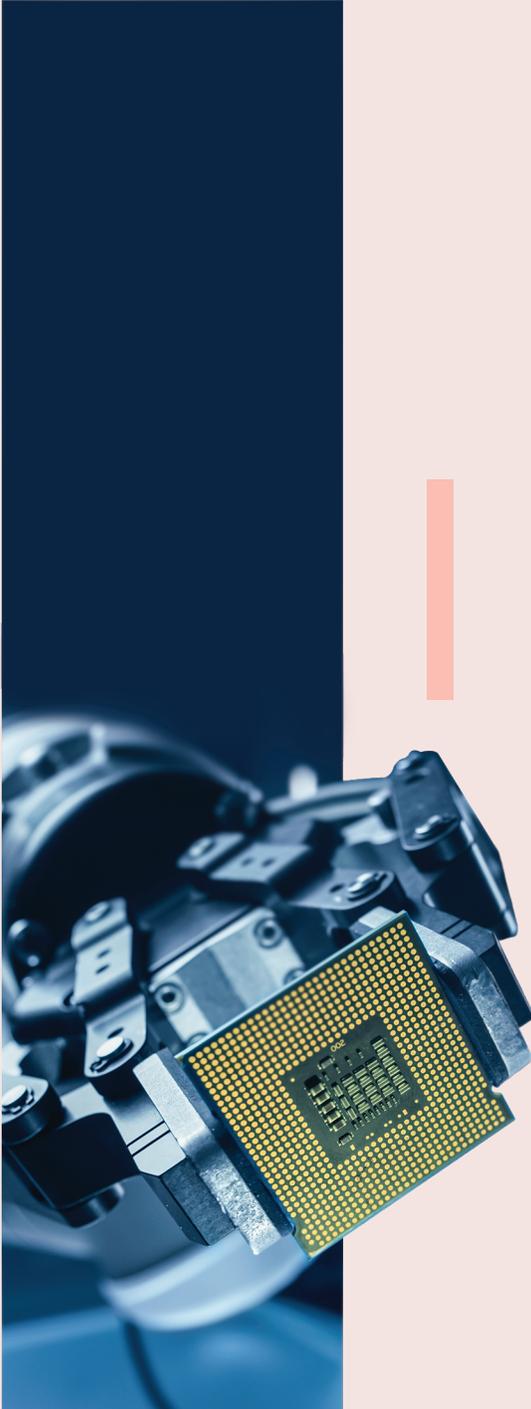


INNOVATION THROUGH FLEXIBLE CONSUMPTION MODELS

Subscription-based business models charge customers according to usage of a product. But products are becoming complicated today, with multiple features and numerous configurations. Flexible consumption models can address this challenge to manage too many configurations by quickly activating or disabling specific features. Such models help keep track of actual usage of each configuration for billing purposes, at preapproved rates and frequencies.



The subscription-based economy has witnessed a significant growth in the recent past, beyond B2B segments to the B2C market, too. This promotes business models in which customers do not pay upfront for ownership of a product, but instead pay on a recurring basis for product usage. What price to charge for each configuration is both a challenge and an opportunity, with products increasing in levels of complexity.

An automobile with an internal combustion engine has more than 30,000 parts and is a prime example of a complicated product. The U.S. market has more than 200 passenger car models at any point of time, with an average of 40 new models launched every year since 2000 (Figure 1). Some become obsolete. There are variations within each model. The last few years have seen a decline in new releases. This could be because of the focus on electric vehicles. But the post COVID-19 pandemic era can see a rise in new models due to the demands of economic recovery, social distancing and the challenges with mass urban transportation. With consumers limited in their ability to purchase or lease a vehicle, the automobile sector may

need to pursue a subscription-based model due to its affordability.

Zuora's biannual index tracks the subscription economy across a number of industries that include software-as-a-service, internet of things, manufacturing, publishing, media, telecommunications, and business services.² The latest edition of the index published in 2019 shows that over the past seven years, organizations featured in the study have seen their sales grow by more than 300%, representing an 18% compound annual growth rate.

B2B subscription-based models have been in use for decades. A well-known example has been Rolls-Royce's "power by the hour" approach, where airlines are charged on a fixed-cost-per-flying-hour basis. Other examples are JCB's LiveLink for heavy equipment usage by the hour, Philips' lighting-as-a-service and Nuraphone's renting of premium headphones. Customers expect these products to be customized into configurations according to their specific needs. But for manufacturers, it is a challenge to keep track of many configurations, price points and actual usage. This is where flexible consumption models

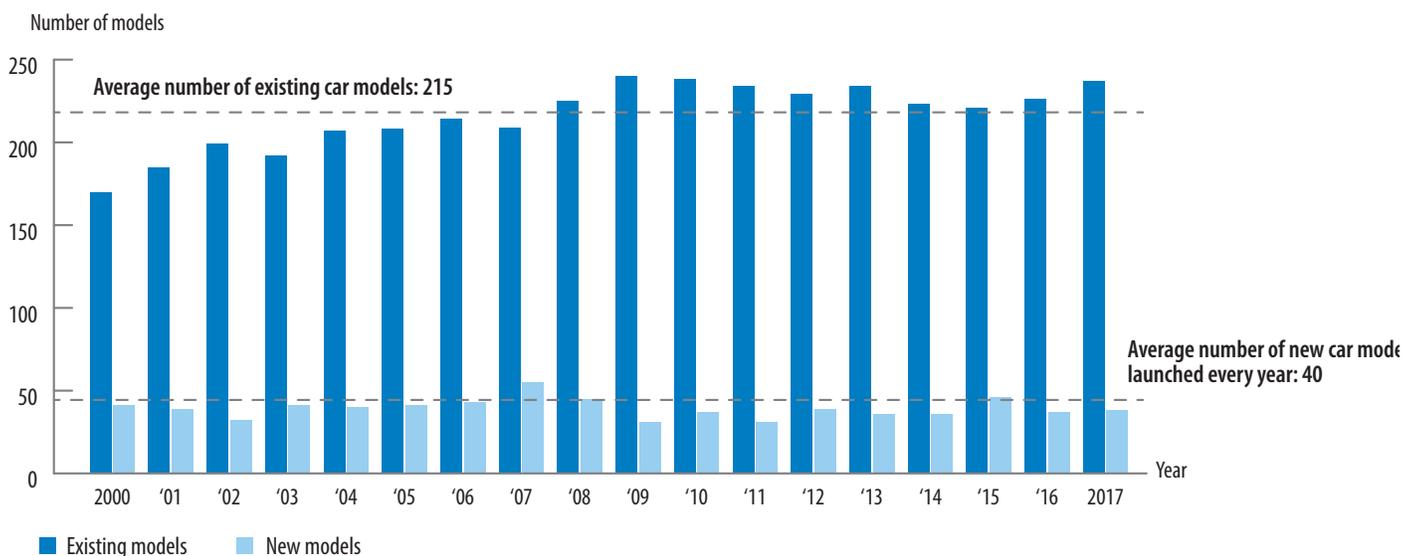
can step in, converting this challenge into an opportunity for competitive advantage and differentiation.

Emerging technologies like the internet of things and the cloud can be used for configuration management. A product can be designed to register itself, each working module, and the usage of each module, using IoT. Onboard software can turn on or off specific features autonomously based on low usage or in response to a human command. For software products like cloud-based applications, the infrastructure itself is elastic, changing capacity and capability according to actual demand.

Flexible consumption models to manage product complexities

Product and configuration complexity are a challenge for manufacturers, yet they are also a metric for economic development. According to Hidalgo and Hausmann, the wealth and development of nations "are related to the complexity that emerges from the interactions between the increasing number of individual activities that

Figure 1. The number of automobile models in the U.S. has grown consistently between 2000 and 2017



Source: Stat Investor¹ and other sources



conform an economy”³ The authors use the diversity of capabilities present in a country and their interactions to measure a country’s productivity, and eventually, its economic dominance.

There are multiple options for product assembly. Each feasible configuration has to be maintained as a stock keeping unit ready for sale and service. The number of combinations can rise exponentially. Hewlett-Packard published this challenge in 2010, due to the breadth of its product offerings. According to HP, “by offering multiple similar products, a manufacturer increases its overall demand volatility, reduces forecast accuracy, and can adversely affect revenue and costs across the entire product life cycle”⁴. A two-stage process was developed to manage these challenges and rationalize the number of active SKUs. First, new product ideas were screened based on their return on investment. In the second stage, an algorithm identified a core product portfolio required for order coverage.

Flexible consumption is an approach to address the above challenges with configurable, complex products. In this model, product features are enabled or disabled according to end-user requirements, manually or autonomously. Figure 2 depicts the features of a flexible consumption model.

Salesperson targets shift from measuring only initial deal value to lifetime product (service) value. Incentives should be based on recurring revenues, total contract value, subscription terms and conditions, and the effective bundling of products and services.

At a macro-economic level, the World Economic Forum calls this flexible consumption model the “sharing economy.”⁵ The sharing economy is “organized interactions in which individuals or entities exchange with others the untapped surplus or idle capacity of their assets, typically for some type of payment or service”.

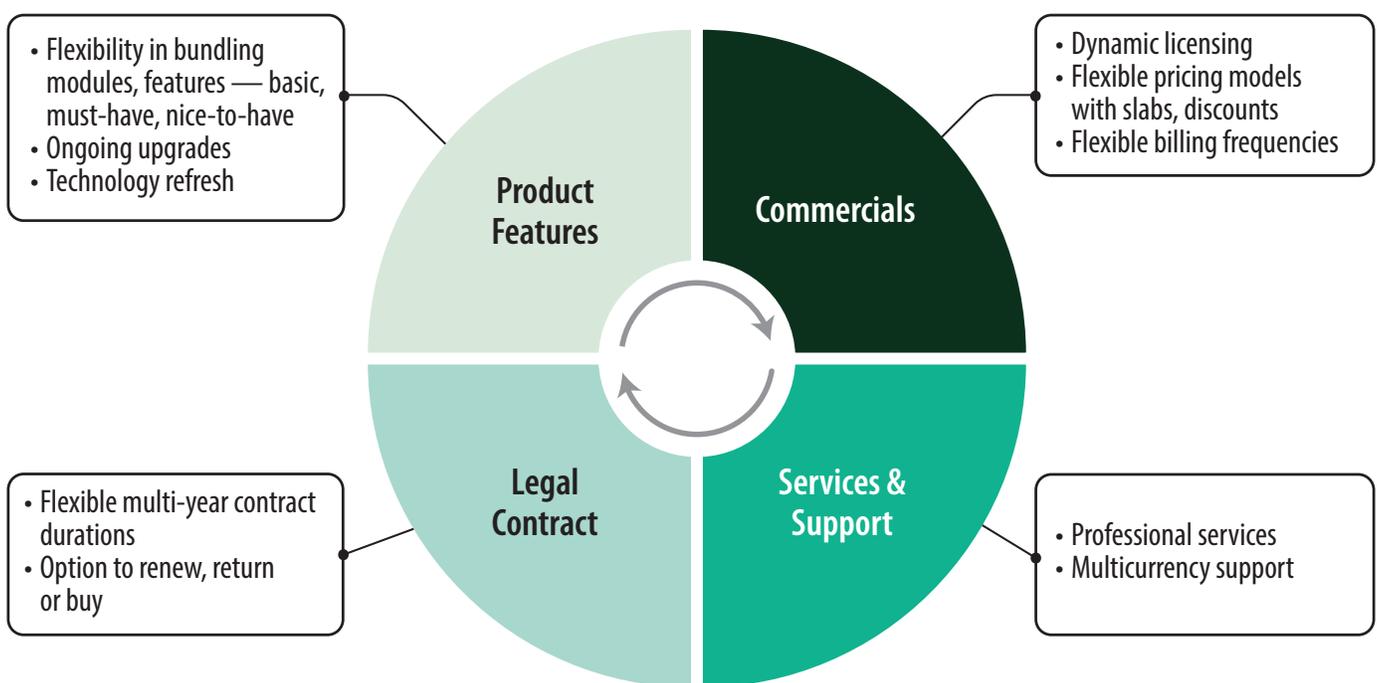
Its three distinguishing characteristics are:

1. Usage of digital technologies or a platform to match buyers and sellers.
2. Usage of idle capacity.
3. Trust-verification between users and the platform.

Under flexible consumption model, salesperson targets are based on measuring lifetime product/service value

Designers of flexible consumption models need to keep these characteristics in mind. Design thinking is a human-centered approach to conceptualize and frame flexible consumption models, keeping the end-user perspective in mind (Figure 3). It starts from desirability, identifying a bespoke product configuration that genuinely

Figure 2. Features of flexible consumption model to address product configuration challenges



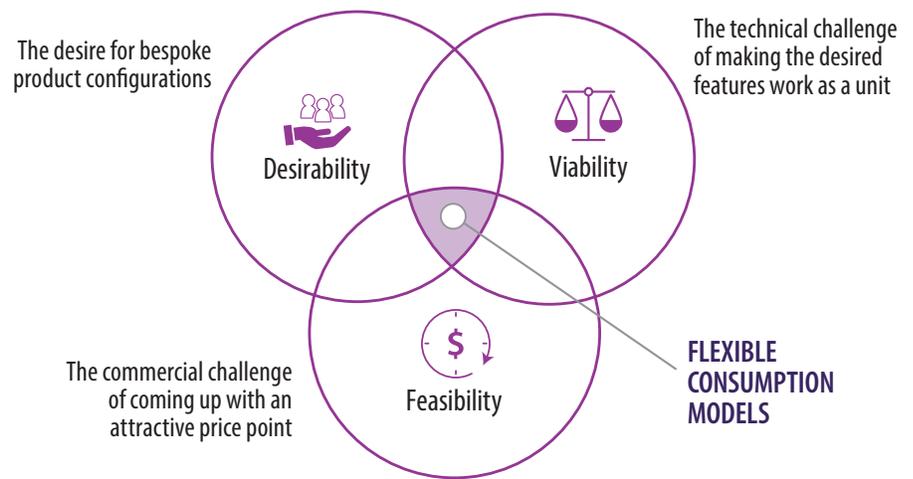
Source: Infosys Knowledge Institute

addresses a customer's need. Next, the technical perspective is considered for feasibility, a configuration that works efficiently to meet the need. Finally, viability addresses the commercial challenge of pricing the configuration, keeping profit margin and customer affordability in mind. Flexible consumption models are at the intersection of these three aspects of design thinking.

'Sharing economy' is where entities or individuals share their surplus or untapped assets with each other in return for a payment or service

One sharing economy example is Quartierstrom, or "district power," Switzerland's local electricity market in a village with 37 households.⁵ The decentralized market for power allows solar energy to be produced and sold neighbor to neighbor. A Raspberry Pi was added to each meter for the additional computing needed. A blockchain-based trading system was implemented for dynamic pricing and trading.

Figure 3. Flexible consumption model at the intersection of desirability, viability and feasibility for design thinking



Source: Infosys Knowledge Institute

In the information technology industry, Dell Technologies offers flexible consumption in its financial services business. Dell defines flexible consumption as "a model that provides capacity direct to customers with an agile structure, minimum commitment, and option to increase or decrease capacity throughout the term."⁶ Financing is a predictable model that lowers total cost of computing, facilitates

technology refresh, and preserves capital with a fixed rate for the term of the agreement. At the end of the term, customers have the option to renew, return, or buy the equipment.

Adoption of flexible consumption models

Our research has shown that leading organizations pursue a planned,

Table 1. Consumption model comparisons

	Flexible consumption model	Simple pay-per-use model	Dynamic pricing model	Outcome-based models
Type of product	Physical products or software that is discrete, modular	Consumer goods	Commodities that are continuous in nature	Critical assets with ongoing performance
Examples	Modular hardware, software products and their combinations	Car rental, home usage goods	Utility industries like electricity	Power plants, transportation systems, aircraft and their engines
Pricing models used	Roll-up of the cost of features used at each point of time	Flat rate with rates based on usage — miles run, hours	Price point depends on demand and supply at a specific point in time	Incentives for exceeding targets and penalties for missing them

Source: Infosys Knowledge Institute



phased approach to adopt a flexible consumption model. This shift from a one-time sale to a life-long engagement model cannot happen overnight. These are some approaches that can be adopted:

- **Cloud for software applications**

By its digital nature, software is more straightforward to convert and offer in a flexible consumption model than hardware. For example, cloud-based infrastructure is elastic by nature, with the ability to adopt computational and storage capacity according to real-time demand. The choice of which feature to use and when can be left to the customer, while keeping track of consumption for load management and billing purposes.

Infosys designed and implemented a flexible consumption model for a dealer management application provider. A distinctive feature of flexible consumption for this application was to keep core functionality intact while customizing client and country specific features like tax, legal and security compliance. Dealers are not required to purchase the entire product suite. They subscribe to specific modules and scale functionalities up or down according to business needs.

- **Best-selling or most profitable product first**

A challenge for flexible consumption is achieving profitability within desired periods. By selecting the best selling or most profitable product

first, the volume is more likely to drive economies of scale to recover the initial investment.

A client in the networking solutions industry had an opportunity when its customers wanted unified solutions, beyond their multi-vendor, disparate infrastructure model. However, licenses were tied to individual products for billing purposes, creating a complicated model with manual audit and compliance checks.

The networking company used a flexible consumption model to address these challenges. They implemented device self-registration, removing the need for product activation keys. A pool of licenses created for specific customers could be moved seamlessly across the network and used whenever and wherever required. These steps helped procure, deploy and manage software licenses.

- **The most complex product first**

Since flexible consumption models address product complexity, another approach is to adopt it first for the most complex product in the portfolio. The most complex product will provide the maximum number of product configurations. If it can be made flexible to assemble first in the portfolio, the remaining products can then follow.

- **The most critical product first**

During pandemics like COVID-19, health care products such as respiratory or cardiac systems become critical and life-saving. For the

benefit of society, these products can be made available on a flexible consumption model.

The trend in increasing product complexity is expected to continue. Organizations can develop and deploy a flexible consumption model to manage the challenge of multiple combinations of product features and their commercial objectives. These models will become a basic expectation among customers. Utility, media and telecommunication companies were early movers to adopt this model. Cloud capabilities drive its popularity in the software market. The internet of things enables its adoption with other product makers.

Flexible consumption models ensure that subscription-based services are beneficial for both the provider and the end-user. A one-size-fits-all product or a flat billing rate is no longer applied. Customers will appreciate the fact that they are charged a fee only according to their usage, motivating them to use the product more and engage with the product maker. The challenge of managing multiple configurations can be converted into a business opportunity by customizing a product according to customer need, then billing the customer according to the features employed and their usage.



References

- ¹ [Total number of car models offered in the United States market 2000-2017, 2020](#), StatInvestor.com
- ² [The subscription economy grows more than 300% in the last seven years](#), March 21, 2019, Zuora
- ³ Hidalgo, Cesar and Hausmann, Ricardo, [The Building Blocks of Economic Complexity](#), Proceedings of the National Academy of Sciences of the United States of America, June 30, 2009
- ⁴ [HP Transforms Product Portfolio Management with Operations Research](#), June 6, 2010, HP Laboratories
- ⁵ [Quartierstrom, Smart meters & compound words](#), December 2, 2009, 22i.ai
- ⁶ [Making the Case for Lease vs. Buy Storage, An IDC InfoBrief, Sponsored by Dell EMC](#), March 2019, Dell EMC

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