ZUORA

The Subscription Economy Index™
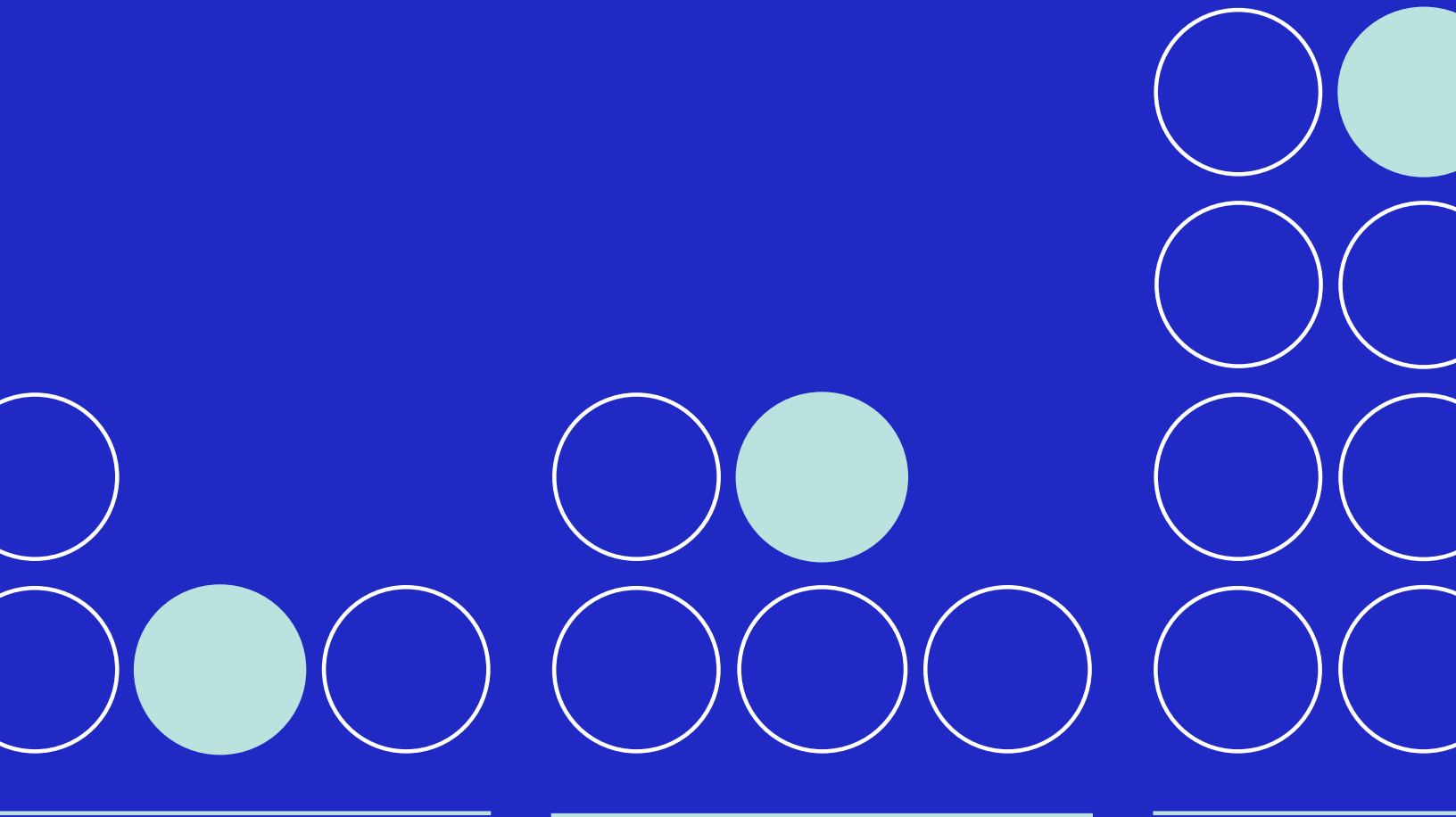
March 2023

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Introduction

SUBSCRIPTIONS: MULTIPLE OPPORTUNITIES FOR GROWTH, EVEN IN AN UNCERTAIN MARKET

In 2022, the world economy was characterized by uncertainty and concerns about inflation, supply chain disruptions, and a potential global economic slowdown due to geopolitical tensions and the continued threat of COVID-19 variants.[1] Many businesses[2] and consumers[3] tightened budgets due to the unpredictability of the future. However, there were also signs of economic improvement, with many countries experiencing increased economic activity and job creation.[4]

Recurring revenue business models have historically provided stability[5] during turbulent times. Since the focus of such business models is often on nurturing and monetizing relationships rather than repeating multiple one-time transactions, subscription models are inherently resilient. These business models have a unique advantage in that they offer three potential levers for growth: acquiring new customers, retaining existing ones, and expanding revenue through upselling or cross-selling.

Zuora's Subscription Economy Index™ (SEI) report analyzes the growth and resilience of recurring revenue-based businesses. Comprised of anonymized, aggregated, system-generated activity on the Zuora Billing service, the SEI measures the change in the volume of business for subscription-based products and services across more than 500 businesses. The index represents a range of flexible recurring pricing models, such as consumption and time-based memberships. The SEI is intended to view trends in the Subscription Economy® as a whole.

[1] "Economic conditions outlook," McKinsey & Company, December 2022

[2] "The top budget items companies are cutting as they brace for a financial downturn," Fortune, November 2022

[3] "Here's what consumers plan to cut back on if prices continue to surge," CNBC, April 2022

[4] "December 2022 Jobs Report: A Strong End to 2022," US Department of Labor Blog, December 2022

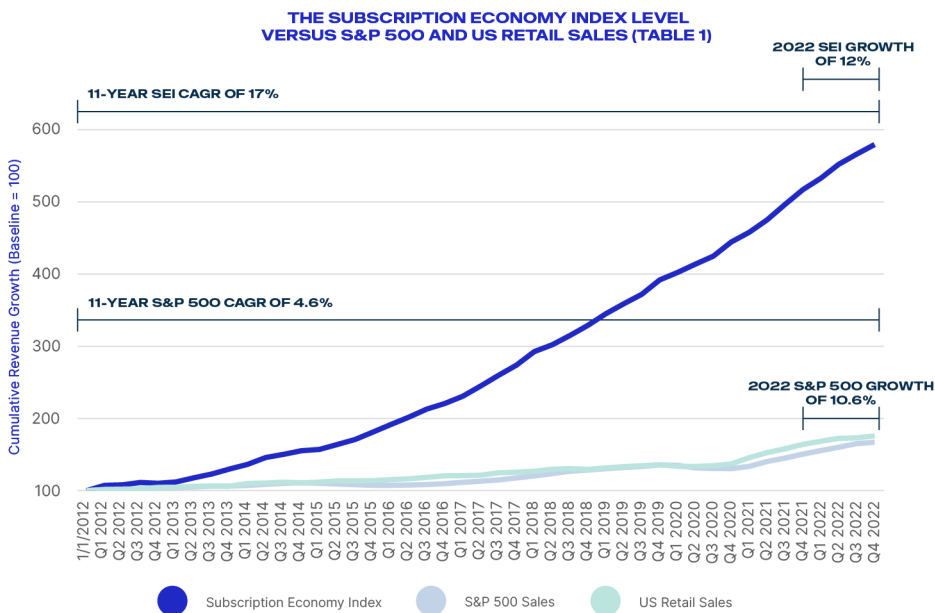[5] "The Subscription Economy Index Report," Zuora, February 2022

Key Findings

DESPITE GLOBAL MACROECONOMIC CONDITIONS, SUBSCRIPTION COMPANIES IN THE SEI CONTINUE TO OUTPACE THE S&P 500 (TABLE 1)

Over the past 11 years, subscription-based companies in the SEI have grown 3.7x faster than the companies in the S&P 500, which have historically represented more traditional, product-based businesses. Specifically, the compound annual growth rate (CAGR) for SEI companies was 17%, compared to 4.6% for the S&P 500 over the same period (Table 1). Despite various macroeconomic headwinds, companies in the SEI continued to outpace S&P 500 companies in 2022, with 12% revenue growth compared to 10.6%, respectively (Table 1).

Subscription-based companies in the SEI have grown

3.7x

faster than companies in the S&P 500 over the past 11 years.

THE SUBSCRIPTION ECONOMY INDEX LEVEL VERSUS S&P 500 AND US RETAIL SALES (TABLE 1)

- **2022 SEI GROWTH OF 12%**
- **11-YEAR SEI CAGR OF 17%**
- **11-YEAR S&P 500 CAGR OF 4.6%**
- **2022 S&P 500 GROWTH OF 10.6%**

Y-axis: Cumulative Revenue Growth (Baseline = 100), values 100, 200, 300, 400, 500, 600

X-axis: 1/1/2012, Q1 2012, Q2 2012, Q3 2012, Q4 2012, Q1 2013, Q2 2013, Q3 2013, Q4 2013, Q1 2014, Q2 2014, Q3 2014, Q4 2014, Q1 2015, Q2 2015, Q3 2015, Q4 2015, Q1 2016, Q2 2016, Q3 2016, Q4 2016, Q1 2017, Q2 2017, Q3 2017, Q4 2017, Q1 2018, Q2 2018, Q3 2018, Q4 2018, Q1 2019, Q2 2019, Q3 2019, Q4 2019, Q1 2020, Q2 2020, Q3 2020, Q4 2020, Q1 2021, Q2 2021, Q3 2021, Q4 2021, Q1 2022, Q2 2022, Q3 2022, Q4 2022

Legend: Subscription Economy Index | S&P 500 Sales | US Retail Sales

CHURN REMAINS CONSISTENT WITH PRE-PANDEMIC RATES (TABLE 2)

Data suggests that churn rates (percentage of subscribers lost) have remained relatively consistent since 2018 (Table 2). Delivering clear, ongoing value can help subscription-based companies retain customers as they continue to scrutinize their spending.

SUBSCRIPTION ECONOMY INDEX AVERAGE QUARTERLY CHURN (TABLE 2)
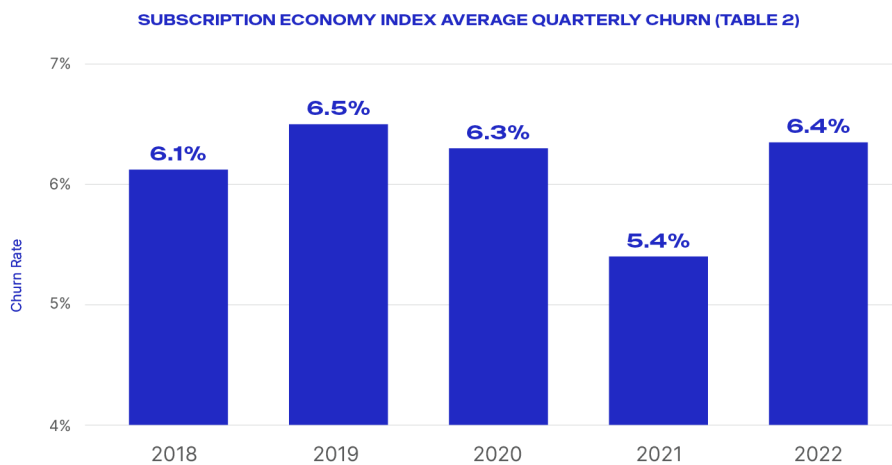
The average churn rate was markedly lower in 2021, but it is difficult to pinpoint precisely why that was the case. Zuora's Subscribed Institute has identified a cohort of companies that have maintained a higher retention rate (and conversely a lower churn rate) relative to the overall SEI. Our analysis of these "Super Retainers" is available at the Subscribed Institute at Zuora.[6]

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[6] "Super Retainers: Early Lessons for Uncertain Times Ahead...," Zuora, January 2023
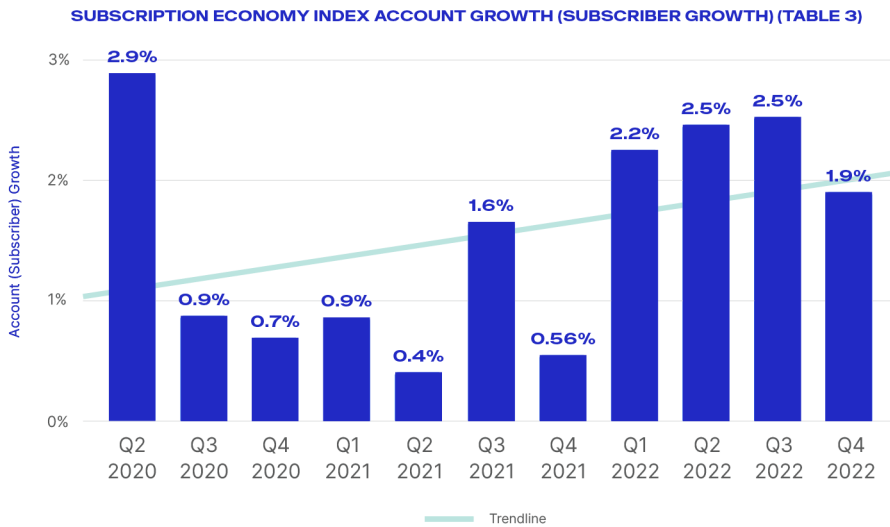
SUBSCRIBER ACQUISITION IS TRENDING UP SINCE PANDEMIC LOWS (TABLE 3)

In 2022, despite facing challenges in the overall economy, the upward trend for subscription account growth continued (Table 3). Account growth refers to the percentage of new subscribers or accounts gained over a specific period. While quarterly growth rates over the past 12 quarters have fluctuated, the trendline shows that companies acquired new subscribers at a higher rate in 2022 than what was observed in 2020 and 2021.

Companies acquired new subscribers at a higher rate in

2022

than what was observed in 2020 and 2021.

SUBSCRIPTION ECONOMY INDEX ACCOUNT GROWTH (SUBSCRIBER GROWTH) (TABLE 3)

Account (Subscriber) Growth

Quarter	Value
Q2 2020	2.9%
Q3 2020	0.9%
Q4 2020	0.7%
Q1 2021	0.9%
Q2 2021	0.4%
Q3 2021	1.6%
Q4 2021	0.56%
Q1 2022	2.2%
Q2 2022	2.5%
Q3 2022	2.5%
Q4 2022	1.9%

—— Trendline

ALTHOUGH ARPA GROWTH IS GENERALLY CONSISTENT, IT SLOWED IN 2022 (TABLE 4)

Although average revenue per account (ARPA) growth, measured as the growth rate of average revenue per account (or subscriber), in the SEI has fluctuated within a limited range over the past 16 quarters, the trendline is consistent. Most recently, ARPA growth in the SEI decreased from 1.89% in Q2 2022 to 1.38% in Q3 2022 and .97% in Q4 2022, lower than 2021 growth rates (Table 4).

While the trendlines for both account growth and ARPA are both positive within a limited range, subscription businesses should focus on strategies to retain customers, especially during challenging times. Most savvy subscription businesses know that it's better to keep a customer than to lose one. Offering customers the flexibility to downgrade or pause their subscriptions is a best practice, as is using promotional pricing to attract new subscribers. In these examples, the average revenue per account would decrease if not offset by other strategies.

SUBSCRIPTION ECONOMY INDEX ARPA GROWTH (TABLE 4)

Trendline

Key Findings Recommendation

Ideally, businesses that plan to have a successful subscription business should excel in all three growth areas: acquisition, retention, and expansion. Overall, subscription businesses in the SEI have the ability to adapt while showing flexibility and resiliency during uncertain times.

Business and consumer spending habits during times of uncertainty still point toward choosing digital services and experiences, many of which are offered via subscription. Subscriptions make spending more predictable, allowing the customer to get more value for less upfront, as well as an opportunity for cost savings over time when the benefits of usership are factored in.

Recurring revenue models are often heralded for their potential to drive resilient growth and provide stability in challenging economic conditions. This is playing out in the SEI as the index continues to grow 3.7x faster than the S&P 500. The Subscribed Institute has reported that mature subscription-based businesses such as those in the SEI can count on existing subscribers for 70% to 80% of their annual recurring revenue[7]. This is why it is crucial for businesses to develop thoughtful strategies for maintaining and expanding relationships with current customers and to allocate appropriate resources to achieve this.

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[7] "How Much Revenue Is Driven by Existing Subscribers?," Zuora, January 2023
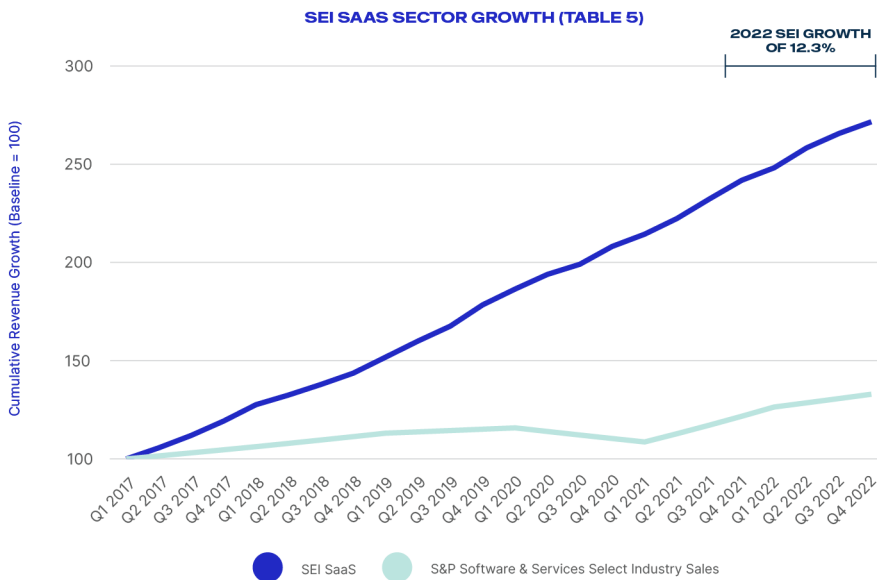
State of SEI by Sector

SAAS

SaaS continues to be the fastest-growing sector in the SEI, outperforming other sectors in terms of cumulative revenue growth, with 12.3% revenue growth on average in 2022 (Table 5).

SaaS models combine the benefits of the cloud with the benefits of subscriptions. The business model is synonymous with ongoing innovation, high value, and low total cost of ownership compared to alternatives. It is the de facto business model in the software industry today.[8]

As SaaS has been around for decades, businesses in the index have reached the maturity where they are now focused on optimizing the subscription model via leading-edge practices in customer success, using advanced techniques to acquire and retain customers[9], deliver measurable value, and create opportunities for expanding their relationships.

> The SaaS business model is synonymous with ongoing innovation, high value, and low total cost of ownership compared to alternatives.


SEI SAAS SECTOR GROWTH (TABLE 5)

2022 SEI GROWTH OF 12.3%

Y-axis: Cumulative Revenue Growth (Baseline = 100)

Legend: SEI SaaS | S&P Software & Services Select Industry Sales

[8] "How does SaaS enable innovation?," SaaS Industry, February 2023

[9] "Super Retainers: Early Lessons for Uncertain Times Ahead...," Zuora, January 2023

MEDIA

The Media sector of the SEI experienced modest growth in 2022, with 4.6% revenue growth on average in 2022 (Table 6). A high turnover of customers is common in this competitive sector, especially with new direct-to-consumer players entering the market. This increased competition has led to scenarios such as the "streaming wars," and an ever-expanding list of platforms providing premium content to subscribers.[10] In highly competitive markets, subscriber retention can become increasingly difficult.

SEI MEDIA SECTOR GROWTH (TABLE 6)
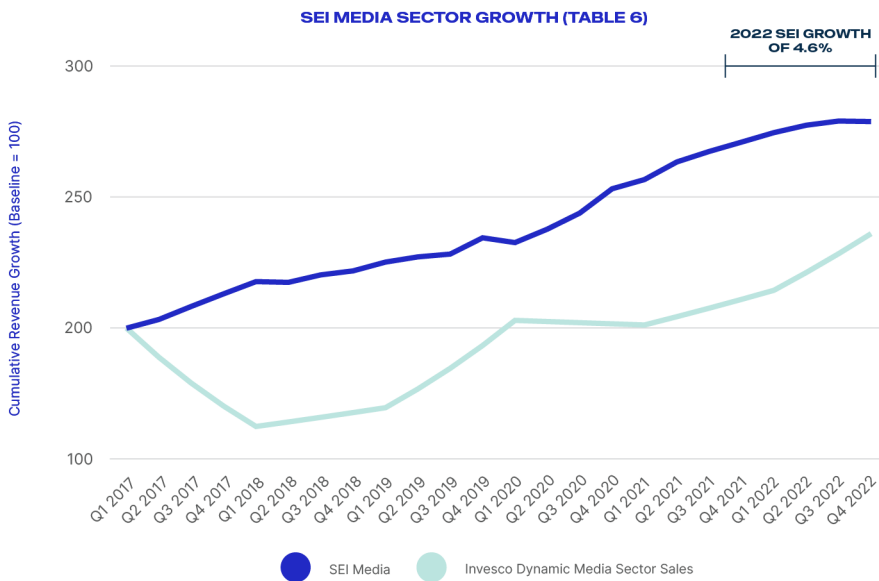
[10] "The state of streaming TV in 2023," Fast Company, December 2022

MANUFACTURING

Growth in the manufacturing sector recovered from an early slump in Q1 2022 and has since grown every quarter, with 3.1% revenue growth on average in 2022 (Table 7). Traditional manufacturing companies in the S&P 500 have seen a decline in sales product growth, which had remained stagnant even before the pandemic. Manufacturing companies in the SEI continue to embrace new monetization strategies with services that complement their products to help foster resilience and growth. In 2022, automakers in particular increasingly launched and experimented with subscription services.

SEI MANUFACTURING SECTOR GROWTH (TABLE 7)

2022 SEI GROWTH OF 3.1%

Cumulative Revenue Growth (Baseline = 100)

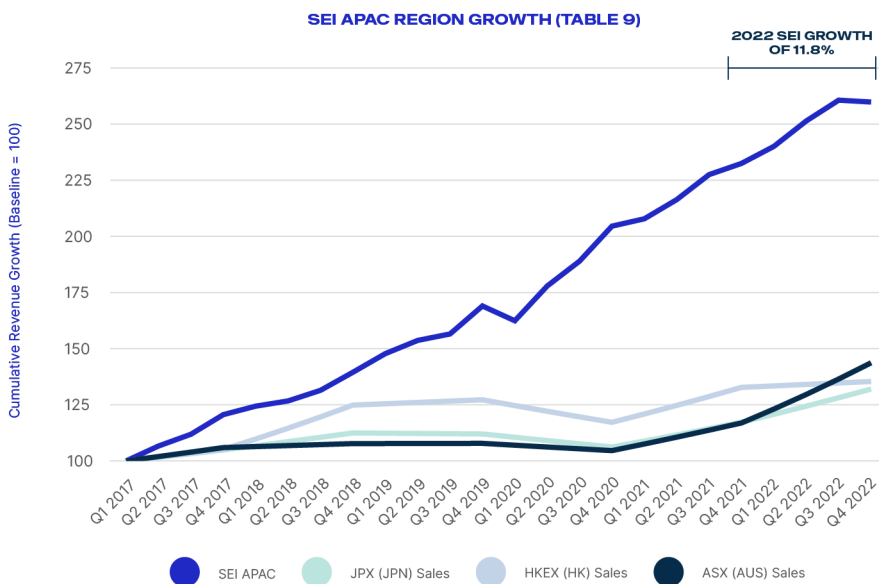● SEI Manufacturing   ● S&P 500 Industrials Sector Sales

State of SEI by World Region

In 2022, SEI businesses in EMEA experienced a 12.6% revenue growth rate (Table 8).
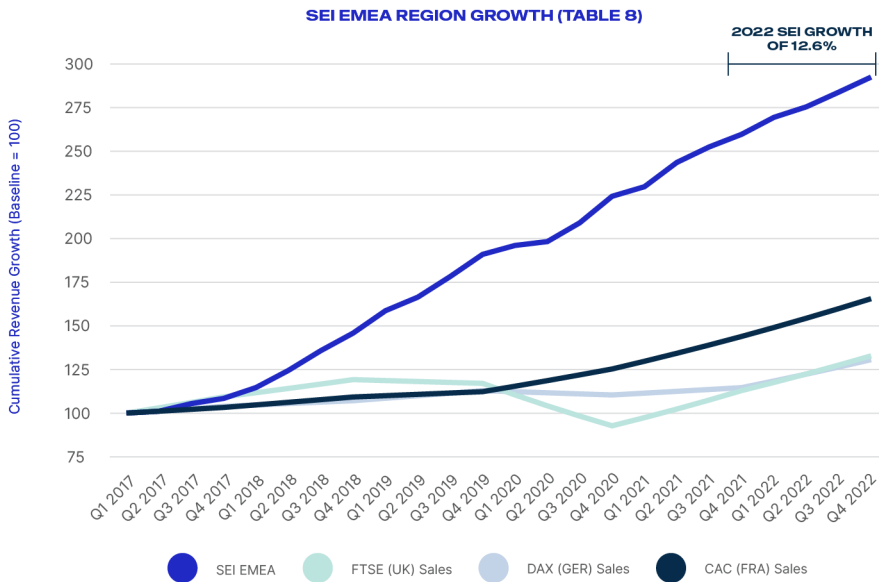
The SEI indicates that subscription-based businesses across EMEA and APAC continue to grow.

SEI EMEA REGION GROWTH (TABLE 8)

2022 SEI GROWTH OF 12.6%

Cumulative Revenue Growth (Baseline = 100)

- SEI EMEA
- FTSE (UK) Sales
- DAX (GER) Sales
- CAC (FRA) Sales

Meanwhile, SEI businesses in APAC experienced a revenue growth rate of 11.8% for 2022 (Table 9).

SEI APAC REGION GROWTH (TABLE 9)

2022 SEI GROWTH OF 11.8%

Cumulative Revenue Growth (Baseline = 100)

- SEI APAC
- JPX (JPN) Sales
- HKEX (HK) Sales
- ASX (AUS) Sales

Definitions & Terminology

SEI SECTORS

- **The Software as a Service (SaaS) Index** includes providers whose software is accessed via the cloud, and monetized via subscriptions, including traditionally perpetual software shifting to SaaS. This includes SMB SaaS, B2Every SaaS, and Enterprise SaaS companies.

- **The Media Index** includes content providers, over-the-top (OTT) streaming media companies, television and radio broadcasters, cable operators, search and navigation services, editing services, and production companies. It also includes publishers of newspapers, magazines, and books, as well as educational content providers, and corporate research providers.

- **The Manufacturing Index** includes fabrication services, industry-specific software providers, industrial design, heavy equipment, and tool manufacturers.

TERMINOLOGY

- **Compound Annual Growth Rate (CAGR):** This is the mean annual growth rate of an index over a specified period of time longer than one year. This is calculated by dividing the ending value by the beginning value over the time period, raised to an exponent of one divided by the number of years between the beginning and ending values, subtracted by one, then multiplied by 100.

- **Account Churn Rate:** Also known as the rate of customer attrition or customer churn, this is the rate at which customers stop doing business with a company over a specific period of time. This is calculated by dividing the number of attrited or churned customers over the time period by the total number of customers at the start of the time period, then multiplied by 100.

- **Average Revenue Per Account (ARPA) Growth**: This represents the quarterly growth in annualized average revenue per account, where the average revenue per account is calculated by summing up the last 12 months of billed recurring revenue and dividing by the number of active subscribers at the end of that 12-month period.

Methodology

INTRODUCTION

The Subscription Economy Index™ (SEI) measures the growth in the volume of business for subscription-based products and services. The SEI is based on anonymized, aggregated, system-generated activity on the Zuora billing service, and is intended to be indicative of the direction of the Subscription Economy® as a whole. The SEI includes not only the main index, but also specialized indices focusing on particular business segments (Sub-Indices).

The index itself is an indicator that increases (or decreases) at the same percentage rate as the average volume of activity observed in tenants on the Zuora service. Such tenants are known as constituents of the index, for reasons that will be made clear below. Like many financial and economic indicators, the precise value of the index is nominal and defined by convention. In particular, the SEI data is defined to have a value of 100 on the historical date January 1st, 2012. After that time, each percentage change in the index corresponds to the same percentage change in the activity volume of an average constituent. So when the index climbed from 100 to 105, it means that, on average, the constituents of the SEI had increased their recurring revenue by 5% over that time. When the index later climbs from 110 to 115, that corresponds to only 115/110 = 4.5% growth.

THE SUBSCRIPTION ECONOMY INDEX AS A MEASURE OF ORGANIC GROWTH

As will be described in detail below, this index is designed so that it measures the organic growth of the constituents in the index and not the growth in the number of constituents. At its simplest, that means that the addition of constituents to the SEI does not make it go up, in and of itself. Because the index grows at a rate that is the weighted average of the growth rates of the constituents, adding constituents to the SEI only dilutes the weight assigned to all the other constituents. For that reason, adding constituents only makes the index go up if the new constituents' growth rates are higher than the average growth rate of the pre-existing cohort. Similarly, when constituents leave the SEI, that does not necessarily cause the index to go down. A constituent leaving the pool may be associated with contraction in that constituent prior to departure if the tenant leaves

the Zuora service due to business failure at the owner company, but that is not necessarily the case.

The SEI also removes the impact of non-organic growth in the system activity. Non-organic growth, for these purposes, means any increase in the activity in the Zuora service that is not reflective of the changes in the underlying fundamentals of the company owning the tenant in question. The most common cases of non-organic changes in activity are account migration from another billing system to the Zuora service and voluntary decommissioning of a tenant by a company that was using the billing service. In contrast, declines in activity resulting from business failure remain part of the index calculation. These issues will be described in more detail below.

CRITERIA FOR INDEX CONSTITUENTS

Borrowing a term from stock market indices, a tenant on the Zuora service that produces activity used for calculating the SEI is referred to as an index constituent. Not every tenant on the Zuora billing system will be an index constituent at any given time. The criteria for inclusion is simply a minimum length of time that a tenant must have been live on the Zuora billing system (i.e., purchased, implemented, and now uses the product). The main purpose of this minimum is removing the effect of non-organic activity growth from the index calculation, as described above. Other considerations are removal of seasonality and ignoring high rates of activity growth from insignificant base values. As described below, companies using the Zuora billing service become available for inclusion in the index after two years of being live on the Zuora system.

BURN-IN PERIOD

In order to remove the effect of account migration from other billing systems, a minimum burn-in period of two years is applied to every tenant on the Zuora billing system. That means that the first two years of system activity for a constituent is simply ignored and never used as part of any calculation. The two-year burn-in period also removes whatever growth comes immediately after a new company launch, when Zuora is the original billing

system for a new product. This is sensible because high growth rates measuring growth from an insignificant base level are usually not sustainable in the long run. The burn-in period for a constituent may be longer than two years whenever there is known, or suspected to be, significant account migration from other systems even after this time. Note, however, that Zuora does not have perfect information about these events, and some migration of accounts from another billing platform may not be excluded (however, any extreme outliers will be removed as an outlier, as described below.)

CALCULATION PERIOD

As will be described in more detail below, revenue for the SEI is measured in a one-year rolling window. The purpose of the one-year window is to remove the impact of seasonality. After the burn-in period, the next year of system activity for a constituent is used to establish the baseline for the measurement of future growth. As a result, a typical tenant using the Zuora service is first used as an index constituent when their one-quarter growth is calculated two years and one quarter after they went live on Zuora system.

REMOVAL OF INDEX CONSTITUENTS

Decommissioning of tenants and the causes are tracked in the Zuora CRM system. System activity for a tenant is suspended from the SEI report calculation beginning in whatever quarter their decommissioning is noted, and whenever the reason is other than business failure. Business failure decommissionings are allowed to remain in the SEI report throughout the decommissioning as this reflects organic contraction on the tenant activity, while voluntarily decommissioning tenants are removed as that is a case of non-organic change in the activity. Note that this may fail to exclude migration of accounts from the Zuora system that preceded the acknowledgment of decommissioning; such migration off the Zuora system would appear as negative growth and may influence the SEI data calculation (however, any extreme points will be removed as an outlier, as described below).

POST-LIVE INVOICE CONVERSION

The migration of accounts and invoices from another billing system to Zuora usually occurs before or immediately after a tenant goes live on the platform. Occasionally, however, a company converts accounts and invoices to the system at a later date. Whenever

such a conversion is known to occur, the corresponding quarter(s) of system activity will be removed from the SEI calculation for those companies. The data points for those companies will be filled as necessary with the average of the quarters before and after the conversion. Note that Zuora does not always have complete information about these events and it is possible that some post-live revenue conversion may go into the index calculation and would appear as growth (however, any extreme points will be removed as an outlier, as described below).

MULTI-TENANT AND MULTI-ENTITY

In cases where a single parent company operates either multiple entities or multiple tenants in the Zuora system, the system activity for each entity or tenant is treated as if it were a separate constituent for purposes of SEI report calculations. A separate tenant is the specific case of multiple entities operating with fully separate product catalogs, databases, etc. The base date for beginning the burn-in period on a tenant or child entity is the later of the customer go-live date or the earliest date for which system activity for the tenant or entity is first processed.

CALCULATING CONSTITUENT GROWTH

Once a tenant on the Zuora service becomes an index constituent, its activity is calculated every quarter with a one-year rolling window. Many subscription businesses' activities are subject to seasonality, although the precise nature of the seasonal effect varies significantly. Using a one-year window for SEI calculations removes the effect of seasonality. This means that if the SEI data increases (or decreases) over any quarter, it is because that quarter was better (or worse) than the same quarter one year prior; not the quarter immediately preceding it. The activity measure for SEI data calculation is the one-year prior total of Invoice Item amounts generated from recurring and usage Rate Plan Charge objects in the Zuora billing business object model. One-time charges are excluded from the calculation, as the SEI is intended to reflect the growth in recurring activity. Whether Invoice Items are for recurring, usage, or one-time activity is given by the Rate Plan Charge object linked to the Invoice Items in the object model. Note also that any activity a constituent makes that is outside the Zuora system is ignored by the SEI calculation. A consequence of this is in cases where a division of a large corporation uses Zuora for a single product line; that constituent is treated as if it were a small company, independent of the larger organization.

Once the activity of a tenant in the SEI has been calculated, the growth calculation for the SEI is the quarterly change in the one-year trailing activity expressed as a percentage. That is, the quarterly growth for a constituent is calculated as:

$$G^Q_{constituent} = \frac{A^Q_{constituent}}{A^{Q-1}_{constituent}} - 1$$

where A^Q represents the one year trailing activity ending with the quarter denoted Q and, and A^{Q-1} is the same but for the year ending with the prior quarter.

AVERAGE GROWTH AND UPDATING THE INDEX

The increase/decrease of the SEI over any period in time is the average of the growth in activity for constituents who make up the SEI at that time. However, the average growth used is not the simple average (or mean)—rather, it is an amount-weighted (i.e., volume-weighted) average, subject to certain constraints.

OUTLIER REMOVAL

The first step taken in calculating the average is to remove outliers, those constituents in the SEI having the largest increases or decreases in activity for each quarter. Outliers are defined as the top and bottom 10% of companies in the SEI. The actual number to remove is rounded up to the nearest whole number; so, for example, if there were 100 constituents in the index, the top and bottom 10 constituents are removed, but if there are 101 in the index, the top and bottom 11 companies would be removed. Removing outliers serves two purposes: first, the movement of the SEI is meant to represent what happens to typical constituents in the SEI. However, averages can be unduly influenced by the presence of very large values. Also, as noted above, the SEI calculation does not contain perfect information about non-organic changes in activity (e.g., conversions, decommissioning of tenants, etc.). Removing outliers helps to ensure that even if such constituents' system activities remain in the SEI and do, in fact, have extreme changes in their activities, then those changes will not influence the index.

WEIGHTING BY VOLUME OF ACTIVITY

In addition to reflecting what happens to a "typical" constituent, the SEI is meant to reflect the amount of growth in the overall Subscription Economy outside of the Zuora service and the opportunities that are available to creators of and investors in Subscription Economy companies. For this reason, the weighted average used in the SEI growth calculation is weighted by the total amount of activity each tenant has so that companies with higher activity take more weight in the average. (Note: the weighting is by the baseline amount of activity for each constituent, but not by the growth in activity that is being averaged.) This is similar to the way that stock market indices are weighted by the market capitalization of their constituents and for the same reason: the indices are meant to represent the overall size of the market and the opportunity available to investors, so it is weighted more towards larger entities.

However, complete reliance on amount weighting may fail to reflect what is typical if a few very large constituents dominate the activity measured by the SEI. For this reason, the weight of any single constituent in the weighted average is limited to 5% of the total. In case any constituent would take more than 5% of the average weight in the SEI (or a sub-index) based on their total amount of activity, then that weight is capped at 5% and the remaining weight is distributed proportionally to the other constituents in the pool. This process is iterated until all constituent weights are at or below 5%.

MINIMUM NUMBER OF CONSTITUENTS

Taken together, the outlier removal and weighting method determine the minimum number of constituents for calculating the SEI data or any sub-index of the SEI (for which the same rules apply.) Capping weights at 5% implies there must be no less than twenty constituents. However, the twenty constituents must be available after outlier rejection, as described above. The number of constituents to remove for the top and bottom 10 percent outlier removal is rounded up to the nearest whole number, so that for more than twenty constituents the two highest and two lowest activity growth numbers are removed from the average. This means the minimum possible number of constituents to calculate the SEI or one of its sub-indices according to these rules is twenty four, however, the SEI increases this minimum to twenty five for simplicity.

INDEX DETAIL

Given the growth of all constituents over the prior quarter and the weights to use in the average, the average growth is simply the sum of all the constituents' growth rates multiplied by their weight (note that all the weights add up to one, so this is a proper weighted average.) One plus the average growth rate is then multiplied by the prior index level to arrive at the new index level. That is,

$$SEI^Q = SEI^{Q-1} \times (1 + G^Q)$$

where SEI^Q is the new index level, SEI^{Q-1} is the index level after the last quarterly update, and G^Q is the average constituent growth over the most recent quarter.

GROWTH FACTOR: CHURN

The SEI measures the amount of growth in the Subscription Economy, but a single indicator does not give all insight into what may be driving it. A related factor, churn (the loss or churn of existing accounts), helps explain potential sources of that growth. Churn is defined as an account that has had no activity in the last year (4 quarters), but last had activity in the quarter prior to that. To explain churn another way, suppose an account had activity in Q2 some year; if Q2 of the next year passes and the account has not had activity again at all in that year, then the account is considered a churn in Q3 (up to one year and one quarter after the last activity.)

Data on churns is presented and communicated in this report as a rate, and the churn rate is defined as the number of churns in a quarter divided by the number of accounts at the start of the quarter. This metric is a growth factor of the SEI. Like the percentage change in activity used in the SEI calculation, churn is an average of percentage changes in other activity-based measurements. Unlike the SEI, churn is not used to update the index—it is simply provided as explanatory information for quarters and/or years.

Companies calculate churn of accounts in many different ways. The SEI's churn metric uses a simple calculation that makes results comparable across the wide variety of companies in the SEI, and is consistent with the calculation of the SEI's main index.

Many companies use different definitions for metrics, such as when defining churn, and those choices are often made based on the typical customer lifespan, re-signup behavior, etc. Naturally, any definition applied to a diverse pool of companies will not be perfectly suited to every type of tenant in the Zuora service. This SEI definition was chosen to remove the effects of seasonality and for consistency with the annual activity calculations used by the SEI.

ADDITIONAL METRIC: COMPOUND ANNUAL GROWTH RATE

Within this report, compound annual growth rate, or CAGR, is the mean annual growth rate of an index over a specified period of time longer than one year. This is calculated by dividing the ending value by the beginning value over the time period, raised to an exponent of one divided by the number of years between the beginning and ending values, subtracted by one, then multiplied by 100. That is,

$$CAGR = \left(\frac{EV}{BV}\right)^{\frac{1}{n}} - 1 \times 100$$

Where EV is the ending value of the time period, BV is the beginning value of the time period, and n is the length of the time period by number of years.

CAGR represents one of the most accurate ways to calculate and determine returns for various types of assets, investments, and indices that can rise or fall in value over time. Additionally, when interpreting compound annual growth rates, it is important to remember that CAGR does not reflect investment risk and the same time periods should be used to effectively compare multiple CAGRs to one another.

SUB-INDICES

In addition to providing insight about the direction of the Subscription Economy overall, it is useful to know about the differences between various categories of companies. To support this, the SEI's method is also applied to specific subsets of the constituents. Borrowing terminology from stock market indices, these constituent groups and their associated measurements are known as sub-indices. Once the classifying criteria for a sub-index are defined, the same methodology is applied to that pool of constituents as is used for the main SEI. The only requirement for creating an SEI sub-index is that the category must have a minimum number of twenty-five constituents, as described above.

A variety of classifications are used to define sub-indices, and examples include the Business Model, sector, industry, vertical, and geographic Region. Additional classifications, or combinations of classifications, may be applied in the future. These classifications are provided by data providers and applied to the billings system measurements via Zuora's CRM system.

Starting in 2023, historical sales figures for industry and regional indices have been updated based on the most current mix of companies represented in the applicable exchange-traded funds (ETFs). Prior to 2023, sales per share figures were documented at the time of each SEI study and not changed for future studies, even as the mix of companies in each ETF may have continued to change. Given recent economic volatility, it became apparent that consistently using the current mix of companies gave a more accurate depiction of the actual historical trends.

Sources

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http://us.spindices.com/indices/equity/sp-500

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INVESCO DYNAMIC MEDIA
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S&P 500 INDUSTRIALS
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