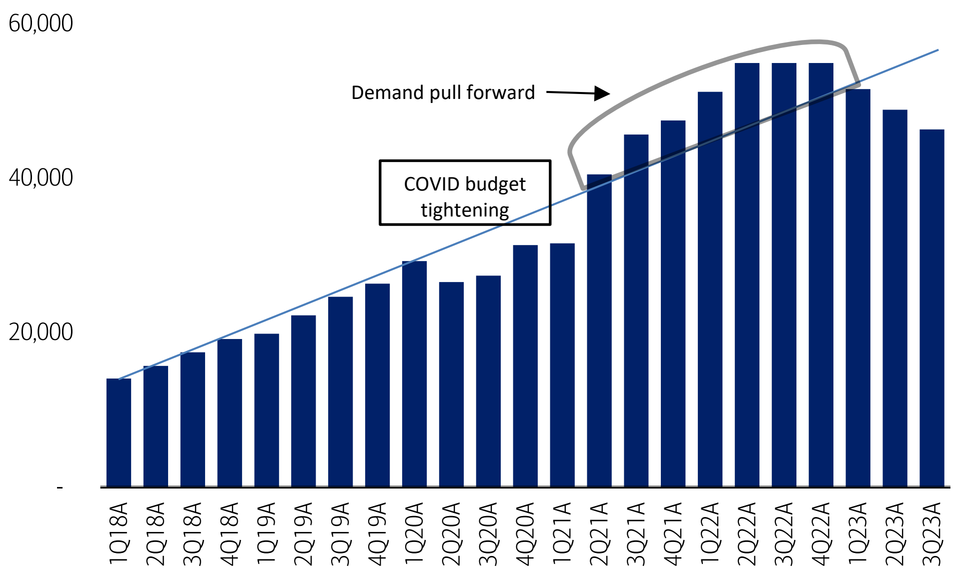
Contents

Why you should care

We expect a 'perfect storm' of idiosyncratic and macroeconomic variables to culminate in an inflection in vendor financial performance – resulting in tangible changes to both investor sentiment and category valuation.

CWM software vendors benefitted from COVID-driven demand tailwinds in 2021/2022 as companies prioritized collaboration/remote work initiatives. Our analysis in Exhibit 1 below suggests this may have contributed to headwinds in 2023 as companies adjusted post-COVID provisioning. However, we expect these headwinds to normalize in the approaching quarters, leading to reacceleration of category growth.

Exhibit 1: We expect CWM software key metrics to improve following headwinds from overprovisioning
Smartsheet Y/Y incremental revenue added per quarter ($ thousands)



Source: BofA Global Research, company filings

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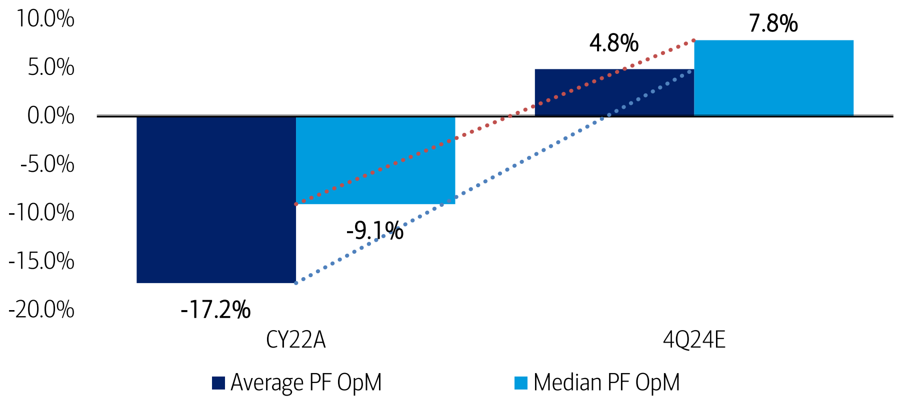
Key metrics bottoming, growth to reaccelerate

As detailed in our software Year Ahead report, we view companies with growth algorithms skewed towards new customer acquisition as best positioned for revenue reacceleration in 2024. In our view, key metrics like NRR (net revenue retention) and customer account growth (AKA new logo growth) are bottoming and positioned to reverse in the coming quarters. CWM vendors' distinct go-to-market strategies position category leaders to speed growth as macro conditions ease. Ease of product adoption, shorter sales cycles, and de-centralized procurement also suggest growth momentum could materialize more rapidly than in most software categories.

Improving financial profiles hard to ignore

While recent macro pressure has slowed previously unrestrained category growth, it has also driven a re-alignment of CWM vendor expenses. This has improved the financial profile of many publicly traded vendors and may allow those with leaner cost structures to generate compounding FCF growth. This has yet to be reflected in valuations, in our view. The average non-GAAP operating margin for Asana, monday.com, and Smartsheet exiting CY 2024 is expected to be roughly 22 percentage points higher than CY2022 levels.

Exhibit 2: The average margin profile of public CWM vendors will be materially higher exiting 2024
Average and median non-GAAP operating margin profiles of CWM vendors



Source: BofA Global Research estimates, company filings, Visible Alpha *Averages and Medians include Asana, monday.com, and Smartsheet, 4Q24E figures represent consensus estimates

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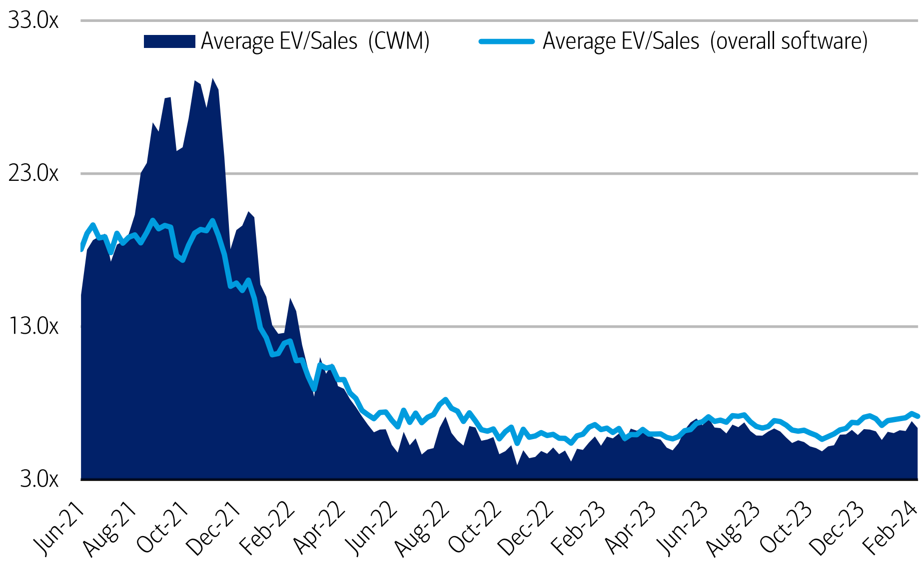
Room for multiple expansion

Public CWM vendors became COVID favorites as tools enabling more effective remote work became indispensable. Category multiples have since compressed, declining almost 80% from their peak in 2021 (as compared to broader software group multiples, which are down about 60%). We note that category multiples have remained relatively stagnant over the last 18 months despite material increases in vendor profitability.

Exhibit 3: The CWM software category has experienced outsized multiple compression since 2021
Average EV/NTM Revenue multiples within CWM software and the broader software group



Source: BofA Global Research, Bloomberg *CWM average includes Asana, Smartsheet, and monday.com

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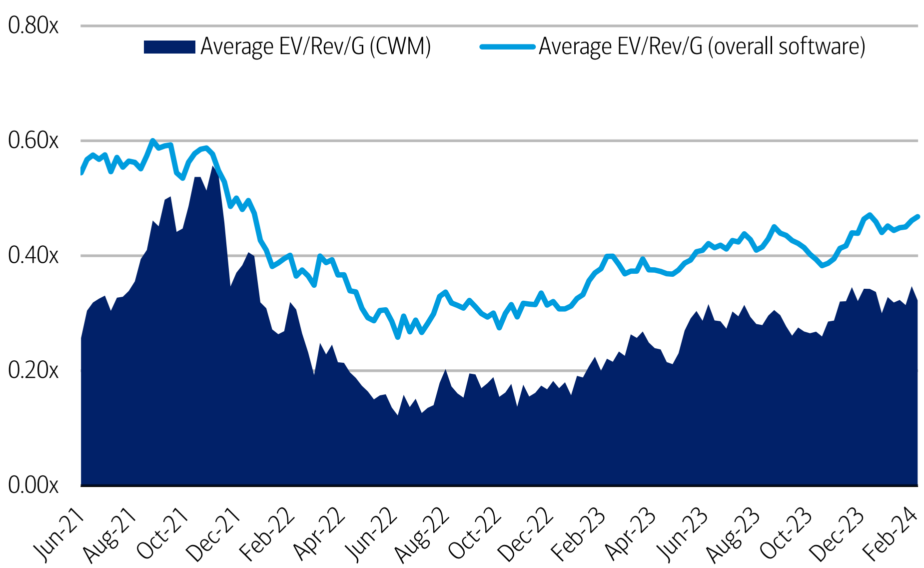
Exhibit 4: We expect the gap between historical CWM and overall software multiples to narrow on converging profitability profiles
Forward EV/Revenue/Growth multiples for CWM software and the overall software market



Source: BofA Global Research, Bloomberg *CWM average includes Asana, Smartsheet, and monday.com

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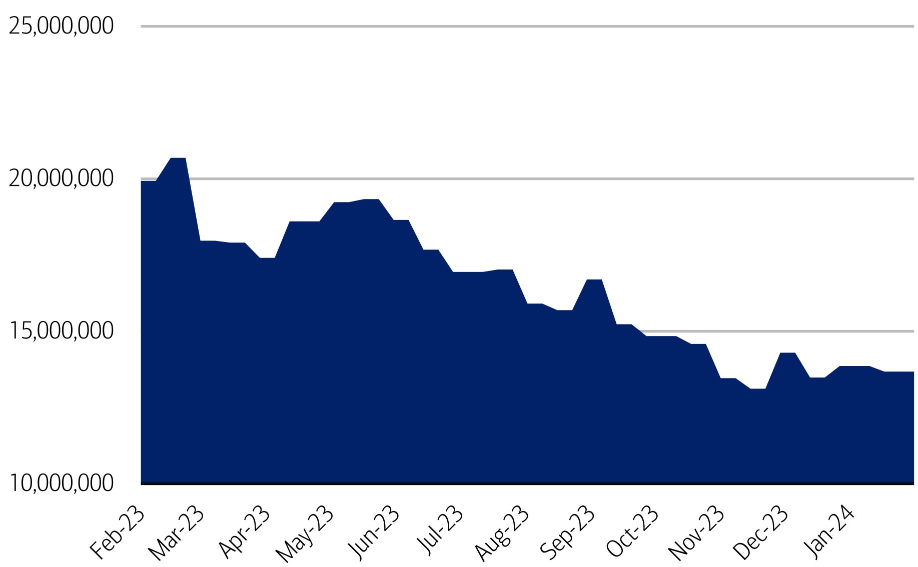
Quicker growth and improved margins are a powerful recipe for multiple expansion, in our view. Furthermore, we think that CWM vendors may benefit from increasing 'risk-on' appetite arising from a more dovish Fed in 2024. The BofA Global Economics team currently expects the Fed to begin cutting rates in June 2024 (see US Watch, 31 January 2024). Interestingly, we note that average short interest for Asana, monday.com, and Smartsheet provides early evidence that category sentiment is beginning to inflect.

Exhibit 5: Declining short interest suggests improving investor sentiment
Aggregate short interest for Asana, Smartsheet, and monday.com



Source: BofA Global Research, Bloomberg

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SMID self-help stories set to outperform in 2024

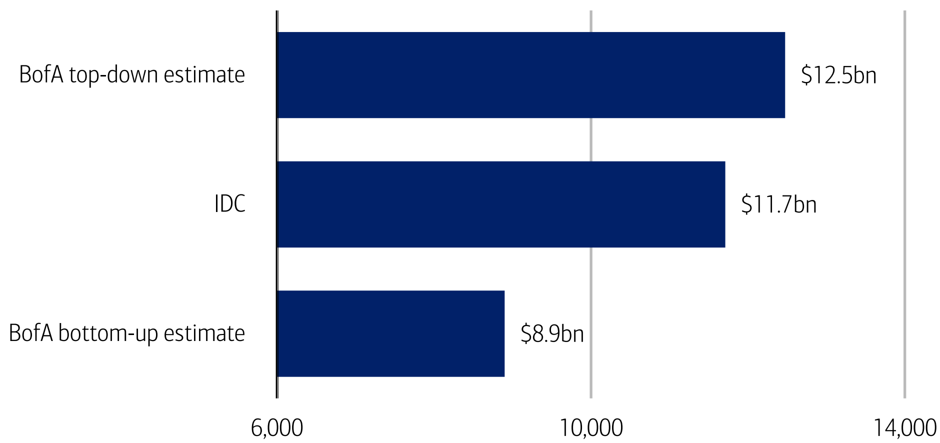
As we look for new SMID-cap software stock ideas for 2024, we think self-help stories that are on the mend are likely to outperform. We define self-help stories as businesses that have gone through or are currently undergoing business model transitions (slower growth, higher profits, go-to-market strategy shifts, technology offering shifts), and/or have been disproportionately affected by the macro, which has resulted in growth and/or profitability fundamentals that do not fully reflect the true potential of the business.

We believe that sentiment and valuation on such companies can be backward looking, which creates an attractive wealth creation setup if the right story is identified early. We believe the self-help theme applies to several CWM vendors, setting up the category for strong stock performance in 2024.

Large and rapidly growing TAM with no clear leader

CWM software is a large market ($12.5bn as of 2023) positioned to grow at a CAGR of 14.9% from 2023-2026, based on BofA top-down estimates.

Exhibit 6: We expect CWM software TAM to reach $18.9bn by 2026, expanding at a 14.9% CAGR
Summary of 2023 TAM estimates for CWM software based on varying methodologies



Source: BofA Global Research estimates, IDC

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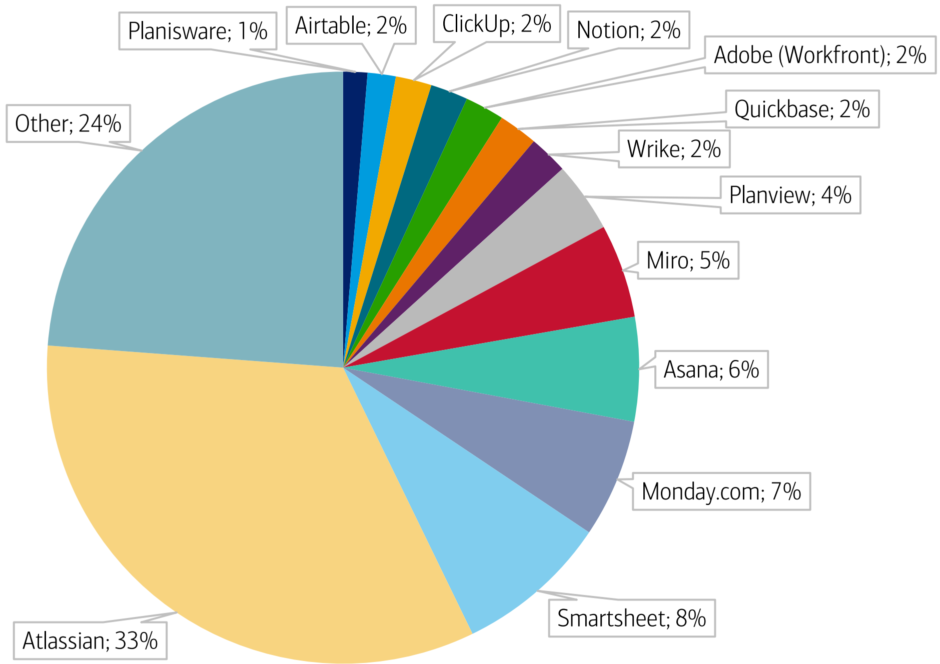
The lack of a dominant category leader also likely provides the opportunity for outsized returns for investors who accurately identify successful operators. While Atlassian is the clear market share leader within the collaboration software category, its products are focused on developers more than non-technical business users. We believe this provides ample opportunity for vendors like Asana, monday.com, and Smartsheet to consolidate share with business users.

Exhibit 7: Atlassian, Smartsheet, monday.com, and Asana have the largest share of the fragmented CWM software market
Approximate market share of vendors within the CWM category



Source: BofA Global Research, company filings

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A competitive, fragmented market

The collaborative work management software market is fragmented and increasingly competitive. See Exhibit 8 for Gartner's Magic Quadrant for an overview of the sector landscape.

Exhibit 8: Smartsheet leads CWM providers in ability to execute, and Asana leads in completeness of vision
Gartner Collaborative Work Management Magic Quadrant

Source: BofA Global Research, Gartner*
*All statements in this report attributable to Gartner represent BofA's interpretation of data, research opinion or viewpoints published as part of a syndicated subscription service by Gartner, Inc., and have not been reviewed by Gartner. Each Gartner publication speaks as of its original publication date (and not as of the date of this report). The opinions expressed in Gartner publications are not representations of fact and are subject to change without notice.

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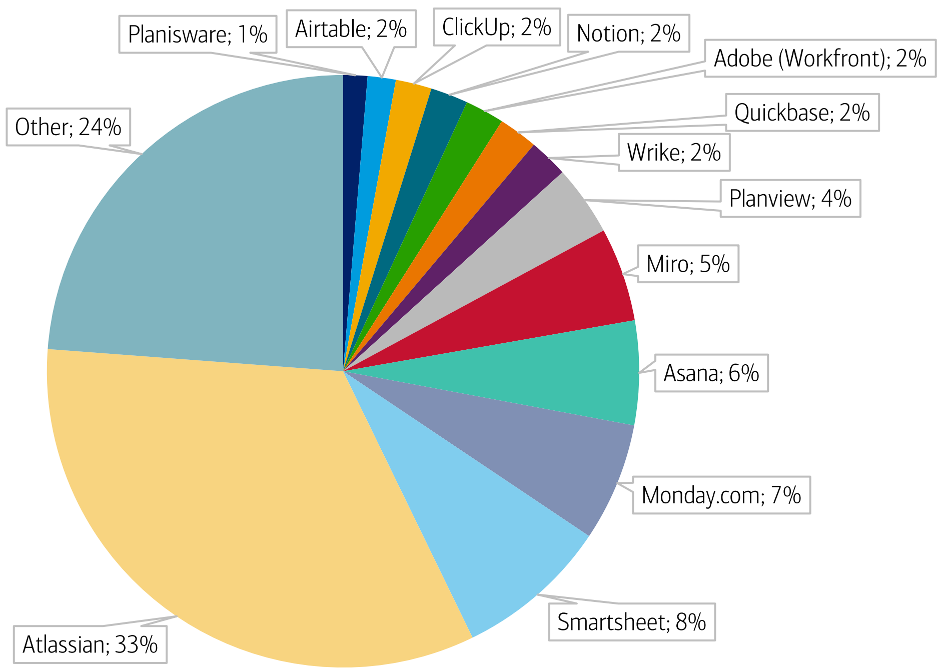
Comparing market share among key competitors

We estimate market share leveraging IDC estimates for total category revenues and reported/estimated vendor sales. We note that CWM software revenues for vendors like Microsoft are included in 'Other' given challenges associated with estimating revenue run rates.

Exhibit 9: Atlassian, Smartsheet, monday.com, and Asana have the largest share of the fragmented CWM software market
Approximate market share of vendors within the CWM category



Source: BofA Global Research

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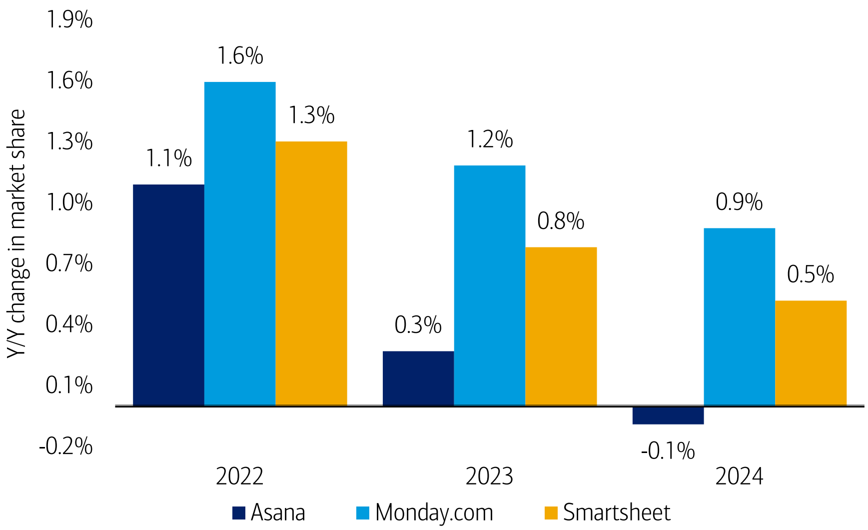
Asana, monday.com, and Smartsheet each captured market share during CY2022 and CY2023, with monday.com gaining the most (2.8%) over the two-year period. This reflects differentiated offerings and go-to-market infrastructure relative to most private vendors, in our view. Consensus estimates suggest Asana is expected to be a share loser in 2024 given its go-to-market reorientation; however, in 2025 Asana is expected to return to growing share as its top-down sales strategy gains traction.

Exhibit 10: Consensus estimates suggest Asana could be a market share donor in 2024, with monday.com taking share most rapidly
Approximate Y/Y change in market share for Asana, monday.com, and Smartsheet for 2022, 2023, and 2024E



Source: BofA Global Research, IDC, Visible Alpha

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Grading vendors: Gartner's scorecard

Gartner recently published scores evaluating the products of 10 CWM software providers across seven use cases, shown in Exhibit 11 below. This data suggests that monday.com and Smartsheet provide the most complete product offerings, followed by Wrike and Asana. We note, however, that ranking highly across all categories is not necessarily required to "win." For example, Adobe Workfront has robust marketing work management capabilities and synergistic adjacent product offerings, leading to strong adoption by marketing departments.

Exhibit 11: Gartner grades monday.com the highest in terms of average product score by use case, followed by Smartsheet and Wrike
Average product score based on use case

Vendor	Average score
monday.com	3.86
Smartsheet	3.78
Wrike	3.72
Asana	3.70
Adobe	3.69
Airtable	3.48
Atlassian	3.43
ClickUp	3.18
Quickbase	3.04
Notion	2.52

Source: BofA Global Research, Gartner

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We provide a more detailed summary of Gartner's vendor evaluation by use case below.

Exhibit 12: monday.com earned the highest average score by product use case
Average score (out of 5, with 5 being outstanding) by use case for major CWM software vendors

Vendor	Work Planning and Execution	Intake& Triage and Service Operations	Marketing Work Management	Case Management Operations	Team Objectives and Key Results Management	Product Management Operations	Professional Services Automation
Adobe	3.95	3.7	4.35	3.33	3.4	3.44	3.69
Airtable	3.84	3.55	3.54	3.22	3.58	3.83	2.81
Asana	3.78	3.86	3.72	3.6	3.85	3.67	3.43
Atlassian	3.77	3.42	3.15	3.45	3.33	3.39	3.53
ClickUp	3.46	2.92	3.38	3.39	3.23	3.24	2.67
monday.com	3.99	3.96	3.99	3.32	3.97	4.01	3.78
Notion	2.77	2.41	2.45	2.56	2.39	2.57	2.46
Quickbase	3.35	3.14	2.33	2.95	3.41	2.98	3.09
Smartsheet	3.71	3.74	4.02	3.82	3.51	3.9	3.77
Wrike	3.87	3.65	3.89	3.58	3.47	3.87	3.68

Source: BofA Global Research, Gartner

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Competitive dynamics

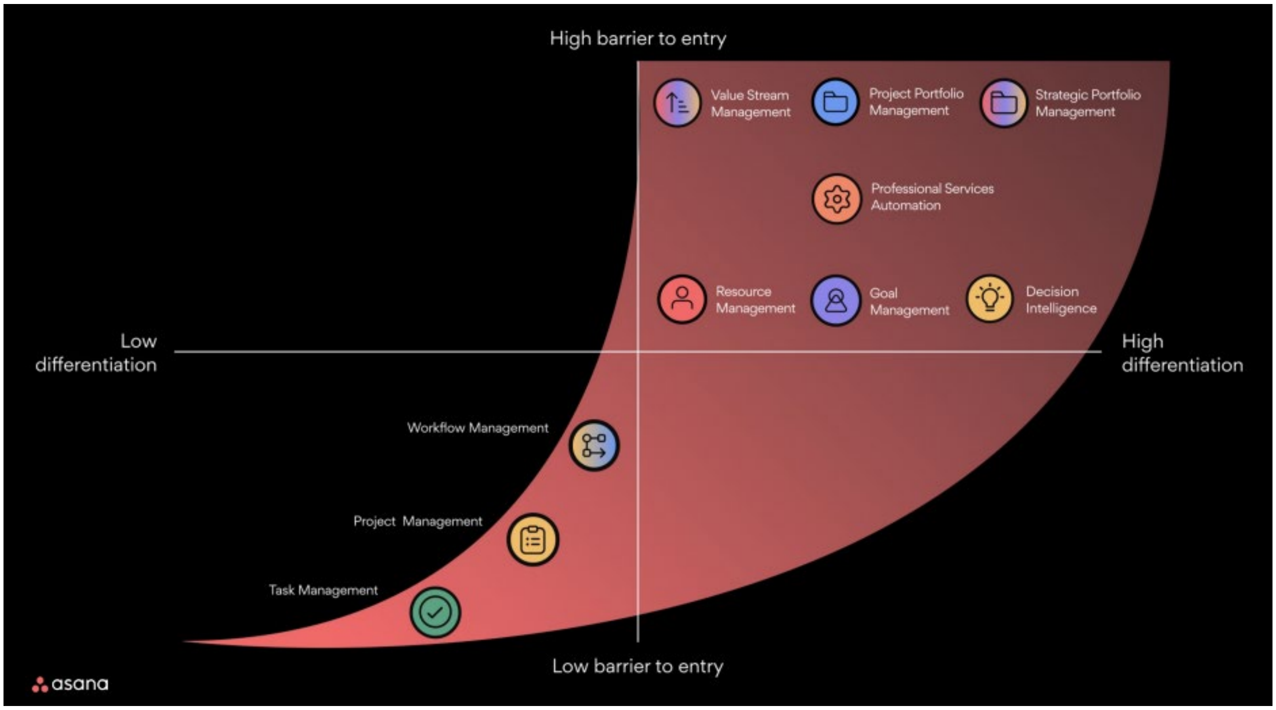
Dynamics within the CWM software category are unique insofar as: (1) the majority of deals are greenfield given the nascency of the category; (2) procurement of CWM software tends to be relatively de-centralized, leading to reduced head-to-head competition and deployments from different vendors across departments; (3) churn is high relative to other software categories; and 4) differentiation can be challenging for more basic use cases, increasing the importance of vendor go-to-market strategies and focus.

Competitive differentiation

Differentiation is based on factors including the following: (1) ease of deployment and use; (2) depth of functionality; (3) scalability, configurability, and integration with 3rd-party systems; (4) pricing and packaging; and (5) go-to-market approach.

However, we note that more basic capabilities like task management, project management, and workflow management have lower barriers to entry and are more difficult to differentiate versus competitors. Conversely, functionality like resource management and professional services automation are areas of higher potential differentiation.

Exhibit 13: Capabilities like strategic portfolio management and decision intelligence provide the best opportunities for differentiation
We present Asana's chart summarizing the potential for differentiation within CWM software based on capability



Source: BofA Global Research, Asana presentation

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New customer additions driven primarily by greenfield opportunities

CWM vendors primarily compete against a combination of manual, email, and spreadsheet-based processes (such as productivity solutions offered by Google and Microsoft that users have traditionally used for work management). Given the nascency of the category, most new logo additions arise from greenfield opportunities. Thus, there are rarely competitive displacements, formal RFPs (request for proposal), or bake-offs. In fact, according to monday.com, roughly 70% of CWM deals today are greenfield opportunities.

While we view the prevalence of such opportunities favorably, there is the potential for growth headwinds/pricing pressure as the category matures and competition inevitably increases.

Market giants pose threat to pure-play vendors

Large vendors like Microsoft and Adobe compete directly within the CWM software category and can bundle adjacent products to lower the total cost of ownership. These companies can also leverage existing relationships with distribution partners and goodwill among customers to gain advantage over smaller pure-play CWM vendors. However, we believe the risks of intensifying competition from large platform vendors are well-understood by investors.

Passionate users, ease of adoption help drive growth in the industry

Most CWM software vendors offer a free, ready-to-use version of their product. Lengthy implementations or configurations are typically not necessary and costs per seat are relatively low, making it easy for new customers to try out products. CWM software is also particularly easy to use and is often able to alleviate bothersome customer pain points, resulting in particularly passionate users who act as evangelists within organizations. Initial deal sizes are also often small relative to other categories of software, making formal RFPs rare and reducing friction in the sales process.

Exhibit 14: Product-led growth is a 'friction-less' process
Customer acquisition flow chart illustrating the process from try to buy

Source: BofA Global Research

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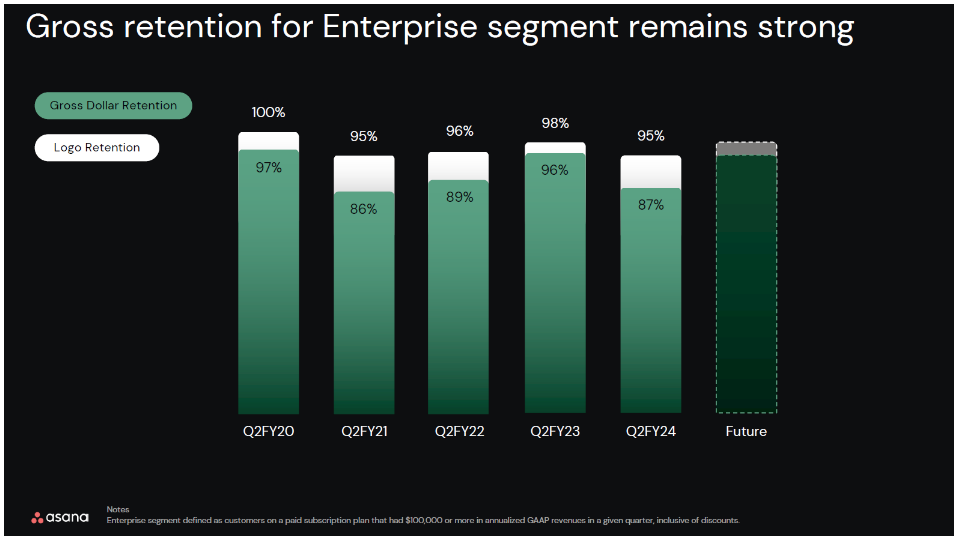
Decentralized procurement reduces head-to-head competition

CWM software purchases tend to be less centralized than other areas of software, with individuals adopting specific products without consulting decision makers in other departments. As a result, large organizations often use multiple CWM software providers. The infrequency of formal 'bake-offs' during the procurement process has likely prevented aggressive pricing concessions to win deals and supported positive pricing trends within the category, in our view. Scattered purchasing patterns are largely a result of (1) use-case specialization of certain vendors; (2) relatively low initial contract sizes and costs per seat leading to reduced deal scrutiny; and (3) ease of adoption and use limiting friction in the sales process.

Ease of adoption is a double-edged sword for retention

A higher concentration of individuals/consumers leveraging CWM software also contributes to higher churn (we estimate mid- to high-teens on average, with SMB (small & medium-sized businesses) churn likely in 20's). Individual users may stop using the product when a project ends (completing wedding planning, for example). For more basic use cases, CWM software may also be viewed as "nice-to-have" rather than critical. However, we note that customer churn decreases significantly as users engage with more advanced capabilities and products become more deeply embedded in workflows. For example, when used for professional services automation, CWM vendors become more difficult to replace without operational disruption. Professional services automation helps organizations to establish consistent processes for planning, managing, and measuring the performance of each project.

Exhibit 15: CWM vendors can improve overall gross retention by increasing enterprise revenue mix
Asana chart summarizing enterprise churn trends



Source: BofA Global Research, company presentation

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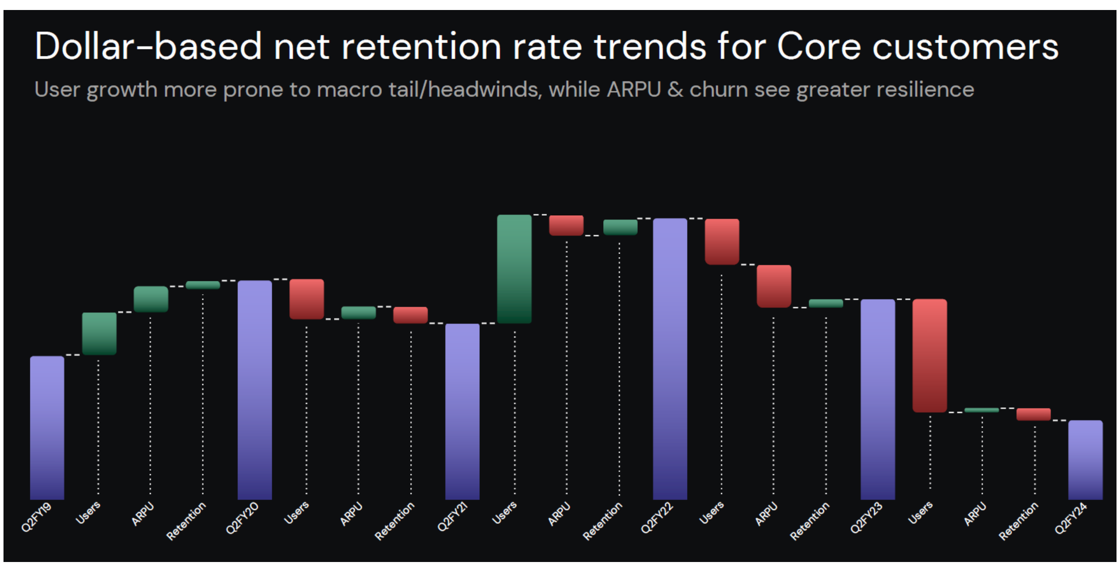
We think shelf-ware risk (products purchased that sit unused) is real for large enterprises. While users of CWM software are often highly engaged evangelists, the presence of a few passionate advocates in an organization does not guarantee widespread user buy-in once seats are purchased (particularly for deals spanning across departments). For the enterprise market, driving product utilization across departments is important to limit down-sell risk at renewal.

Exhibit 16: Seat rationalization during tougher macros can put pressure on vendor NRRs
Asana slide summarizing variables impact dollar-based net retention rate for core customers



Source: BofA Global Research, Asana presentation

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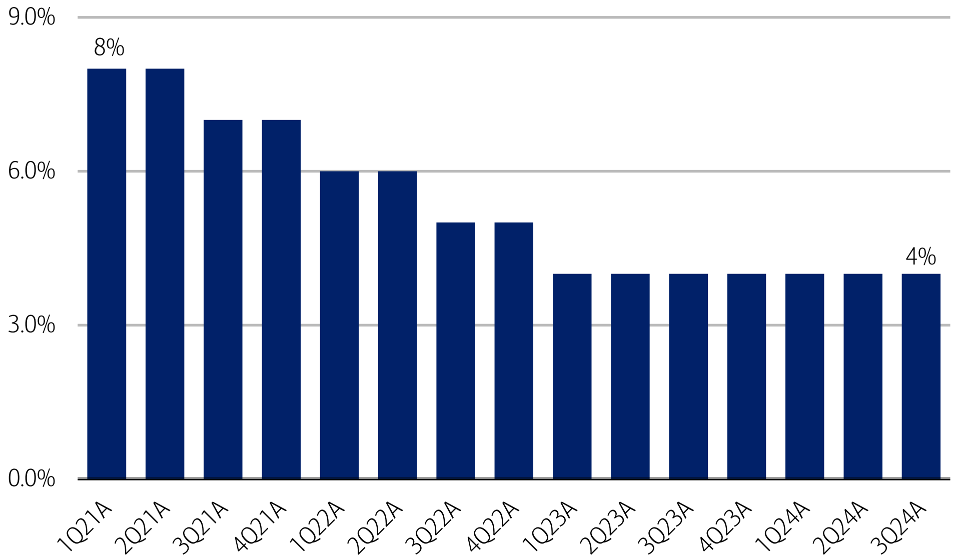
Market focus impacts key metrics

Smartsheet's best-in-class churn rate is a strong example of how providing advanced, enterprise-grade functionality drives customer retention. This compares to certain private peers with a greater focus on consumer/individual end-markets, which have reported churn rates in the mid-20s.

Exhibit 17: Smartsheet's enterprise focus and advanced feature set drive best-in-class gross retention
Smartsheet's reported churn rates



Source: BofA Global Research, company filings

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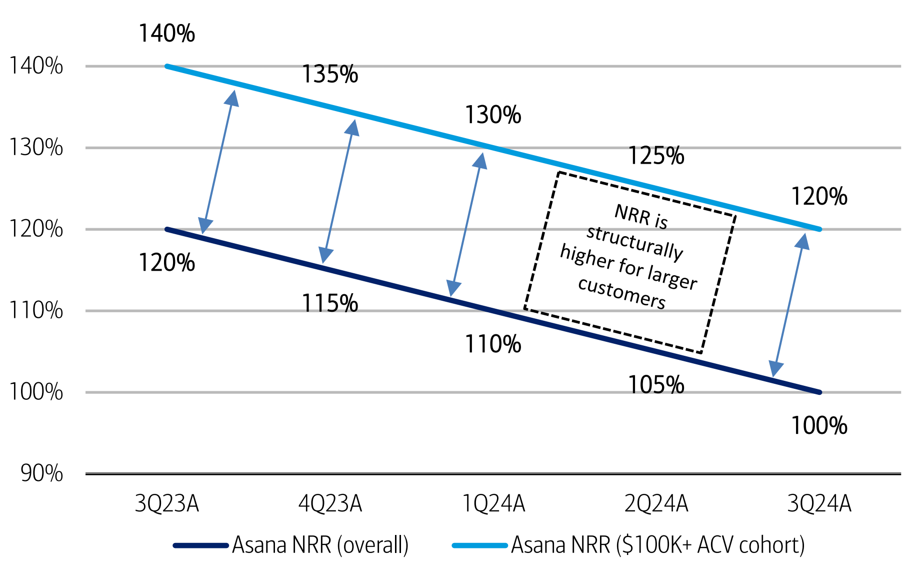
In addition to the churn reduction benefits, targeting enterprises provides clear advantages with regard to vendor expansion motions. Asana's reported net revenue retention (NRR) by cohort demonstrates this trend.

Exhibit 18: Asana has consistently driven expansion most rapidly within its larger customer cohort
Asana's overall net revenue retention (NRR) versus NRR for customers with $100K+ in ACV



Source: BofA Global Research, company filings

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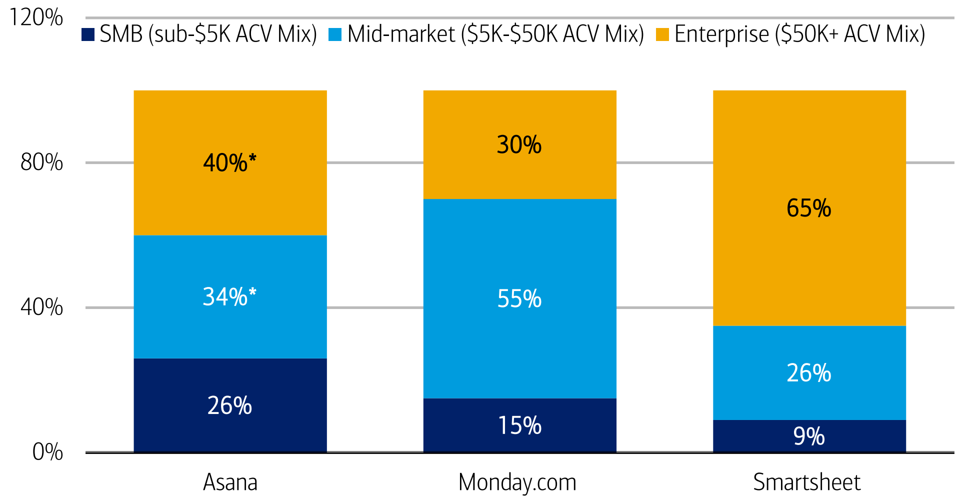
We break out vendor ARR (annual recurring revenue) mix by customer 'size' below. SMB comprises those paying less than $5K annually, mid-market is made up of customers who spend between $5K and $50K annually, and enterprise customers pay $50K+ annually.

Exhibit 19: Smartsheet has highest concentration of enterprise customers, followed by Asana
Vendor exposure by customer size, as defined by contract size



Source: BofA Global Research, company filings and presentations *Estimated ACV mix based on a triangulation of reported variables

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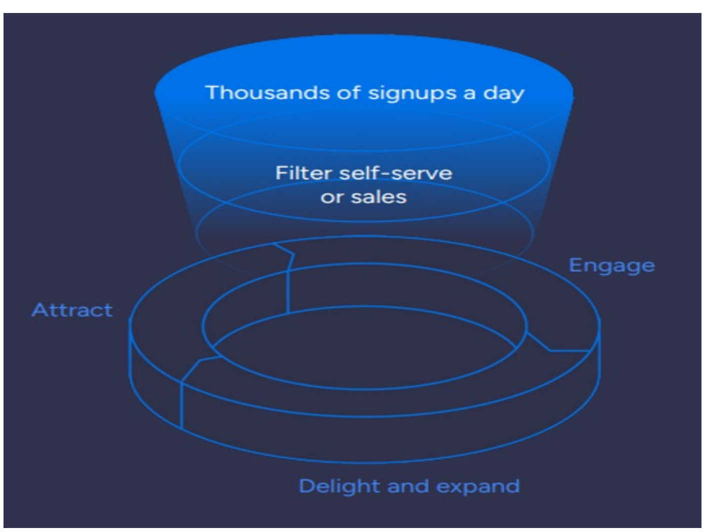
Verticalized offerings enhance value and widen top of funnel

In addition to leveraging freemium products to target business users directly, certain CWM vendors (like monday.com) are gaining traction by developing templates tailored to specific departments and use cases. For example, monday.com provides ready-made templates for marketing, project management, manufacturing, construction, sales & CRM (customer relationship management), design, software development, and human resources (among many others). In addition to improving the user experience, such templates can increase the probability that a customer will select the platform while searching for a solution (for example, Google searching "construction project tracking").

Exhibit 20: Vendors that most effectively widen the top of funnel are best positioned for PLG
Product-led-growth diagram



Source: BofA Global Research, monday.com

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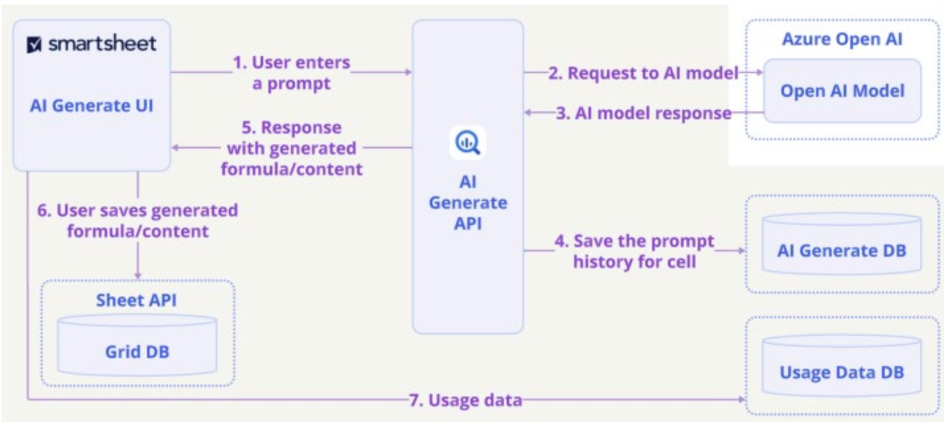
Key themes in CWM software

AI likely monetized indirectly as a platform enhancer

In the context of CWM software, AI (artificial intelligence) can significantly improve employee productivity and provide greater clarity on what work matters, how to align resources, and where to invest as a business. For example, Asana's AI-enabled products allow customers to generate project status reports in minutes, a task that previously might have taken hours. Smartsheet's AI functionality also streamlines complex tasks by transforming natural user inputs (like a simple sentence or an image) into outputs such as formulas and descriptions.

Exhibit 21: Smartsheet's AI-enabled tools have the potential to drive significant productivity gains
Diagram summarizing flow of data for Smartsheet's generate formulas and text and summaries tools



Source: BofA Global Research, company website

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However, AI/Gen AI product rollouts and adoption are still in the early stages. While undeniably valuable, we expect most AI-enabled capabilities (such as automated report generation) to become table stakes for CWM vendors – likely making direct monetization challenging.

Certain competitors offering AI features as add-ons

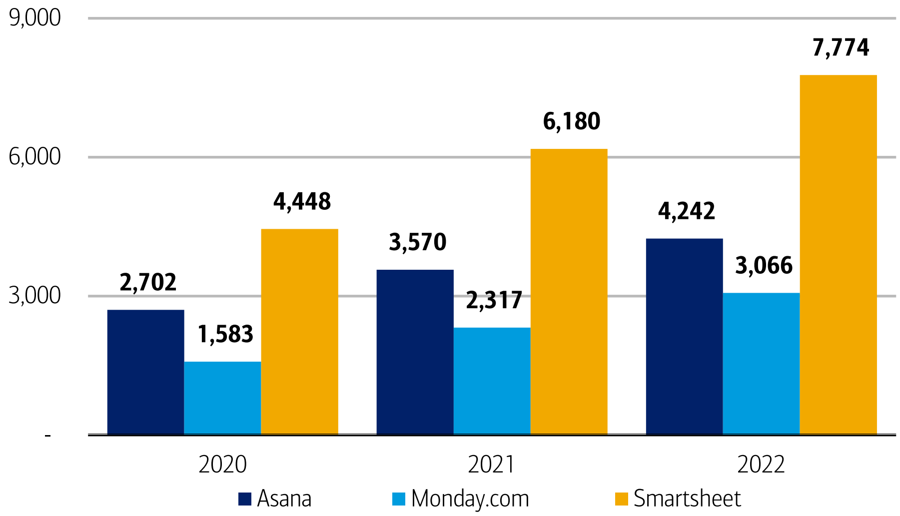
Some vendors like Notion are introducing AI offerings as add-ons to their primary products for a nominal price (such as $10 per user/month). We think customer appetite for individually priced AI SKUs (stock keeping units) is currently limited. However, that is likely to evolve as enterprise-grade AI features mature and vendors expand functionality. For example, we see greater potential for AI differentiation in more complex use cases like automated task delegation based on skill-set, logical sub-task generation (breaking steps and dependencies to hit deadlines efficiently), and goal-based resource management.

For publicly traded vendors like Asana, Smartsheet, and monday.com, we expect AI monetization to manifest primarily indirectly via acceleration of customer up-tiering, free-to-paid conversion, and seat expansion. Some vendors such as Smartsheet may also monetize premium gen AI features via fees for consumption. Interestingly, Notion has reserved the right to limit access to AI features depending on usage trends (presumably to prevent abuse and preserve margin).

Pricing is likely to dominate investor debates

Asana, Smartsheet, and monday.com have had success in expanding average revenue per user (ARPUs) and annual contract value (ACVs) by growing seat count and upselling customers more advanced functionality. In fact, these three companies grew ACVs at CAGRs of roughly 25%, 39%, and 32%, respectively, from 2020 to 2022. These metrics become increasingly impressive when acknowledging that new customer additions (which also grew rapidly during the period) exert pressure on reported ACVs given much smaller average initial contract sizes.

Exhibit 22: Asana, monday.com, and Smartsheet expanded average revenue per customer at an average CAGR of 32% (2020-2022)
Approximate annual revenue per customer ($) for Asana, monday.com, and Smartsheet 2020-2022



Source: BofA Global Research, company filings

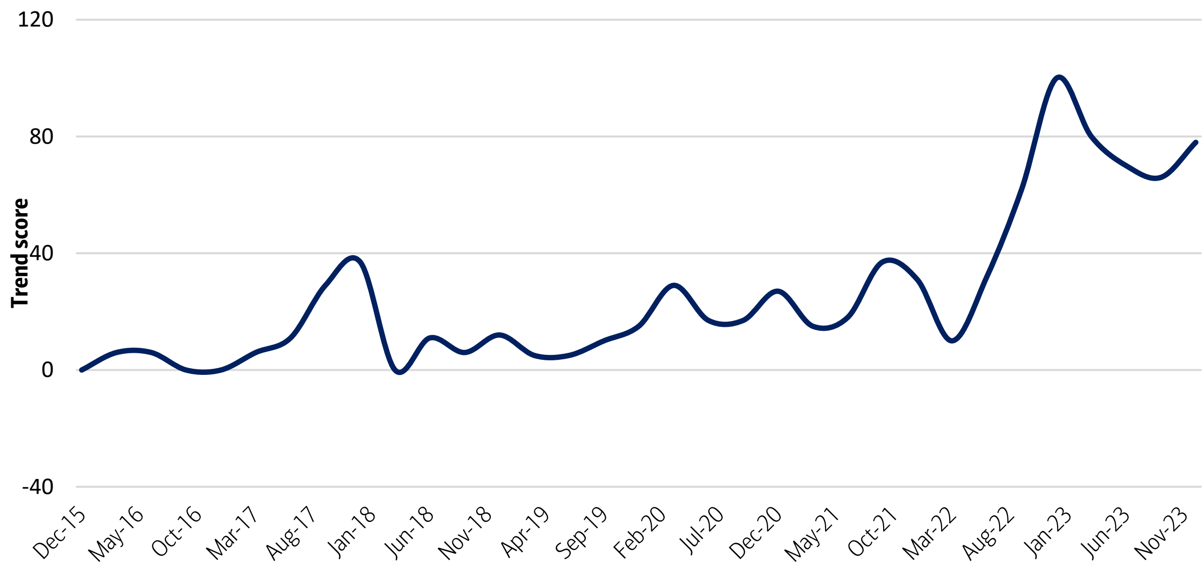
To date, pricing pressure has been limited by the high mix of greenfield opportunities, as only a small percentage of deals have had a formal RFP. In fact, several leading CWM software vendors have rolled out price increases in the last 12 months. However, as the industry matures and bake-offs become more prevalent for larger enterprise deals, we think price competition is likely to intensify. While we note that unrestrained ACV growth has not been driven by like-for-like price increases, increased competition in the enterprise market could dilute the premium pricing commanded by nice-to-have add-on functionality.

We also see potential for pricing pressure in the lower end of the market for vendors offering relatively basic, commoditized functionality (i.e., simple task management). The prevalence of freemium versions also has the potential to erode pricing power for vendors who primarily sell to individuals/consumers and SMBs.

Vendor consolidation may be on the horizon

As noted in our software Year Ahead 2024: AI, Consolidation, Cloud report, we expect accelerating vendor consolidation to be a key theme this year. Our conversations with management teams suggest that companies see benefits from consolidation, including the following: (1) better user experiences and workflows; (2) more seamless transfer of data; and (3) reduced complexity. Software vendors that offer applications with broad functionality and the potential to bundle offerings with attractive total cost of ownership (TCO) may capture incremental wallet share as contracts expire, in our view. We note that our Natural Language Processing (NLP) analysis of earnings transcripts supports our view on consolidation.

Exhibit 23: Vendor consolidation will likely persist in '24 after being a key theme last year
Consolidation trend score based on software company transcript mentions



Source: BofA Global Research, AlphaSense trend score based on number of event transcript mentions

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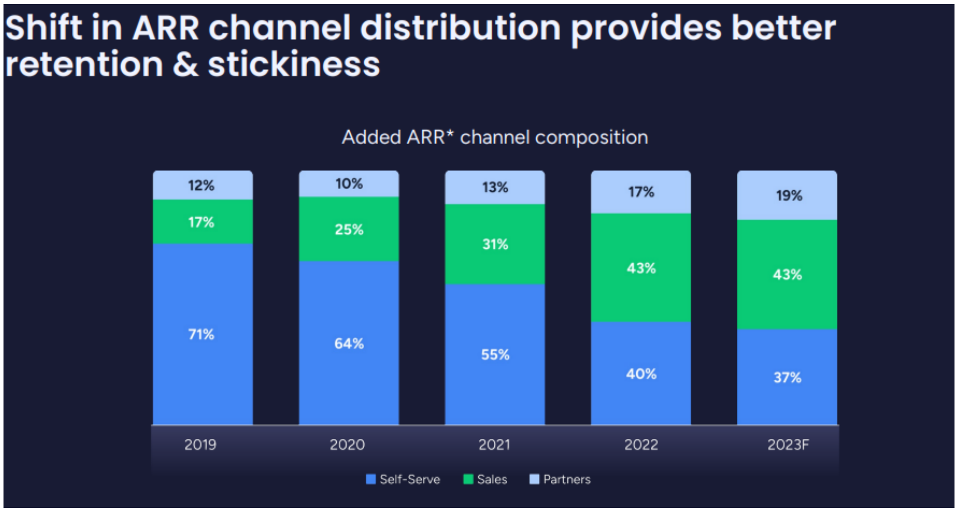
Investors focus on vendor consolidation largely because companies often use multiple vendors for CWM. Consolidation came to the forefront of discussions as recessionary fears magnified scrutiny of enterprise IT budgets; we see this persisting as organizations remain cost-conscious and continue to observe functional benefits. CWM deployments are often opportunistic, with enterprises using different vendors tactically for various use cases without plans to use a single vendor across the organization.

With enterprise IT budgets under pressure, companies may be more willing to consolidate vendors to reduce costs. We expect this to have an increasing impact on market share as the category matures. We think Microsoft, Adobe, Smartsheet, and Asana will be likely beneficiaries of such consolidation, with monday.com as a beneficiary in the SMB and mid-market segments.

Market strategies evolve: direct sales overtake self-serve

The conversion of non-paying users is a significant contributor to most CWM software provider growth algorithms. This makes a vendor's ability to expand its top of funnel efficiently via freemium versions is an important consideration when evaluating sustainable growth potential. Efficient user growth is primarily a function of (1) willingness of the existing user base to evangelize the product following positive user experiences; and (2) effective marketing. However, we note that both Asana and monday.com are in the process of shifting their strategies so that an increasing mix of revenue comes from direct sales.

Exhibit 24: The percentage of monday.com's ARR from the self-serve channel is declining
monday.com ARR mix by channel composition

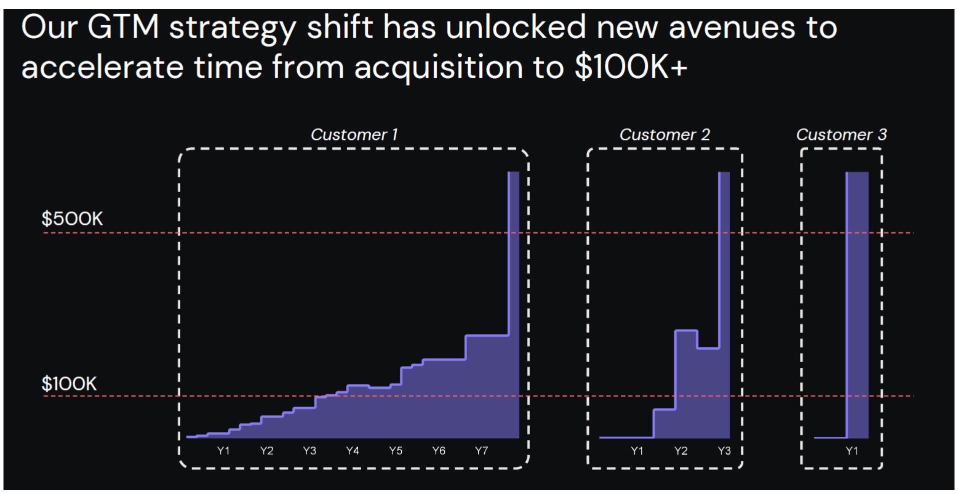


Source: BofA Global Research, monday.com presentation

BofA GLOBAL RESEARCH

It is critical for CWM vendors to drive incremental adoption of features/products beyond baseline work management offerings to increase the stickiness of customer relationships. Expansion is essential to CWM vendor margin improvement as added revenues shift toward more efficient upselling at renewal (a contract negotiation at renewal is much cheaper than landing a new customer for the first time). Providing high-ROI feature sets and packaging them effectively is critical for freemium user conversion and incentivizing higher tier subscription upgrades.

Exhibit 25: Asana is increasingly focusing on the enterprise market
Asana presentation slide summarizing the benefits of its new GTM strategy

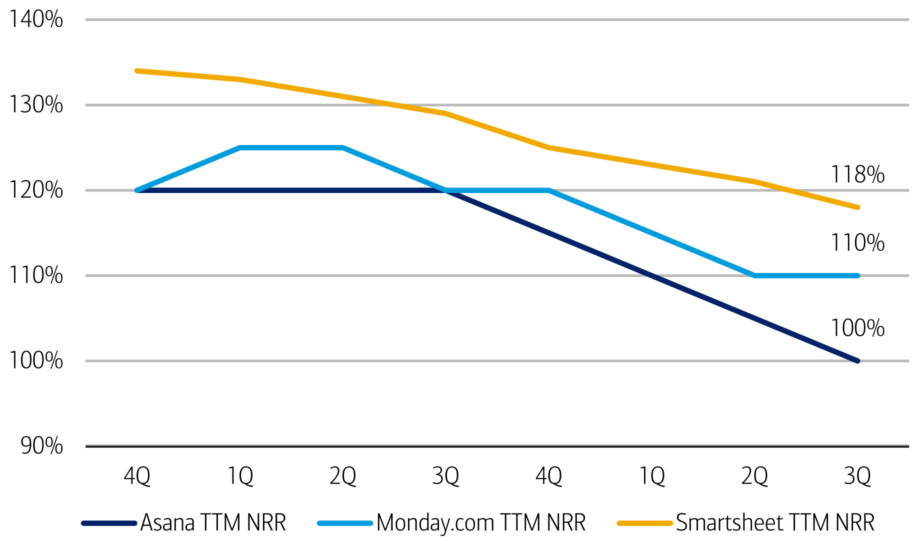


Source: BofA Global Research, company presentation

BofA GLOBAL RESEARCH

Below, we show the NRRs of Asana, monday.com, and Smartsheet. We attribute Smartsheet's impressive net revenue retention to its outsized enterprise exposure, lower churn, differentiated product add-ons, and innovative pricing and packaging.

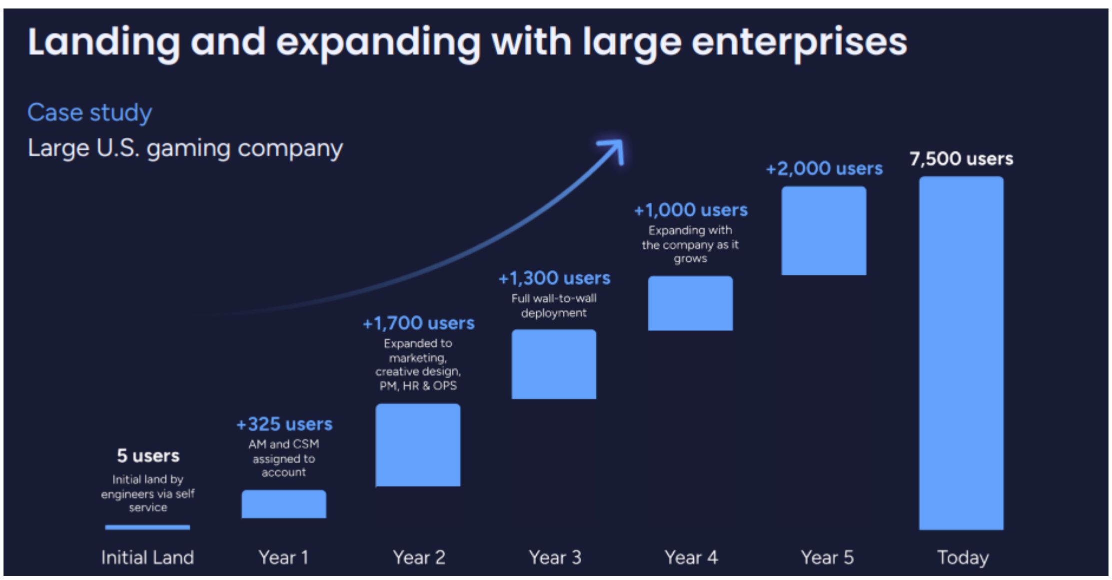
Exhibit 26: NRRs have been under pressure, though Smartsheet's NRR has remained above 115%
Approximate net revenue retention rates for Asana, monday.com, and Smartsheet in the last 8 reported quarters



Source: BofA Global Research, company filings

BofA GLOBAL RESEARCH

Exhibit 27: CWM vendors often scale customer ACVs steadily via viral adoption within enterprises
monday.com expansion case study



Source: BofA Global Research, monday.com presentation

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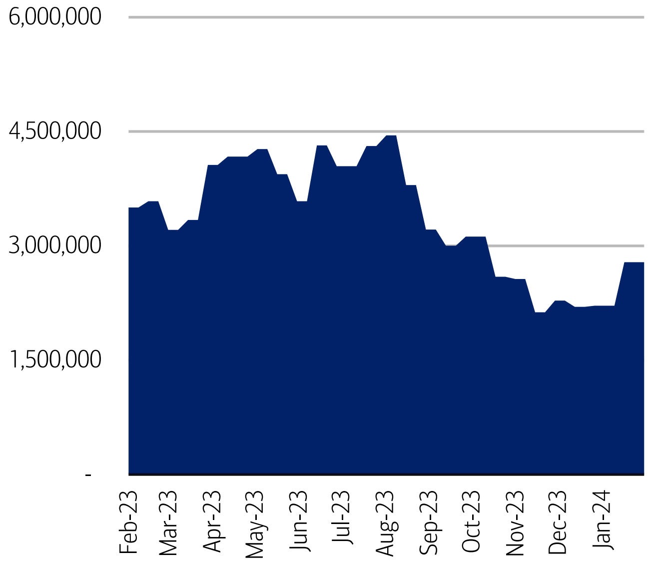
Category sentiment broadly improving

Exhibit 28: Smartsheet short interest has declined since August
Smartsheet short interest



Source: BofA Global Research, Bloomberg

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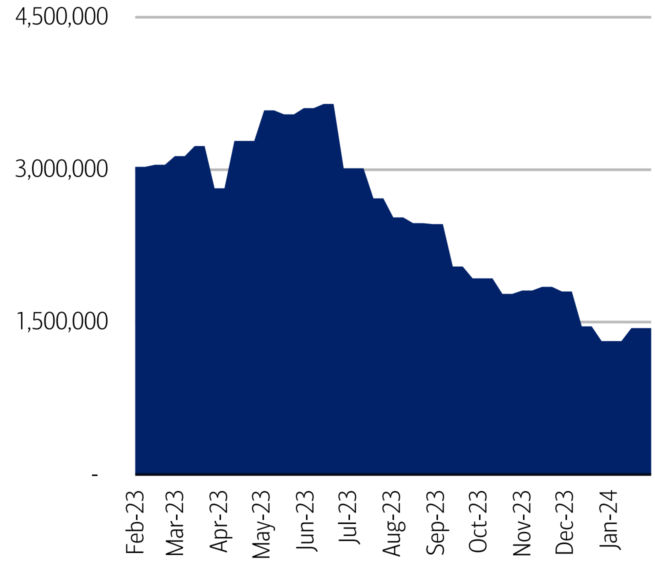
Exhibit 29: monday.com short interest has declined since June
monday.com short interest



Source: BofA Global Research, Bloomberg

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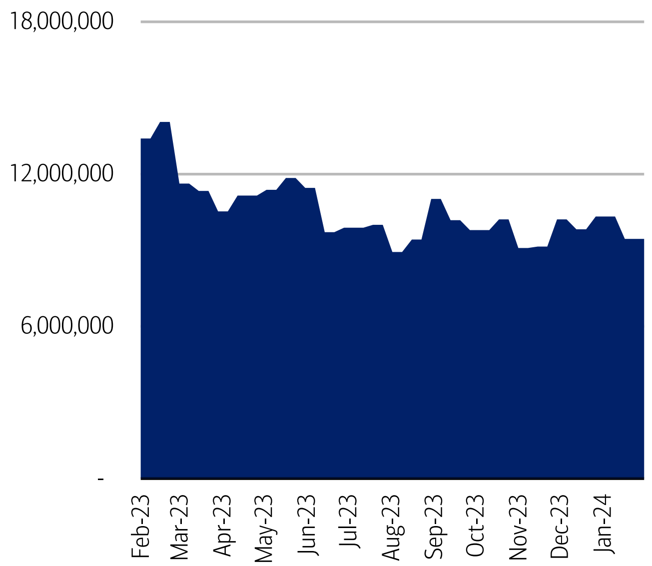
Exhibit 30: Asana short interest has remained broadly stable
Asana short interest



Source: BofA Global Research, Bloomberg

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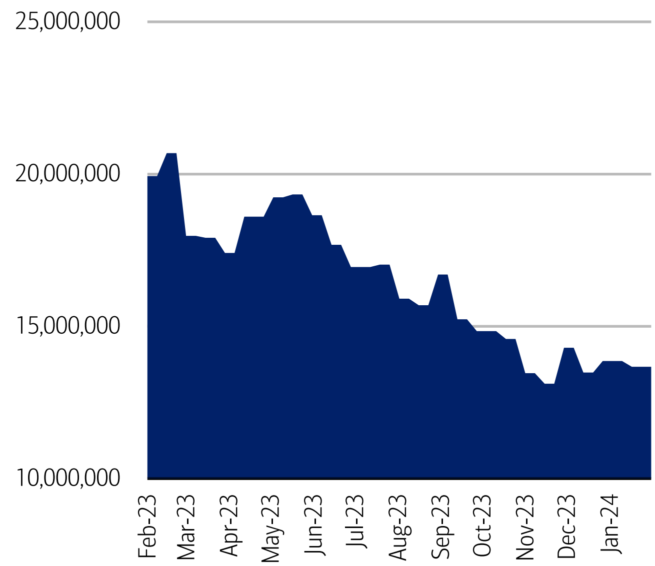
Exhibit 31: Aggregated short interest suggests improving sentiment
Aggregated short interest between Smartsheet, monday.com, and Asana



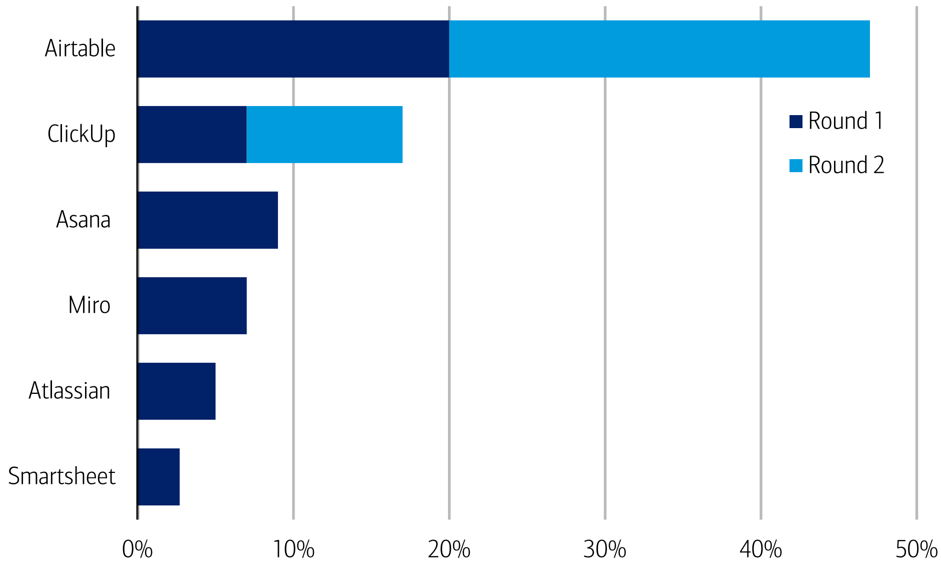
Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Layoffs spike as vendors revamp cost structures

While many software companies have cut staff over the last 18 months, headcount reductions have been particularly prevalent in the CWM software arena. These layoffs have been implemented to reorient cost structures and allow companies to grow more "responsibly" following years in which winning share was the top priority. Exhibit 32 below shows headcount reductions of various companies in the sector.

Exhibit 32: Several CWM software vendors have announced layoffs in the last 18 months
Summary of headcount reductions as a percentage of total workforce since the beginning of 2022



Source: BofA Global Research

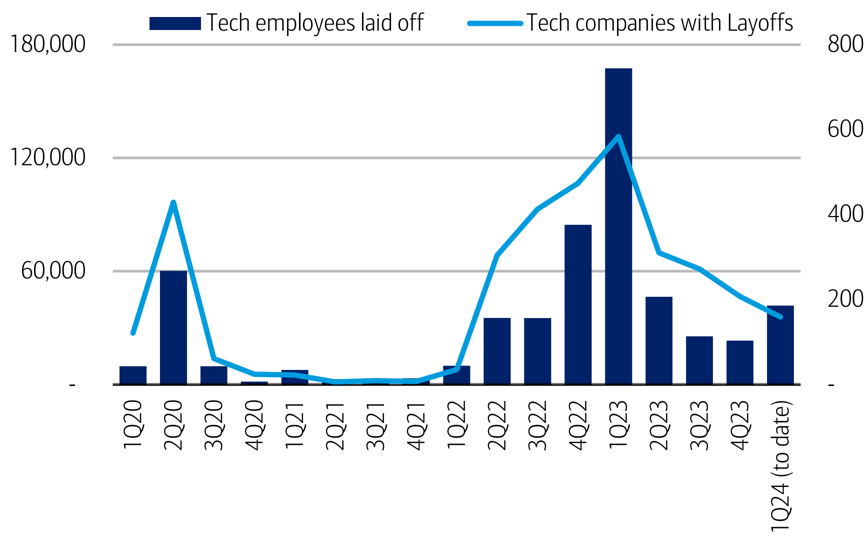
BofA GLOBAL RESEARCH

Tech layoffs threaten to mute CWM growth

Outsized exposure to technology companies has been an investor concern within the category given seat-based revenue models and widespread headcount reductions within the tech sector. Reductions in force (RIF) have led customers to reevaluate their total license count needs at contract renewal.

We note that shorter contract durations in the category (typically 1 year or shorter) serve to condense timelines for company license right-sizing, suggesting the worst down-sell impacts could be in the rear-view. However, pressures from end-market RIFs have the potential to mute growth in 2024 – particularly for vendors with outsized exposure to tech and financial services where headcount reductions have been most prevalent. Fresh rounds of layoffs announced in 1Q24 also present some risk to CWM vendor growth reacceleration.

Exhibit 33: We are set to anniversary/lap the largest quarter of tech layoffs in recent history in 1Q24
Summary of technology company layoffs (total employees laid off and total companies with layoffs)



Source: BofA Global Research, Layoffs.fyi *data as of February 21, 2024

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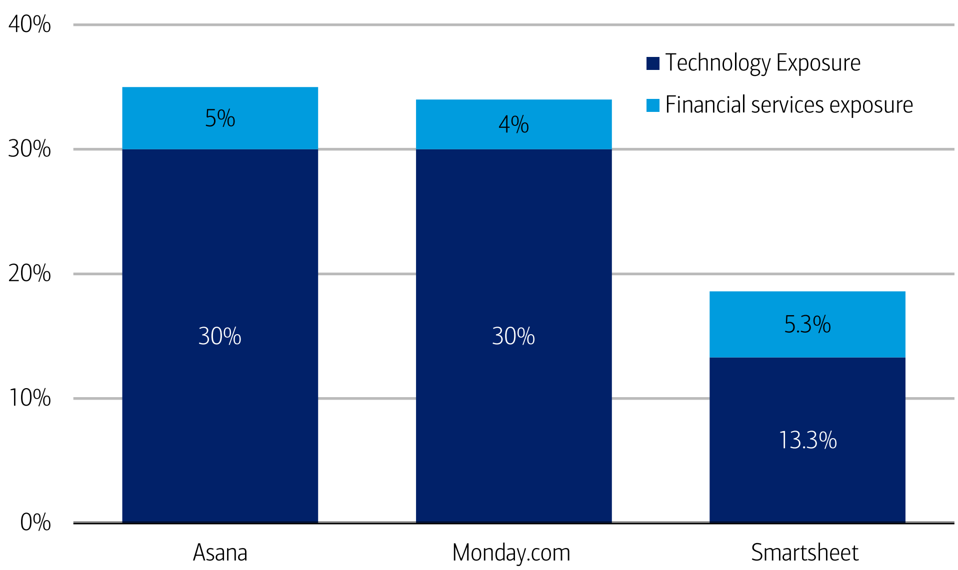
We provide estimates for Asana, monday.com, and Smartsheet's tech and financial services exposure based on management commentary.

Exhibit 34: We estimate that Smartsheet has the lowest revenue exposure to tech/financial services
Estimated revenue mix from technology and financial services companies



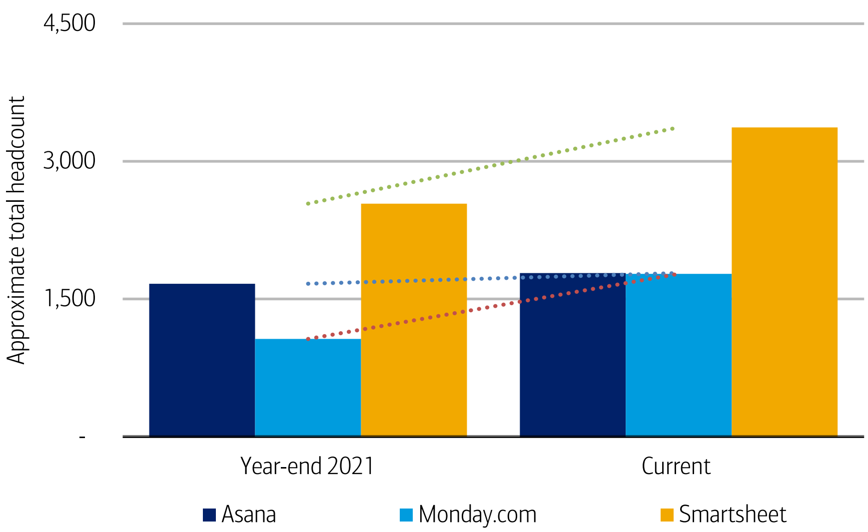
Source: BofA Global Research estimates, company filings

BofA GLOBAL RESEARCH

Slowing growth fueling diverging financial performance

Following several years in which secular forces (i.e., COVID, remote work, etc.) supported accelerated adoption trends, the period of "easy" top-line growth appears to be over. Slowing category growth is driving divergence in both strategy and financial performance among key vendors. While virtually all companies in the industry have increased emphasis on expanding margins, public competitors have adjusted growth investment. For example, vendors such as monday.com have prioritized top-line growth while Asana has emphasized reigning in spending. monday.com and Smartsheet have increased total headcount since the end of 2021 by roughly 67% and 33%, respectively, compared to Asana at 7%.

Exhibit 35: Smartsheet and monday.com have significantly increased headcount since 2021, while Asana headcount has remained steady
Approximate total employees of Asana, monday.com, and Smartsheet



Source: BofA Global Research, company filings

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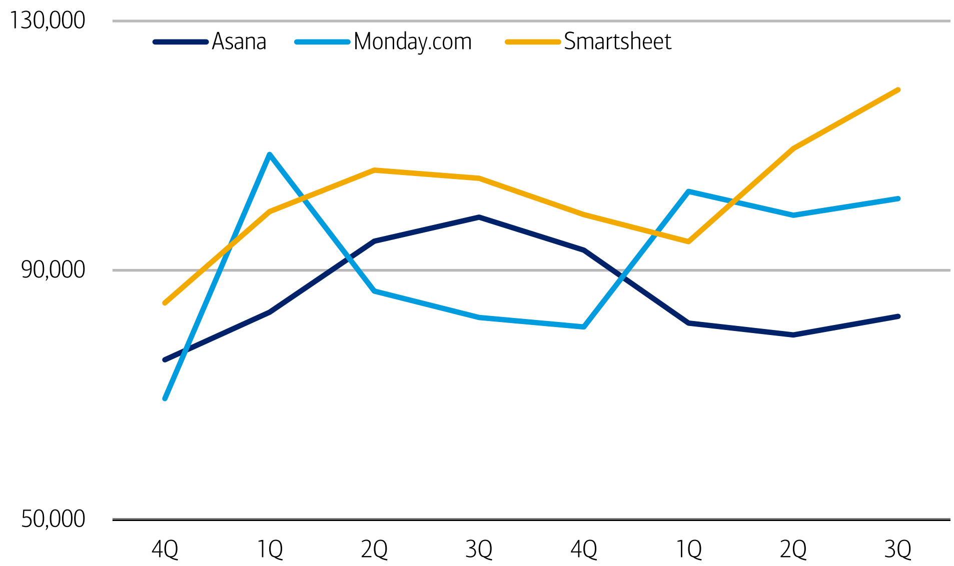
Similarly, both monday.com and Smartsheet have increased absolute sales and marketing spending compared to Asana in CY2023, resulting in more rapid market share capture. Asana's increased diligence in expense management yielded a non-GAAP operating margin of -5.9% in 3Q24, up 31.3% from the prior year period.

Exhibit 36: Smartsheet and monday.com have ramped up S&M spending over the last 3 quarters, while Asana has held spend steady
Non-GAAP S&M expenses for previous 8 reported quarters



Source: BofA Global Research, company filings

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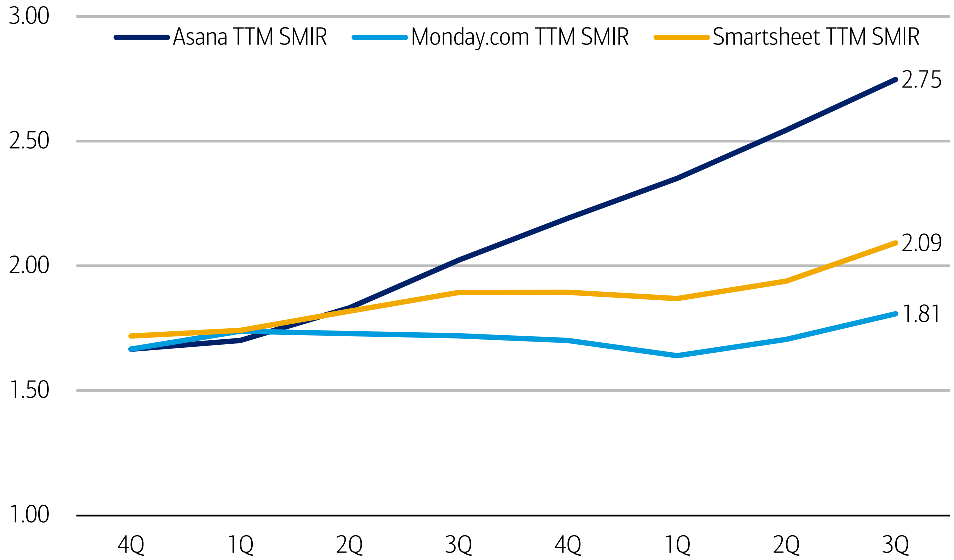
We present the trailing 12-month sales & marketing to incremental revenue (SMIR) ratios for Asana, monday.com, and Smartsheet in Exhibit 37 below. SMIR ratios represent the dollars of S&M spend necessary to generate $1 of new/incremental revenue. A lower SMIR ratio indicates higher sales and marketing efficiency – suggesting that monday.com can grow revenue with less investment. This best-in-class S&M efficiency is in line with Gartner's product evaluations, which suggest monday.com provides the most complete offering by use case (providing support to a powerful and efficient PLG (product-led growth) motion). High S&M efficiency relative to peers suggests product differentiation and is predictive of higher sustainable growth potential and structural margin profile, in our view.

Exhibit 37: There has been a divergence of S&M efficiency within the category since C4Q22
TTM SMIR (TTM S&M expenses divided by TTM incremental revenue) for the last 8 reported quarters



Source: BofA Global Research, company filings

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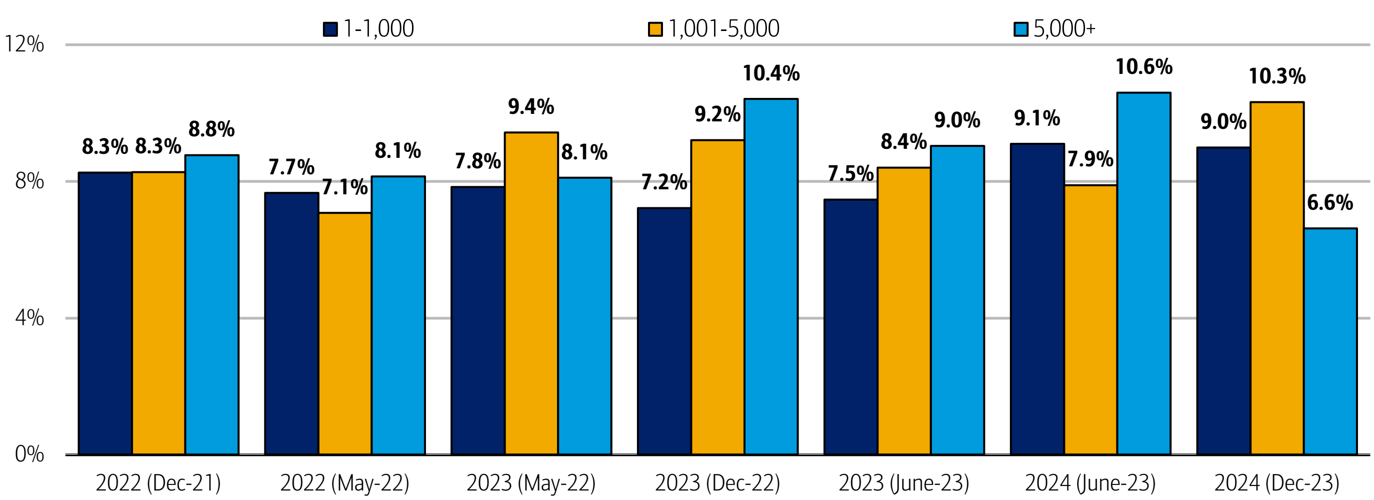
COVID pull-forward risk largely in the rear-view

We think COVID likely accelerated the adoption of CWM software as companies sought to improve collaboration in a remote/hybrid work environment. In contrast with sectors like communications software, we view COVID-related over-provisioning risk within the category as minimal on a go-forward basis given shorter contract durations. In other words, we believe the financial impact of pandemic-related down-sell pressure has largely already materialized in vendor models.

BofA IT spending survey suggests varying outlook for SMB/MM/Enterprise

According to BofA's proprietary IT spending survey included in our Year Ahead report, enterprises intend to increase spending by 6.6% in 2024. SMBs and mid-sized firms expect to increase software spending by 9.0% and 10.3%, respectively, in 2024.

Exhibit 38: What is your expected software spending budget increase for 2024? (By company size)
Large enterprises had the largest decline in spending expectations for 2024, declining by 4pts.



Source: BofA Global Research

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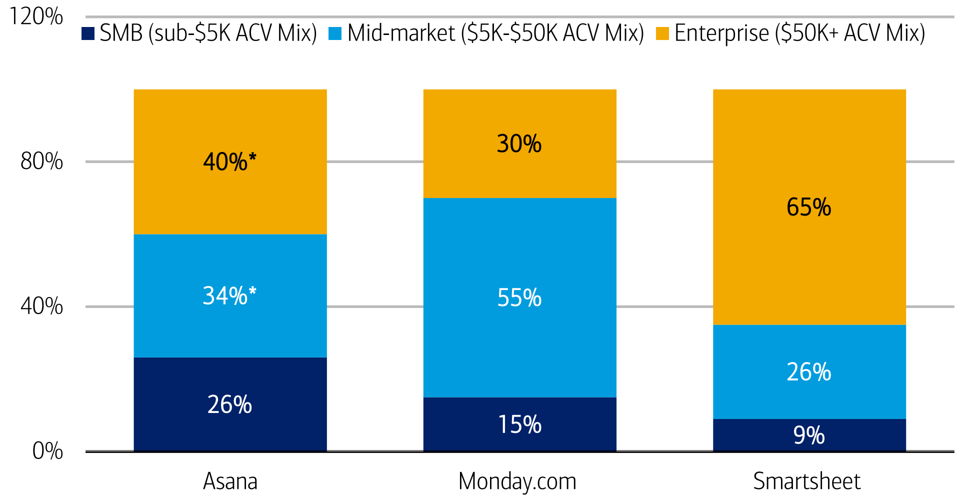
We break out vendor ARR mix by customer 'size' according to contract values. SMB is defined as customers paying less than $5K annually, mid-market as customers paying between $5K and $50K annually, and enterprise as customers paying $50K+ annually.

Exhibit 39: Smartsheet has highest concentration of enterprise customers, followed by Asana
Vendor exposure by customer size, as defined by contract size



Source: BofA Global Research, company filings and presentations *Estimated ACV mix based on a triangulation of reported variables

BofA GLOBAL RESEARCH

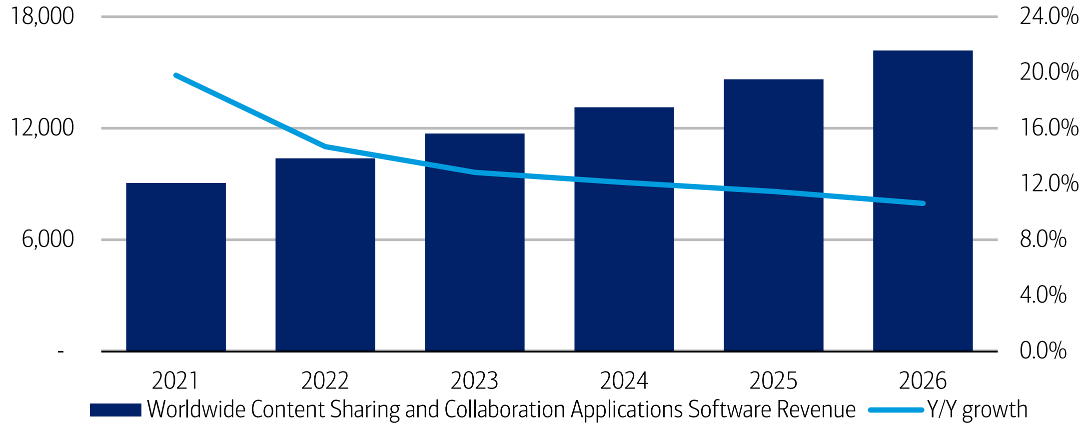
A huge market is up for grabs

We provide TAM (total addressable market) estimates based on 3rd-party, top-down, and bottom-up estimates. Based on our top-down analysis, we expect the collaborative work management TAM to reach roughly $18.9bn by 2026, growing at a CAGR of 14.9% from approximately $12.5bn in 2023.

Third-party TAM estimates

According to IDC, the global content sharing and collaboration applications software market is expected to reach $16.2bn by 2026, growing at a CAGR of 11.7% from $10.4bn in 2022. According to IDC estimates, the CWM software category is transitioning from a period of mid-teens growth to low-double-digit growth. This trend is in line with actions taken by several vendors to reorient cost structures and grow more "responsibly" following years in which winning market share was the top priority. This shift has largely occurred as investors have increasingly focused on profitability amid macro pressures, elevated interest rates and tighter IT budgets.

Exhibit 40: Global spending on content sharing and collaboration applications software is expected to reach $16.2bn by 2026
Worldwide content sharing and collaboration applications software revenue



Source: BofA Global Research, IDC

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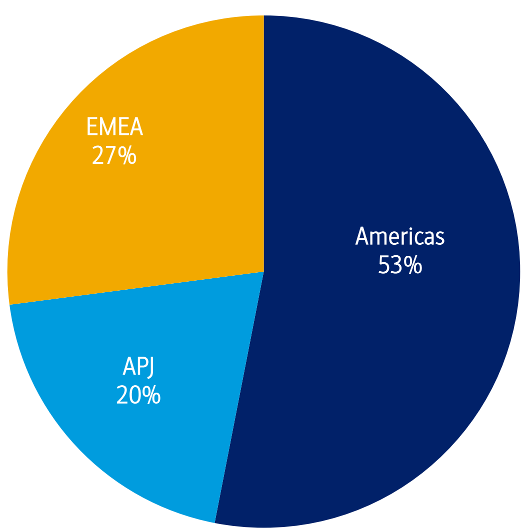
The Americas lead EMEA and APAC in CWM software adoption, generating more than half of worldwide revenues for the industry. Increasing adoption of CWM software internationally should provide support to vendor growth rates, particularly those with global sales infrastructure, in our view.

Exhibit 41: The Americas drive the majority of global CWM software revenues at 53%
Worldwide content sharing and collaboration applications software revenue by region, 2023



Source: BofA Global Research, IDC

BofA GLOBAL RESEARCH

Top-down TAM estimates

We calculate a top-down TAM estimate for the CWM software market based on global knowledge worker, ARPU, and penetration assumptions. We apply an annual ARPU assumption of $126 for 2023 based on an analysis of various vendor pricing and packaging plans, and assume 6% annual expansion for inflation and the introduction of incremental functionality (we view 6% as conservative given higher historical category ARPU growth). We assume that approximately 9.0% of global knowledge workers leverage CWM software today, with that expanding to 10.5% by 2026 as the category matures. Based on these assumptions, we expect the CWM software TAM to reach $18.9bn by 2026, expanding at a CAGR of 14.9% from $12.5bn in 2023.

Exhibit 42: Applying a top-down framework, we estimate the global CWM software market could reach $18.9bn by 2026
Top-down estimate for the global CWM software TAM based on global knowledge workers, ARPU, and penetration

	2023E	2024E	2025E	2026E
Global knowledge workers (thousands)	1,100,000	1,133,000	1,166,990	1,202,000
Y/Y growth		3.0%	3.0%	3.0%
ARPU (annual, $)	126	134	142	150
Y/Y growth		6.0%	6.0%	6.0%
Implied TAM assuming 100% global adoption of CWM software	138,600,000	151,323,480	165,214,975	180,381,710
% penetration of knowledge workers	9.0%	9.5%	10.0%	10.5%
Implied TAM ($, thousands)	12,474,000	14,375,731	16,521,498	18,940,080
Y/Y TAM growth		15.2%	14.9%	14.6%

Source: BofA Global Research estimates

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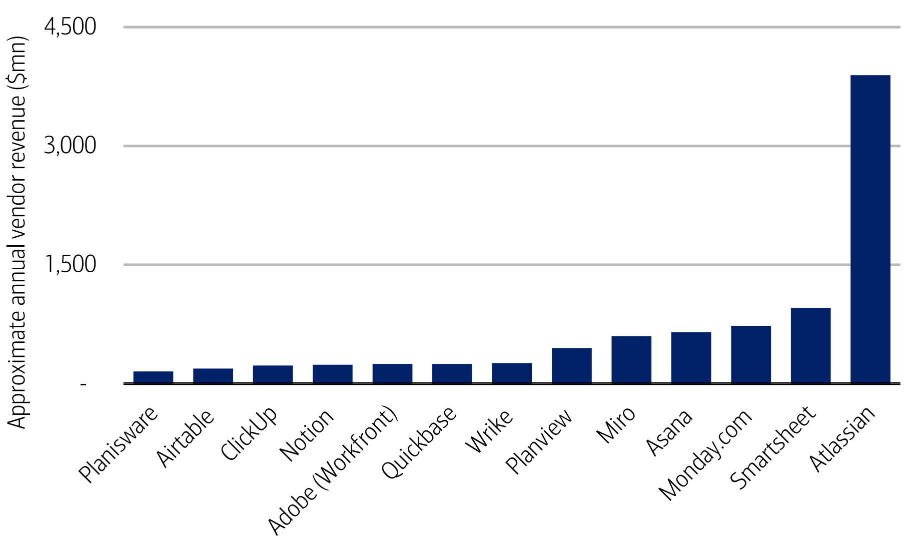
Bottom-up TAM

Our estimate for bottom-up TAM is based on company reported and BofA estimated revenues of 14 vendors. By that measure, these companies had total revenue of $8.9bn in 2023. We view our bottom-up TAM analysis as conservative, and recommend investors use this figure as the lower limit for the CWM addressable market.

We note that: (1) in some cases the figures listed below include revenues from products that aren't considered directly equivalent to those offered by Asana, monday.com, and Smartsheet (for example, Atlassian's Bitbucket product); and (2) revenues from vendors like Microsoft have been omitted given challenges associated with estimating revenue run rates.

Exhibit 43: We estimate that the CWM software vendors below generate almost $9bn in annual revenues in aggregate
Bottom-up TAM estimate based on reported and estimated vendor revenue



Source: BofA Global Research estimates, company filings

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Introduction to Collaboration software

Collaborative work management (CWM) software is most often used by business teams to plan, collaborate, automate processes, and track/carry out various activities. Products in the category are defined by their purpose (work planning and execution), their target users (non-technical business professionals), and their broad functionality. We list some of the most common CWM software capabilities below.

Exhibit 44: Most common product capabilities offered by CWM software vendors
CWM software enables users to plan, collaborate, automate, observe, and operate

CWM product capabilities
Plan:
Tasks and business activity coordination
Multiple business activities in parallel
Resource allocation and tracking
Collaborate:
Content collaboration and sharing
In-context conversations
Notifications
Team workspaces
Automate:
Work templates
Automation rules and scripts
E-forms
Workflow modeling
Building applications
Observe:
Customizable reports
Dynamic dashboards
UI design
Operate:
Batch operations for administrators
Microsoft 365 integration
Work graph
Data management controls
Google workspace integration

Source: BofA Global Research, Gartner

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CWM vendors often cite that their products have been used for thousands of documented use cases – from orchestrating marketing campaigns to managing construction projects. We list the most common use case categories below.

Exhibit 45: Common CWM software use cases
Business-led projects, executive dashboards, and coordination of multiple business activities in parallel are the three most common CWM software use cases

Most common CWM software use cases
Business-led projects
Executive dashboards
Coordinating multiple business activities in parallel
Resource allocation and tracking
Strategic operations
Product life cycle operations
Marketing operations
Service/support operations
Events operations
Agile practices in the business
OKR setting and tracking
IT operations
Engineering operations
Professional services management
Case tracking and operations
CRM operations
HR operations
Legal operations

Source: BofA Global Research, Gartner

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CWM vendors offer no code/low code open platforms for developers to create custom widgets, workflows, integrations, and apps. Vendors provide customers with the building blocks to assemble applications. This flexibility enables CWM software to provide value to a wide variety of users and uses. The malleability and ease of use of CWM software empowers business users to create and adapt business apps customized for specific workflows, projects, or processes – widening the potential userbase of CWM software to virtually all knowledge workers.

Vendor profiles for key competitors

We provide brief collaboration software vendor profiles based on information on company websites, customer reviews, and third-party data providers such as Gartner. While not included in our vendor profile section, we note that vendors such as Microsoft, Planview, Miro, and Planisware (among others) have also generated significant traction in CWM software (but were not included in Gartner's CWM vendor evaluation).

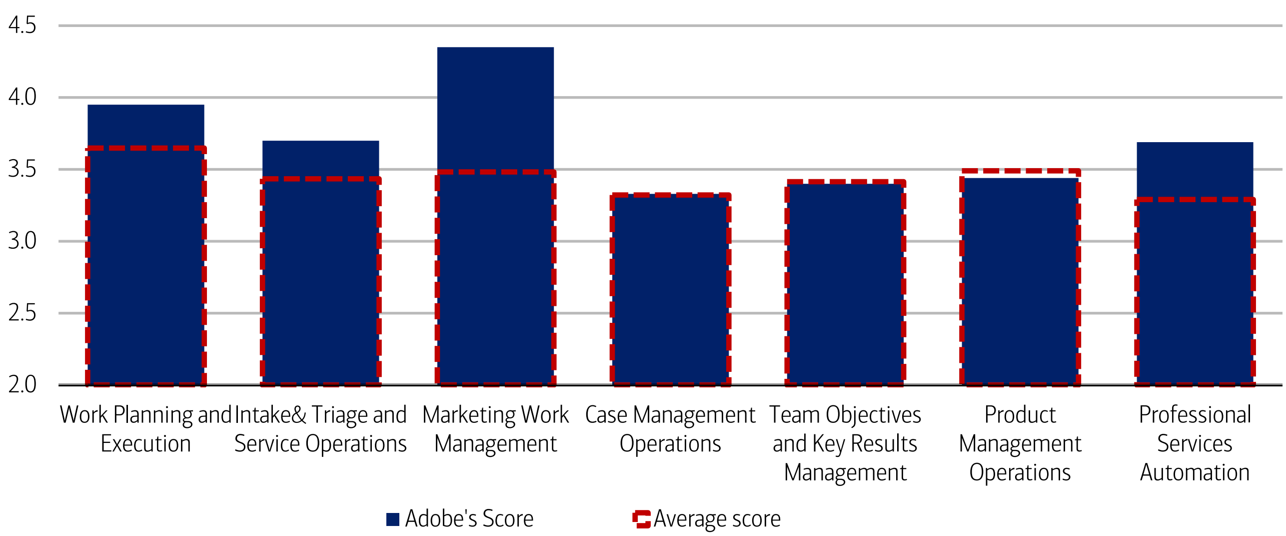
Adobe (Workfront)

Adobe (covered by BofA Global Research analyst Brad Sills) acquired Workfront in December 2020. Adobe's collaboration software, Adobe Workfront, provides project and work management for cross-functional teams. Adobe Workfront primarily targets individuals in marketing, creative production, campaign management, and program management. Workfront has historically targeted enterprises and is used by 10 of the world's top brands. It benefits from Adobe's strong brand, market presence, operational strength, partner ecosystem and synergies with adjacent products in the broader Adobe portfolio. Adobe generates demand for Workfront largely by leveraging interest from existing Adobe customers rather than through freemium options or selling directly to business teams.

We estimate that Adobe Workfront generates roughly $250mn in annual revenues. As of December 2020, Workfront had more than 3,000 customers and 1mn users. These customers include MLB, Nordstrom, Under Armour, Walgreens Boots Alliance, Stanley Black & Decker, IBM, The Home Depot, and T-Mobile.

Product strengths/weaknesses: Workfront is particularly strong for marketing work management given its native integrations to the Adobe Creative Cloud and broader Adobe portfolio. While Adobe Workfront has comprehensive functionality relative to most peers (especially work planning and workflow automation), customer reviews suggest ease of adoption/usability lags peers. Adobe Workfront's reporting, analytics and dashboards also compare less favorably relative to peers.

Exhibit 46: Adobe Workfront has particularly compelling functionality for marketing use cases
Gartner product score by use case versus top 10 CWM software vendors



Source: BofA Global Research, Gartner

BofA GLOBAL RESEARCH

Product roadmap: According to Gartner, Adobe's roadmap focuses on productivity enhancements through form building, simplified workflows, resource management, review and approval, and data modeling. Adobe is also developing user experience enhancements including no-code personal productivity automation and an expanded template library of blueprints.

Airtable

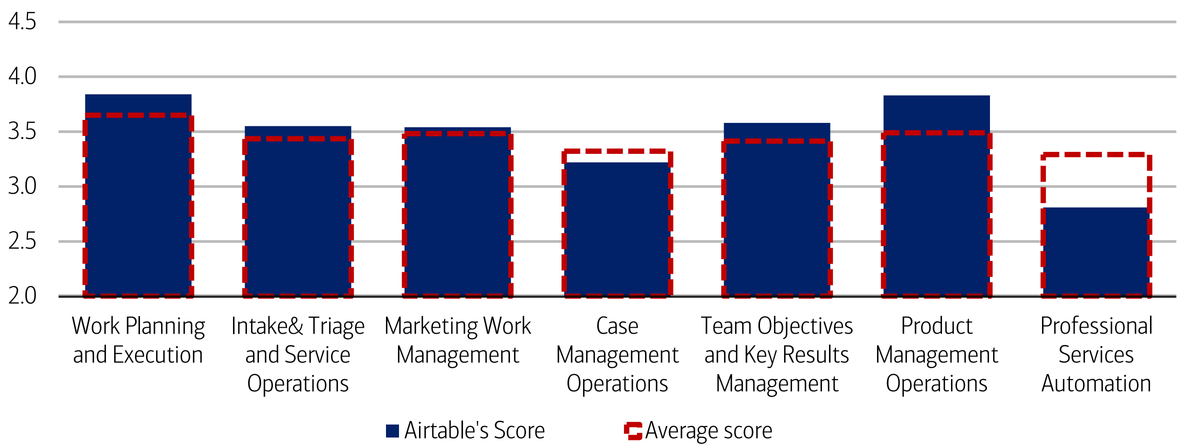
Airtable (not covered) is headquartered in San Francisco and operates mainly in the US and throughout EMEA. Its product (also called Airtable) supports task/work management capabilities and also gives business users the flexibility to build the tools they need. The platform supports data management and enables users to build workflows, user interfaces, and views to navigate and organize their data. Airtable primarily targets professionals in creative production, product operations and marketing.

We estimate that Airtable generates roughly $190mn in annual revenues. According to the company's website, more than 450,000 organizations use Airtable including Netflix, Amazon, IBM, GitHub, Red Bull Media House, A+E Networks, Intuit, Autodesk, and Equinox Media.

We note that Airtable has had success in landing new logos, with a sizable proportion including deployments with a large number of users. However, the company cut 20% of its staff in December 2022 and another 27% in September 2023, suggesting softer demand and mounting competitive pressures.

Product strengths/weaknesses: Airtable emphasizes autonomy through no-code development, as well as productivity and usability. Customer reviews suggest strength relative to peers with respect to workflow automation, security, integration, and performance. While Airtable is very flexible, it has weaknesses in content creation, dynamic reporting, compliance certifications and the depth of its use-case support. Airtable is still developing its reseller and distributor partner program, which can make it more difficult to reach prospects in different industries, functions and geographies.

Exhibit 47: Airtable scores above average in most categories relative to peers, with particular strength in product management operations
Gartner product score by use case versus top 10 CWM software vendors



Source: BofA Global Research, Gartner

BofA GLOBAL RESEARCH

Product roadmap: According to Gartner, Airtable's product roadmap includes enhancements in resource management, notification configuration, content creation and automation builders, data exploration and visualization, and increased data limits.

Asana

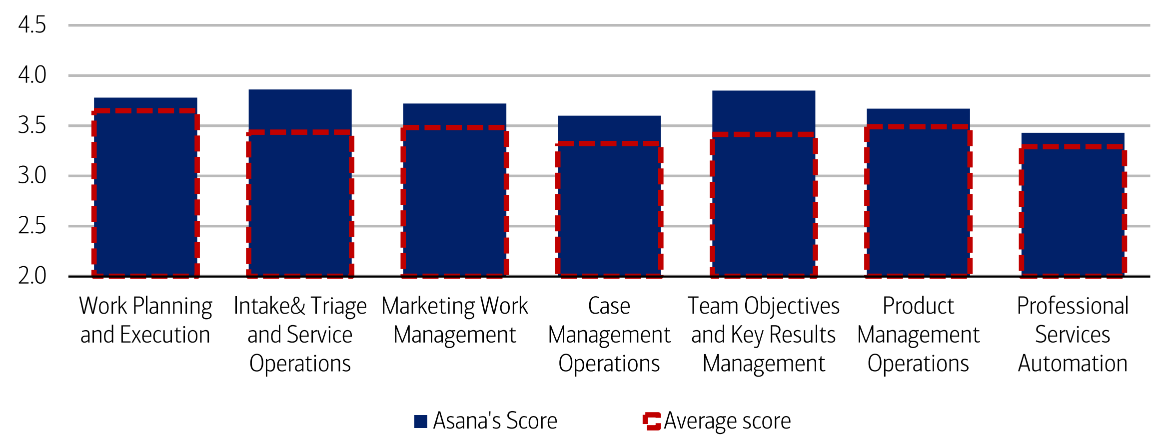
Asana is headquartered in the US and operates in the US, Canada, Europe, and APAC. Its product (also called Asana) is focused on task/work management and enables effective collaboration and workflow automation for different work plans.

Asana primarily targets individuals in operations management, program management and marketing. The company's clients tend to be in industries such as retail, consumer product goods, technology, professional services and media. Asana generates roughly $666mn in annual revenues (F3Q24 annualized figure). As of F3Q24, Asana had more than 3mn paying users and as of F2Q24 had over 146,000 paying customers. They include Amazon, Google, Uber, Spotify, and Deloitte.

Our conversations with executive management teams and channel partners suggest that Asana is almost always on prospective customers' shortlists and present in the later stages of a formal RFP. Asana leverages an extensive local partner network to win business in various regions.

Product strengths/weaknesses: Asana customers express high levels of satisfaction with the product, especially with the overall user experience. Customer reviews suggest Asana is a strong marketing or case management tool with solid objectives and key results (OKR) reporting. We note that Asana also ranked the best out of the group regarding its ability to manage several resource issues or incidents. That is made possible by user-friendly workflow automation services that allow for clear and concise tracking of different parts of work management. Asana's weaknesses are in calendar support, content creation, reporting widgets, and building and managing complex workflows. Gartner reviews also suggest that automation services would be more complete if Asana supported more complex workflow logic and the ability to do staging and testing before deploying automation rules.

Exhibit 48: Asana's scores are above average in each of the seven categories evaluated by Gartner
Gartner product score by use case versus top 10 CWM software vendors



Source: BofA Global Research, Gartner

BofA GLOBAL RESEARCH

Product roadmap: Asana's product development strategy incorporates client feedback and mines data to extract insights to improve how people collaborate. According to Gartner, Asana's roadmap includes enhancements in goal-setting workflows, a GenAI assistant, executive reporting, collaborative intelligence to uncover dysfunctional collaboration patterns, and deeper integration with external applications.

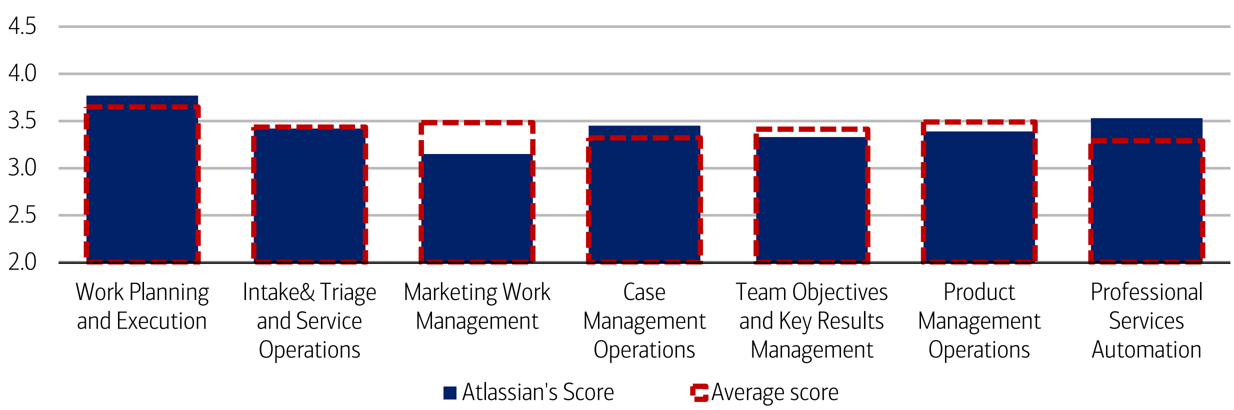
Atlassian

Atlassian (not covered) has a global presence, and its work management strategy focuses on enabling technical and business teams to work collaboratively. The company offers Atlassian Together as a single cloud subscription to its work management products, which include Trello, Confluence, Atlas and Jira. Atlassian has over 260,000 customers, and more than two-thirds of the Fortune 500 use its products. Atlassian primarily targets professionals with tech-adjacent roles (including line-of-business leaders, program managers, and people in marketing). The company generates roughly $3.9bn in annual revenues (CY23, though not all from CWM software), and customers include HubSpot, Delta, Dropbox, Coca Cola, and Pfizer, among many others.

Atlassian has a strong presence in adjacent markets and goodwill within enterprises that it leverages to promote its CWM offerings. Customers find Atlassian's transparent pricing attractive, and the company's ability to bundle subscriptions and provide discounts for large deployments of more than 1,000 users can make its offering more budget friendly for enterprises. However, we note that CWM is only one of three focus markets for Atlassian. This can impair the company's ability to attract the business decision makers that are Atlassian's traditional customers. Interestingly, customer reviews suggest Atlassian is very rarely considered as an alternative to other CWM products.

Product strengths/weaknesses: Atlassian's offering is strong relative to peers for case management and provides advanced workflow and automation capabilities, as well as collaborative authoring functionality. Atlassian's CWM offering includes Trello, Confluence, Atlas and Jira – making deployments more complex and confusing to users due to overlapping capabilities, naming conventions, and different user interfaces. Reviews suggest that Atlassian offers less mature functionality in data management, reporting, search, and mobile support across the components of its CWM offering.

Exhibit 49: Atlassian's CWM offering is particularly strong in work planning and execution, but lags peers for marketing uses
Gartner product score by use case versus top 10 CWM software vendors



Source: BofA Global Research, Gartner

BofA GLOBAL RESEARCH

Product roadmap: According to Gartner, Atlassian's roadmap includes investments in AI, enhancements in migration from competing products, improved approval workflows, embedded Confluence whiteboards in Jira, improved data management in Confluence, a visual workflow builder, improved analytics and enhanced external collaboration.

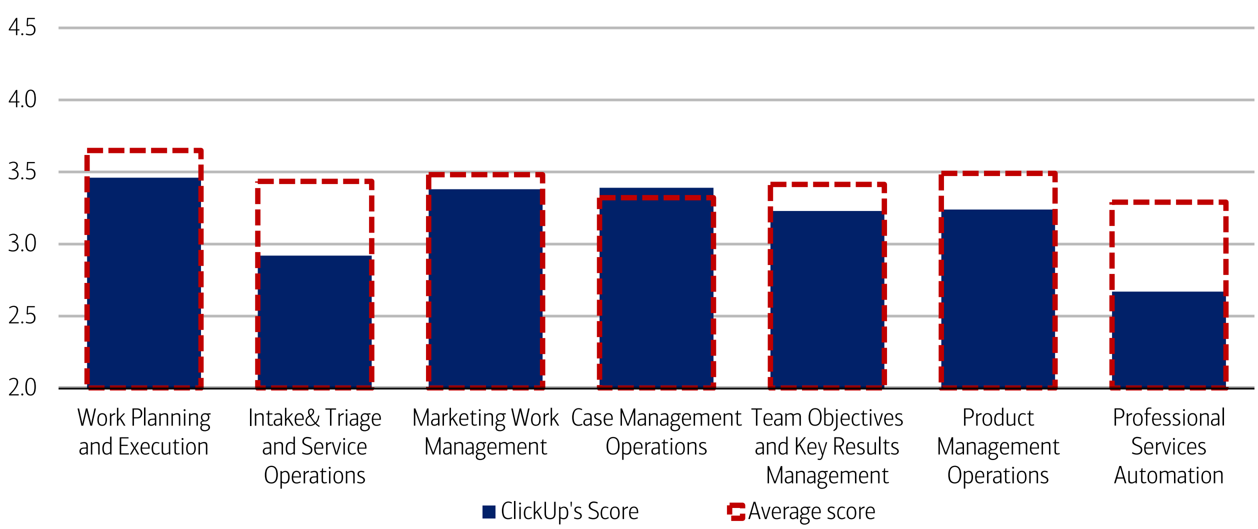
ClickUp

ClickUp (not covered) is headquartered in the US with a regional presence in Europe and Australia. Its product (also called ClickUp) helps teams collaborate by centralizing work and related communications, improving visibility, and automating work processes and workflows. ClickUp primarily targets employees in program management, marketing, and product management. We estimate that ClickUp generates roughly $230mn in annual revenues with an annual gross churn rate of roughly 24% (according to press reports). ClickUp has a global base of almost 10mn users spanning nearly 2mn teams, including 80% of the Fortune 500.

Despite healthy growth, we flag that ClickUp lags leaders in the market in terms of the size of its customer base, especially with respect to large deployments. In addition, ClickUp is still developing its partner ecosystem and capacity to target specific industries and business functions, which can put it at a disadvantage to more mature peers when looking to attract business buyers directly. ClickUp raised $400mn in Series C funding at a $4bn post-money valuation in October 2021. According to press reports, ClickUp laid off roughly 10% of its workforce (approximately 90 employees) in July 2023.

Product strengths/weaknesses: ClickUp offers a comprehensive set of core CWM capabilities that are unlike other vendors in the market. These include document authoring, whiteboards, and universal search. ClickUp is particularly strong for content creation services, work planning, and in-context collaboration. The top strategic use cases for ClickUp are team objectives and marketing work. Reviews suggest that ClickUp needs to improve technical capabilities including forms building, data queries, custom branding of landing pages and language support. ClickUp's workflow and automation capabilities have limitations in modeling and managing complex workflows with limited support for staging, testing, and versioning for rules and automations.

Exhibit 50: ClickUp is particularly strong for case management operations
Gartner product score by use case versus top 10 CWM software vendors



Source: BofA Global Research, Gartner

BofA GLOBAL RESEARCH

Product roadmap: According to Gartner, ClickUp's roadmap includes enhancements in workspace governance, org chart management, scheduling and portfolio management, GenAI assistance, workflow approvals, timesheets, and more flexible notifications.

monday.com

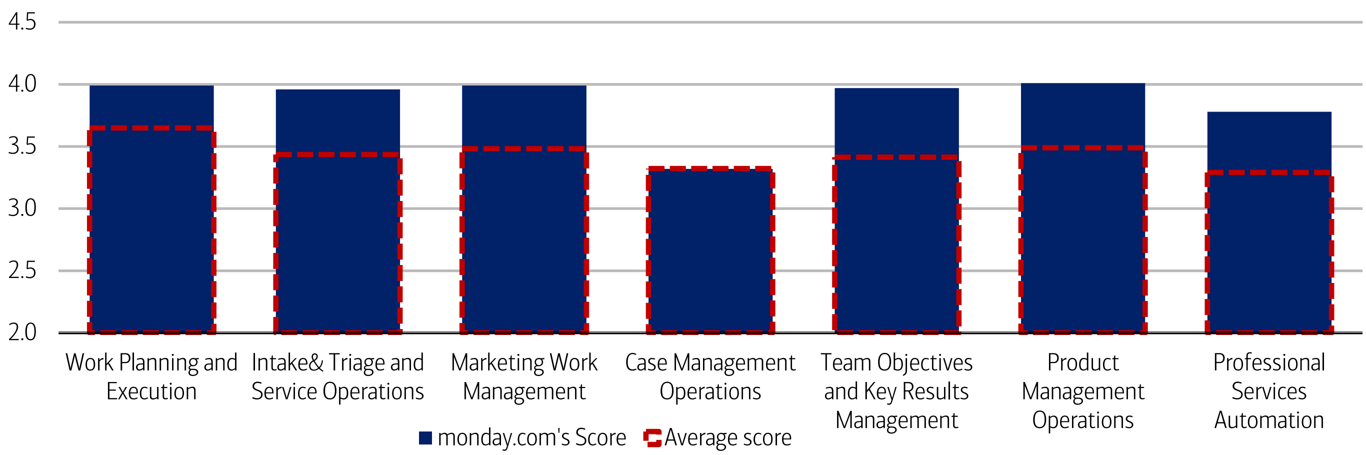
monday.com is headquartered in Israel and has several offices in Europe, North America, Tokyo, Sydney, Melbourne and Sao Paulo. monday.com primarily targets individuals in marketing and sales, general operations, and program management.

Our estimates suggest that monday.com is capturing market share at the highest rate among vendors with $100mn+ revenue. Notably, monday.com almost always appears on customer shortlists for CWM products, particularly in the mid-market and SMB segment. The company has gained impressive traction via the development of prebuilt work templates tailored to specific departments and use cases. The company generates roughly $730mn in annual revenues (CY23 figure). As of 2023-end, the company had more than 225,000 customers. They include Coca Cola, Canva, Lionsgate, and Universal Music Group.

Product strengths/weaknesses: Beyond comprehensive support for core CWM capabilities, monday.com offers additional functionality in form builders, visual workflow automation, granular permissions, use-case support and platform scalability through its custom database. The company delivers strong reporting services and is particularly flexible, enabling use for a wide variety of use cases. We note that monday.com is ranked the highest of the 10 vendors evaluated by Gartner in five out of the seven strategic use cases.

Reviews suggest the company's pricing is less flexible and can be higher than other vendors. Reviews also suggest that the process for creating complex rule-based workflows can be difficult for business users to set up.

Exhibit 51: monday.com scores the highest in the category, earning the top score in 5 out of 7 use case categories
Gartner product score by use case versus top 10 CWM software vendors



Source: BofA Global Research, Gartner

BofA GLOBAL RESEARCH

Product roadmap: According to Gartner, monday.com's roadmap includes enhancements in resource and skills management, GenAI assistance including ingestion of internal data, organizing documents as a knowledge base with version control, third-party application and integration hosting, master templates for global standardization, API and dashboard performance via a custom-built database (monday DB), new integrations, and customer encryption key management.

Notion

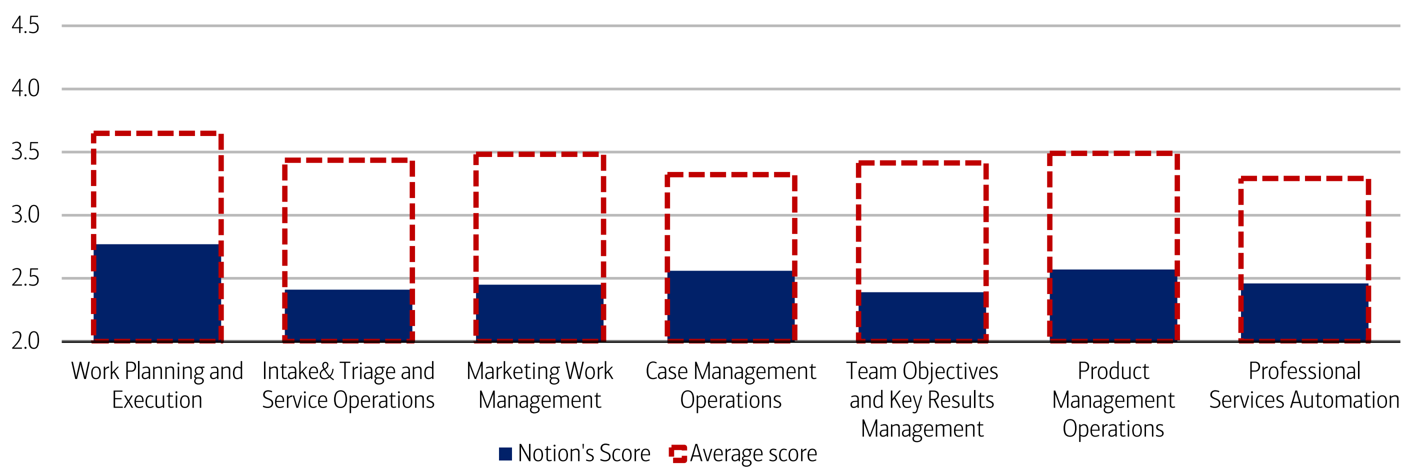
Notion (not covered) is headquartered in the US with offices in the US, Europe, Japan, South Korea, and India. Its product (also called Notion) is focused primarily on collaborative content creation that allows users to embed interactive and dynamic components for work planning and tracking. Notion primarily targets engineering, product management and marketing professionals.

We estimate that Notion generates roughly $240mn in annual revenues and has 30mn+ total users (including paid and free). Customers include Capgemini, Reddit, and Duolingo. Notion has successfully established its brand, especially among enthusiastic users and social media influencers. However, reviews suggest that Notion still needs to build its capacity to support enterprise customers on many fronts (partnerships, regional presence, and support and professional services) before it becomes suitable for them.

Product strengths/weaknesses: While Notion can be used to support CWM requirements, it is primarily used as a collaborative content workspace application. Notion is good for content collaboration, as it provides a blank page for users (maximum flexibility), enabling the author/creator to customize to their preferences. Customer reviews suggest satisfaction with Notion's intuitiveness and ease of use.

However, the customization that Notion allows can make it more difficult to use versus other CWM products with more explicit support for specific use cases. We note that reviews suggest Notion's focus on content collaboration workspaces has led to shortcomings with regard to work planning capabilities, forms building, programmable APIs, workflow and automation builders, and data management across the platform.

Exhibit 52: Gartner product reviews suggest Notion is better used for collaborative content creation than core CWM use cases
Gartner product score by use case versus top 10 CWM software vendors



Source: BofA Global Research, Gartner

BofA GLOBAL RESEARCH

Product roadmap: According to Gartner, Notion's roadmap includes enhancements in data management, formula handling, task dependencies, improved reporting with time-tracking, new integration connectors, a new desktop app, workflow and automation, expanded AI assistance, and broader support for specific business use cases.

Quickbase

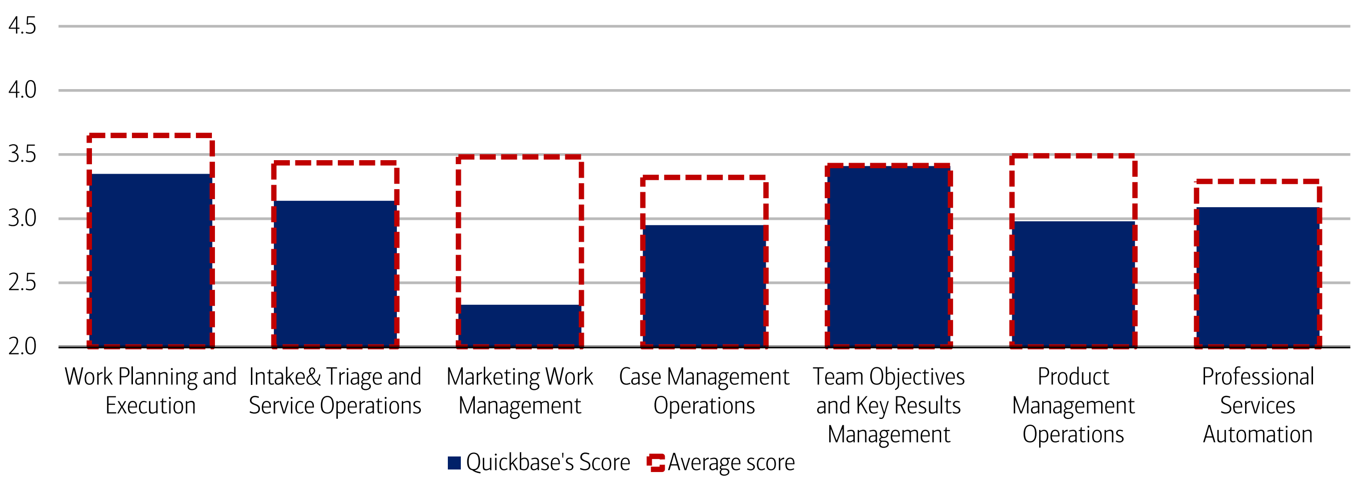
Quickbase (not covered) is headquartered in the US and operates primarily in North America, with a small presence in the Europe and APAC regions. The Quickbase platform focuses on no-code applications for business-led development initiatives, including work planning and tracking. The company primarily serves operations and line-of-business leaders and IT professionals. It increasingly serves clients in construction, real estate and facilities, public sector, infrastructure, and industrial equipment.

We estimate that Quickbase generates roughly $250mn in annual revenues. Quickbase works with nearly 6,000 organizations worldwide, including the top telecommunications, healthcare, retail, manufacturing, and technology companies in the Fortune 100. These customers include Proctor & Gamble, PTC, and Micron Technology. Press reports suggest that Quickbase is profitable and generates more than 50% of its revenues from enterprises with more than 1,000 employees. Quickbase has a robust partner ecosystem (mostly in the US) and marketplace, and has programs for selling into specific verticals and business functions.

Product strengths/weaknesses: While Quickbase can be used for CWM, its primary benefit is having a low-code development environment that accelerates the building of sophisticated work management solutions. Quickbase's focus on low-code development is attractive to fusion teams composed of developers and business technologists, but can make it more challenging for novice users. Reviews suggest that Quickbase's work planning capabilities are still evolving, and there is less maturity in content creation, collaboration workspaces, and "landing page" branding.

Exhibit 53: Quickbase is particularly attractive for low-code application development, but scores poorly for marketing use cases

Gartner product score by use case versus top 10 CWM software vendors



Source: BofA Global Research, Gartner

BofA GLOBAL RESEARCH

Product roadmap: According to Gartner, Quickbase's roadmap includes enhancements in interactive project planning and forms, in-field data collection (via a recent acquisition), data-driven content creation, simplification of the Pipelines experience for workflow modeling, and a broader selection of prebuilt use-case modules via the Quickbase Exchange.

Smartsheet

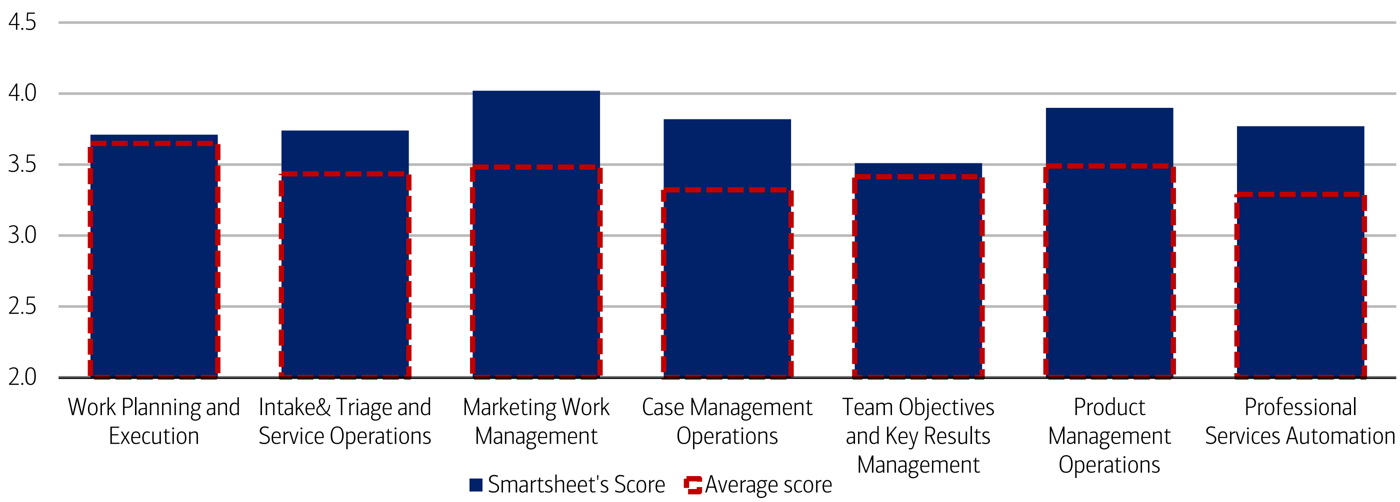
Smartsheet is headquartered in the US with offices in North America, EMEA, APAC, Japan and Latin America. Its product (also called Smartsheet) is a work management tool based on a spreadsheet approach, primarily targeting individuals in program management, operations, strategic transformation and marketing.

On January 17, 2024, Smartsheet announced that it reached $1bn in annualized recurring revenue. As of 3Q24, Smartsheet had more than 100,000 customers and 13.9mn users. Customers include Cisco, Proctor & Gamble, Iron Mountain, Johnson & Johnson, HP, and Autodesk. Smartsheet's customer base includes a sizable proportion of large deployments both directly and through partner programs, and has historically relied less than other vendors on generating demand via freemium versions. Smartsheet has a strong brand and prospective buyers (particularly large enterprises) always include the company on their shortlists. Reviews suggest that Smartsheet's pricing is aligned with most peers, but extra charges for integration connectors and optional modules make pricing less transparent and more complex than other vendors.

Product strengths/weaknesses: Smartsheet was one of the first vendors in the category to provide additional support for scaling large deployments through cross-platform workflows (Bridge) and data integration (Data Shuttle). Customer reviews note that Smartsheet could improve aspects of its user experience, emphasizing alternative available views beyond the spreadsheet which may not appeal to some users. Customers have also said the product can be difficult and too complex to use, particularly for those just starting out with it. And, relative to most peers, Smartsheet places less emphasis on non-core functionality for visual collaboration, document authoring, and universal search.

Exhibit 54: Smartsheet scored above average in each of the seven use case categories, with particular strength in marketing and product management

Gartner product score by use case versus top 10 CWM software vendors



Source: BofA Global Research, Gartner

BofA GLOBAL RESEARCH

Product roadmap: According to Gartner, Smartsheet's product roadmap includes enhancements in AI-driven guided assistance (for solution building, insights and data-driven content creation), improving its user interface, new views supporting real-time collaboration with live conversations, improved prebuilt solution exploration and identification, workflow usability and performance, as well as general improvements in the ability to scale product deployments.

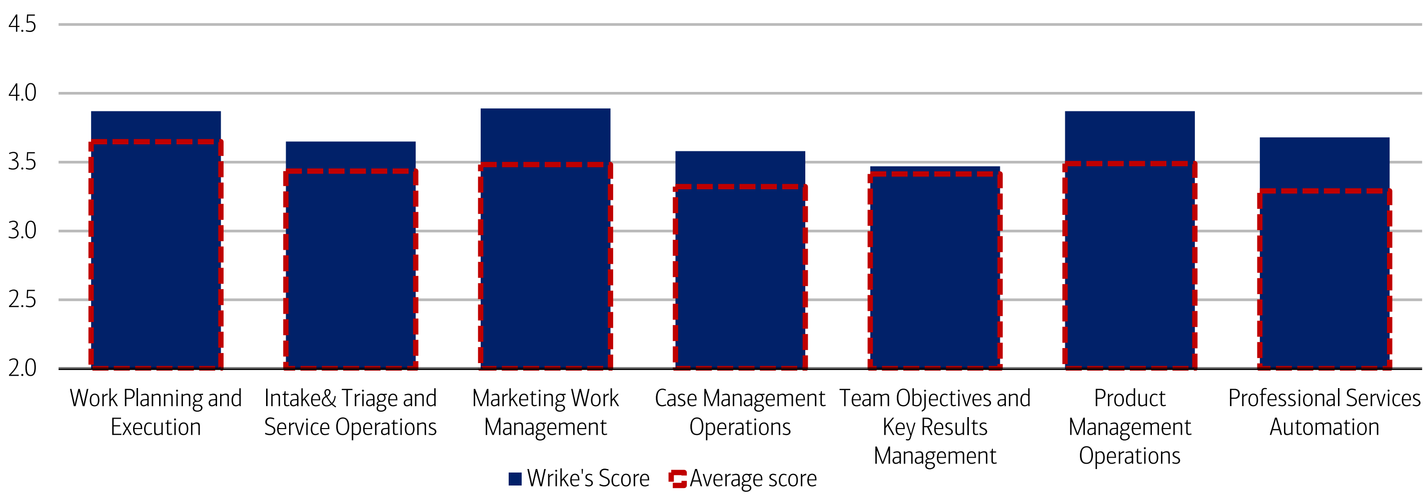
Wrike

Wrike (not covered) is headquartered in the US and has offices in the US, Europe, Japan and Australia. In 2021-2022, the company was briefly owned by Citrix (Wrike is now a private equity backed standalone company). Its product (also called Wrike) is focused on enabling effective collaboration between teams, and primarily targets marketing, IT, PMO (project management office), and professional services workers.

We estimate that Wrike generates roughly $260mn in annual revenues. Wrike is used by more than 20,000 companies in more than 140 countries and its customers include Capgemini, Sony, Philz Coffee, and Siemens. While Wrike was early to the CWM market, it is recovering momentum lost during the period under Citrix, when its market presence and brand recognition suffered. Wrike's emphasis on organic growth and prudent marketing spending resulted in above average profitability, but Gartner reports suggest Wrike also has a smaller customer base than peers with similar operating capacity.

Product strengths and weaknesses: Customers rated Wrike consistently high in capabilities and use cases, emphasizing its affordability and compliance capabilities. Beyond support for core CWM capabilities, Wrike offers use-case accelerators (such as productized versions for marketing and professional services teams). Gartner reports also suggest Wrike recently made significant improvements to its user interface and added enhancements in template reuse, batch provisioning, and no-code automations. While Wrike has a global presence, it has limited service partner coverage outside the US and Europe where it also hosts its two data centers – potentially making Wrike less attractive to large global clients.

Exhibit 55: Wrike scored above average in each of the seven use case categories, with particular strength in marketing and product management
Gartner product score by use case versus top 10 CWM software vendors



Source: BofA Global Research, Gartner

BofA GLOBAL RESEARCH

Product roadmap: According to Gartner, Wrike's product roadmap includes enhancements in automation with new triggers and actions, GenAI assistance (for automation, query and report building, and search), one-click project visualizations, an extensible data model, and customer use-case accelerator templates (Blueprints).

Exhibit 56: Stocks mentioned

Prices and ratings for stocks mentioned in this report

BofA Ticker	Bloomberg ticker	Company name	Price	Rating
ASAN	ASAN US	Asana	US$ 17.94	C-1-9
MNDY	MNDY US	Monday.com	US$ 207.9	C-1-9
SMAR	SMAR US	Smartsheet	US$ 42.04	C-3-9

Source: BofA Global Research

BofA GLOBAL RESEARCH

Price objective basis & risk

Asana (ASAN)

Our $25 PO is derived from a 6.4x 2025E EV/Revenue target multiple (0.3x growth adjusted). Our growth-adjusted target multiple is in line with the high-growth software group. We believe this is warranted given Asana's multiple levers for long-term growth, partially offset by its lower margin profile.

Downside risks to our PO are: 1) higher-than-expected layoffs in the tech sector leading to continued pressure on NRR (net revenue retention), 2) slower-than-expected progress in the company's go-to-market reorientation, and 3) pricing pressure from intensifying competition in the enterprise market.

Monday.com (MNDY)

Our $280 PO is derived from a 10.7x 2025E EV/Revenue target multiple (0.3x growth adjusted). That is a premium to the high growth software and collaboration software peer groups at 8.4x and 5.1x, but in line on a growth-adjusted basis. We think that valuation is merited given MNDY's higher growth profile and margin expansion potential.

Downside risks to our PO: 1) higher-than-expected user churn, 2) slower-than-expected incremental enterprise penetration, 3) weaker-than-expected adoption of recently introduced products, and 4) intensifying competition leading to pricing pressure.

Smartsheet (SMAR)

Our $45 PO is derived from a 4.6x 2025E EV/Revenue target multiple (0.25x growth adjusted). Our growth adjusted multiple of 0.25x is a discount to the high growth software group but relatively in line with the collaboration software peer group. We believe an in line multiple to the collaboration software peer group on an EV/Revenue/Growth basis is warranted given Smartsheet's favorable margin profile and revenue exposure, offset by a lower long-term growth outlook.

Upside risks to our PO are: 1) greater-than-expected new customer additions, 2) faster-than-expected improvements in gross user retention and net revenue retention, 3) more rapid adoption than expected of AI-enabled products, and 4) FCF margin expansion ahead of consensus estimates.

Downside risks to our PO are: 1) higher-than-expected user churn, 2) slower-than-expected incremental enterprise penetration, and 3) intensifying competition leading to pricing pressure.

Analyst Certification

I, Michael J. Funk, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

US - Enterprise Software Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	8x8	EGHT	EGHT US	Michael J. Funk
	Adobe	ADBE	ADBE US	Brad Sills
	Alarm.com	ALRM	ALRM US	Michael J. Funk
	Amplitude, Inc.	AMPL	AMPL US	Koji Ikeda, CFA
	Asana	ASAN	ASAN US	Michael J. Funk
	BILL	BILL	BILL US	Brad Sills
	CCC Intelligent Solutions	CCCS	CCCS US	Michael J. Funk
	Dynatrace	DT	DT US	Koji Ikeda, CFA
	Elastic NV	ESTC	ESTC US	Koji Ikeda, CFA
	GitLab Inc.	GTLB	GTLB US	Koji Ikeda, CFA
	Global-e Online Ltd.	GLBE	GLBE US	Koji Ikeda, CFA
	HubSpot	HUBS	HUBS US	Brad Sills
	Informatica Inc.	INFA	INFA US	Koji Ikeda, CFA
	Intapp Inc.	INTA	INTA US	Koji Ikeda, CFA
	Intuit	INTU	INTU US	Brad Sills
	JFrog Ltd	FROG	FROG US	Koji Ikeda, CFA
	MeridianLink, Inc.	MLNK	MLNK US	Koji Ikeda, CFA
	Microsoft Corporation	MSFT	MSFT US	Brad Sills
	Monday.com	MNDY	MNDY US	Michael J. Funk
	MongoDB Inc	MDB	MDB US	Brad Sills
	nCino, Inc.	NCNO	NCNO US	Adam Bergere
	NICE Ltd.	NICE	NICE US	Michael J. Funk
	NICE Ltd.	NCSYF	NICE IT	Michael J. Funk
	PagerDuty	PD	PD US	Koji Ikeda, CFA
	PowerSchool Holdings, Inc.	PWSC	PWSC US	Koji Ikeda, CFA
	RingCentral	RNG	RNG US	Michael J. Funk
	Salesforce.com	CRM	CRM US	Brad Sills
	ServiceNow	NOW	NOW US	Brad Sills
	UiPath	PATH	PATH US	Brad Sills
	Unity	U	U US	Michael J. Funk
	Weave	WEAV	WEAV US	Michael J. Funk
	Workday Inc.	WDAY	WDAY US	Brad Sills
	Zeta Global	ZETA	ZETA US	Koji Ikeda, CFA
	ZoomInfo	ZI	ZI US	Koji Ikeda, CFA
NEUTRAL				
	Autodesk	ADSK	ADSK US	Michael J. Funk
	Bentley Systems	BSY	BSY US	Michael J. Funk
	BigCommerce Holdings, Inc.	BIGC	BIGC US	Koji Ikeda, CFA
	Coveo	YCVO	CVO CN	Koji Ikeda, CFA
	Datadog Inc	DDOG	DDOG US	Koji Ikeda, CFA
	DocuSign	DOCU	DOCU US	Brad Sills
	Freshworks, Inc.	FRSH	FRSH US	Adam Bergere
	HashiCorp	HCP	HCP US	Brad Sills
	Jamf	JAMF	JAMF US	Koji Ikeda, CFA
	Lightspeed Commerce Inc.	LSPD	LSPD US	Koji Ikeda, CFA
	Lightspeed Commerce Inc.	YLSPD	LSPD CN	Koji Ikeda, CFA
	Oracle Corporation	ORCL	ORCL US	Brad Sills
	Paycom	PAYC	PAYC US	Adam Bergere
	Paylocity	PCTY	PCTY US	Adam Bergere
	Shopify, Inc.	SHOP	SHOP US	Brad Sills
	Snowflake	SNOW	SNOW US	Brad Sills
	Veeva Systems, Inc.	VEEV	VEEV US	Brad Sills
	Zoom Video Communications	ZM	ZM US	Michael J. Funk
UNDERPERFORM				
	AvidXchange, Inc.	AVDX	AVDX US	Brad Sills
	Blackbaud, Inc.	BLKB	BLKB US	Koji Ikeda, CFA
	BlackLine, Inc.	BL	BL US	Koji Ikeda, CFA
	C3.ai	AI	AI US	Brad Sills
	Confluent	CFLT	CFLT US	Brad Sills
	CS Disco, Inc.	LAW	LAW US	Koji Ikeda, CFA
	Dropbox	DBX	DBX US	Michael J. Funk
	Enfusion, Inc.	ENFN	ENFN US	Koji Ikeda, CFA
	Five9	FIVN	FIVN US	Michael J. Funk

US - Enterprise Software Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	Guidewire Software, Inc.	GWRE	GWRE US	Michael J. Funk
	Smartsheet	SMAR	SMAR US	Michael J. Funk
	Twilio	TWLO	TWLO US	Michael J. Funk
	Vertex, Inc.	VERX	VERX US	Brad Sills
RSTR				
	Splunk	SPLK	SPLK US	Brad Sills

Disclosures

Important Disclosures

Equity Investment Rating Distribution: Technology Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships [R1]	Count	Percent
Buy	215	53.09%	Buy	111	51.63%
Hold	97	23.95%	Hold	45	46.39%
Sell	93	22.96%	Sell	24	25.81%

Equity Investment Rating Distribution: Global Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships [R1]	Count	Percent
Buy	1895	53.62%	Buy	1083	57.15%
Hold	832	23.54%	Hold	454	54.57%
Sell	807	22.84%	Sell	383	47.46%

[R1] Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster[R2]
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

[R2] Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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