Drivers of Software as a Service and framework to measure its growth

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Abstract - *Software as a Service (SaaS) is the cynosure of the technology world in today's era. Many big enterprises have been providing customers with software for many years now, but the advent of tech infrastructure inventions like cloud computing has changed the rules of the game. With companies like AWS and Azure present, there is no longer a need for huge capital investments in hardware, reducing the entry barriers and increasing the number of companies coming up with their own SaaS businesses. With more people and businesses going the digital way, the Total Addressable Market for SaaS is growing from being just limited to the 'IT Industry' to incorporate the whole 'Global Economy'. With these trends comes a lot of challenges regarding growth and survival in this hyper-competitive SaaS world. This paper talks about a model which delineates three elements that are critical for the growth of any SaaS business. First, Revenue is important because it is a proxy of people's appreciation of the product offering. But it becomes critical for founders and managers to be aware of what to constitute as revenue, how to measure it and how to correctly infer growth out of it. Second, churn is important to see the degree of traction that a business has with its customers. Finally, the Customer Lifetime Value/Customer Acquisition Cost ratio talks about the marginal profit-making capability of the company, important for its sustainability and growth. Our model talks about the interaction of these elements and their impact on growth.*

Key Words: Software as a Service, Infrastructure as a Service, Monthly Recurring Revenue, Customer Churn Rate, Revenue Churn Rate, Customer Lifetime Value, Customer Acquisition Cost.

1. INTRODUCTION

SaaS which stands for "software as a service" isn't a recent phenomenon. It started gaining huge traction in recent times as the overall number of Initial Public Offerings (IPO's) and startups in this sector increased drastically. In 2019 alone SaaS companies generated more than $100 billion in revenue accounting for more than 30% of the overall enterprise software market [1].

SaaS is a subscription service of software deployed mostly in a third-party cloud and billed on a recurring basis. For long periods enterprise applications had dominated the Information Technology (IT) landscape and most of them had on-premise cloud servers deployed and huge teams to manage the cloud infrastructure. Since maintenance of the cloud is a huge challenge and a costly affair due to high human capital requirements, outsourcing of IT became the norm and gave rise to the entire IT revolution of the early 2000s. But like most modern technologies this industry saw a dramatic turn of events when certain large organizations saw potential in renting their cloud infrastructure to other organizations and thus IaaS which stands for Infrastructure as a service became the catalyst in the journey of large-scale SaaS adoption. To give a perspective to the magnitude of a shift towards the SaaS business model, of all the Enterprise Software IPO's that happened in 2018-19, 82% were SaaS-based companies, 12% employed a marketplace model and only 6% used traditional Software business model. [2]

2. BENEFITS OF ADOPTING SaaS

2.1 Hardware Setup and Maintenance Cost

One of the biggest expenditures for software providers has been hardware setup and maintenance cost but by renting third-party Cloud providers like AWS, GCS, AZURE, this cost has been bought down significantly. Based on research from AWS, data center costs can be reduced by over 36% from moving over to the cloud from an on-premises software [3].

An important thing to understand concerning inhouse cloud hardware is its capacity utilization which during the purchase of the hardware is on the assumption of 100% utilization, but professionals from the industry know that is far from the truth. Most software's either over or underutilize the existing hardware capacity. When over-utilized, it leads to crash of the systems and when under-utilized leads to wastage of the hardware setup. This was completely transformed by cloud service providers who due to its elastic nature helped scale the product overnight and started charging based on usage not on deployment. Seeing the business of IaaS providers like AWS, Azure grow year on year gives us a clear indication of the entire market shift into this trend.

2.2 Support of Multiple Devices

For a long time, Enterprise applications were not compatible with multiple devices and needed longer development cycles and additional costs to support mobile devices. There was a 40% increase in smartphone users from 2.5 Billion in 2016 to 3.8 Billion in 2019. [4] Mobile traffic has

increased 222% in the last 7 years from 16.2% of global web traffic in 2013 to 53.3% of global web traffic in 2019. [5] But with the advent of multiple mobile devices, SaaS provided a high level of flexibility which the large-scale enterprise applications couldn't adapt quickly.

2.3 Low Upfront Cost

Unlike traditional software services companies, SaaS businesses spend minimal money as upfront cost. As all of the costs involved with server setup and maintenance is covered by IaaS companies thus there is nearly zero upfront cost. This outsourcing of capex expenditures helps companies to keep their balance sheet size small and use the extra funds in more revenue generating activities like expansion.

2.4 Scalability

For any Relationship Management Software (CRM), having the ability to scale up is very important. As the entire setup for SaaS is cloud-based, it becomes very simple to scale up as the cloud infrastructure is completely handled by IaaS provider.

2.5 Subscription Business Model

Subscriptions generate predictable, recurring revenue with automatic renewals, conferring higher valuations on SaaS stocks than on traditional software stocks.

3. RESEARCH METHODOLOGY

The study is qualitative and descriptive and most of the data is based on secondary sources. Such an approach is adopted in the study as the area of research is very broad and sources of data are also spread across multiple locations. To arrive at the larger picture of the growth model and its enabling factors top publicly listed SaaS companies based on market-capitalization were selected across the globe and were analyzed over the past three years.

4. GROWTH MODEL

Growth is the biggest value driver in a SaaS company hence it becomes essential to look at and understand all the components of growth from the most fundamental level. Growth is generally measured by the rate of increase in revenue. This increase in revenue can be due to various factors like acquiring new customers, an increase in revenue from the existing customers, decrease in the number of customers who are no longer using the product (churn), and many more. Using our growth model, we can uncover the value drivers and provide an overall framework for all stakeholders to understand and measure growth in a SaaS company.

4.1 Net MRR/ Revenue

Revenue is the most important number for most companies. Revenues can be one-time (one-off sales) or recurring, depending on the business model and type of product offered.

Recurring Revenues can further be divided based on the time between Annual Recurring Revenue (ARR) and Monthly Recurring Revenue (MRR). There are various factors like product maturity, place in the life cycle curve, types of customers, etc. that determine which metric will be better for the company [6]. While calculating recurring revenues, it becomes extremely important for the company to know and carefully choose which components to add and which to leave. Any laxity in this area will lead to incorrect data for founders to base their future decisions on. We will keep our discussion concentrated on MRR for this paper.

Monthly Recurring Revenue is the revenue that SaaS companies who have a subscription model anticipate earning over 30 days. It is worth reiterating that only those incomes should be part of MRR which are recurring in nature and all one-time charges should be excluded from it. [7] But the above-given definition of MRR is very generic and might be misleading in many cases. Hence, it becomes very important to break MRR into different components to understand its value drivers.

4.1.1 New MRR

It is the additional MRR from those customers who have been added during the month. These new customers can be added either through an inorganic route which is through paid marketing channels or an organic route. The more customers acquired through the organic route, the better it is for the company, but it should not come at the cost of slowing down the pace of growth of customers. Hence there exists a crucial trade-off between how the number of customers acquired through paid acquisitions and organic routes.

Example – A SaaS company X acquires 10 customers paying $50 per month and 4 customers subscribing for a plan charging $100 per month. The new MRR for the company will be 10*50 + 4*100 = $700

4.1.2 Expansion MRR

Expansion MRR is the growth in revenue earned from the existing customers. Essentially there are two ways to do increase revenue from the existing customers either through up-selling or cross-selling them.

Example – Two customers of the company X have updated from $50 to $100 plan. The expansion MRR will be 2*(100-50) = $100

4.1.3 Reactivation MRR

Customers have reactivated their services after discontinuing it become part of Reactivation MRR. Reactivation MRR could either be because a customer who no longer realized the relevance of the product changed their mind and started using and paying for it again, or it could be

because of a successful marketing campaign. The company must remain cognizant of the real reason behind the growth in re-activation MRR.

Example – Three customers of the company X who stopped using the product for a couple of months reactivate their subscription to $50 again.

Reactivation MRR will be 3*50 = $150

4.1.4 Contraction MRR

It is the opposite of expansion MRR. It is the revenue lost from the existing customers on downgrading their plan.

Example – One customer of the company X has downgraded from a $100 plan to $50 plan. Contraction MRR = 1*(100-50) = $50

Churn is considered to be a natural phenomenon as no business has ever been able to retain 100% of its customers forever but lower the rate of churn better is the value of the product. Churn can be seen as a proxy for product-market fit as a higher churn rate could be an indicator that the product offering is no longer serving the needs of the current customers. [8]

4.3 Customer Life-Time Value/Customer Acquisition Cost Ratio

This ratio compares the lifetime value of a customer for the company over lifetime with the cost incurred by the company to acquire that customer.
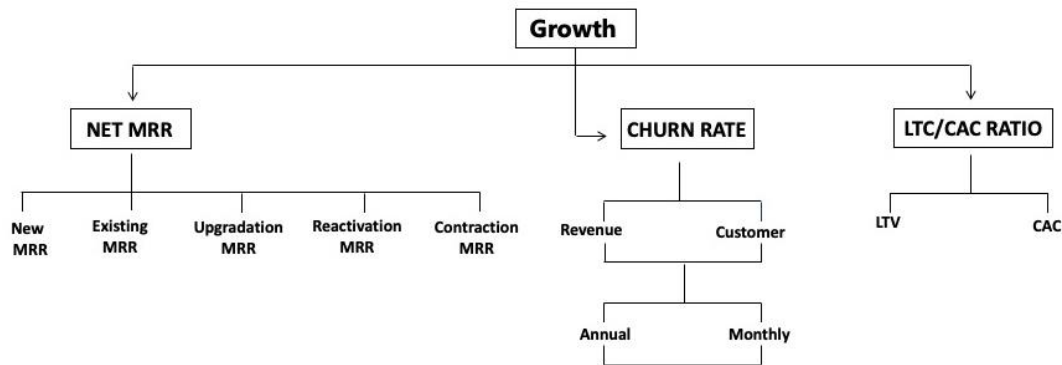

Fig. 1: Growth Matrix

4.2 Churn rate

This is the rate of loss of customers or revenue in a particular time period. It can be calculated with respect to the customers as well as revenue.

Note: It is, however, important to note that for this calculation new users that joined the company during that month (or some other particular period that the company is keeping a track of) should not be added to reach the end-of-month user figure.

Example – There were 100 customers at the start of the month. 7 customers left during the month and 14 new customers were added during the same period. Of the 7 customers that left during the month, 5 belonged to the $50 plan and 2 belonged to the $100 plan. Revenue at the start of the month was 8500$.

Customer churn rate = (100-93)/100 = 7%.

Total revenue lost during the month = 5*50 + 2*100 = $450.

Revenue churn = 450/8500 = 5.3%

4.3.1 Customer Life-Time Value (CLV)

Life-Time Value (LTV) or Customer Life-Time Value (CLV) is the total amount that is anticipated by the company to earn from a single customer during the whole of the time for which the customer continues his/her association with the company, net of the variable charges that company incurs to service the needs of that customer.

It is very important to note that CLV should be calculated using only the marginal revenue/contribution generated from the customer, i.e., Revenue generated by the customer net of the Cost of Goods Sold (COGS), rather than the total revenue generated from the customer. Cost of Goods sold is all the direct costs that were incurred to service the customer like application hosting, website development, customer support, etc.

4.3.2 Customer Acquisition Cost (CAC):

It is the cost incurred by the company to get the customer to use its product. Depending on the company's stage in the life cycle curve, SaaS companies spend around 35-40% of their revenue on Sales and Marketing expenses.

[9] This investment in sales and marketing is particularly important during the initial years when the company is on the track to blitz scale and burn money to raise awareness and acquire customers.

Companies should make a careful analysis regarding how much money was spent on particular channels and how many customers were acquired through each channel. This analysis helps founders to determine the most successful marketing strategy and the most lucrative marketing channel.

Digital Marketing spending is especially important for SaaS companies in comparison to field marketing strategies as it is a more efficient way to acquire customers. Digital sales strategies have an average CAC of $0.42 while it costs $1.14 to acquire a new customer through field sales strategy. [10]

4.3.3 CLV/CAC ratio

The company can infer a lot about its sustainability and the unit economics of its business model by being vigilant of this simple ratio. This ratio helps in determining the overall value a customer generates during the time of his/her association with the company for every dollar spent on acquiring them. Companies should find a number that is not too low or high. [11]

A low CLV/CAC Ratio (<=1) indicates an unsustainable business model making the cost of acquisition too high for the value generated by the customer. On the other hand, a very high CLV/CAC ratio means that a conservative strategy is being employed by the company for its customer acquisition process, leaving huge scope for unexploited growth. Research shows that an ideal CLV/CAC ratio is close to 3:1. [12]

5. CONCLUSION AND FUTURE SCOPE

The emergence of ubiquitous internet technologies and the growing adoption of cloud-based services has forged a path that will see SaaS businesses populating the new tech environment, especially the enterprise software ecosystem, at an unprecedented pace.

This paper gives a comprehensive model that accentuates some of the most critical aspects of growth for a SaaS business. It provides a go-to framework that can be used to analyze and benchmark the individual performance with both the past performance and that of its competitors. The growth metrics emphasized upon in this paper are easy to track by all the stakeholders of the company and give a detailed insight about the current operational scenario of the business, which can further be used to control and correct for the deviations between the planned and actual outcomes.

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