

Sleep Cycle

Sector: Consumer Software

A Sleeping Beauty

Sleep Cycle is an organic growth success story with an attractive business model enabling healthy margins. It is the sleep-tracking application market leader with the highest brand awareness among consumers worldwide and is set to leverage its position through several new growth initiatives, including performance marketing and B2B channels. We see an upside in the share, which has dozed off a little since the IPO last summer.

Number one in a fast-paced market

Sleep Cycle has achieved >50% market share almost exclusively through an incredible organic customer intake. The business model is asset-light (software), 100% subscription-based, has a good cash conversion rate (>100%) due to annual upfront payments, and requires relatively low reinvestment needs. The number of paid subscribers increased by a 13% CAGR in 2018-2020, and net revenue growth was above 30% in the two years running up to 2021, while adjusted operating margins were around 40%. Going forward, the focus will be more on growth than on historical margins, as Sleep Cycle explores paid channels.

Coronasomnia and double-edged app stores

Sleep Cycle has had a soft 2021 with lower daily activity and a slow-down in new subscribers. Changed bedtime and morning patterns, such as later wake-up times due to working from home, have been stated as possible reasons. Consequently, we believe these issues are temporary. Moreover, Google's and Apple's app stores have given Sleep Cycle access to millions of customers and a global userbase as the highest-rated sleep app. However, the app-store duopoly is a double-edged sword, as sleep is a central piece of the health puzzle, a desirable area the tech giants are investing evermore into. Competition could thus potentially become fiercer, which we believe is reflected in the current valuation.

Upside of some 30% - strong and profitable growth ahead

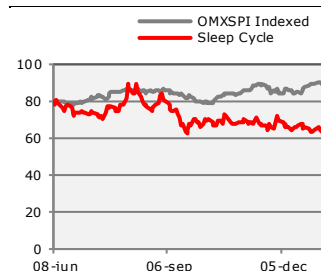
We see a compelling investment case as Sleep Cycle is a well-managed quality business with solid and profitable growth prospects. Redeye's Base Case is **SEK 77**.

Key Financials (SEKm)	2019	2020	2021E	2022E	2023E	2024E
Revenues	123	159	184	234	302	394
Revenue growth	31%	30%	15%	27%	29%	31%
EBITDA	53	57	12	50	69	100
EBIT	52	56	11	47	63	93
EBIT Margin (%)	42%	35%	6%	20%	21%	23%
Net Income	42	44	8	37	51	74
EV/Revenue			5,9	4,1	3,0	2,0
EV/EBITDA			87,5	19,1	12,9	7,9
EV/EBIT			102,1	20,6	14,1	8,6

FAIR VALUE RANGE

BEAR	BASE	BULL
40	77	110

VERSUS OMXS30



REDEYE RATING

4	4	4
People	Business	Financials

KEY STATS

Ticker	SLEEP
Market	Small Cap
Share Price (SEK)	59.4
Market Cap (MSEK)	1154
Net Debt (MSEK)	-145
Free Float	28%

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Important information: All information regarding limitation of liability and potential conflicts of interest can be found at the end of the report

Investment Case

An organic success story with an attractive business model

Buying into Sleep Cycle, investors gain access to the leading sleep tracking app (>50% market share), which has taken the top spot largely thanks to outstanding organic subscriber intake. The number of paid subscribers increased by a 13% CAGR between 2018 and 2020, and net revenue growth surpassed 30% in the two years ahead of 2021. Moreover, adjusted operating margins have ranged between 39-42%. The business model is asset-light (software), 100% subscription-based, has a good cash conversion rate (>100%) due to annual upfront payments, and has relatively low reinvestment needs (however, new and innovative product development needed). Consequently, we see Sleep Cycle set to continue its reporting of strong profits and solid growth.

Covid-19 has affected the company's near-term numbers somewhat, and growth slowed down to about 15% in Q1-Q3 2021. Moreover, as more capital has been invested in performance marketing, adjusted operating margins have hovered around 21% for the past nine months. We expect growth to be a little slower in 2022 as well, thanks in part to the trailing twelve-month organic subscription intake.

Well-positioned in a growing market

Public interest in sleep has spiked in recent years, partly owing to increased awareness of the health risks associated with sleep deprivation and the physical and cognitive benefits of good sleep. Sleep Cycle is well-positioned in this growing market, we believe, valued at around SEK 5bn in 2020, according to Strategy&. Furthermore, the same report estimates that the market will grow by approximately 19% a year in 2020-2025, primarily driven by increased demand, a willingness to pay for digital health services, and the expanding adoption of subscription-based business models. Thus, investors are buying into a company with significant market tailwinds and a strong competitive position.

Data moats, high engagement, and brand awareness

Sleep Cycle has around 2.1 million monthly users and an extensive database comprising more than 480 million nights of sleep data. The technology benefits from the significant network effects (positive feedback loops) of a higher number of engaged users creating more data which improves user value through increased sleep tracking accuracy and more personalized insights. This turn drives a higher number of active users. That engagement is demonstrated by Sleep Cycle's world-class daily/monthly user activity (DAU/MAU) ratio of 50%.

Sleep Cycle also benefits from having the highest brand awareness among consumers (32% compared to the 19% of its closest peer). Moreover, Sleep Cycle is the highest-rated sleep tracking app based on the most crucial key purchase criteria, including simplicity of use, accuracy of measurement, price, and quality and depth of functionality. In addition to high rankings across all major app stores, Sleep Cycle's combination of good app content relative to price explains why so many users have found it through organic discovery.

Several avenues for further growth

Sleep Cycle has grown primarily thanks to strong organic discovery (high and positive rankings on app stores), word of mouth (recommendation by a friend), social media influencers, etc. However, there are several other avenues for growth. First, Sleep Cycle is expanding its

marketing efforts and is making inroads into paid channels. When the performance marketing has been finetuned, and profitability has increased among non-organic subscribers, we expect Sleep Cycle to start investing much more in ads.

Second, Sleep Cycle is expanding its reach by partnering with companies, combining its product offering, and integrating the Sleep Cycle experience with these partners' products. A recent example of this is the collaboration with Samsung, where Sleep Cycle is integrated into the Samsung Health software and Galaxy smartwatch. In addition, Sleep Cycle is also leveraging its well-established consumer platform offering to corporate wellness solutions. The corporate wellness product roll-out was initiated in Sweden in 2021 and is still in the early stages of expansion, with self-service subscription management and purchase workflow in place. However, we expect this channel to add considerable volumes going forward. (Worth mentioning is that many types of companies, for example, insurance firms, are looking into the sleep-related market to find insights, and then Sleep Cycle, with its market-leading position, becomes a natural partner).

And third, in a few years' time, Sleep Cycle intends to expand its product offering in the mHealth market. It could use its unique dataset in areas such as remote monitoring, diagnosis, treatment, and prevention. We thus have some expectations of this in the medium term. Should it succeed, Sleep Cycle could add yet another growth leg to the company. In Q3 2021, Sleep Cycle's data was classified as health data from a privacy perspective, indicating opportunities in the medical field.

Counter Thesis

Competition from Apple and Google

Sleep Cycle sells primarily through Apple App Store and Google Play Store and has benefited tremendously from the two tech companies' reach to consumers worldwide. However, we argue that Apple and Google also represent possible competition, as both have recently increased investments in sleep health and tech, with their health informatics apps, Apple Health and Google Fit, and wearables that would gain from having more sleep data and functions targeting sleep. Still, Sleep Cycle's niched focus, extensive database, and knowledge make it an attractive value-added supplement to these larger health informatics apps. Although there is a risk that Apple and Google want to take sleep in-house, we believe Sleep Cycle has a place in the market and should be fairly competitive with its dedicated sleep tracking.

LTV/SAC on non-organic subscribers do not improve

Sleep Cycle's current LTV/SAC on paid channels is relatively low at 1.5x, hurting its short-term margins. We expect the ratio to strengthen, but should it not, medium to long-term profitability could suffer if Sleep Cycle were to favor volumes and market share. Consequently, there could be a trade-off between growth and profitability.

New distribution channels and expanded product offering fail

Sleep Cycle is seeking to expand into new user channels via partnerships (such as Samsung) or through its corporate wellness offering. The latter is a new initiative that targets companies, who are increasingly focusing on employee health, aiming to improve productivity and employee well-being. As sleep is a key piece in that puzzle, there should be a rationale for more B2B subscriptions, which could add quite large volumes albeit at possible discounts. However, as the initiative is newly started, it is too early to judge whether it will be a success or not. Still, the initial responses have been positive.

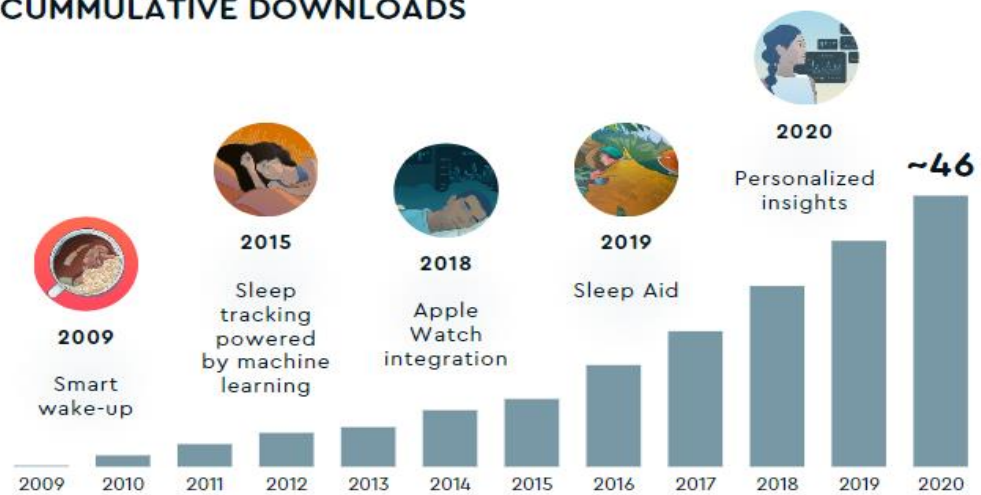
Business Overview

Short Introduction

Sleep Cycle is a market leading (>50% market share) sleep tracking app that helps users to improve their health through better sleep. The app uses an AI-based audio technology to measure, quantify, and provide personalized insights based on the company's sleep database (~455 million nights of data). Sleep Cycle operates primarily on the mobile sleep tracking app market, which is defined as applications that can offer basic functionality, including sleep tracking, smart alarms, and snore detection. Consequently, most users access the app through their smartphones, purchasing it via channels such as Apple App Store, Google Play Store, and Huawei App Gallery.

Sleep Cycle's history

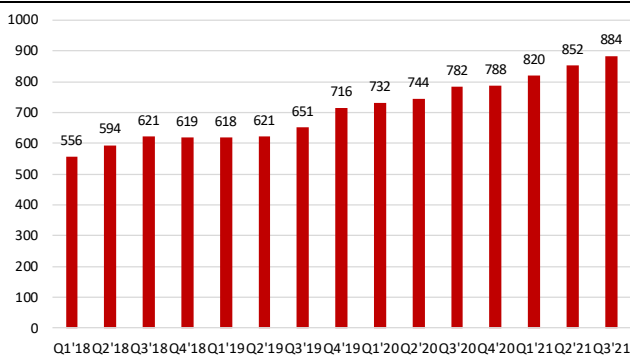
CUMMULATIVE DOWNLOADS



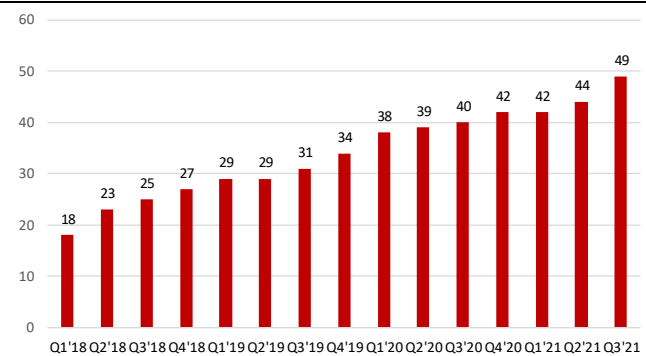
Source: Sleep Cycle

Sleep Cycle was founded in 2009 as a smart alarm app and has steadily grown organically since then, hitting 884,000 subscribers in Q3 2021 and a net revenue of SEK 168m (for the trailing 12 months). Its revenues are subscription-based with annual plans, and the average annual subscription is SEK 209 (ARPU). In addition, Sleep Cycle has more than 2 million monthly active users (subscribers and non-subscribers), the app has been translated into 13 languages, and the userbase spans in excess of 150 countries. Sleep Cycle is headquartered in Gothenburg, Sweden, and has 37 employees.

Total number of subscribers (in thousands)



Sleep Cycle's net revenue (SEKm)

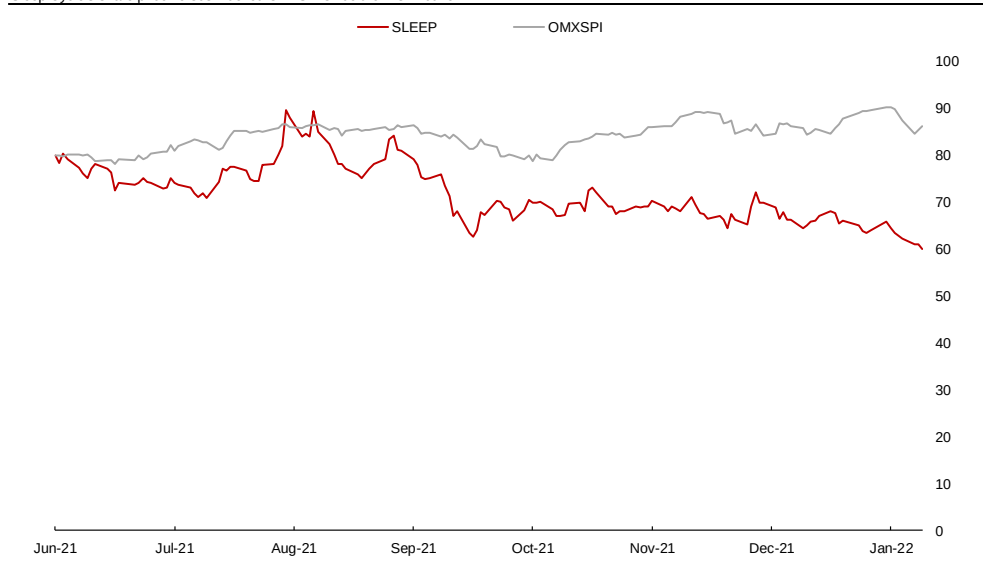


Source: Sleep Cycle

Share Price Development

Sleep Cycle's IPO price was SEK 70 and it begun trading above that level. However, since then, it has been in a slow but steady decline and at the time of this writing, the share traded below SEK 60.

Sleep Cycle's share price versus indexed OMXSPI since the IPO in June



Source: Redeye Research

Board and Management

Sleep Cycle's board and management comprise well-rounded teams from diverse backgrounds. Members' educations are strongly coupled with economics, engineering, and computer science at top-tier Swedish and Nordic institutions. Moreover, we recognize the impressive merits of the board of directors, covering several industries, especially finance. We note an extensive entrepreneurial background among executive management, with members having founded and led own companies such as MATCHi (the CEO) and bringing experience from high-growth companies such as Spotify, as illustrated below/appendix.

Insider ownership is quite low, however. The combined management and board holdings comprise less than 1% of the capital. While this is bound to increase somewhat through several warrant programs, it will likely take some time. Sleep Cycle has long been led by its founder. Maciej Drejak and early investor Pierre Siri, who together own ~68% of the capital. Since neither of them now remain on the board or in executive management, insider ownership is non-meaningful (however, Lars Berg has ties to Pierre Siri). Either way, we would consider insider transactions as positive.

Board					
Names	Position	Since	Shares (t)	Warrants (t)	Notes
Lars Berg	Chairman	2020	38,0	24,0	BSc in Economics from the Gothenburg School of Economics. Solid background as CEO/executive director, including Telia.
Anne Broeng	Director	2020	10,0	12,0	MSc in Economics from University of Aarhus. Previously, President, CFO and CIO at PFA Pension, Current Chairwoman of Asta & Jul.P Justesen Fond and Velliv, among others.
Olof Nilsson	Director	2020	0,4	12,0	MSc in Physics from KTH. Extensive 25+ year venture capital experience, including head of early investments at AP6. Current board member at Hemverket and High Estate, among others.
Rasmus Järborg	Director	2020	32,0	12,0	MSc in Economics from Stockholm School of Economics. Previously, CPO at Nordnet and several senior positions at SEB and UBS. Current Chairman at Shareville and board member at Nordnet Ventures.
Ödgård Andersson	Director	2021	0,4	12,0	MSc in Mechanical Engineering from Chalmers. Current CEO of Zenseact AB and significant experience from the automotive and telecom industries. Current board member at Volvo Cars Technology Fund.

Management					
Names	Position	Since	Shares (t)	Warrants (t)	Notes
Carl Johan Hederöth	CEO	2018	24,5	589,9	BSc in Informatics from Gothenburg School of Economics. Product owner at Sleep Cycle prior to being appointed CEO. Entrepreneurial background, having founded MATCHI, in addition to extensive consultancy experience.
Per Andersson	CFO	2021	2,0	51,1	MSc in Economics from Gothenburg School of Economics. Most recently CFO at Gapwaves, listed on First North. Prior to that, at KPMG, Mondelez International, and PwC.
Samuel Cyprian	CCO	2021		95,6	MSc in Computer Science from Uppsala University. Extensive marketing and business development experience, most recently at Spotify's growth team.
Mikael Kågemark	CTO	2021	0,5	71,0	PhD in Technology and Computer Science from Chalmers. Specialized in machine learning and AI at Chalmers. Also, experience from H&M and the Swedish Air Defense.
Sandra Hansson	CPO	2021		45,8	MSc in Information Technology from Chalmers. Most recently, senior product manager at Spotify. Prior to that, Collector Bank.
Cecilia Mikkov	Chief HR Officer	2021		14,1	BSc in Human Resources with a psychology specialization from Stockholm University. Significant experience from developing and managing tech companies. Most recently, HR at NetEnt.

Redeye Research

Ownership Structure

Sleep Cycle is owned and controlled by its founder, Maciej Drejak, and early investor Pierre Siri (GLA Invest), who together hold more than 68% of the capital. Our understanding is that the lock-up period on their holdings has expired as of the time of writing. A meaningful sell-off could have a short-term negative effect on the share price (we have no indication of them intending to sell). That said, we recognize several institutions on the ownership list, including Coeli, SEB, and Lancelot Asset Management, which we consider positive and believe validates the case further.

Ownership						
Rank	Shareholder	A-Shares	B-Shares	Total Shares	Share Capital	Voting Rights
1	Maciej Drejak	0.0	8.5	8.5	43.9%	43.9%
2	GLA Invest SA	0.0	4.6	4.6	23.7%	23.7%
3	Handelsbanken Fonder	0.0	1.1	1.1	5.8%	5.8%
4	Skandia Fonder	0.0	0.7	0.7	3.7%	3.7%
5	Petter Wallin	0.0	0.7	0.7	3.6%	3.6%
6	Coeli	0.0	0.6	0.6	3.2%	3.2%
7	Nordnet Pensionsförsäkring	0.0	0.6	0.6	3.1%	3.1%
8	SEB Fonder	0.0	0.5	0.5	2.6%	2.6%
9	Avanza Pension	0.0	0.4	0.4	1.9%	1.9%
10	Lancelot Asset Management AB	0.0	0.3	0.3	1.5%	1.5%
	Total 10 Largest Shareholders	0.0	18.0	18.0	92.9%	92.9%
	Others	0.0	1.4	1.4	7.1%	7.1%
	Total Number of Shares	0.0	19.4	19.4	100.0%	100.0%

Source: Modular Finance as of 31 December 2021

Value Proposition and Product Offering

Sleep disorders have become more common due to our modern lifestyles, stress, and an increased usage of devices that disrupt our sleep patterns. Lack of sleep and bad sleep quality were identified as a public health epidemic by the US Center for Disease Control in 2014, implying significant societal and individual value for any solution that can improve sleep.

50% of people are sleeping worse and the majority don't know how to solve it



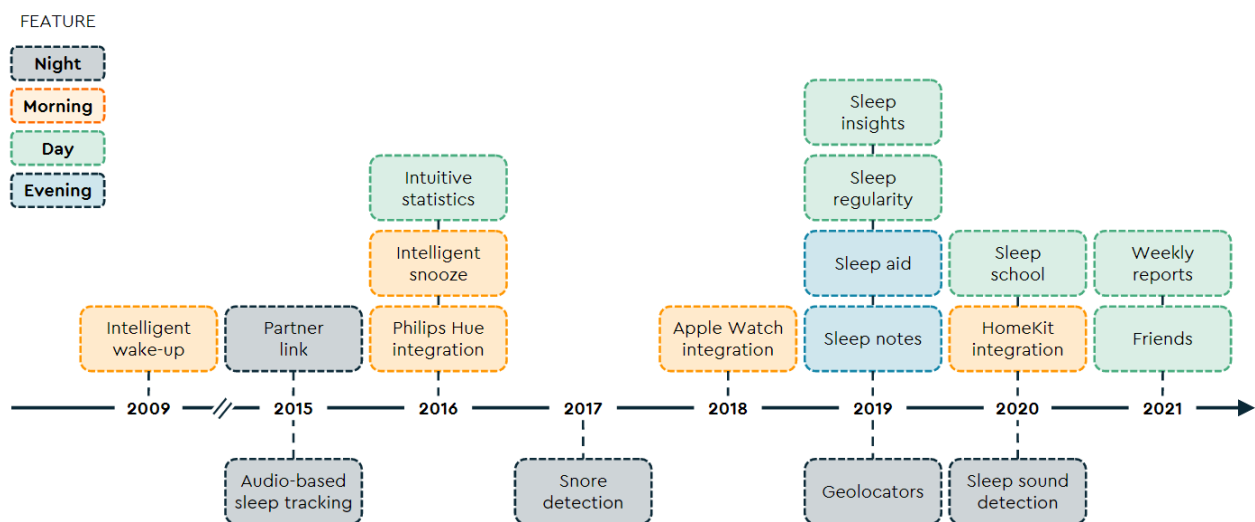
Source: Center for Disease Control and Prevention (2016), Philips Sleep Study (2020)

Product overview

Sleep Cycle offers a comprehensive sleep platform that helps users take control of their routines, leading to improved sleep and the feeling of waking up rested. It is combined with several sleeping aids, such as soothing sounds and calming bedtime stories, as well as a smart alarm that wakes the user during a set interval when sleeping most lightly. At its core, Sleep Cycle's app is an autonomous sleep tracking tool that listens to the sounds of sleep, analyzes those sounds using its proprietary machine-learning algorithms, and then presents the generated results and insights. The app is easy to use, just turn it on and put it on the nightstand, and the app does the rest. Everything it records and stores is private and local on the smartphone. Users can also opt in and use an accelerometer (such as a smartwatch) to track movement and other health data during the night. The platform has been developed over more than a decade and offers features for morning (waking up rested), day (taking control of daily routines), evening (falling asleep more easily), and night (understanding sleep better).

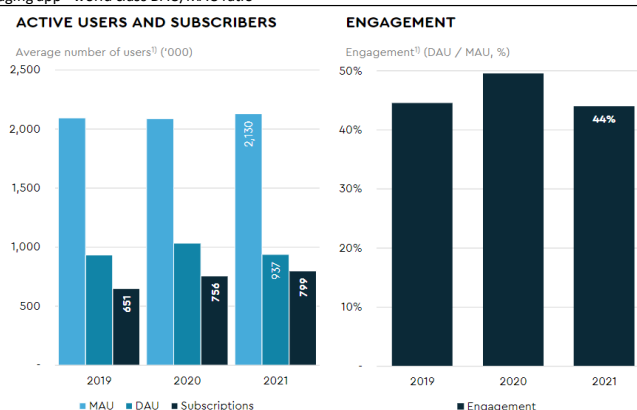
Sleep Cycle has evolved into a comprehensive sleep platform with features for night, morning, day and evening

PRODUCT DEVELOPMENT TIMELINE AND FEATURES RELEASED



Source: Sleep Cycle user survey from 2020

Sleep Cycle offers an engaging app - world class DAU/MAU ratio



Source: Sleep Cycle

Sleep Cycle offers free and premium content, both of which are highly engaging. In 2020, it had around 2.1 million users in total and around 50%, or 1 million, were daily users (the average user woke up with Sleep Cycle on four of seven days per week), giving it a world-class DAU/MAU ratio of around 50%. This demonstrates how sticky the offering is and how tightly integrated the app is with many users' daily routines. Consequently, it does not come as a big surprise that its user ratings are excellent and that most of its traffic is organic.

Sleep Cycle has favorable ratings and reviews on the major app stores

Ratings and Reviews

[See All](#)

4.7 out of 5

322.8K Ratings



Editors' Choice

When your alarm goes off in the morning, is your first reaction to throw it against the wall? The problem isn't with you—it's with your alarm clock. Thankfully, Sleep Cycle offers a clever solution for improving your rest. Rather than yanking you from your slumber at a [more](#)

★★★★★

earlyweaspradax, 06/01/2021

Overdue Review

It's long overdue that I write a review for [more](#)

Developer Response,

Wow! You made our day, thanks so much [more](#)

★★★★☆

Mahadevi9, 09/04/2020

It's ok, more for entertainment

I like the program, wish it were more acc: [more](#)

Developer Response,

Hello and thank you for your kind and [more](#)

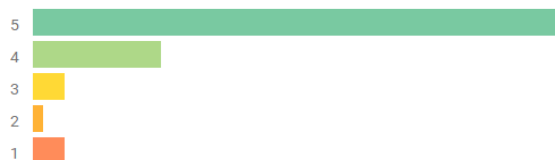
RECESSIONER

[Granska policyn och informationen](#)

4,5



147 352 totalt



Source: App Store & Google Play, Sleep Cycle's pages

Smart Alarm – the original feature

Sleep Cycle began as a smart alarm clock back in 2009, waking the users up during their lightest sleep phase within a pre-determined time interval, based on users' sleep patterns. Subscribers can set a wake-up time interval of between 10 and 45 minutes but the app also offers an instantaneous alarm bell (snooze included). The smart alarm helps users wake up feeling rested with the use of carefully crafted melodies and sounds, and it can be integrated with devices such as Philips Hue and HomeKit, to allow for even gentler wake-up. According to a survey carried out in 2020, 69% of all Sleep Cycle users feel more refreshed and rested when using the app.

Screenshots of the Sleep Cycle's various features

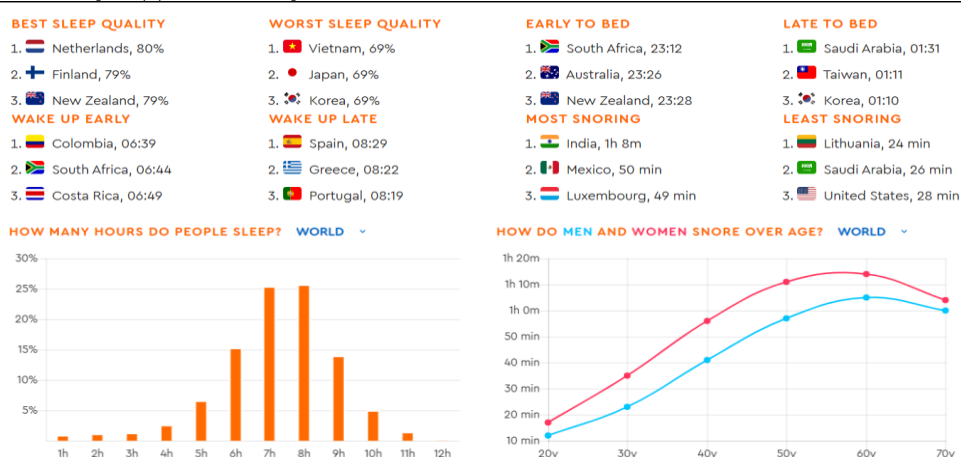


Source: App Store, Sleep Cycle page

Sleep Tracking – insights into the core product today

The Sleep Cycle app tracks users' sleep patterns through its proprietary sound detection technology, Aurora, in real time and locally on a device (typically a smartphone). It then provides detailed summaries of sleep sounds and disruptions, such as snoring, coughing, background noise, sleep talking, inhaling, and exhaling, from which its machine learning algorithms can present users with an idea of the quality of their rest and what influences that quality. The app generates easily digestible sleep reports and detailed graphs into sleep quality. It also calculates a score in a 1-100 range, based on a number of factors, such as movement, time in deep sleep state, times fully awake during the night, bedtime regularity, time spent in bed, etc. The app thus produces real insights, as well as some entertainment with saved sounds. Moreover, users can gain additional understanding by using the wake-up notes, a function that lets them discover correlations between sleep quality and wake-up mood by answering a few questions straight after the alarm has been turned off.

The broad user base gives Sleep Cycle and the users interesting benchmark statistics



Source: Sleep Cycle

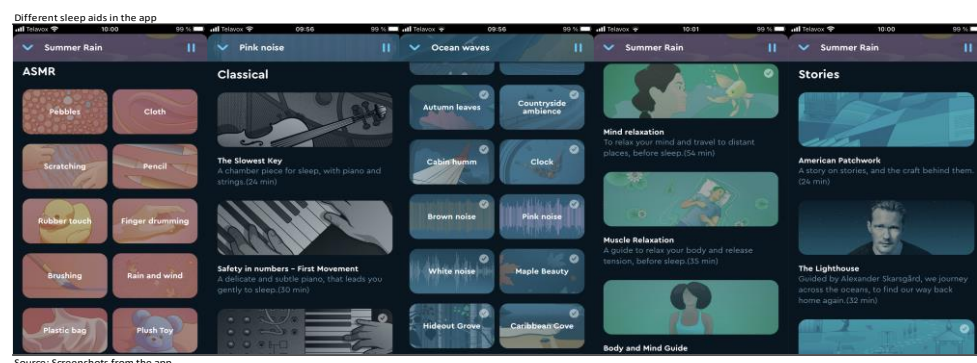
The algorithms have been trained on more than 455 million nights of sleep and can differentiate between all the four sleep stages and track how users progress through various sleep cycles (typically, we go through four to six each night). The Aurora technology operated with 91% sleep/wake accuracy in 2020, up from 83% in 2019 (this is comparable to the precision one can find in wearable devices (approximately 93-90%)).

Sleep tracking is the core feature of Sleep Cycle, and it is a key differentiator from many other sleep and meditation apps available on the app stores. Two of the biggest, Calm and Headspace, offer sleep aid and meditation but not sleep tracking. We argue that the sleep tracking insights are crucial, and 72% of Sleep Cycle's users report that they sleep better having started using the app. Through sleep tracking, users can gain understandings into how bedtime regularity, for example, affects sleep quality. It gives a more holistic view of the whole sleep puzzle.

Furthermore, Sleep Cycle's sound detection/analysis has the benefit of not needing an accelerator, i.e., a wearable or a smartphone placed on the bed. It also enables users to gain a better understanding of exactly what is disrupting their sleep, based on different classes of sounds, such as sleep apnea (which is a major and every so often undetected health issue).

Sleep Aids

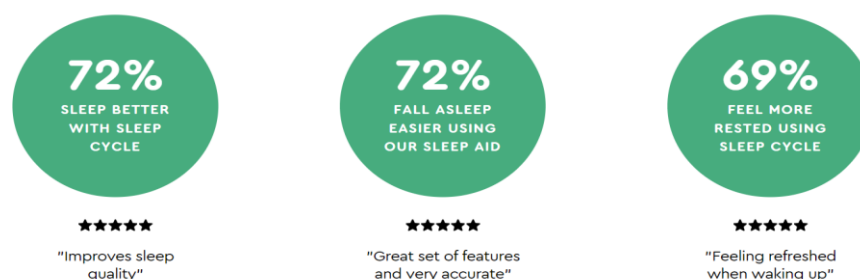
Sleep Cycle's app has several sleep aids, including guides (mind, body, breathing etc.), calming bedtime stories, slow pieces of classical piano and string music, calming soundtracks, bedtime rhymes (peaceful words accompanied by soft music), spatial audio (forest walk), and ambient sounds (such as ocean waves, rainfall, white noise etc.). The sleep aids can be set to fade out as the user falls asleep or remain on for the duration of the night if wanted.



Source: Screenshots from the app

The content has been created by external producers and sound engineers, and is specifically designed to calm the mind, helping users to fall asleep more easily. This tool was introduced in 2019, and more than 15% of the app's active users have tried the aids for at least one minute. Of this group, around 45% said they have used it multiple times (>5x) a month when the survey was conducted. Accordingly, 72% of the users reported that the sleep aids helped them to fall asleep better. The app also has sleep notes, a diary that tracks the users' general mood, stress, and other health indicators and how these correlates with sleep patterns.

Sleep Cycle helps users fall asleep easier and sleep better



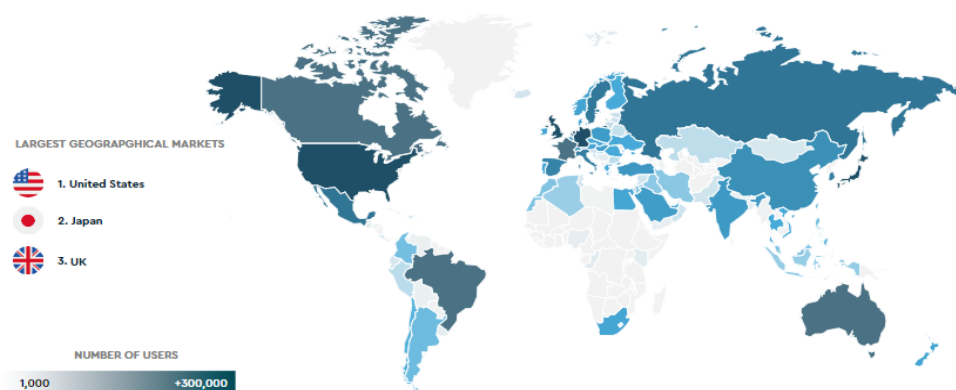
Source: Sleep Cycle user survey from 2020

Subscription-Based Business Model – Freemium and Premium

A typical user

Sleep Cycle is primarily a B2C consumer software subscription (CSS) company with close to 100% recurring revenues. It is available in more than 150 countries and 13 languages, catering to a customer base of ~2.1 million. In March 2021, the app had been downloaded 48 million times. Given the growth in 2021, we expect that number to have surpassed 50 million by now.

Geographical distribution of Sleep Cycle's userbase early 2021



Source: Sleep Cycle

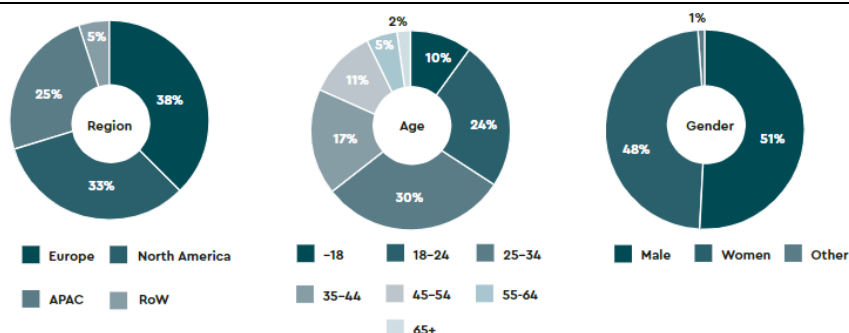
Sleep Cycle's userbase is widely dispersed around the globe. In Q1 2021, 38% of users were in Europe, 33% in North America, 25% in Asia-Pacific, and 5% in the rest of the world. This is not surprising, as sleep problems are universal. However, one can see a slight tilt towards the West, which could mirror a higher willingness there to pay and greater usage of smartphones. The US, Japan, and the UK constituted the three largest geographical markets. The gender split among users is fairly even and there are users across all age categories, although younger people in the range of 18-34 are overrepresented. This group is also the first smartphone-native generation(s), which should indicate that Sleep Cycle has strong demographical tailwinds.

The app's available languages are spoken by about 55% of the world's population (L1 and L2 speakers)



Source: Sleep Cycle

Granular view on the user distribution

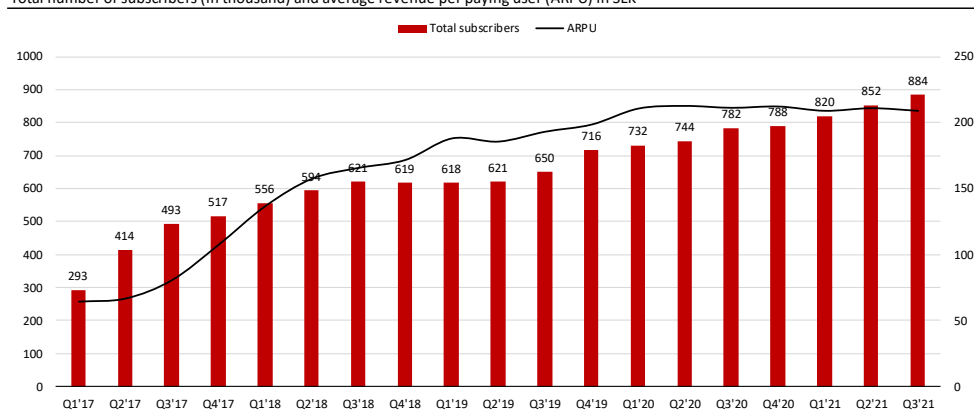


Source: Sleep Cycle

Freemium and premium

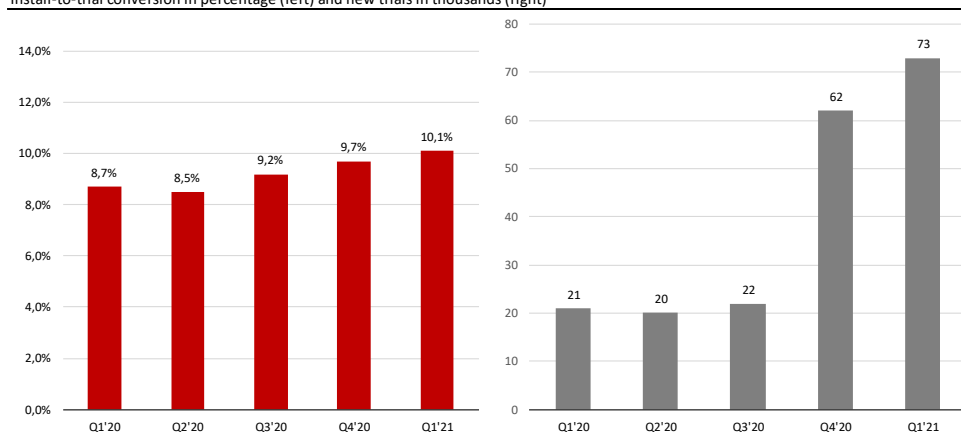
Sleep Cycle uses the 'freemium' business model, whereby users get basic features at no cost and can access richer functionality for an annual subscription fee. As for most companies in the consumer subscription software field, competition is fierce, and a company needs to win over as many potential customers as possible. One way is to have a competitive pricing strategy, another is to have a free plan (freemium strategy) that removes hurdles for people to try out the service and see if they enjoy it at no cost. A considerable portion of Sleep Cycle's active users pay - slightly more than 40% or 884,000 in Q3 2021. The large non-paying group is evidently enjoying the service, as the users are active. Conversion should thus be more accessible and cheaper for this group. Moreover, most new features that are being introduced in the app are premium-only, and the freemium users are being exposed to these new launches. Sleep Cycle confirmed that new product launches temporarily increase the conversion rates of this meaningful non-paying group of about 1.2 million. More frequent product launches should thus improve conversion rates and could be seen as a kind of marketing tool.

Total number of subscribers (in thousand) and average revenue per paying user (ARPU) in SEK



Source: Sleep Cycle

Install-to-trial conversion in percentage (left) and new trials in thousands (right)



Source: Sleep Cycle

In total, Sleep Cycle converts approximately 9-10% of all the downloads into a seven-day trial period with full premium content. Of that group, two-thirds upgrade to an annual premium subscription, which corresponds to a 6% paying subscriber conversion rate of all downloads. As most apps have a paying conversion rate of 0.5%-2% according to Sweetpricing, we can conclude that Sleep Cycle's conversion rates are good, especially from the trial period to the premium stage. This, once again, is a telltale sign of customers enjoying the content and insights.

Functionality comparison between freemium and premium

Functionality	Freemium	Premium
Intelligent wake-up	✓	✓ (ability to alter timing of wake-up window)
Sleep analysis	✓	✓
Nightly sleep graph	✓	✓
Alarm melodies	✓ (4 melodies)	✓ (21 melodies + own music)
Intelligent snooze	✓	✓
Apple Health integration ¹⁾	✓	✓
Google Fit integration ²⁾	✓	✓
Database export ¹⁾	✓	✓
Online back-up	✗	✓
Full access to all statistics	✗	✓
Sleep aid	✗	✓
Snore detection	✗	✓
Sleep notes	✗	✓
Wake-up mood	✗	✓
Wake-up weather report	✗	✓
Heart rate tracking ¹⁾	✗	✓
Philips Hue integration ¹⁾	✗	✓

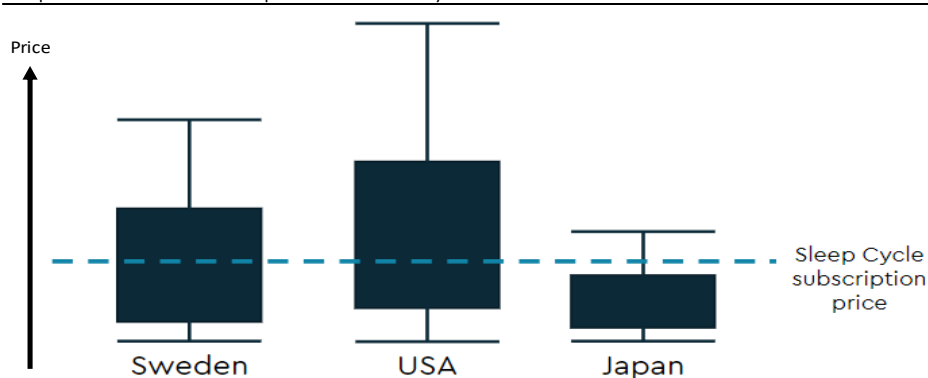
Source: Sleep Cycle

Pricing and perceived value

In Q3 2021, the ARPU for Sleep Cycle was SEK 209, which is somewhat below the app's standard price on App Store and Google Play of SEK ~270. Sleep Cycle uses fixed premium prices today all around the world of USD 29.9 (which it then converts to local currencies, such as SEK, JPY, or EUR). The ARPU, which is reported in SEK, is thus subject to FX head- and tailwinds. The current subscription model was introduced in 2015. Initially, the company explored different subscription lengths and price ranges, before settling on USD 29.9 (not accounting for localization variations) and one-year subscription lengths in Q1 2018. The ARPU has been moving upward since 2017, thanks to the new price point and churn from old subscriptions at a lower price. The stagnation in Q1-Q3 2021 has solely been due to FX headwinds, as the SEK strengthened against other currencies, including major ones such as USD and EUR.

Moreover, trials show there are considerable differences in users' willingness to pay for the content between countries (the same survey showed that Sleep Cycle is top ranked on price). Therefore, we would not be surprised to see future price revisions that mirror that elasticity, such as higher ARPU in the US and lower in emerging growth markets such as China, India, and Indonesia, in order to drive volume/growth. In the future, the APRU could thus be subject to some impact depending on country adoption rates.

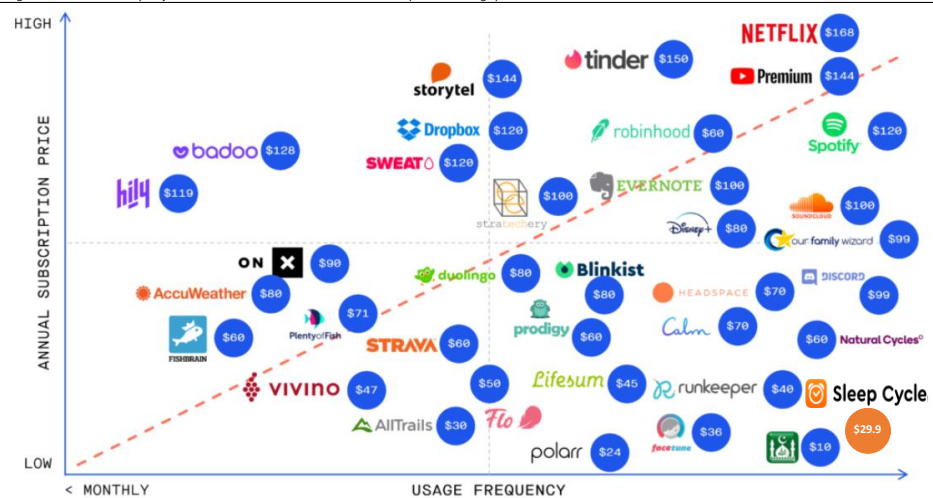
The premium version has a fixed price of USD 29.9 today



Source: Sleep Cycle, Redeye Research

At a standard price of USD 29.9, Sleep Cycle is priced well below many meditation app peers, including Calm and Headspace, which charge around USD 70 a year. It is also quite inexpensive versus the average digital media subscription service, which many users probably anchor the price and perceived value to, such as Tinder (dating), Spotify (music), Storytel (audiobooks) and Netflix (TV shows and movies).

Pricing versus utilization - Redeye adjustment to GP Bullhound's annual consumer subscription software graph



Source: GP Bullhound Consumer Subscription Software Report 2021, Redeye Research

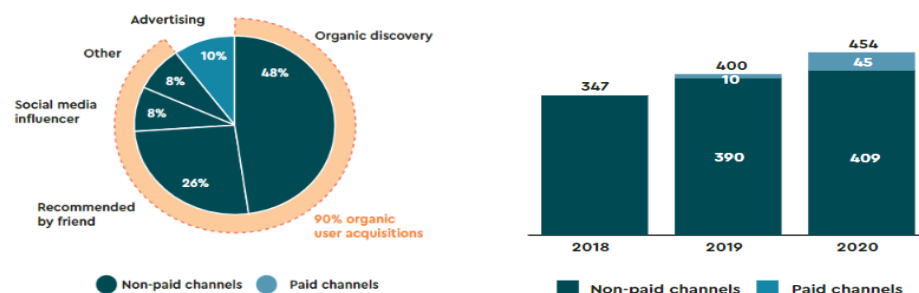
Moreover, given that Sleep Cycle has around 2.1 million monthly active users (MAU), around half of whom interact with the app daily (DAU), it is safe to say that the service is highly engaging. A 50% DAU/MAU ratio is world class and demonstrates the stickiness of the offering and how tightly integrated the app is with many people's daily routines. According to Mixpanel, the average DAU/MAU ratio for SaaS B2B and B2C apps is 13%, with the 90th percentile achieving slightly less than 29%. Two of the most used and successful services in the world, Netflix and Facebook, have DAU/MAU ratios of around ~40% and 66%, respectively.

User Acquisition

Organic subscription growth

So far in 2021 (Q1-Q3), Sleep Cycle has increased its subscription base with 102,000 (~13% y/y) and reached 884,000 subscribers in total. A vast majority of the new subscribers has entered via organic channels, which is in line with Sleep Cycle's strong historical track record. The company earned the top spot in the sleep app market with virtually no ad spending, which must be considered an incredible feat.

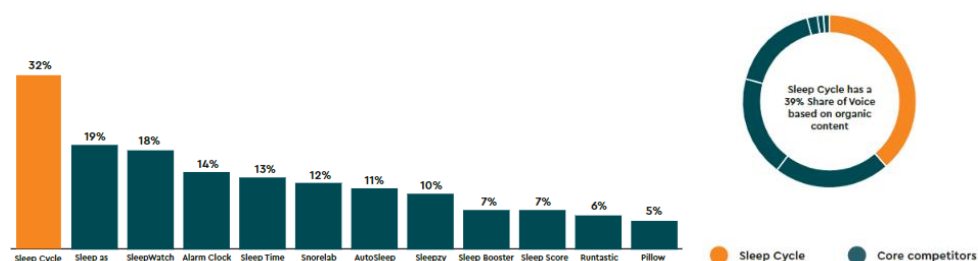
Organic versus non-organic



Source: Sleep Cycle

Nevertheless, in May 2019, Sleep Cycle started to experiment with paid channels, and in 2020, around 10% of all new subscribers were acquired non-organically. However, this still means that 409,000 out of 454,000 new subscribers that year found Sleep Cycle organically (high and positive rankings on the app stores), word of mouth (recommendation by a friend), or through social media influencers, etc. The subscriber acquisition cost (SAC) on these users is practically zero and translates into strong EBIT contribution (basically the only variable cost is platform fees). The high number of referrals from friends also point toward a strong value proposition and good customer NPS score (why else would someone recommend it?), which further confirms a good product-market-fit.

Customers' awareness of Sleep Cycle is higher compared to core competitors



Source: Sleep Cycle, Strategy& market report

A major reason for the robust organic customer intake is Sleep Cycle's dominant "share of voice" position in the media landscape, coupled with the highest brand awareness among consumers. It enjoys a 39% share of all organic content related to sleeping apps, double that of its nearest competitor. Moreover, 32% of all people asked in a consumer survey recognized Sleep Cycle, compared to 19% for the nearest peer (Sleep as Android). Sleep Cycle is also the highest rated sleep tracking app based on the most crucial key purchase criteria, including simplicity of use, accuracy of measurement, price, as well as quality and depth of functionality. The combination of good app content relative to price, along with high rankings across all the major app stores, explain why so many users find Sleep Cycle through organic discovery.

Key purchase criteria (KPC) score based on user perception



Source: Sleep Cycle, Strategy& market report

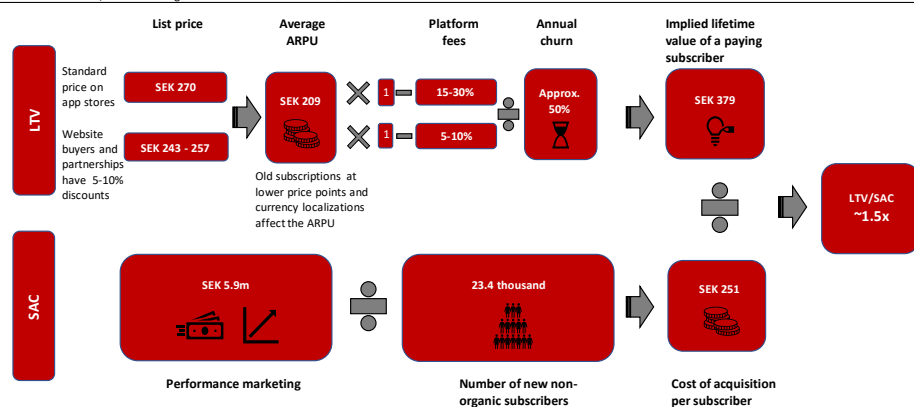
Paid subscription growth

It is not always clear where organic sales end and paid starts. It could be that Sleep Cycle buys customers through marketing that would naturally find the app and convert into paying users. Nevertheless, ads increase the sales funnel and can speed up the subscriber acquisition rate, although at somewhat lower margins. It is a trade-off between organic sales with excellent margins (as is the case today) and increased volumes (at reduced margins). We expect the net

effect to be positive in the medium term, as the sales volumes should have a big impact on the absolute EBIT levels.

In May 2019, Sleep Cycle started to experiment with paid channels, initially focusing on developing and testing its marketing strategy before scaling up marketing costs. Important metrics to monitor are the customer lifetime value (LTV) and the subscriber acquisition cost (SAC).

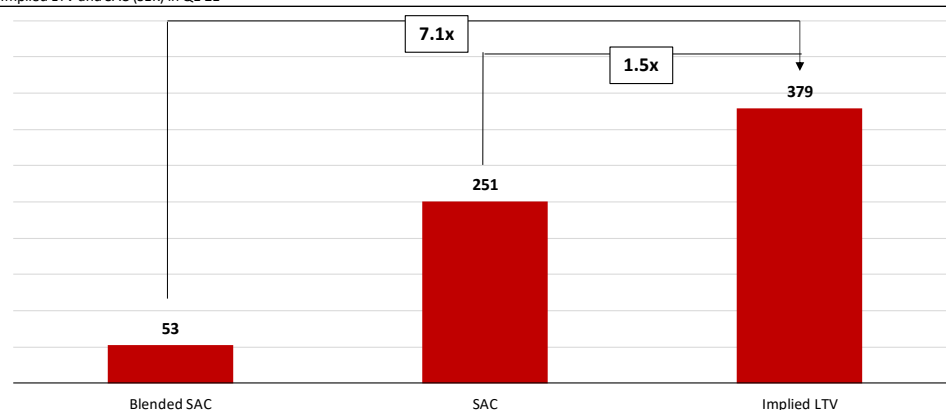
Illustration of how the LTV/SAC of non-organic subscribers looked like in Q1'21



Source: Redeye Research, Sleep Cycle

As an illustration of this, Sleep Cycle used a typical iOS subscriber's implied LTV in Q1 2021. Sleep Cycle estimated that the implied LTV was around SEK 379, a value comprising two parts: the value of the first year and then the subsequent years. The first subscriber year was valued around SEK 179, or SEK 255 as the currency-adjusted one-year subscription price in Q1 2021 less platform costs of 30%. For the subsequent years, the value amounts to SEK 200, calculated as the product of the current price and a renewal rate of 48% to account for users who cancel their subscription after the first year, less platform costs of 15% for renewal years, divided by the renewal rate. The SAC of SEK 251 was calculated as the paid marketing spend of SEK 5.9m in Q1 2021 divided by the number of new subscribers from the non-organic channels of 23,350.

Implied LTV and SAC (SEK) in Q1'21



Source: Sleep Cycle

Sleep Cycle's blended SAC is the amount of total marketing (i.e., performance marketing plus regular marketing/PR) divided by the total number of new subscribers. Following the illustration above, we can say that in Q1 2021, the blended SAC amounted to SEK 53, based on a total marketing budget of SEK 7.7m and 145,000 new subscribers, both organic and non-organic. The blended LTV/SAC was 7.1x, considerably higher than the pure non-organic of 1.5x. Both

metrics are important for investors to track, as they represent underlying profitability and growth potential. While Sleep Cycle's blended LTV/SAC is excellent at 7.1x (a rule of thumb is that >3x is considered good), the non-organic LTV/SAC of 1.5x is less so. We expect this ratio to improve over the years as Sleep Cycle fine-tunes its marketing strategies. There are many factors that can improve on both sides of the equation.

Important marketing channels

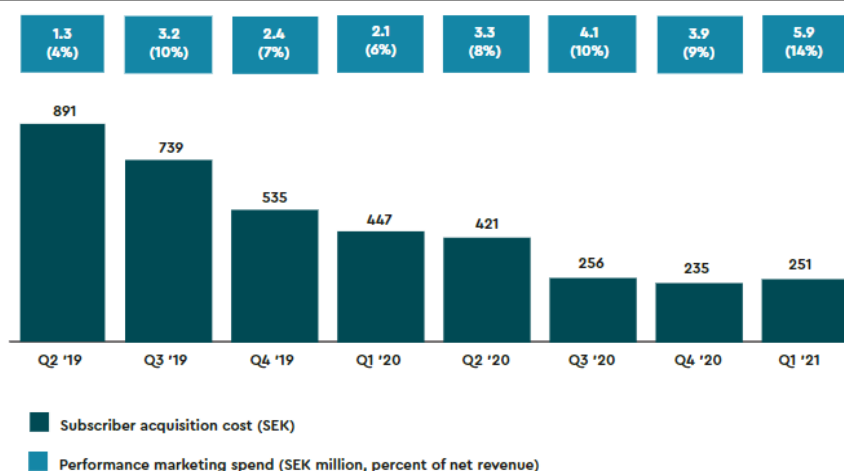


Source: Redeye Research

Improved SAC

Management has identified three levers that can lower the SAC numbers: 1) improve marketing, 2) scale marketing strategy, and 3) drive conversion. To date, most performance marketing has been conducted in English-speaking countries. It takes time to adapt marketing campaigns and zero in on profitable customers. However, Sleep Cycle's efforts are promising (although still challenging), as demonstrated by the trend in SAC and performance marketing spend in the US (shown below). Common marketing channels are Apple Search Ads, Facebook Ads Network, and Google Universal App Campaigns and as a share of revenue, total marketing costs have amounted to 6% in 2018, 11% in 2019 and 12% in 2020.

Paid marketing channel spending and the subscriber acquisition cost (SAC)



Source: Sleep Cycle

Sleep Cycle will expand its marketing efforts and localize these with language, packaging, and messaging for specific geographical markets. That expansion will be crucial to growth, as Sleep Cycle can target large untapped groups. Today, the main message has been around the health awareness of good sleep, a point that most consumers understand and react positively to. However, the company is seeking to broaden its marketing campaigns and messages.

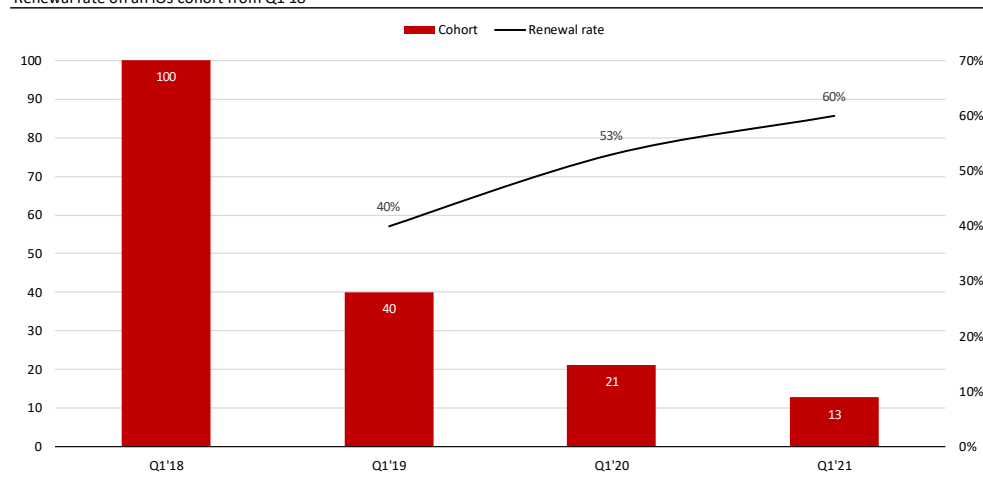
An improved conversion rate is the last piece of the puzzle. The company believes that install-to-subscription rates will improve as it continues to develop and expand the premium offering. More content amplifies the chances of a user finding something that suits them, and so, the conversion should increase for any given marketing spend.

Improved LTV

On the other side of the coin, there are also several areas for improvement, including optimized pricing, higher renewal rates, and lower platform fees. Optimized pricing can work in two ways. By implementing a differentiated pricing model (Sleep Cycle today has the same price across all markets), it could decrease prices in certain markets and bolster demand to gain market share (in countries such as China, India, or Indonesia). It could also increase prices in other markets where the purchasing power and demand are higher, such as in the US, and in that way boost growth.

Renewal rates are important for several reasons. First, good renewal rates are a telltale sign of a sticky app and satisfied customers, willing to extend after a full year (or years). Second, an incumbent customer re-subscribing is much more profitable for two reasons: 1) no marketing costs are needed; and 2) platform fees are generally lower for year two and subsequent years (from 30% to 15%). This has led Sleep Cycle to focus more on the renewal rate through localized win-backs and churn prevention activities.

Renewal rate on an iOS cohort from Q1'18



Source: Sleep Cycle

Usually, renewal rates increase over time in any given cohort as it matures. For example, 40% of the new subscribers from iOS that signed up in Q1 2018 renewed in Q1 2019. Of the remaining cohort, 53% renewed in Q1'20 and 60% in Q1 2021. Factors impacting the renewal rate include customer engagement and price, among other things. Renewal rates have historically been higher on iOS than on Android.

Lower platform fees can also be accomplished by increasing the share of subscribers via the website, thereby avoiding the Google and Apple app store fees. The app store fees, however, are trending downward, which is a boon for Sleep Cycle's gross profit. In October 2021, Google announced that it was reducing the fee on all Google Play sales from 30% to 15% as of 1 January 2022. The expected impact on Sleep Cycle's earnings from this reduction is estimated at approximately SEK ~2m for full-year 2022, according to management.

Corporate Wellness

B2B – platform expansion

Sleep Cycle is expanding into B2B, leveraging its well-established consumer platform offering into corporate wellness solutions. The corporate wellness product roll-out was initiated in Sweden in 2021 and is still in the early stages of expansion, with self-service subscription management and purchase workflow in place.

The corporate wellness offering

	OFFERING	Already in place			Future offering		
		SME	CORPORATE	ENTERPRISE			
COMPANY SIZE		5-100	101-500	+501			
PREMIUM ACCESS	Access to sleep content, sleep tracking and sleep insights in multiple languages across all devices	✓	✓	✓			
CURATED CONTENT FOR WORK	Sleep content focused on the entwined relationship of sleep and work	✓	✓	✓			
ACCOUNT MANAGEMENT	Dedicated Sleep Cycle customer success team available to support with everything sleep related and management of subscriptions		✓	✓			
REPORTING AND ANALYTICS	Employee engagement and reporting to understand sleep patterns across the workforce while protecting employee privacy		✓	✓			
BRANDED CONTENT	Webinars and branded content created specifically for the organisation			✓			

Source: Sleep Cycle

In October 2021, Sleep Cycle launched Sleep Boot Camp, a sleep training program for companies to offer their employees. It is a four-week, web-based sleep program that introduces a new sleep-related topic each week and includes course material in the form of videos, articles, coaching, exercises, and challenges. The initial response has been good and the B2B program is expected to be an important part growth avenue going forward. Some of the first organizations/companies to sign up were Polestar, Redeye, and Djurgårdens IF.

We expect B2B subscriptions to successively add volumes, albeit at discounts compared to single subscriptions (30% in the forecasts). The meditation app Calm has several discount tiers for its B2B (or teams) business, starting at around 19% for 10 spots and ending at approximately 55% for 100 spots. Larger companies can negotiate further.

Technology and Network Effects

Sleep Cycle has built its sleep tracking application and functionalities on a proprietary machine learning platform. The design is modular and cloud-based and thus scalable and reliable. The core of the platform is a comprehensive sleep database of 480 million nights and 18 billion hours of sleep from over 3 million unique users (who have consented to participate in Sleep Cycle's Sleep Survey).

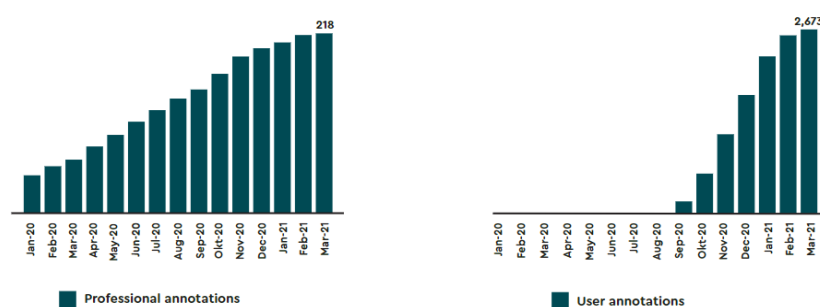
Sleep Cycle's infrastructure



Source: Sleep Cycle

Sleep Cycle's neural network is trained (using a cloud-based cluster for privacy reasons) on a dataset consisting of 2.9 million annotated ten-second audio clips collected from 253,000 unique individuals. The model can accurately differentiate sleep/wake periods 91% of the time and detect multiple simultaneous audio events, such as concurrent snoring and movement in bed. The precision is on par with wearables and the quality has been improved thanks to annotated audio data that is used to train the algorithms. In Q1 2021, Sleep Cycle had 218,000 professional annotation clips and 2.7 million user-annotated events. As a comparison, Google AudioSet, which are human-labeled ten-second sound clips from YouTube videos, has 2.1 million in total.

Annotations



Source: Sleep Cycle

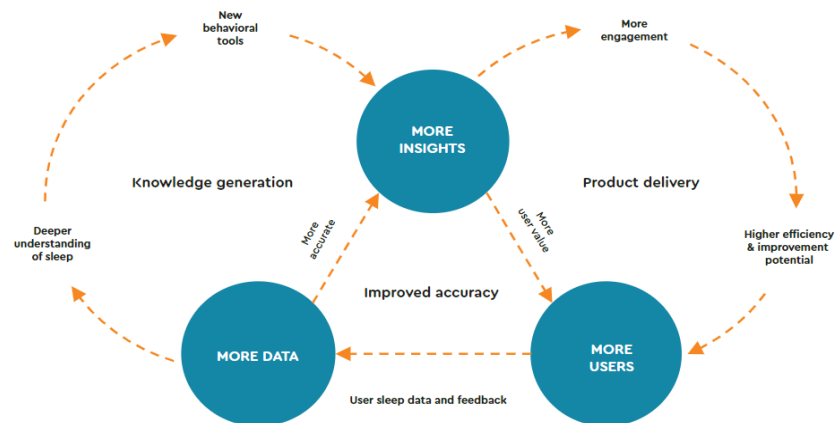
Sleep Cycle's database includes sleep-specific data such as sleep latency, regularity, duration, disruptions, and environment. It also has non-sleep data such as geo-location, demographic profile and behavioral data. The extensive database allows for in-depth research and statistically proven sleep conclusions, even on subtle matters (which is highly valuable both for the company and external sleep researchers). Moreover, the app has a documented ability to drive behavioral change by delivering sleep insights to its users.

The database is a substantial competitive advantage for Sleep Cycle, as it delivers more accurate insights and tools for users to improve their sleep health. The model also benefits from several network effects.

1. As the model receives more data, it improves the prediction accuracy, leading to higher user value, which in turn leads to more usage and growth, and consequently, more sleep data.
2. Additional sleep data and analysis of this can deepen Sleep Cycle's knowledge, which in turn can lead to better functions and behavioral tools that can deliver superior insights for users.
3. Better and more accurate insights have the advantage of increasing user engagement, which in turn facilitates more data and thus ever-improving products and user experience. That leads to higher user value and subsequently to more users.

To summarize, network effects are positive and powerful feedback loops. As a market leader with an extensive user base, Sleep Cycle gains many advantages for its product development by holding that position.

Sleep Cycle's network effects



Source: Sleep Cycle

Market

Sleep Cycle's goal is to improve health by guiding people to better sleep. As such, it addresses a very large market; more and more adults are dealing with sleep deprivation. According to the US Center for Disease Control and Prevention (CDC), 40% of Americans slept less than seven hours each night, as of 2019. The long-term health implications are serious, including cardiovascular disease and mental health disorders. Sleep Cycle is the leading sleep tracking app, a fast-growing segment at the intersection of mHealth and sleep aids, two large and adjacent markets. Additionally, there are several market drivers, including raised consumer awareness concerning sleep and health benefits, as well as a rise in digital services and subscription-based apps.

Sleep Deprivation

Background

Sleep deprivation refers to getting less than the required hours of sleep, which, according to industry consensus, ranges from seven to nine hours for adults. According to the CDC, sleep deprivation is estimated to affect more than one in three adults in the US. Between 1942 and 2019, the number of Americans sleeping less than seven hours rose by 24 percentage points, from 16% to 40%. The CDC went on to describe sleep deprivation as a "public health epidemic".

It is widely recognized that sleep plays a fundamental role in the effective functioning of almost all systems of the human body. Acute sleep deprivation i.e., sleeping less than usual for a short period of time may lead to reduced concentration, mood changes, and excessive daytime sleepiness. However, a persistent lack of sleep brings the risk of seriously deteriorating physical and mental health. According to the Sleep Foundation and the World Health Organization (WHO), some of the main long-term health implications include cardiovascular disease, diabetes, obesity, immunodeficiency, and mental health disorders.

Sleep deprivation affects the economy

Insufficient sleep could lead to substantial economic losses for societies at large, potentially more than 2% of GDP, according to Rand Health. In a study from 2017, researchers concluded that the effect of insufficient sleep on the economy is three-fold:

Increased mortality - people are more likely to die if they sleep less than the recommended hours, reducing the size of the working population

Increased absence from work and reduced productivity

Suboptimal school performance

Essentially, insufficient sleep renders efficiency losses from each labor unit supplied to the economy, in addition to hindering an individual's skill development. The researchers studied the economic cost of insufficient sleep across five OECD countries and found that the US sustains the highest annual cost, up to USD 411bn, or 2.3% of its GDP. In Japan, which has the shortest average sleep in the world, according to 2019 OECD statistics, the economic loss of insufficient sleep amounts to some 3% of GDP.

To summarize, solving the challenge of insufficient sleep is a potential win-win-win scenario for individuals, employers, and the economy at large. We thus have a positive view on Sleep Cycle communicating an ambition to tap into the corporate sector as part of its growth initiatives.

Insomnia and sleep apnea - even more severe conditions*Insomnia*

Sleep deprivation typically results from allocating less time than needed for sleep, owing to lifestyle choices and everyday obligations. Insomnia, on the other hand, is a sleep disorder characterized by a difficulty in falling asleep or maintaining sleep, frequent awakenings during the night, and waking earlier than desired in the morning. Essentially, people with insomnia have trouble sleeping, even though they allocate enough time to this, according to the Sleep Foundation.

There were 1.4 billion prevalent cases of insomnia worldwide in 2019, according to Datamonitor Healthcare. Asia accounted for the vast majority of cases, despite having the lowest prevalence in proportion (690m cases, about 15% of its population). The highest-grossing drug for the treatment of insomnia is Belsomra, developed by Merck & Co, which generated sales of USD 327m in 2020. The second and third highest-grossing drugs generated sales of more than USD 100m in 2020, according to the Biomedtracker database.

Sleep apnea

Sleep apnea is a disorder where breathing repeatedly stops and starts during sleep. It typically happens when the upper airway muscles relax during sleep and close off the airway, preventing the sleeper from getting enough air, according to the Johns Hopkins Sleep Disorders Center. The sleeping disorder affects >20% of obese people and 3% of people of normal weight. Again, the direct consequences include lost productivity at work, mood swings and daytime sleepiness. Long-term effects could include diabetes, strokes, heart attacks, and a shortened lifespan, according to Johns Hopkins.

Coronasomnia – disrupted sleeping amid the coronavirus pandemic...

In the wake of the coronavirus pandemic, many people can attest to completely changed bedtime and morning patterns. A study by the University of Colorado Boulder found that students attending class remotely slept 30 minutes longer on average during the week. Additionally, researchers found sliding wake times; students were getting out of bed an hour later on school days.

Paradoxically, the pandemic has led to a surge of insomnia. In the UK, a study by the University of Southampton found that people experiencing insomnia has risen from one in six to one in four. While similar rates were observed in China, data from Italy and Greece showed that some 40% were experiencing insomnia. Essentially, the pandemic has disrupted our daily routines, particularly our circadian rhythm, the natural process that regulates being asleep and awake. Some experts believe that working from home has also led to less exercise, less natural light exposure, and increased screen exposure, affecting sleep negatively.

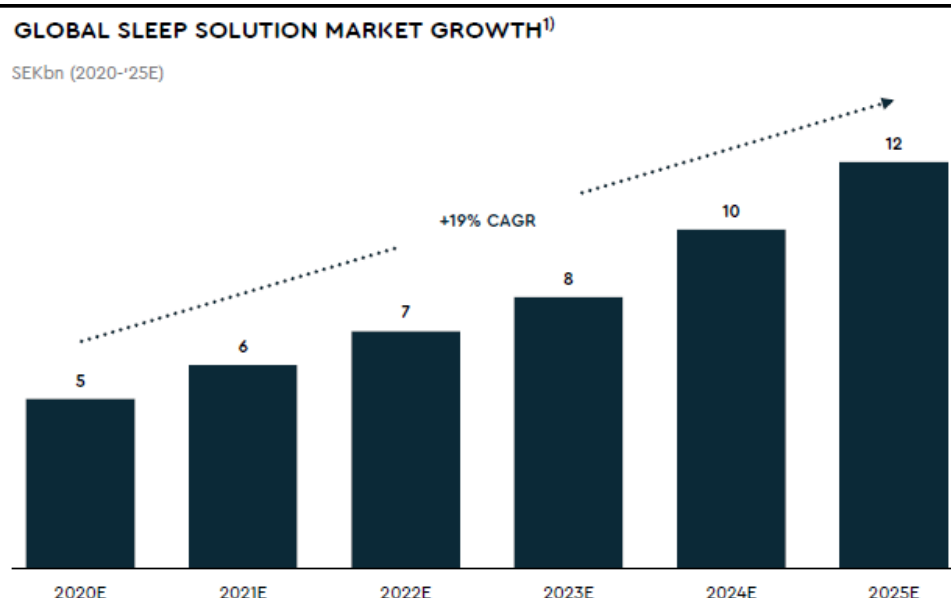
...likely behind Sleep Cycle's soft performance during this period

Sleep irregularities during the coronavirus pandemic likely play a part in explaining Sleep Cycle's weak performance during this time. The company reported a decrease in daily active users (DAUs) and new subscribers during the initial stages of the pandemic. Later wake-up times, in particular, are believed to have slowed demand for Sleep Cycle and its smart alarm, according to the company.

Sleep Cycle: At the Intersection of mHealth and Sleep Aids

Addressable market

Sleep Cycle operates in the sleep tracking application market, which also includes sleep aids and smart alarm applications. Essentially, the serviceable addressable market (SAM) consists of consumers who: 1) own smartphones; 2) need sleep tracking applications or related products; and 3) are willing to engage in paying subscriptions. Strategy& estimates that Sleep Cycle's SAM amounted to SEK 4.9bn in 2020. Moreover, it forecasts a 19% CAGR for the company during 2020-2025, illustrated below, driven by increased penetration of paying subscribers as a result of the increased awareness of health and sleep. This SAM is derived from an estimated 28m people (1% of smartphone users) being willing to engage in paying subscriptions for sleep tracking applications, multiplied by a weighted ARPU of SEK 175 among core competitors.

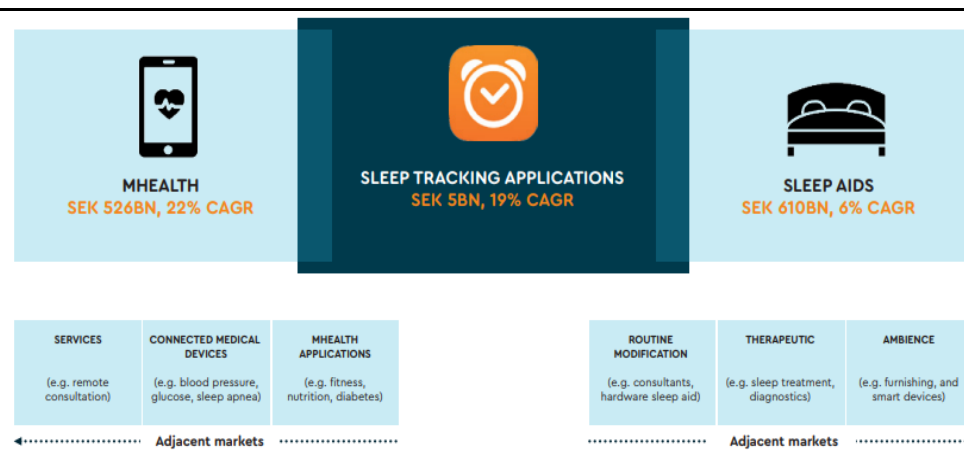


Source: Strategy& market report

Sleep-tracking application incumbents generated SEK 265m in sales in 2020, according to Strategy&, with Sleep Cycle capturing more than 50% of the market. Applying a SEK 175 ARPU, we estimate that there were some 1.5m paying subscribers in 2020, about 5% of the addressable market.

Large adjacent industries

The sleep tracking application market is positioned at the intersection of the mobile health (mHealth) and sleep aids markets, both of which represent vast opportunities. Our understanding is that Sleep Cycle has, to a great extent, focused on developing and managing its leadership position in its core market. However, we spot a significant opportunity to leverage partnerships as a means to tap into the large adjacent markets. Within mHealth, Sleep Cycle could, according to company data, engage in collaborations with mHealth applications, connected medical device providers, and service providers. Within sleep aids, the company could collaborate with routine modification services, medical treatment providers and medical connected device providers.



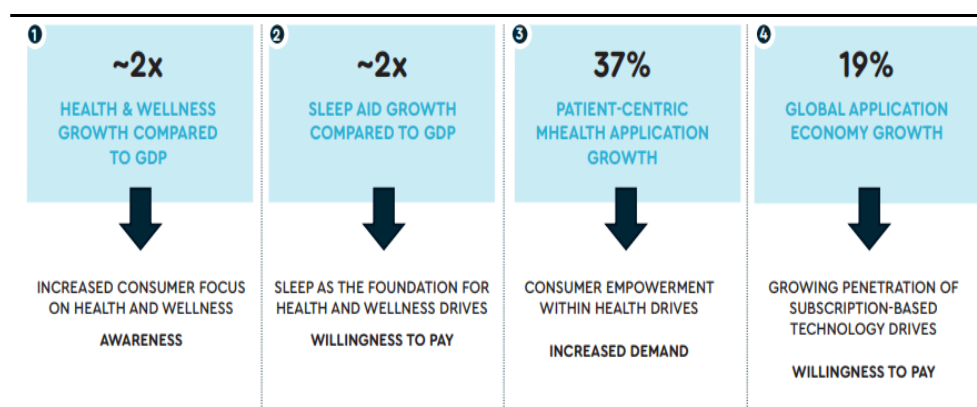
Source: Strategy& market report

Growth

Background

Four structural trends are expected to drive the growth in Sleep Cycle's core market:

1. Consumers are interested to a greater extent in health and wellbeing. According to Strategy&, 83% of consumers in the US, 80% in Sweden, and 76% in Japan state that their health and wellbeing is important to them. It estimates that the market for health and wellbeing will grow twice as fast as global GDP in 2020-2025.
2. Consumers recognize to a greater extent the risks associated with sleep deprivation and other sleep disorders.
3. Consumers demand improved control over their health, resulting in greater use of digital services since these are easy to use, relatively cheap, and less privacy intrusive. Strategy& estimates that the market for patient-centered mHealth applications will grow at a 37% CAGR in 2020-2025.
4. Increased penetration of subscription-based technology. The increased popularity of games, health, and wellbeing is primarily driven by lower initial costs for the consumer, higher ARPU for the developer, and higher revenue predictability. Sensor Tower expects the global application economy to grow at a 19% CAGR in 2020-2025.



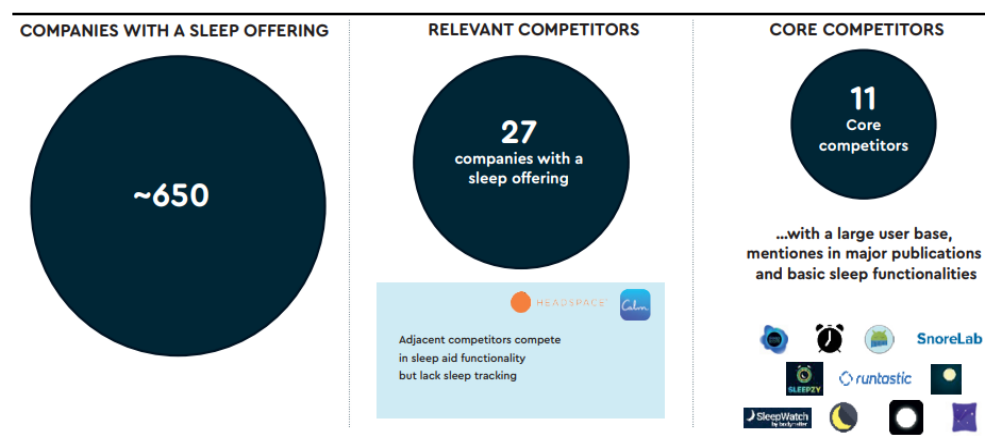
Source: Strategy& market report, SensorTower

Competition

While the sleep-tracking application market includes many incumbents, Sleep Cycle stands out with one of the most comprehensive solutions. Best-in-class ratings and recent awards validate the app's transition from a niche product to a complete solution. Looking at adjacent competitors, we recognize that Calm and Headspace overlap some sleep capabilities with Sleep Cycle, but these relate primarily to ambient sounds and stories to wind down before sleep, rather than sleep tracking. In our opinion, Apple and Google represent fiercer competition, as both have recently increased sleep investments, possess health apps, and can leverage widely popular wearables to gain reach.

Background

Sleep Cycle operates in a fragmented market of some 650 companies providing sleep and relaxation applications. Of these, Sleep Cycle regards 27 as relevant competitors since their applications share some of the same basic functionality. Of these, it considers 11 to be close competitors. The common denominators for close competitors include having a large user base (at least 20,000 combined users) and generating some traction in recognized publications.



Source: Strategy& market report

Sleep Cycle stands out with the most comprehensive solution

Sleep Cycle provides the most comprehensive offer with regards to sleep tracking and other closely related functionalities, according to Strategy&. This is evidence, in our opinion, of Sleep Cycle having successfully developed its product from a niche sleep analysis application, with limited functionality to a comprehensive product. Generally, we believe Sleep Cycle differentiates its app from competitors' by providing advanced snore tracking, insight, and data-driven advice to users, in addition to integrations with many hardware devices such as wearables (Apple Watch), HomeKit Samsung, Huawei, and Philips Hue devices.

			FUNCTIONALITY											Adjacent competitors	
			PILLOW	SLEEP BOOSTER	SLEEPZY	SLEEP WATCH	SLEEP AS ANDROID	AUTO SLEEP	SLEEP SCORE	SLEEP TIME	ALARM CLOCK XTREME	SNORELAB	RUNTASTIC	CALM	HEADSPACE
BASIC SLEEP FUNCTIONALITY	SLEEP TRACKING	✓	✓	✓	✓	✓	✓	✓	✓	✓	—	—	✓	No basic sleep functionality	
	SMART ALARM	✓	✓	✓	—	✓	—	✓	✓	✓	—	—	(✓)		
	SNORE TRACKING	✓	✓	—	(✓)	—	✓	—	—	—	—	✓	—		
ADD-ON FUNCTIONALITY	JOURNAL	✓	(✓)	—	✓	✓	✓	—	✓	(✓)	—	—	✓	✓	—
	SLEEP AIDS & MEDITATION	✓	(✓)	(✓)	(✓)	—	(✓)	—	(✓)	(✓)	—	—	—	✓	✓
	HARDWARE INTEGRATION	✓	✓	—	—	✓	✓	✓	(✓)	—	—	—	—	(✓)	(✓)

FUNCTIONALITY
✓ Full (✓) Limited — None

Source: Strategy& market report

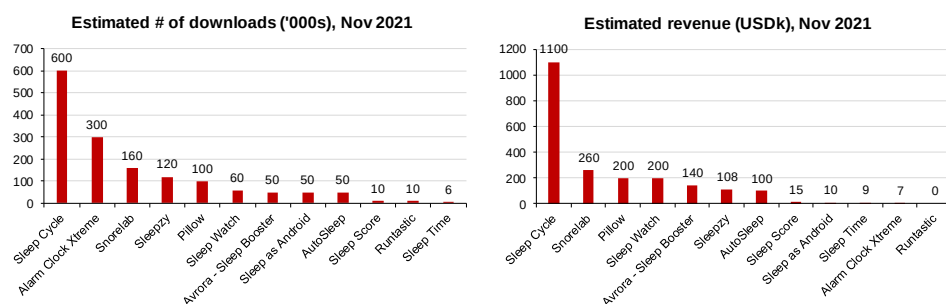
Four Sources Confirm Sleep Cycle's Market Leadership

Source #1: Strategy&

The sleep tracking application market comprised some 1.5m paying users, generating SEK 265m in sales in 2020, according to Strategy&. Sleep Cycle reported some 0.8m paying users and SEK 159m in sales for 2020, indicating a market share of 52-60%.

Source #2: Sensor Tower

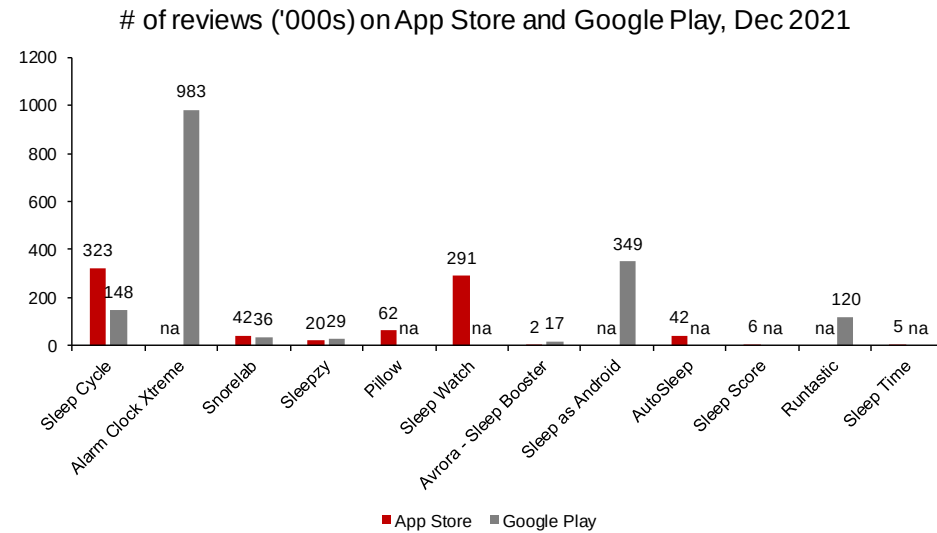
We believe Sleep Cycle's leadership position is supported by data from Sensor Tower, a leading provider of market intelligence for the global app economy. As illustrated below, in November 2021, Sleep Cycle accounted for about 40% of the estimated sleep tracking application downloads on Apple App Store and Google Play. Additionally, it generated more than 50% of that month's estimated revenue.



Source: Sensor Tower, Redeye Research

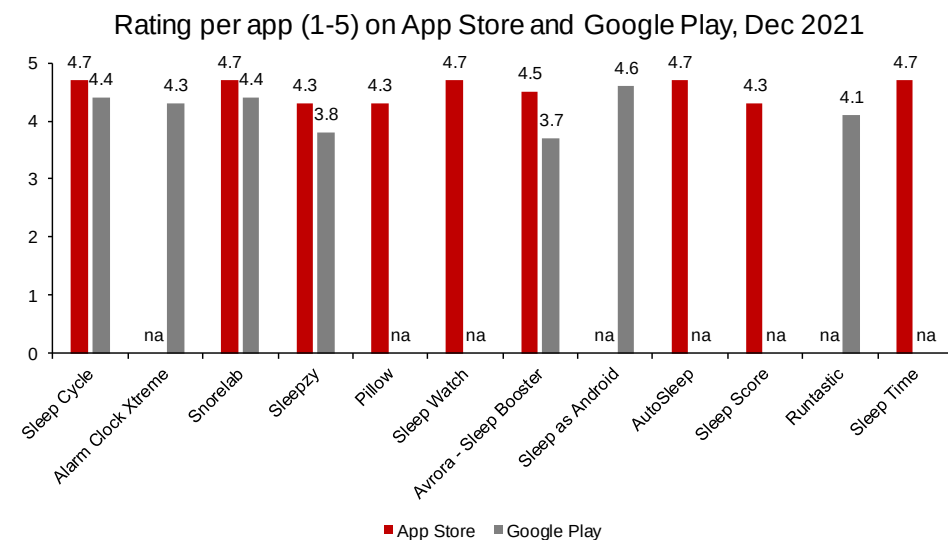
Source #3: App Store and Google Play data

Historical data from App Store and Google Play suggests that Sleep Cycle remains at the absolute top with respect to reach and branding. First, Sleep Cycle is the only company to record more than 100,000 reviews on both distribution platforms, making it more versatile than its competitors and validating its ratings. Alarm Clock Xtreme is the only app to gain more reviews than Sleep Cycle, reaching almost a million as of the time of writing. Our understanding is that Alarm Clock Xtreme focuses very much on alarm functionality and has become a popular free app in the space, explaining its modest monetization.



Source: Redeye Research

Second, Sleep Cycle records the joint-highest review score on the App Store, at 4.7/5. Generally, we recognize that most competitors score quite well on the App Store. However, considering the significant number of reviews, we argue there is more substance to Sleep Cycle's ratings. And third, with respect to Google Play ratings, Sleep Cycle is only outperformed by Sleep as Android.



Source: Redeye Research

Source #4: Google Play 2021 Best for Wear Award

In an effort to celebrate apps that contributed positively to culture during the past year, Google chose Best for Wear award winners. Sleep Cycle won the award alongside Calm and MyFitnessPal, two apps in the personal growth segment. This year marks the first time that Google has expanded its award to apps on WearOS. The announcement came on 10 December 2021, and we believe it demonstrated the importance and popularity of the personal growth segment, in addition to validating Sleep Cycle's market leadership in this highly competitive environment.

The award closely follows Sleep Cycle's launch of its app for Wear OS for Samsung, which uses Wear OS Health Services API to automatically detect when a user has fallen asleep and thus initiate the tracking and alarm functions.

A Selection of Close Competitors

This section provides a brief description of Pillow, Avrora, Sleepzy, Sleep Watch, and Sleep Score, some of the closest competitors to Sleep Cycle in terms of functionality. Our understanding is that Sleep Cycle provides best-in-class audio-based analysis, in part by leveraging its refined AI/ML capabilities. Some of the more desired features provided by competitors include automatically starting and stopping the sleep tracker and leveraging technologies such as light sensors and heart rate to provide a more comprehensive picture. Additionally, some peers have priced their apps higher than Sleep Cycle.

Pillow, USD 40/year

Developed by NeyBox Digital, Pillow tracks and analyzes sleep cycles using an Apple Watch (starts tracking automatically) or by placing an iOS device on the mattress near the pillow (manual tracking). According to its website, it provides a comprehensive picture using scientifically backed audio and heart rate analysis. The app offers smart alarm functionality to help users wake up during a light sleeping stage and to record audio events such as snoring, sleep apnea, and sleep talking. Additionally, it provides regular tips to help users fall and stay asleep and personalizes insights over time. The app has a freemium version.

Avrora – Sleep Booster, USD 100 lifetime subscription

Avrora focuses on helping users fall asleep and uses a smartphone's built-in microphone to track and analyze sleep. It has some mindfulness and meditation functionality (such as breathing techniques) to support users in falling and remaining asleep. Additionally, it supports a smart alarm clock to wake up users during a light sleeping time. While Avrora's pricing is higher than most competitors, we note that it is applying aggressive discounts: we were offered a lifetime subscription in the app for USD 29.99, corresponding to a 70% discount.

Sleepzy, USD 50/year

Developed by ThrivePort, Sleepzy tracks and analyzes sleeping patterns using the smartphone's microphone, notifies users of their sleep quality, and has a smart alarm that wakes users up during the lightest sleep phase. In the App Store description, Sleepzy notifies potential users that movement and noise from pets or a partner may impact results. We thus reason that Sleep Cycle's AI/ML audio-based analysis is more refined. Our understanding is that Sleep Cycle effectively categorizes different noises so as not to affect sleep analysis. Sleeping with a partner should not be a problem either, as Sleep Cycle's app can distinguish between people, especially if both use the app. Sleepzy's free version comes with ads.

Sleep Watch, USD 30/year

Sleep Watch by BodyMatter automatically tracks sleep using information collected by an Apple Watch during the night. It is only available on iOS and functions with iPhones, although these have to be started manually. Users receive a sleep score measuring sleep quality based on sleep stages, length of sleep, and heart rate. Users can also track behaviors adjacent to sleep, such as alcohol consumption and late-night eating.

Sleep Score, USD 50/year

Developed by ResMed, Sleep Score stands out by using sonar technology to track and analyze sleep patterns from the user's nightstand. Sonar waves are sent from the user's phone to

measure breathing and sounds to establish sleep quality. Additionally, the app includes lighting to determine the quality of sleep – an important variable. Like Sleep Cycle, users must start and stop the app manually.

Calm and Headspace – Adjacent Peers Gaining Ground in the Enterprise Segment

Calm and Headspace represent adjacent peers, in our opinion, focusing primarily on mindfulness and meditation. However, we recognize some overlap since both apps incorporate sleep aids – mostly ambient sounds and stories for users to wind down before sleep. As neither Calm nor Headspace provides sleep-tracking capabilities, we do not consider them direct peers to Sleep Cycle. Calm and Headspace have become very successful companies, as seen in their billion-dollar valuations. We believe that some of their success owes to their expansion into the corporate world – both companies count thousands of organizations among their customers, providing services to their employees. Finally, we note their considerably higher price points than Sleep Cycle. While these may be justified by more extensive content, this does provide Sleep Cycle with room to charge more in the future.

Calm, USD 70/year, or USD 400 lifetime subscription

Calm has become a popular application for meditation and sleep. It offers guided meditation sessions available in lengths of 3 to 25 minutes. Some of the topics covered in its sessions include calming anxiety and preparing for sleep. Additionally, the app has >100 stories to help adults 'lull' themselves into sleep. Some of its success owes to having some of its stories narrated by celebrities such as Ramon Tikaram, Matthew McConaughey, and LeBron James in exclusive partnerships. Once the app has been downloaded, the user chooses an area of focus, such as sleep, meditation, or personal growth, to name a few. If sleep is chosen, the user answers some questions to provide details of potential sleeping troubles and how frequently these occur. Finally, the user can choose different types of content, such as relaxing music and bedtime stories, to add to the personalized plan.

Calm was founded in California in 2012 by British entrepreneurs Michael Acton Smith and Alex Tew. It started out as a B2C app and then successfully expanded into the enterprise segment with Calm for Business, used by more than 1,500 organizations, including Universal Music, Accenture, and Lincoln. According to TechCrunch, the service has >100m downloads, 4m paying users, and raised its latest capital in a USD 2bn valuation.

Headspace USD 70/year

Headspace is a close peer to Calm and is most commonly used for its meditation and mindfulness guides and audio. However, there are many different ways to use it, including meditative workout tunes. As with Calm, the user starts by choosing an area of interest: meditate, sleep, move, or focus. If choosing sleep, the user answers some questions and receives a personalized schedule with different exercises and sessions.

Headspace was founded in 2010 in London by Andy Puddicombe and Richard Pierson. In August 2021, Headspace announced it would merge with Ginger, creating Headspace Health, at a USD 3bn valuation. According to Bloomberg, the newly formed group is one of the largest startups focused on mental health. Ginger amassed corporate customers such as Domino's Pizza and Pinterest, providing mental health coaches who typically respond via text at any hour. Our understanding is that the merger seriously strengthens Headspace's position within the enterprise segment, one of the fastest-growing areas. Combined, the group reaches 100 million lives according to the company.

Apple and Google – Making Major Moves in the Sleep Space

Apple

Apple has long communicated a strategy to gain ground within healthcare, positioning itself as a health tech giant. However, its investments in sleep are only now beginning to pick up. Apple launched its health informatics app, Health, which pulls data from fitness trackers, smartwatches, and other devices, in 2014. It primarily gathers four categories of data: activity, mindfulness, sleep, and nutrition. However, Health only began storing sleep analysis data as of 2020.

The company launched its first Apple Watch in 2015, which now has more than 100 million users. Apple eventually brought native sleep tracking to the Apple Watch in the summer of 2020. Since then, sleep-tracking functionality has been bolstered through several updates. As of the latest watchOS 8, using tracking motion and respiratory rate, users can create bedtime schedules, set sleep goals, and find out how much they sleep and what their sleep trends look like.

Conclusion – Apple should be regarded as an enabler for Sleep Cycle at present...

Apple is the world's largest company with a market cap of about USD 3tn. It has the resources to invest in any venture it finds exciting. However, it has not impressed within sleep health so far, entering the market much later than its peers. For the time being, Apple's sleep-tracking functionalities remain somewhat sparse: users can set bedtime schedules and receive a brief snapshot of their sleeping trends. We believe Sleep Cycle's trained and refined AI/ML audio-based sleep-tracking analysis provides much greater value to users at present. In fact, we believe there are benefits for Sleep Cycle from Apple providing a sleep-tracking application since it raises consumer awareness. Some of Apple's customers will be intrigued enough to invest in a higher-quality sleep-tracking application, benefitting Sleep Cycle as the market leader. Additionally, wearable users provide increased reach for third-party sleep tracking applications, which we find positive.

...but will likely prove a fierce competitor in the future

That said, we recognize that Apple has begun to invest in sleep health and will probably only accelerate its pace in this area. In 2017, it acquired Beddit, which manufactures a sleep-tracking strip that attaches to the mattress. The monitor automatically measures breathing, sleep time, heart rate, and so on. While Apple has not (yet) declared its intention to develop a dedicated sleep-tracking app, we think it could likely be heading in that direction. Data is increasingly important nowadays, and Apple gaining sleep data from its users could provide the company with invaluable insights. We argue that Sleep Cycle could potentially become an acquisition target should any of the tech giants head in that direction, as its app likely possesses the most advanced AI/ML audio-based sleep-tracking analysis capabilities.

Google

Google launched Google Fit in 2014, a health-tracking platform that blends data from multiple apps and devices. The platform uses sensors in the user's smartphone or activity tracker to record physical activities and retrieve data. Google Fit's sleep functionality has received ongoing updates and improvements. Currently, it measures time asleep, time in bed, and sleep stages (light, deep, and REM), sleep efficiency percentage, and sleeping heart rate.

Additionally, Google beefed up its capabilities within wearables by acquiring Fitbit, a leading fitness-tracking company, for a USD 2.1bn consideration, completed in January 2021. Fitbit has sold more than 116m devices since 2010 and has 31m active users, according to Statista.

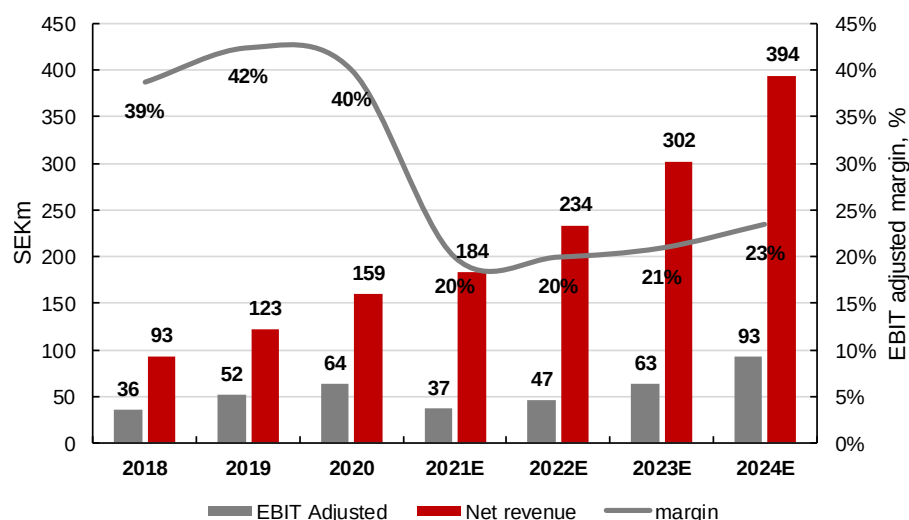
Google's second-gen Nest Hub includes serious sleep-tracking features

The second-gen Nest Hub, which launched in 2021, uses radar sensor technology to track users' sleep without cameras and having to wear gear. The Nest Hub was introduced at USD 100, and its sleep-sensing capabilities are among its headlining features. Essentially, motion sensing can track sleep from the nightstand without a wearable or camera. Additionally, it uses audio, light, and temperature sensors to gain a complete picture of users' sleep. Users can choose a time to wake up and fall asleep, receive detailed sleep reports, and gather sleep suggestions. Google has communicated that it expects sleep sensing to become a paid feature from 2022, likely as part of Fitbit premium, which costs USD 10 per month.

We argue that Google's second-gen Nest Hub is the most relevant product provided by the big tech companies. Essentially, it applies many different technologies to gain a detailed analysis of the users' sleep. The insights generated during the night can be viewed in the Nest Hub display or in the Google Fit app, in a similar way to dedicated sleep tracking apps. A drawback is that it is not as portable as a smartphone or wearable, but this may not pose too much of an issue. Additionally, if it were to end up as part of Fitbit Premium, it would make it one of the most expensive products on the market.

Financial Forecast

Sleep Cycle has an attractive financial profile. It has grown at around a 30% CAGR since 2018, while simultaneously reporting high margins. It has maintained an adjusted EBIT margin in excess of 40% over this period, which we consider excellent. Also, the company benefits from attractive working capital dynamics, whereby its subscribers pay upfront. This has enabled the company to distribute generous dividends to its owners, well above 100% of its net income. However, since Sleep Cycle expects to pursue an intensive high-growth agenda, its margins will likely contract in the medium term, as illustrated below, before converging to a 30% level.



Source: Redeye Research, company data

Financial Targets

Sleep Cycle has quantified two financial targets and a dividend policy, according to its prospectus:

- The company aims to grow annual net revenues by at least 30% adjusted for currency effects, from 2022 and on
- It intends to achieve an operating profit margin of ~20% in the medium term and in excess of 30% in the long term
- Cash flows will primarily be used to support growth investments – the board of directors expects to evaluate each year the possibility of distributing a dividend

Dividends

Sleep Cycle has historically distributed generous dividends to its owners. For the financial year 2019, it distributed dividends of SEK 51.4m, corresponding to some 120% of that year's net income. For financial-year 2018, the company distributed around 160% of its net income as dividends. However, its AGM resolved to not distribute such dividends for 2020. As stated above, the company will primarily use its cash flows to fund growth investments, a sound approach, in our opinion. Since margins are likely to contract somewhat during this phase, our understanding is that it may take some time before Sleep Cycle starts to distribute dividends again.

Our take on the financial targets

Our understanding is that 30% annual net revenue growth is a fair target. The company has historically grown at 30% per year, almost entirely organically. We believe that Sleep Cycle has

good scope for achieving this, especially considering significant investments in performance marketing and other paid channels.

Additionally, we find the margin target reasonable. Operating margins have already begun to contract somewhat as part of this new strategy. We expect the adjusted operating margin to dip to around 20% in 2022, and then begin to pick up momentum, converging towards 30% over time. We elaborate further on this in subsequent sections.

Net Revenue Model

Sleep Cycle had 788,000 subscribers in 2020, making it the clear market leader in the sleep-tracking application space. By 2024, we expect that Sleep Cycle will have amassed an impressive 1.8 million subscribers, thanks to a bounce-back in organic subscriptions, higher renewal rates, and a successful performance from the marketing investments, among other factors.

Net revenue assumptions	2019	2020	2021E	2022E	2023E	2024E
Consumer subscriptions, TTM						
New subscribers, organic	390	409	433	468	536	616
New subscribers, paid channels	10	45	131	231	317	405
Renewed subscribers from previous years	316	329	360	425	528	663
Total, thousands	716	788	924	1124	1381	1684
Growth and renewal rate, %						
New subscribers, organic	na	5%	6%	8%	15%	15%
New subscribers, paid channels	na	350%	191%	76%	37%	28%
Renewal rate	na	46%	46%	46%	47%	48%
Total	na	10%	17%	22%	23%	22%
Paid channel assumptions						
Subscriber Acquisition Cost, SEK	na	na	251	238	227	215
Performance marketing, SEK thousands	na	na	33 250	55 097	72 452	88 066
Share of net revenue, %	na	na	18%	24%	24%	22%
Corporate subscriptions						
Corporate clients	na	na	na	77	331	952
Average company size	na	na	na	73	104	122
Total, thousands	na	na	na	6	35	116
Total subscribers, thousands	716	788	924	1130	1415	1800
ARPU and net revenues						
Consumer ARPU	na	na	na	223	234	245
Corporate ARPU	na	na	na	156	164	172
Corporate discount	na	na	na	30%	30%	30%
Weighted ARPU	191	212	210	222	233	242
Net revenue, SEK millions	122,5	159,4	183,9	233,7	302,0	394,4
Growth, YoY		30%	15%	27%	29%	31%

Source: Redeye Research, company data

Organic subscribers

Sleep Cycle's business model relies greatly on a strong influx of new subscribers each year, given that around half churn out after one year (which is common with within consumer subscription software). Historically, the company has relied entirely on organic growth, i.e., not spending any money on performance/conversion marketing. Instead, Sleep Cycle has benefited from friend recommendations, non-paid influencer mentions, and consumer discoveries. Even though Sleep Cycle expects to bolster paid-channel subscriptions, organic growth will nonetheless remain essential.

The company had acquired 409,000 new subscribers organically as of 2020, corresponding to a 5% increase YoY. This fairly modest organic growth is likely explained by the coronavirus pandemic, which led to a dip in daily active users, later wake-up times, and reduced demand for Sleep Cycle's smart alarm. Given that the pandemic remains a significant force in societies, we model a modest 6% growth rate for 2021. Eventually, once societies begin to recover, we expect Sleep Cycle's organic growth rate to converge with the underlying rate in the sleep tracking application market, growing at a 19% CAGR.

Paid channels

From 2019, Sleep Cycle began to bolster its paid-channel activities, which we consider to be an efficient means of expanding its reach and potentially tapping into new target groups. In this context, subscriber acquisition cost (SAC) becomes an essential metric, as explained previously. As of Q1 2021, Sleep Cycle communicated that its SAC amounted to some SEK 250. Essentially, a SEK 10m investment in performance marketing should bring in about 40,000 paying subscribers.

We anticipate that Sleep Cycle will have spent around SEK 33m on performance marketing in 2021, while maintaining a SEK 251 SAC. This should render about 131,000 new subscribers from paid channels, all else being equal. Our understanding is that Sleep Cycle considers paid channels to be a major growth driver for the future. We thus anticipate performance marketing to eventually account for some 22-24% of net revenues in the near to medium-term. At the same time, we argue that Sleep Cycle will become increasingly accurate in directing its paid-channel marketing to potential subscribers. Consequently, we expect the SAC to decrease by about 5% per annum.

Renewed subscribers from previous years

Subscription renewals represent the foundation of Sleep Cycle's business model. A high renewal rate increases the customer life-time value (LTV) and is considerably more efficient than growing through new subscribers. Sleep Cycle reported a 46% renewal rate as of 2020. In our forecasting, we anticipate a similar renewal rate in 2021 and 2022, and thereafter we model a 1 percentage point increase each year. Sleep Cycle will most likely continue to add features and optimize the user experience, which should help reduce churn over time.

Corporate subscriptions

According to management commentary, the corporate opportunity is a significant potential growth channel. We share this sentiment, in particular after reviewing the rise of adjacent peers Calm and Headspace, which have been successful in the enterprise segment. Our understanding is that Sleep Cycle's corporate offering primarily is directed to small and medium-sized enterprises (SMEs). We anticipate significant growth, albeit from a small base. For 2024, we expect that Sleep Cycle will have gained close to 1,000 corporate clients, with an average of 122 heads per client. This should represent 116,000 subscribers. However, we only expect enterprise subscriptions to account for some 6.5% of total subscriptions in 2024.

That said, we recognize that corporate subscriptions typically come at a discount. According to Calm's website, taking out a corporate subscription for >100 spots should result in a 55-60% discount on its standard USD 70/year. Some of Calm's corporate customers, however, are very large enterprises, which could justify a discount of that magnitude. As for Sleep Cycle, we consider a 30% discount fairly reasonable, as we believe its model corporate customers will be smaller. We also believe the Sleep Boot Camp concept can mitigate some price pressure with added services.

ARPU and net revenue

Sleep Cycle's 2020 weighted average revenue per user (ARPU) amounted to SEK 212. While this has been largely flat this year, we believe the company has good scope to increase this over time. Essentially, churning out low-ARPU consumer subscribers from legacy subscriptions while adding new ones at full consumer price should lead the ARPU to converge around SEK 270 (considering a USD/SEK rate of 9.1). However, we recognize that this assumption is subject to localization, as mentioned previously, which could decrease the ARPU if hefty discounts are offered in low-income countries. Additionally, the weighted ARPU should be brought down somewhat by the corporate ARPU, albeit by single digit SEK. Essentially, we believe Sleep Cycle should be able to deliver solid net revenue growth, corresponding to about 30% a year. However, the next couple of years could see a bit slower growth due to the pandemic's impact, among other things.

Platform Fees – to Account For 22% of Net Revenue from 2022

Sleep Cycle is mainly distributed through Apple App Store and Google Play Store, for which it pays platform fees for all in-app purchases – representing the company's largest cost item. Historically, Sleep Cycle has paid a 30% platform fee on the subscription price for first-year subscriptions, and 15% on subsequent subscription renewals. However, users can purchase subscriptions out-of-app, through Sleep Cycle's website and partner offerings. In such a case, fees should range between 5-10% of the subscription price, according to the company's prospectus.

Epic Games vs. Apple lawsuit sheds light on tech giant's dominant position...

Epic Games, the company behind Fortnite and Unreal Engine, brought a lawsuit against Apple, challenging the tech giant's restrictions on alternative in-app purchasing methods and its 30% revenue cut. The lawsuit essentially shed light on software distributors' monopoly-like control. Apple has long argued that its 30% revenue cut reflects the immense value and reach of its App Store. In a September 2021 ruling, the judge decided in favor of Apple on nine of ten counts. However, the judge prohibited Apple from preventing developers informing their users of alternative paying methods within apps.

... while Google is the first to cut platform fees

The suit brought by Epic Games has indeed raised awareness of platform fees. Google announced in October 2021 that first-year subscription platform fees would decrease from 30% to 15% as of 1 Jan 2022. Management commentary in Sleep Cycle's Q3 2021 report confirms that Google's realignment will result in some SEK 2m result improvement as of 2022, all else being equal. Additionally, management will continue to monitor this situation, particularly if Apple adjusts its policy. As of the time of writing, Apple maintains its 30/15% policy.

Platform costs typically account for ~25% of net revenue...

Sleep Cycle has consistently reported platform costs corresponding to 25% of net revenue. Applying the 30/15% policy, Sleep Cycle's platform costs indicate that two-thirds of its paying subscribers are first-year subscribers, while the rest have been subscribers for more than a year. Essentially, churn is substantial, and the company is required to sell subscriptions to new users each quarter, which it has managed well so far.

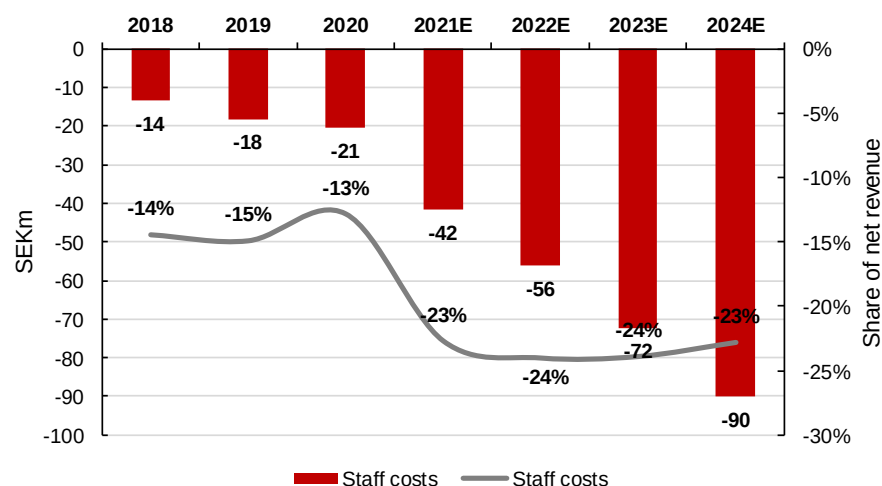
... but Google's realigned decreases these to ~22% of net revenues from 2022

While Sleep Cycle does not disclose a split of its net revenues by operating system, we assume that iOS customers account for some 70% and Android customers for about 30% based on the number of reviews on App Store and Google Play. Keeping this assumption constant and that first-year subscribers account for two-thirds of total subscribers on both operating systems, we

calculate that Google's policy change should decrease platform costs to 22% of net revenue from in 2022. Essentially, the policy change improves the gross margin by 3 percentage points from 2022, which we believe is very encouraging.

Apple cutting fees and reduced churn would improve long-term gross margin outlook

A major catalyst, in our view, would be if Apple chose to cut its first-year subscription platform fees, taking a similar path to Google. Sleep Cycle's gross margin would essentially improve materially overnight. However, another way of expanding the gross margin would be by reducing churn, which would decrease the relative share of first-year subscribers.

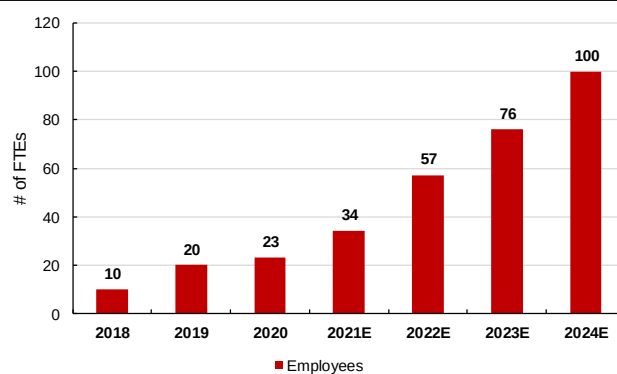
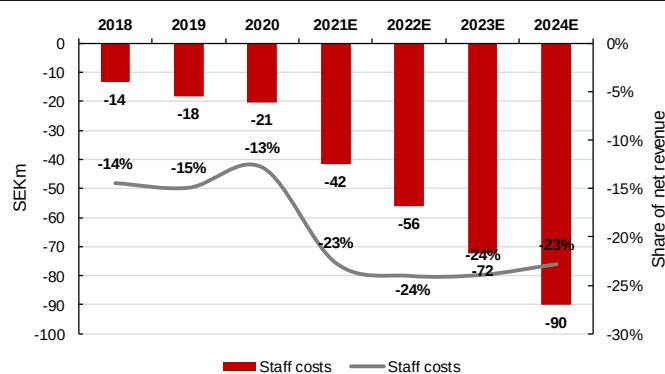


Source: Redeye Research, company data

Other Costs

Staff costs

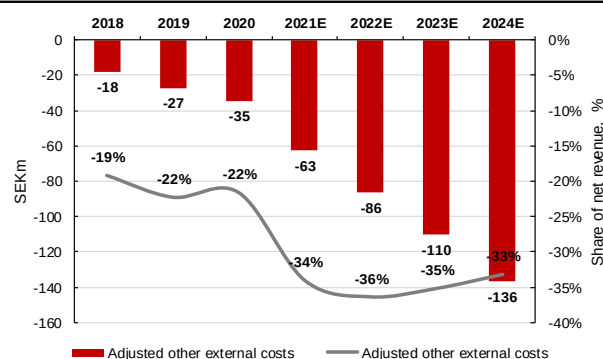
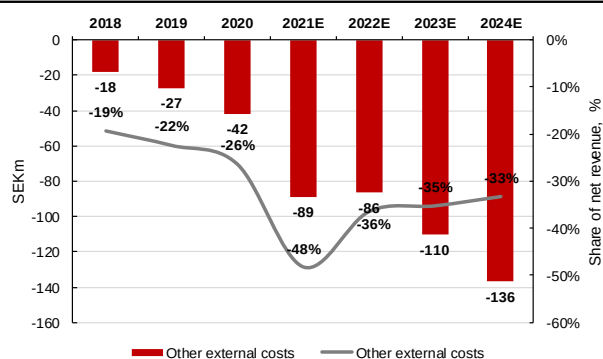
Sleep Cycle had 23 FTEs in 2020, and it is on a trajectory to reach 34 on average in 2021 (ending at around 41 FTEs). Our understanding is that Sleep Cycle expects to continue increasing its headcount, especially in sales and marketing, given the launch of its corporate offering. Additionally, the team will require additional content creators and software engineers to provide a competitive offering and fend off competitors. To our understanding, Sleep Cycle nearly doubled its number of FTEs in product development in 2021, and new features from these efforts are: sleep goals and other sounds, to name a few (new launches are, like performance marketing, important for subscription-conversion). While staff costs accounted for 13-15% of net revenues in 2018-2020, we expect this to exceed 20% for the next couple of years.



Source: Redeye Research, company data

External costs

Other external costs consist of sales and marketing, content making, rent, and so on. While these costs have accounted for about 19-26% of net revenues (on a non-adjusted basis), we anticipate a material increase in the next couple of years. In particular, we believe that performance marketing will account for some 22-24% of net revenues for the next couple of years. Additionally, IPO-related costs are included for 2021, explaining the high relative share of this line item. We illustrate external costs adjusted and non-adjusted, and their relative weight against net revenue below.



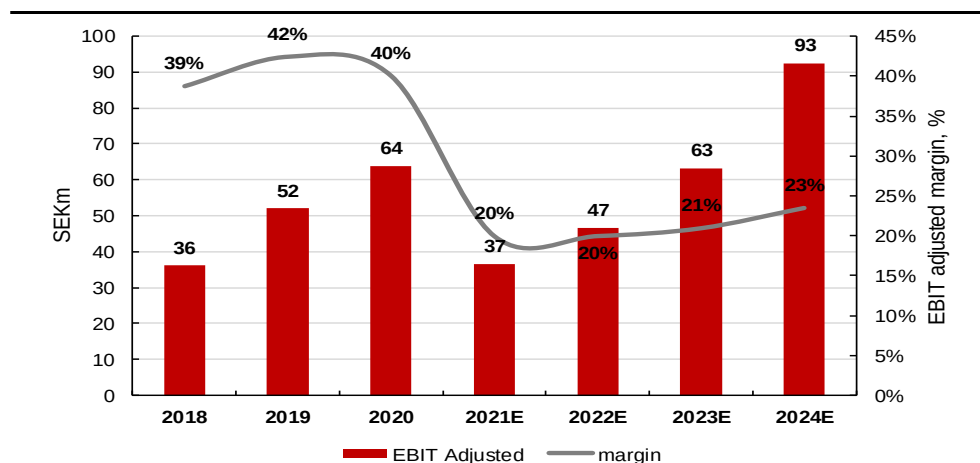
Source: Redeye Research, company data

D&A

Historically, D&A has accounted for a non-meaningful share of net revenues, at around 1% in 2018-2020. We expect D&A to increase somewhat, to about 2% of net revenues over our forecast period thanks to increased intangible investments – Sleep Cycle has begun to capitalize developments on its P&L at some SEK 4m annual run-rate.

Operating Profit

Sleep Cycle has delivered excellent operating margins of around 40% for 2018-2020. As the company has begun to pursue a more aggressive growth agenda, Sleep Cycle will have to expand its cost suite, and allow for contracting operating margins for a period of time. In particular, performance-marketing investments in an effort to gain new subscriptions from paid channels will impact the operating margin significantly. As previously mentioned, the company has a stated ambition to deliver margins of some 20% in the near term, and in excess of 30% in the long term. We reason that our forecasts are more or less in line with these assumptions, as illustrated below. We expect margins to see an upward trend from 2023, and eventually converge to at around 30% over time, around 2026.



Source: Redeye Research, company data

Attractive Working Capital Dynamics

Sleep Cycle benefits from attractive working capital dynamics, receiving upfront payments for subscriptions. The company defines accrued income, i.e., money that has been earned but not yet received, as its most significant working capital asset. These are largely driven by the customary 15-45 days payment term from Apple and Google. On the other side, prepaid income and accrued expenses represent Sleep Cycle's most significant working capital liabilities, driven by advance subscription payments.

The working capital dynamics have resulted in some SEK 12-22m positive cash flow contribution for 2018-2020. We expect the company to continue benefitting from these dynamics as it scales its offering and increases its net revenues.

Cash Conversion and Financial Position

Adjusted cash conversion in 2018, 2019 and 2020 amounted to 158%, 126% and 118%, respectively. This is defined as the adjusted operating cash flow in relation to the company's adjusted EBITDA. Essentially, more than 100% of Sleep Cycle's profit is converted into cash and cash equivalents on average each year.

As of Q3 2021, Sleep Cycle's cash balance amounted to SEK 145m. The company undertook an equity issue of some SEK 95m in combination with its IPO. Given that Sleep Cycle is cash-flow-positive, we consider its financial position very comfortable. Essentially, the company is well-funded to continue pursuing marketing and other growth investments for a long time to come.

Income statement

Income Statement	2020	Q1	Q2	Q3	Q4E	2021E	2022E	2023E	2024E
Net revenue	159	42	44	49	49	184	234	302	394
Other operating income	0	1	1	1	1	4	5	6	6
Total income	160	43	45	50	50	188	238	307	401
Platform costs	-40	-10	-11	-11	-12	-45	-51	-66	-87
Staff costs	-21	-8	-12	-9	-12	-42	-56	-72	-90
External costs	-42	-19	-33	-20	-17	-89	-81	-100	-124
Other costs	-0	-0	-	-0	-	-0	-	-	-
EBITDA	57	5	-11	10	9	12	50	69	100
EBITDA adjusted	64	12	5	13	9	38	50	69	100
D&A	-1	-0	-0	-1	-1	-2	-4	-6	-8
EBIT	56	5	-11	9	8	11	47	63	93
EBIT adjusted	64	12	5	12	8	37	47	63	93
Net financials	-0	-	-0	-0	-	-	-	-	-
EBT	56	5	-11	9	8	11	47	63	93
Income tax	-12	-1	2	-2	-2	-2	-9	-13	-19
Net income	44	4	-9	7	7	8	37	51	74
Key financials									
Net revenue growth, YoY	30%	10%	12%	21%	18%	15%	27%	29%	31%
EBITDA-m	36%	11%	-26%	20%	19%	7%	21%	23%	25%
EBITDA adjusted-m	40%	28%	11%	26%	19%	21%	21%	23%	25%
EBIT-m	35%	11%	-26%	19%	17%	6%	20%	21%	23%
EBIT adjusted-m	40%	28%	10%	25%	17%	20%	20%	21%	23%

Valuation

Sleep Cycle trades at around 4x EV/sales and 21x EV/adjusted EBIT on 2022's estimated numbers. Compared to Nordic SaaS businesses with similar profit levels and growth rates, Sleep Cycle is not richly priced. We argue that there are three main reasons for that price gap, namely 1) softer 2021-2022; 2) concerns over competition from Google and Apple; and 3) low LTV/SAC ratio on paid subscribers.

First, currency-adjusted net revenue growth slowed down in 2021 to around 21.6%, a clear deacceleration from previous levels of >30% a year. New habits in the wake of the Covid-19 pandemic, such as working from home and longer sleep-ins, are likely explanations. The slower growth in combination with lower margins (both adjusted EBIT and adjusted EBIT excluding marketing expenses) add further short-term headwinds to the share price. As paid channels are set to increase, lower EBIT margins are expected. However, paid channels should also lead to increased volumes and further top-line growth, and we believe investors could revalue the new mix when revenues close in on ~30% y/y growth once more (which we forecast). However, 2022 looks a bit softer as well, partly because of the customer intake in 2021.

Competition from Apple and Google is perhaps the main reason why the stock price lingers at its current levels. Investors are hesitant to price in long-term durable growth and profit margins, as sleep is a critical part of the whole health puzzle, a segment both tech giants are eyeing intensely. The health informatics apps Apple Health and Google Fit would benefit from having more sleep data and functions targeting sleep. Both companies already monetize much of our time awake through various services and the nighttime should be a natural further step. Still, Sleep Cycle's niched focus, extensive database, and knowledge make it an attractive value-added supplement to these larger health informatics apps. Thus, although there is a risk that Apple and Google want to take sleep in-house, we believe Sleep Cycle has a place in the market and should be fairly competitive thanks to its dedicated sleep tracking. Nevertheless, depending on how much focus and investments the tech companies will commit to the sleep segment, they could become major competitors. We thus assign increased competition from Apple and Google to the Bear Case in our valuation.

Lastly, paid channels have a low LTV/SAC ratio of approximately 1.5x (a crude rule of thumb of profitable levels is at least 3x). Although the ratio has improved in the past couple of quarters, we argue that investors are still somewhat skeptical, especially since this currently dilutes the very profitable organic inflow. Nevertheless, we believe Sleep Cycle will fine-tune its marketing efforts and finally hit a level of 3x or higher. Remember that the SAC has moved from SEK 891 to SEK 251 in less than two years. The flattening in 2021 at around SEK 235-265 is probably the main reason for this skepticism, but that could quickly evaporate if the SAC started to move downward again. It is certainly a key KPI we will track.

We believe these three question marks represent the main explanations behind the depressed multiples.

SaaS	EV	Sales	EV/SALES				EV/EBIT (x)			Sales growth			EBIT margin			R40		
Company	(SEKm)	21E	21E	22E	23E	21E	22E	23E	21E	22E	23E	21E	22E	23E	21E	22E	23E	
24SevenOffice	868	228	3,8	3,1	2,5	neg	neg	neg	35%	27%	19%	-22%	-18%	-4%	13%	10%	15%	
Addnode	13 966	4 202	3,3	2,9	2,6	45	35	30	10%	16%	11%	7%	8%	9%	17%	24%	19%	
Admicom	3 500	252	13,9	11,5	9,9	32	26	21	13%	18%	17%	44%	44%	46%	57%	62%	63%	
Bambuser	2 931	156	18,7	9,1	5,8	neg	neg	neg	403%	106%	56%	-116%	-52%	-15%	287%	54%	41%	
BIMobject	626	123	5,1	4,6	4,0	neg	neg	neg	-10%	18%	23%	-69%	-40%	-24%	-79%	-22%	-1%	
Briox	195	6	32,6	20,9	14,8	neg	neg	neg	35%	67%	50%	-333%	-190%	-113%	-299%	-123%	-63%	
Carasent	1 904	149	12,8	9,3	7,8	66	43	24	109%	35%	19%	19%	21%	33%	128%	57%	52%	
CSAM	1 950	352	5,5	4,1	3,4	neg	57	33	52%	48%	31%	-3%	7%	10%	49%	55%	41%	
Efecte	807	174	4,6	3,9	3,4	199	60	33	16%	16%	17%	2%	7%	10%	18%	23%	27%	
Fortnox	32 078	926	34,7	25,2	18,7	97	63	43	34%	36%	33%	36%	40%	44%	69%	76%	76%	
LeadDesk	1 195	262	4,6	3,6	2,9	238	65	40	88%	24%	23%	2%	5%	7%	90%	29%	30%	
Lime	4 616	410	11,2	9,3	7,8	53	42	30	21%	19%	17%	21%	22%	26%	42%	41%	43%	
Litium	242	62	3,9	3,0	2,3	neg	81	10	28%	29%	31%	-19%	4%	23%	9%	33%	54%	
Mercell	4 368	741	5,9	4,7	4,0	neg	74	28	136%	26%	15%	-6%	6%	14%	129%	33%	29%	
NordHealth	2 226	203	11,0	7,4	6,2	neg	neg	262	48%	66%	30%	-7%	-3%	2%	40%	63%	32%	
PatientSky	628	209	3,0	3,1	2,8	neg	neg	neg	48%	15%	22%	-30%	-32%	-20%	18%	-17%	2%	
Penneo	571	0	7,4	5,1	3,7	-18	-17	-32	58%	46%	39%	-46%	-42%	-29%	13%	4%	9%	
Pexip	3 108	833	3,7	3,1	2,4	neg	neg	neg	22%	36%	38%	-37%	-33%	-8%	-15%	3%	30%	
Safeture	255	30	8,7	5,3	n/a	neg	neg	n/a	37%	63%	n/a	-75%	-15%	n/a	-38%	48%	n/a	
SmartCraft	3 588	272	13,2	10,6	9,1	45	33	27	1098%	24%	17%	29%	32%	34%	1127%	57%	51%	
Upsales	1 306	93	14,0	11,2	8,7	100	52	39	24%	24%	26%	14%	21%	22%	38%	45%	48%	
Vertiseit	765	117	6,5	4,6	3,7	80	39	21	53%	44%	22%	8%	12%	18%	61%	56%	40%	
XMRReality	146	26	5,6	3,7	2,6	neg	neg	neg	26%	54%	40%	-98%	-34%	-5%	-73%	20%	35%	
Average	3 959	462	10,0	7,2	5,8	82	45	39	103%	42%	27%	-25%	-6%	6%	78%	36%	33%	
Median	1 612	206	7,0	4,7	4,0	66	43	30	35%	28%	23%	-2%	6%	10%	39%	33%	32%	

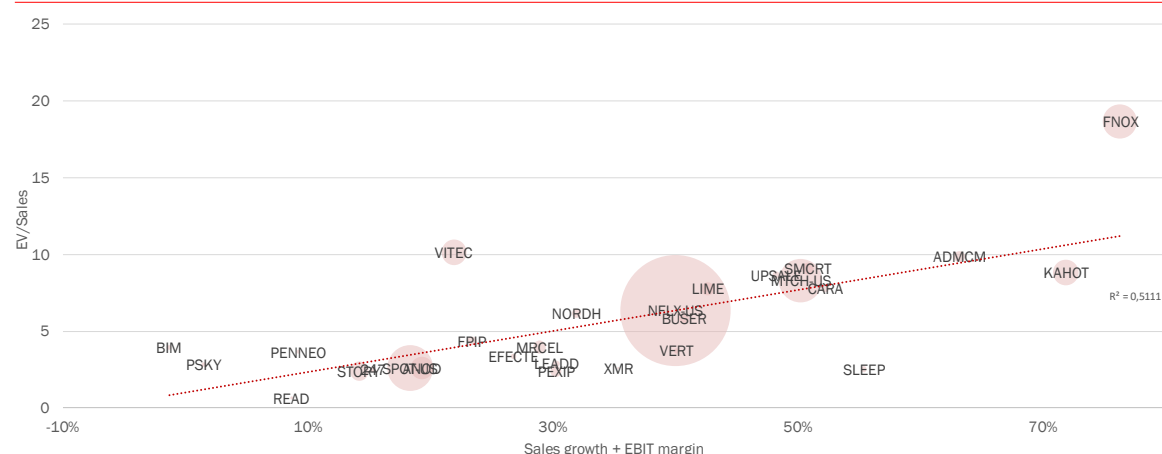
Source: Redeye, Company reports, FactSet

Note that the estimates below on Sleep Cycle are not Redeye's, but other analyst firms'. We differ with somewhat higher margins but a bit lower growth.

CSS	EV	Sales	EV/SALES			EV/EBIT (x)			Sales growth			EBIT margin			R40		
Company	(SEKm)	21E	21E	22E	23E	21E	22E	23E	21E	22E	23E	21E	22E	23E	21E	22E	23E
Storytel	9 836	2 995	3,3	2,8	2,4	neg	neg	neg	28%	25%	19%	-13%	-8%	-4%	15%	16%	14%
Kahoot	18 038	787	22,9	12,5	8,9	207	57	25	171%	83%	37%	11%	22%	35%	182%	105%	72%
Ready	335	461	0,7	0,7	0,7	neg	neg	neg	32%	32%	29%	-46%	-31%	-20%	-14%	1%	9%
Sleep Cycle	946	184	5,1	3,8	2,5	73	21	13	15%	32%	36%	7%	18%	19%	22%	49%	55%
Netflix	337 069	40 339	8,4	7,3	6,3	40	32	25	19%	15%	15%	21%	23%	25%	39%	37%	40%
Spotify	57 044	15 361	3,7	3,1	2,6	neg	806	136	26%	19%	16%	-1%	0%	2%	25%	20%	18%
Match Group	51 110	4 107	12,4	9,9	8,3	43	30	25	26%	23%	17%	29%	32%	34%	55%	56%	50%
Average	67 768	9 176	8,1	5,7	4,5	91	189	45	45%	33%	24%	1%	8%	13%	46%	41%	37%
Median	18 038	2 995	5,1	3,8	2,6	58	32	25	26%	25%	19%	7%	18%	19%	25%	37%	40%

Source: Redeye, Company reports, FactSet

EV/S vs Growth + EBIT m. 2023E



We derive our valuation from a discounted cash flow (DCF) analysis, using a constant WACC of 10% across our Base, Bull, and Bear scenarios. We do not factor future M&A into any of our cases.

Bear Case: SEK 40

Our pessimistic scenario represents increased competition, technology, and execution risks. While Sleep Cycle is the leading sleep tracking app at present, we anticipate intensified competition in the future, resulting in price pressure and a decreasing market share. In particular, we expect tech giants such as Apple and Google to invest heavily in sleep tracking capabilities. We note that both companies are improving sleep tracking through their health apps, wearable devices and other gadgets.

Sales CAGR for 2021E-2025E: 21%

Sales CAGR for 2025E-2030E: 8%

Terminal growth: 2%

Avg. EBIT-m for 2021E-2025E: 18%

Avg. EBIT-m for 2025E-2030E: 21%

Terminal EBIT-m: 19%

WACC: 10%

Base Case: SEK 77

We expect Sleep Cycle to maintain its market leadership, and to amass 1.9m subscribers by 2024. We forecast a high intake in organic subscriptions, improved renewal rates, and successful performance marketing and other paid channel initiatives, to name some. We believe that Sleep Cycle is able to fend off competitors, thanks to ongoing product improvements and its strong brand awareness. Finally, we expect Sleep Cycle to perform in line with its financial targets, i.e., to grow at around 30% CAGR over the coming years, and to achieve 30% operating margins over time.

Sales CAGR for 2021E-2025E: 26%

Sales CAGR for 2025E-2030E: 11%

Terminal growth: 2%

Avg. EBIT-m for 2021E-2025E: 19%

Avg. EBIT-m for 2025E-2030E: 28%

Terminal EBIT-m: 30%

WACC: 10%

Bull Case: SEK 110

Our optimistic scenario is coupled with a favorable competitive situation, and we believe Sleep Cycle can maintain its market leadership well into the future. The threat from Apple and Google proves a great opportunity for Sleep Cycle. Apple and Google help raise awareness through their native solutions, which in turn generates traffic for Sleep Cycle. Moreover, the company is able to capitalize on the tech giants' reach through wearables, for example. Consequently, we expect Sleep Cycle to perform ahead of its financial targets.

Sales CAGR for 2021E-2025E: 33%

Sales CAGR for 2025E-2030E: 13%

Terminal growth: 2%

Avg. EBIT-m for 2021E-2025E: 19%

Avg. EBIT-m for 2025E-2030E: 31%

Terminal EBIT-m: 35%

WACC: 10%

	2020	2021E	2022E	2023E
INCOME STATEMENT				
Revenues	159	184	234	302
Cost of Revenues	40	45	51	66
Gross Profit	119	139	182	236
Operating Expenses	63	131	137	172
EBITDA	57	12	50	69
Depreciation & Amortization	1	2	4	6
EBIT	56	11	47	63
Net Financial Items	0	0	0	0
EBT	56	11	47	63
Income Tax Expenses	12	2	9	13
Non-Controlling Interest				
Net Income	44	8	37	51
BALANCE SHEET				
Assets				
Current assets				
Cash & Equivalents	53	154	199	265
Inventories	0	0	0	0
Accounts Receivable	2	26	33	42
Other Current Assets	48	44	56	72
Total Current Assets	103	224	288	380
Non-current assets				
Property, Plant & Equipment, Net	1	4	4	4
Goodwill	0	0	0	0
Intangible Assets	0	4	8	11
Right-of-Use Assets	0	0	0	0
Shares in Associates	0	0	0	0
Other Long-Term Assets	0	1	1	1
Total Non-Current Assets	1	9	12	15
Total Assets	105	233	301	396
Liabilities				
Current liabilities				
Short-Term Debt	0	0	0	0
Short-Term Lease Liabilities	0	2	2	2
Accounts Payable	7	17	21	27
Other Current Liabilities	1	2	2	3
Total Current Liabilities	104	123	154	198
Non-current liabilities				
Long-Term Debt	0	0	0	0
Long-Term Lease Liabilities	0	1	1	1
Other Long-Term Liabilities	0	0	0	0
Total Non-current Liabilities	0	1	1	1
Non-Controlling Interest	0	109	146	197
Shareholder's Equity	105	233	301	396
Total Liabilities & Equity	105	233	301	396
CASH FLOW				
NOPAT	44	8	37	51
Change in Working Capital	-11	-1	12	18
Operating Cash Flow	46	8	52	75
Capital Expenditures	0	0	0	0
Investment in Intangible Assets	0	-6	-7	-9
Investing Cash Flow	0	-6	-7	-9
Financing Cash Flow	-51	99	0	0
Free Cash Flow	46	2	45	66

DCF Valuation Metrics		Sum FCF (SEKm)
2021-25		244,11
2026-34		382,36
2034-		709,75
Firm Value		1336,21
Net Debt		-154,05
Equity Value		1490,27
Fair Value per Share		76,70

	2020	2021E	2022E	2023E
CAPITAL STRUCTURE				
Equity Ratio	0,0	0,5	0,5	0,5
Debt to equity	0,0	0,0	0,0	0,0
Net Debt	-53	-154	-199	-265
Capital Employed	1	110	147	198
Working Capital Turnover	-3,0	-3,5	-3,6	-3,6

GROWTH				
Revenue Growth	30%	15%	27%	29%
Basic EPS Growth	5%	-100%	343%	36%
Adjusted Basic EPS Growth	5%	-100%	343%	36%

PROFITABILITY				
ROE	1245%	15%	29%	29%
ROCE	10377%	10%	32%	32%
ROIC	-76%	-17%	-76%	-83%
EBITDA Margin (%)	36%	7%	21%	23%
EBIT Margin (%)	35%	6%	20%	21%
Net Income Margin (%)	28%	5%	16%	17%

VALUATION				
Basic EPS	293,0	0,4	1,9	2,6
Adjusted Basic EPS	293,0	0,4	1,9	2,6
P/E		146,7	31,0	22,9
EV/Revenue		5,9	4,1	3,0
EV/EBITDA		87,5	19,1	12,9
EV/EBIT		102,1	20,6	14,1
P/B		11,3	7,9	5,9

SHAREHOLDER STRUCTURE		CAPITAL %	OTES %
Maciej Drejak		43,9%	43,9%
GLA Invest SA		23,7%	23,7%
Handelsbanken Fonder		5,8%	5,8%
Skandia Fonder		3,7%	3,7%
Petter Wallin		3,6%	3,6%

SHARE INFORMATION		SLEEP.ST
Reuters code		Small Cap Stockholm
List		60,00
Share price		19,43
Total shares, million		

MANAGEMENT & BOARD		
CEO		Carl Johan Hederöth
CFO		Per Andersson
Chairman		Lars Berg

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Summary Redeye Rating

The rating consists of three valuation keys, each constituting an overall assessment of several factors that are rated on a scale of 0 to 1 points. The maximum score for a valuation key is 5 points.

Rating changes in the report: None

People: 4

As the co-founder of MATCHi, we argue that Sleep Cycle's CEO a proven track-record. The CEO has remained in the same industry (consumer software) for more than a decade and shows genuine excitement for Sleep Cycle's products. In our opinion, management has relevant sector experience, highly coupled with expertise from high-growth technology environments. However, we recognize that management has been appointed quite recently, since 2020 and 2021, apart from the CEO. Also, the combined management and board holdings comprise less than 1% of the capital – we see room for increased insider ownership.

Business: 4

Sleep Cycle operates an asset-light and scalable business model, driven by a high portion of recurring revenues and strategic alliances to drive sales. Essentially, it has a well-defined strategy to grow the business organically in the foreseeable future. Additionally, Sleep Cycle is the leading sleep tracking app (>50% market share) and enjoys excellent brand awareness. However, the industry is fast-moving, and Sleep Cycle is not immune to new incumbents or competing technology.

Financials: 4

Sleep Cycle has an attractive financial profile. It has grown at around 30% CAGR since 2018 while simultaneously reporting high margins. It has maintained an adjusted EBIT margin surpassing 40% over this time, which we consider excellent. Also, the company benefits from attractive working capital dynamics, with its subscribers paying upfront. This has enabled the company to distribute generous dividends to its owners, well above 100% of its net income. However, since Sleep Cycle expects to pursue an intensive high-growth agenda, margins will likely contract in the medium term.

Redeye Rating and Background Definitions

Company Quality

Company Quality is based on a set of quality checks across three categories; PEOPLE, BUSINESS, FINANCE. These are the building blocks that enable a company to deliver sustained operational outperformance and attractive long-term earnings growth.

Each category is grouped into multiple sub-categories assessed by five checks. These are based on widely accepted and tested investment criteria and used by demonstrably successful investors and investment firms. Each sub-category may also include a complementary check that provides additional information to assist with investment decision-making.

If a check is successful, it is assigned a score of one point; the total successful checks are added to give a score for each sub-category. The overall score for a category is the average of all sub-category scores, based on a scale that ranges from 0 to 5 rounded up to the nearest whole number. The overall score for each category is then used to generate the size of the bar in the Company Quality graphic.

People

At the end of the day, people drive profits. Not numbers. Understanding the motivations of people behind a business is a significant part of understanding the long-term drive of the company. It all comes down to doing business with people you trust, or at least avoiding dealing with people of questionable character.

The People rating is based on quantitative scores in seven categories:

- Passion, Execution, Capital Allocation, Communication, Compensation, Ownership, and Board.

Business

If you don't understand the competitive environment and don't have a clear sense of how the business will engage customers, create value and consistently deliver that value at a profit, you won't succeed as an investor. Knowing the business model inside out will provide you some level of certainty and reduce the risk when you buy a stock.

The Business rating is based on quantitative scores grouped into five sub-categories:

- Business Scalability, Market Structure, Value Proposition, Economic Moat, and Operational Risks.

Financials

Investing is part art, part science. Financial ratios make up most of the science. Ratios are used to evaluate the financial soundness of a business. Also, these ratios are key factors that will impact a company's financial performance and valuation. However, you only need a few to determine whether a company is financially strong or weak.

The Financial rating is based on quantitative scores that are grouped into five separate categories:

- Earnings Power, Profit Margin, Growth Rate, Financial Health, and Earnings Quality.

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Disclaimer

Important information

Redeye AB ("Redeye" or "the Company") is a specialist financial advisory boutique that focuses on small and mid-cap growth companies in the Nordic region. We focus on the technology and life science sectors. We provide services within Corporate Broking, Corporate Finance, equity research and investor relations. Our strengths are our award-winning research department, experienced advisers, a unique investor network, and the powerful distribution channel redeye.se. Redeye was founded in 1999 and since 2007 has been subject to the supervision of the Swedish Financial Supervisory Authority.

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- Redeye is a customer to Sleep Cycle as well, via its Sleep Boot Camp.

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Redeye Rating (2022-01-14)

Rating	People	Business	Financials
5p	33	15	4
3p - 4p	136	122	43
0p - 2p	5	37	127
Company N	174	174	174

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CONFLICT OF INTERESTS

Forbes Goldman owns shares in the company: No

Mark Siöstedt owns shares in the company: No