8 The Magnitude of Subscription: Monetisation of "Everything-as-a-Service"

The world is moving from the ownership model to the subscription model – thanks to the adoption of a service-dominant logic in the firms. How digital is enhancing that? And what is the rationale for a subscription-based business model?

8.1 A Subscription Economy?

Subscription models are not new but can be extremely efficient as a competitive differentiator and value capture mechanism – Xerox provides a good example of how powerful and disruptive it can be (see box below). Apart from day-to-day needs such as newspapers or milk, car leasing is an excellent example of the subscription economy. Here, the car manufacturer's margins are not made on the sale of the car but generated from the finance plans involved in the leasing agreements or the maintenance fees. By requiring the user to have maintenance performed by the manufacturer's mechanic, annual service fees generate higher revenue for the company, while the user enjoys the assurance of a functioning car and a fixed budget free of repairs and maintenance. The effortless or worry-free principle partially explains the attraction of this mode of value exchange mechanism for users in a digital world.

The Birth of a Subscription Mindset

In the late 1950s, Haloid Xerox innovated with a disruptive and incredibly fast and efficient printer. With a capacity of 2,000 prints per day, the XEROX 914 had a serious competitive advantage over other printers available then. The main issue for Haloid Xerox was its price. Between 1947 and 1960, Haloid spent $75 million – twice its operational earnings – on xerography research.

To recoup the costs of developing this innovation, the printer would have to be sold close to eight times the price of a traditional printer. Not surprisingly, a top consulting company advised Xerox that at that price, "there is no market for such a printer". The solution was found with a shift in the value proposition: "companies do not need printers; they look for a printing service".

Instead of selling a product, Haloid Xerox designed an offer around service with an incentive subscription plan: $95/month for 2,000 prints per day (+2 cents/print outside the plan). This marketing shift was a success for the company, gaining a lot of traction on the market with companies rapidly consuming 2,000 prints a day.

Even if the financial results were not released by Haloid Xerox, the XEROX 914 is credited with the financial success of the company, which generated over $243 million of total operating revenues by 1965. More importantly, the subscription model radically transformed the printing industry.

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The number of subscription-based digital business models has proliferated largely due to this new marketing approach – the service-dominant logic of the firm, which[1] describes service as the core purpose of exchange and how firms, customers, and other market actors co-create value through their mutual service interactions.

Digital contents/products are extremely well suited to the subscription logic. Music, movies, or software are dematerialised items that can be stored on servers and delivered through dedicated platforms. The increasing speed and bandwidth of the internet enable the existence and proliferation of streaming services such as Amazon Prime, Disney plus, and Netflix. The content is provided as a service and the user does not own the content as such. At the B2B level, cloud computing has heralded the era of subscription-based technology services such as Amazon web services, Microsoft Office 365, or Salesforce service cloud.

Consumers are now well accustomed to this model of value exchange. Some studies estimate that two-thirds of our monthly expenses are based on subscriptions (mobile plans, streaming services, leasing, Internet, electricity bill, bank services, etc.). For companies, a subscription is a good opportunity to present value-added assets before equity and liabilities on a balance sheet.

The Subscription Trade Association estimates that by 2019, 18% of all global payments (around $41 trillion) were recurring payments, or generated by subscription. It also predicts that around 75% of the organisations that are selling directly to consumers will offer subscription services by 2023.

> Subscription-based business models are at the core of the access economy. They rely on a shift from ownership to access by delivering products or services as long as the customer pays for it with recurring subscription fees (usually monthly or yearly). So saying, subscription-based business models rely on a simple recurring pricing mechanism to access a good or service.

8.2 "Everything"-as-a-Service

Underlying the subscription-based business models is the emergence of a service-dominant logic by the firms (Vargo & Lusch, 2004, 2008).

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1 Often named S-D logic, service-dominant logic was largely conceptualized by Vargo and Lusch. See Vargo, S. L. & Lusch, R. F. (2004). The Four Service Marketing Myths: Remnants of a Goods-based, Manufacturing Model. *Journal of Service Research*, 6(4), 324–335; and Vargo, S. L. & Lusch, R. F. (2008). Service-Dominant Logic: Continuing the Evolution. *Journal of the Academy of Marketing Science*, 36(1), 1–10.

Service as the Dominant Basis for Exchange

The traditional demarcation of service and goods has become partially obsolete due to the servitisation of the economy, especially in developed economies. Owning an iPhone or MacBook is not just a question of buying a device. The device is just the entrance to an overall service experience. Consumers pay to benefit from the Apple ecosystem and access its service offerings.

Those who cannot afford the latest iPhone do not have to miss out if they lease one for an affordable monthly payment through a mobile operator like Sprint. Sprint, a mobile leasing service, does not make a profit on the handset in the short term but does so in the future. The company provides financial convenience that keeps its customers loyal in the long term. The same may be true even for “hard” goods such as cars, where after-sales services are equally important as the sales, not to mention additional services like financing and payment installments.

Accordingly, by adopting a subscription-based business model, companies extend their value proposition to a “bundle of products and services”. The subscription plan removes economic friction in accessing and testing a user experience and locking in the customer in the service, as long as (s)he is satisfied.

Customer as Co-creator of Value

According to the service-dominant logic, customers are not only a receiver of value, but also essentially the co-creators of value. Vargo and Lusch (2008) argue that the firm does not create value by itself; it can only propose a value (value proposition) to interested parties. With a subscription plan and the monitoring of the user experience, companies can identify the value adopted by customers and the most relevant features in the service.

In this sense, customers select the attributes/features on:

- an active mode by adjusting their user experience according to the personalisation tools provided with the product and service.
- a passive mode by providing data on the most-consulted contents and recommendations automatically formulated, as they are not necessarily aware of being spied on.

The value is created when the consumers engage with the application to create, share, and consume content. Marvel Cinematic Universe or games such as Fortnite create such a huge value for the company primarily owing to their large and loyal fan base. The Lego Group has explicitly tapped the potential of customers as co-creators by inviting ideas from Lego enthusiasts and using those ideas in their offerings.

Value Creation as a Network Process

Vargo and Lusch (2008) observe that a service-dominant perspective is not dyadic (i.e., an exchange between the firm and the consumer). They argue that the process of value creation unfolds at multiple levels, involving multiple stakeholders. For instance, Amazon as a retailer creates value based on the work of the manufacturers, packaging facility, supply chain network, internet technology, and, most importantly, the substantial number of buyers and sellers present on the platform. Vargo and Lusch (2016) aver that the work of the enterprise is to integrate and transform various competencies into complex service arrangements valued by the end consumers. So, the servitisation of the economy goes with a more interconnected economy where complementors can interconnect easily through technological gateways (APIs and platforms) and extend progressively the value proposition which can be pushed forward. A perfect example is EVENTBRITE and Spectrum initiative[2] (App Marketplace). The ticketing company enhances the user experience for both sides (creators and consumers) by developing a third-party platform where other companies can plug in their services and technologies to add value. This is the birth of an ecosystem around a value proposition.

But how does the servitisation of the economy relate to the rise of the subscription economy? A good example is provided by the software industry.

From "Software as a Product" to "Software as a Service"

A few years ago, the majority of software needed to be installed on your device to be used with physical media (disk, CD, or DVD). This could be the Microsoft Office suite for your personal use or SAP enterprise systems to be used by your company. While the cost of a personal copy of Microsoft Office may not be much, installing multiple copies for all employees was a cost and source of "pain" for companies. The software-as-a-product generated frictions: on the provider side, the sold licence did not permit the lock-in of customers for a longer period beyond the next release; on the customer side, the purchase of a licence represented an important financial investment that would depreciate over time.

Software-as-a-service, commonly known as SaaS will change all this. As the name suggests, SaaS architecture allows software components to be delivered to clients through the internet. The user just needs an active internet connection and a working machine to access the functionality. Since the service is hosted and managed remotely by the vendor for several clients (resource pooling), it can be offered at the fraction of the cost of the in-house software installation and to a large number of users. The

2 See Eventbrite app marketplace consulted in May 2022.

client pays a subscription fee on a monthly or annual basis. Microsoft Office 365 is one such example of subscription-based SaaS.

Along with other innovations like infrastructure as a service and platform as a service, this phenomenon is commonly known as cloud computing. The majority of vendors now offer industrial software such as customer relationship management, supply chain management, enterprise resource planning, payroll management, and data centres as subscription-based cloud services. Gartner estimates[3] the worldwide cloud market to be $182.4 billion in 2018, which is expected to reach $354.6 billion by 2022, at a compounded annual growth rate of 12.6%. Thus, the entire software product and infrastructure industry have moved to a subscription-based service model in recent years.

In recent years, the sharing economy is also partially responsible for the momentum of subscription business models (see Chapter 6).

Pricing in Subscription Business Model

Potential disadvantages of the subscription-based business model relate to fixed costs and fixed prices. A subscription-based service incurs certain fixed costs irrespective of the number of subscriptions. Thus, companies need at least a certain number of users to cover their operational expenses. Fixed price means that even if customers were probably willing to pay more for a service, the service could not tap it. This means potential revenue opportunities are lost.

In the US, MoviePass is a perfect example of subscription-based pricing gone wrong. MoviePass was trying to establish itself as an intermediary between the cinema halls and the audience. In August 2017, it offered a subscription plan of $9.95 per month, less than the price of a movie ticket, to offer its subscribers one movie ticket per day in any cinema hall. The thinking was to establish a large subscriber base and negotiate a bulk pricing discount from cinema hall owners. They also counted on subscribers not using their service very frequently. After all, who would go to the cinema hall to watch a movie every day?

The long-term plan of MoviePass was to become a Netflix of cinema business, including generating its own content. However, not only did the subscribers use the service with great zeal (meaning the company was shelling out more tickets than envisaged), but the negotiations with the cinema halls also did not work out. Thus, even with a monthly subscriber base of 3 million, the service had to be shut down in two years, in September 2019. The cost of running the service was significantly higher than the earnings from the subscriptions.

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3 See Gartner Forecasts Worldwide Public Cloud Revenue to Grow 17.5 Percent in 2019, consulted in May 2022.

Subscription-based business models rely on a long-term perspective and a lifetime value of their customer base, but the right formulation of a subscription plan is tricky, as it needs to balance fixed costs supported whatever the service reaches a critical mass; and also, variable costs associated with the service – and these can also be dependent on the critical mass to negotiate with suppliers and complementers' specific conditions.

It is therefore in a company's interest to have tiered service plans. That is why Netflix offers basic, standard, and premium service levels with benefits increasing at each level, which lets different family members watch different movies on different screens or in ultra-high-definition resolution if they have a premium subscription. Having different tiers like this generates additional revenue from customers willing to pay more for a more benefit-rich service.

8.3 Monitoring Subscription

In essence, subscription-based business models secure the way revenue is made so that each customer makes recurring payments to access a good or service for a period. Accordingly, it locks in customers to the service and aligns activity KPIs with financial KPIs.

The goal of any subscription plan is to generate enough cash flow from customers' subscription fees to offset outgoing expenses like employee salaries, which it can do effectively. Subscription-based business models rely mainly on five major financial KPIs to "predict" revenue growth – and for which activity KPIs can be aligned to monitor and develop revenue generation.

The Monthly Recurring Revenue (MRR)

This is the main metric (one metric to rule them all!), which defines financially the performance of the business model adopted. It is a clear and sharp way to go beyond the diversity of pricing plans, as it sums up for a defined period (usually monthly) of all the revenue generated.

The calculation is quite simple, as it is the turnover that flows from customers effectively onboarded.

MRR Formula

$$\mathrm{MRR} = \sum_{i=1}^{n} (\mathrm{Price}.i \times \mathrm{NB.C}i)$$

where Price.*i* = subscription plan *i*; and NB.C*i* = number of customers for subscription plan *i*

Imagine a SaaS service with three plans:
- $Plan_1 = 9{,}99€ - NB.C_1 = 1.000$
- $Plan_2 = 12{,}99€ - NB.C_2 = 900$
- $Plan_3 = 15{,}99€ - NB.C_3 = 500$

Then, the MRR is 29.676€.

$$MRR = (9{,}99 \times 1.000 + 12{,}99 \times 900 + 15{,}99 \times 500)$$

Simple as it is, and representing the monthly turnover, the monthly recurring revenue (MRR) needs additional KPIs to decrypt what is at work. So, usually, additional KPIs are used to pilot trends and insights according to growth, customer segments, and the complexity of pricing plans.

- *New MRR*, for example, refers to the MRR generated from new customers onboarded in the defined period (month). It can be interesting to observe whether this number increases or decreases, to reveal pricing plans which perform the best.
- Conversely, *churn MRR* refers to the MRR lost from one period to another due to the unsubscriptions or downgrading in plans. It can reveal a structural problem in the design of the pricing strategy or a cyclical shift in the price elasticity.
- *Add-on MRR* (or expansion MRR) can be relevant if your pricing plan leaves open the possibility of contracting extra features from the initial plan. This KPI can help you reveal which customers are more sensitive to these additional buyings, and the performance of your add-ons.

Like a pilot in the plane, these metrics can help adjust marketing campaigns and reveal the long-term projections, especially the *annual recurring revenue*, by anticipating the balance and annual turnover expected from present customers and periods of subscription.

The Average Revenue per User/Account (ARPU/ARPA)

According to the plans and billing options, the average revenue per user (ARPU) (often used for end-user subscription plans) or average revenue per account (ARPA) (for business subscription plans for multiple users) offer an indication of the average amount to be gained per month / year and per customer.

Calculation and Example of the ARPU/ARPA

$$ARPA = \frac{MRR}{NB.C}$$

where NB.C = Total number of effective customers for a defined period

Reverting to our previous example:
Imagine a SaaS service with three plans:
- Plan1 = 9,99€ – NB.C1 = 1.000
- Plan2 = 12,99€ – NB.C2 = 900
- Plan3 = 15,99€ – NB.C3 = 500

The MRR is 29.676€ and NB.C is 2.400, then

$$\text{ARPA} = (29.675 \div 2.400) = 12,365\,€$$

Again here, by itself, this metric is quite simple to estimate most customers (those for whom the subscription exceeds the ARPU) contributing to your MRR, and those you should push to shift to an extra plan.

In the same vein, you should look from one month to another at the growth rate for your ARPU/ARPA to monitor whether the growth is in volume or value.

Customer Acquisition Cost

The customer acquisition cost (CAC) (*often called COCA – the cost of customer acquisition*) is not only relevant for subscription-based business models but should be considered as a "killer" metric for all businesses, as it refers to the cost supported in marketing and sales to transform potential leads into effective customers.

Calculation and Example for the CAC

$$\text{CAC} = \frac{\text{Total cost of marketing and sales}}{\text{Number of deals closed}}$$

Coming back to our previous example:
Imagine a SaaS service with three plans:
- Plan1 = 9,99€ – NB.C1 = 1.000
- Plan2 = 12,99€ – NB.C2 = 900
- Plan3 = 15,99€ – NB.C3 = 500

During the period, they acquired 300 new customers and budgeted for 15.000€ in marketing and sales in the previous month, then

$$\text{CAC} = (15.000 \div 300) = 50\,€$$

Each of the 300 customers costs 50€ to acquire. This CAC will be important to track from one period to another to evaluate the performance of acquisition strategies, compared to the ARPA/ARPU generated.

Understanding how much it costs to acquire new customers and identifying the most profitable marketing and sales channels are the key to profitably scaling businesses.

- The CAC will increase with outbound marketing activities such as field sales and paid traffic.
- The CAC will decrease with inbound marketing activities such as word of mouth, organic traffic, viral sales, strategic partnerships, free trials, and affiliation programs.
- The CAC will increase with a low conversion rate, as the business will need more touch to complete a sale.

By encouraging a viral effect through inbound marketing, companies can reduce the CAC to virtually nothing, while opening the door to an ever-larger base of users. For instance, The Dollar Shave Club, a subscription service delivering razors and blades to customers monthly, famously achieved excellent brand awareness and attracted high volumes of new customers through humorous videos that went viral on YouTube. The cost of producing the video was minimal, vis-a-vis the number of views and conversions it generated.

Obviously, a business should recover the CAC in less than 12 months. Otherwise, the business will require too much capital to grow and "subsidise" the acquisition of a customer database.

The Churn Rate

Churn rate refers to the proportion of customers who leave their subscription plan during a given period. It is often an indicator of customer dissatisfaction (intrinsic motivations), cheaper and/or better offers from the competition, aggressive and successful marketing by the competition (extrinsic motivations), or reasons beyond your control, like business failure or strategy shifts.

Calculation and Example for the Churn Rate

$$\text{Churn} = \frac{\text{NB.C}(m-1) - \text{NB.C}(m)}{\text{NB.C}(m-1)}$$

Reverting to our previous example:

Last month, the company had 2,700 customers [NB.C(m–1)], and they started the month with 2,560 customers [NB.C(m)]. Then:

$$\text{Churn} = ([2,700 - 2,560] \div 2,700) \simeq 5.2\%$$

Churn can rapidly sink a subscription-based business. Monitoring it from one period to another and understanding what motivates customers to cancel/downgrade their plans is essential to track whether it is due to a bad user experience (low customer satisfaction) or competitiveness of the pricing plan and service. In addition to the raw rate in the volume of customers lost, businesses should consider whether the churn MRR is critical or whether those cancellations impact the majority top tier customers or low-tier customers.

The churn rate will be higher for end-user-oriented businesses but with a smaller impact on MRR, than for business-oriented businesses, for which the impact on MRR will be higher.

Observers assume that a 5–7% annual churn rate is acceptable and related to an organic churn.

Whatever the number, it is important to track the determinants of your cohorts (usage, connections, activity, etc.) to see what can impact your churn positively– i.e., keeping customers active and reducing the probability of a churn. This will impact your cost of customer support.

The Customer Lifetime Value

The final KPI is *customer lifetime value(LTV or sometimes CLV)*. The LTV represents the economic value earned from the customer over the total time they remain a customer.

Thus, LTV is an expectation, which means that it is averaged or statistically inferred.

Calculation and Example for the LTV

$$\text{LTV} = \frac{1}{\text{Churn}} \times \text{ARPA}$$

Coming back to our previous example:

As Churn $= ([2,700 - 2,560] \div 2,700) \simeq 5.2\,\%$

And ARPA $= (29.675 \div 2.400) = 12.365\,€$

Then LTV $= (\,1 \div 0.052) \simeq 19$ months $\times 12.365 = 237.79\,€$

Theoretically, and according to the churn of the period, if activity maintains those KPIs, the company will generate more than 237€ from each customer (a customer remaining a customer for 19 months on average).

If we compare this number to the CAC, LTV covers 4.75 times the CAC.

The LTV is considered a usual aspect for potential investors to understand the lock-in effect and economic value, which drift from each customer. And as it normally costs less to retain a customer than acquire a new one, this metric is often compared to the CAC.

Observers consider that the LTV should be at least about thrice the CAC for a viable subscription-based business model.

LTV also constitutes a KPI very relevant for assessing the potential of transforming growth into revenue. Thus, it is a key indicator of the sustainability of a business model and exponential profits which investors and founders can expect from scalability – as the cost of service will decrease with the number of users, profits will increase proportionately.

To increase the LTV, a company must continually carry out R&D to improve the quality of service to maintain customers and reduce the churn rate.

8.4 Key Takeaways and Further Considerations

1. Users' appeal for experience rather than ownership makes subscription-based pricing more attractive than one-shot payments.
2. Increasing servitisation relies on the goods/services to be offered through a subscription plan.
3. Due to network effects and resource pooling, subscriptions may be offered at a fraction of the cost of selling the product. The service provider makes money due to the network effect (more subscribers) and resource pooling (lower cost).
4. Recurring billing offers predictable revenue and realigns activity KPIs to financial KPIs.

Why Is Data so Important for SaaS Businesses?

Listening to music informs artists, producers, and music labels about where we listen to music, which songs we like, etc. But, *inter alia*, most importantly, it tells them when we skip songs. This piece of information influences producers in designing the songs. Still, Spotify leverages this to create *ad hoc* playlists that we usually enjoy a lot and that takes away from us even the burden of picking the song we would like to listen to. And this is obviously easier to track than it was with CDs and music tapes.

We can also apply the same reasoning to Netflix: the data collected shapes our experience, suggesting what we see and the likelihood that we will like it.

We can have our smartphone telling us when we should buy something just when we need it or when we should go running and which training session fits our plan the best.

The moment you turn on a digital device, you generate a trail of digital data recognised as your digital footprints. These are linked to:

- **Who you are**, digitally identified with an IP address and a device identification number. And once you are logged into a service, it matches your personal details.
- **Where you are**, as the IP reveals a region; perhaps you activated the access to your location for the service app- then they have a better location of your position.
- **Where you come from**, as the cookies activated behind each Internet page can indicate your buying decision process and reveal patterns of your customer journey
- **When and how long you connect**, as all our connections are time-stamped, and our interactions can be tracked.

These digital footprints can be actively shared by the Internet users and subscribers (by accepting cookies, conditions of use, and conditions of service); or they can be passively generated once the user does not give her/his explicit consent.

Whether they are active or passive digital footprints, they serve a subscription-based business model as its rationales, pushing the firms behind the service to develop resources on data analytics along the customer journey. Data are important in at least three aspects.

First, behind digital subscriptions, we find *data-driven services* and digital products (applications) behind: fuelling the recommendation system to lock customers in the service and continuously improving the user experience on the app. Thus, data are important to objectify and prioritise the product development roadmap so that it can induce partnerships and listing requirements to better match content and users.

Second, a *data-driven company* behind the service can limit and optimise operating costs by revealing the needs and opportunities for the automation of internal processes such as onboarding and customer relationship.

Finally, a *data-driven marketing* effort for which the benefits of data allow better user acquisition and converting processes to customers (funnel of acquisition). Data can help to model the segmentation of customers, predict their actions, and avoid churn (e.g., extend the LTV) with suitable call-to-action to lock them in the subscription.

We just opened a pandora's box of data-driven digital businesses and touched on how important they can be for not only subscriptions but also all digital businesses, as they are born to be "plug and play" with data for better services, at times raising suspicion and ethical concerns. We will revert to that in our concluding chapter.