

Pricing Digital Services in Industrial Firms

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PRICING DIGITAL SERVICES IN INDUSTRIAL FIRMS

JUNE 2022

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PRODUCT + SERVICE + DATA
INTEGRATION PROJECT

 **Servitize.DK**

INDUSTRIENS FOND



COPENHAGEN BUSINESS SCHOOL
HANDELSHØJSKOLEN

RESEARCH BACKGROUND

This report stems from research undertaken by Copenhagen Business School (CBS) as part of the applied research project “Product + Service + Data Integration.”

The aim of the project is to examine the potential of services as a means of improving Danish industry’s competitiveness. The project is supported by the Danish Industry Foundation and involves close collaboration with Danish companies.

Additional information about the project is available at <https://blog.cbs.dk/servitization/>

About the Research

Since 2014, we have conducted research in collaboration with various Danish companies involved in developing their digital servitization strategy. These companies include industrial equipment providers across a range of industries, including analytical instruments, capital equipment, plant solutions, and system integrators. Although firms in these industries face various issues, one common challenge is how best to align their pricing

with the development of business models that, increasingly, rely on digital services.

Our collaboration involved conducting research with individual firms and creating a forum for them to discuss and work through the challenges they encounter in adopting digital servitization. Our research includes data collected from interviews, observations, and workshops.

INTRODUCTION



How should we price that digital service? No one really knows.

(Senior Vice President)

Increasingly, industrial firms are turning toward digital services and solutions to increase customer value and compete in global markets. Integrating products, services, and data has the potential to improve the efficiency, reliability, and sustainability of complex industrial processes. Because pricing is crucial in discovering and capturing value from digital services, firms are obliged to reconsider their existing pricing logic. This implies a shift in thinking from traditional cost- and competition-based pricing to value-based pricing, which has implications for the capabilities required to discover, deliver, and capture value.

This booklet introduces the pricing of digital services, including a dialogue tool that industrial firms can use to discover the value of digital services and understand their pricing capabilities.

The booklet is organized as follows:

ARE DIGITAL SERVICES THE FUTURE? (P. 4)

The growing importance of digital services.

THE HURDLES OF TRANSITIONING TOWARD DIGITAL SERVICES (P. 5)

Creating and implementing digital services is far more than just another service – it is a cultural change.

PRICING DIGITAL SERVICES: COST, COMPETITION, OR VALUE BASED? (P. 6)

The cost-plus and competition-based approach will no longer suffice if you seek full value capture.

MYTH-BUSTING PRICING FOR DIGITAL SERVICES (P. 8)

There are many myths about pricing digital, but it does not have to be that way.

PRICING MODELS FOR DIGITAL SERVICES (P. 10)

Choosing the right pricing models for digital services.

BEHAVIORAL PRICING CONSIDERATIONS FOR DIGITAL SERVICES (P. 12)

People are not always rational, meaning behavioral and psychological aspects matter.

DEVELOPING CAPABILITIES FOR VALUE-BASED PRICING AND SELLING (P. 14)

Value identification, value analysis, value creation, and value verification for value discovery.

PRICING DIALOGUE TOOL: UNDERSTANDING THE VALUE OF DIGITAL SERVICES (P. 16)

Twenty questions for exploring the value of your digital services.

ARE DIGITAL SERVICES THE FUTURE?

MOTIVATION FOR DIGITAL SERVICES

The world is becoming increasingly digital as Industry 4.0 introduces new technologies (e.g., Internet of Things (IoT), artificial intelligence (AI), smart products) to automate processes and simplify operations. Digitization and digitalization are two key concepts in this transformation. Often applied interchangeably, digitization describes the process of changing data from analog to digital form, whereas digitalization refers to the application of digital technologies to adapt current business models and processes (Ritter & Pedersen, 2020). Both concepts represent new opportunities for industrial firms to create value, but digitalization is one of the most pressing issues confronting organizations today: the number of new applications being found for digital technologies is increasing almost daily, with significant implications for operations.

Of particular relevance for industrial firms is the recent trend toward digital servitization, which extends the broader servitization concept that entails incorporating services into existing products. Digital servitization involves innovating business models that encompass service and solution offerings with analytical capabilities to create value and coordinate and optimize work processes through “the combination of monitoring data, remote control, and optimization algorithms” (Porter & Heppelmann, 2015, p. 5) using digital technologies. Digitalization enables industrial firms not only to help their customers achieve efficiency gains in existing processes but also to design more effective industrial systems.

The creation of value is crucial as a first step, but capturing value is equally crucial for the success of business models. Industrial firms potentially face two paradoxes—servitization and digitalization—both of which complicate the question of how to capture value. The servitization paradox is that investment in services may not produce expected returns (Gebauer et al., 2005). Likewise, the digitalization paradox is that investment in procuring and developing digital assets may not pay off (Gebauer et al., 2020).

What Is Digital Servitization?

Sjödin et al. (2020) describe digital servitization as “the transformation in processes, capabilities, and offerings within industrial firms and their associate ecosystems to progressively create, deliver, and capture increased service value arising from a broad range of enabling digital technologies” (p. 479).

WHAT ARE INDUSTRIAL DIGITAL SERVICES?

Firms must develop the right services and adapt their organizational culture and mindset if they are to successfully offer digital services.

Digital industrial services are designed to enhance the efficiency, reliability, and sustainability of industrial equipment and include connectivity, data storage, and remote monitoring. Such services allow both provider and customer to monitor the performance of equipment in use and record the results in reports and online dashboards. These services can be extended by for example performing remote diagnostics, either by accessing the equipment online or by guiding customers’ on-site staff with enabling technologies such as virtual and augmented reality.

More advanced digital services involve predictive and preventative maintenance, where a firm uses data from the equipment to compare the actual performance of components and systems against tolerances and thus prevent equipment failure. Such digital services can create value in the wider industrial system through, for instance, the design of autonomous solutions (Frandsen et al., 2022). Autonomous solutions are particularly valuable in difficult-to-access locations or hazardous environments.

THE HURDLES OF TRANSITIONING TOWARD DIGITAL SERVICES

Developing digital services has its challenges: it requires significant investment and has implications for the product design, service, and digitalization capabilities required for the commercialization of offerings. For example, the design of products must not only enable digitalization by capturing and storing relevant and reliable data but also be accessible remotely, including for maintenance. Developing service capabilities includes ensuring that service employees are equipped with the right technical, analytical, and commercial skills and that processes ensure timely dispatch of components and technicians. Moreover, developing digitization capabilities requires ensuring that employees are skilled in collecting, handling, and analyzing data, as well as obtaining permissions to use data (Ritter & Pedersen, 2020). Finally, the commercialization of digital services requires adaptation of value propositions, appropriate pricing models and sales processes, and an effective sales force.

Transitioning toward digital services is a process that permeates the whole firm and requires an adaptable organizational culture and mindset. As changing organizational culture may represent a hurdle, firms should foster collaboration by establishing cross-functional teams (Kane, 2019). A mindset that prioritizes customers' needs is an essential part of developing digital services, more so than technical feasibility. Organizational processes, such as agile working methods, can support such change: developing digital services is a process of discovery where experimentation is an integral part of learning what customers require (Liozu & Ulaga, 2018).

Despite the potential of digital services, industrial firms need to be cognizant of the risk that such services might cannibalize existing products, which might be necessary for innovation but may not be the best strategy for every firm. The now infamous case of Kodak—which was the first to develop the digital camera but is known for its failure to capitalize on its development—serves as a good example. Kodak considered the digital camera to be detrimental to its existing products and, in the eyes of top management, it risked cannibalizing

its own (profitable) business model. While local innovations within firms are often essential, support from top management is equally essential for business model innovation and digitalization.

Another important question for firms to consider when developing and providing digital services is how best to capture a fair share of the value created. Many firms fail to demonstrate and communicate the value they provide to customers, which prevents them from charging a fee for digital services commensurate with the delivered outcomes (Töytäri et al., 2015). Digital services can enable firms to operate multiple concurrent business models, which require careful pricing decisions. To capture a fair share of the value created, firms must carefully consider their pricing strategy.

PRICING DIGITAL SERVICES: COST, COMPETITION, OR VALUE BASED?

COST-PLUS, COMPETITION-BASED, AND VALUE-BASED APPROACHES TO PRICING DIGITAL SERVICES

With high development costs and zero or low marginal costs, digital services have different characteristics and cost structures than traditional services. These differences have implications for pricing; for instance, the cost-plus pricing model is not ideal for digital services. As manufacturers prioritize digital services, they need to consider developing more appropriate pricing methods, such as value-based pricing.

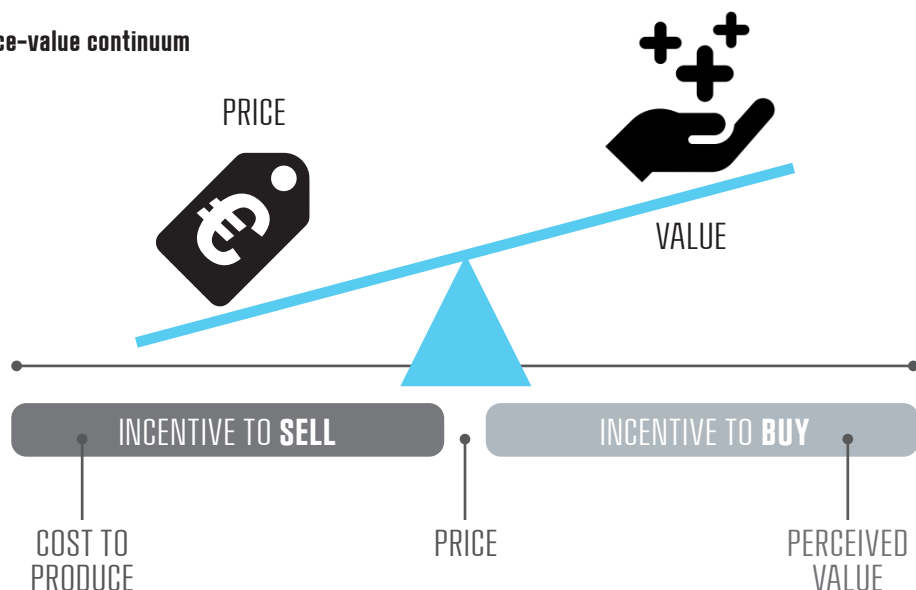
Cost-plus pricing is the simplest form of pricing; it is based on the cost of a product and adds a specific markup. Its shortcomings are customer and competition dimensions.

Competition-based pricing considers both the expected prices of competitors' products and other competitive factors when setting the price, such as "follower pricing." A significant drawback is that it does not focus on the value that it brings to the customer.

Value-based pricing focuses on customers' value perceptions and maximum willingness to pay, including how they perceive costs and benefits. This approach focuses more on the value that products or services can generate based on customer needs than cost- or competition-based pricing.

One way of understanding a value-based pricing approach is to consider the price-value continuum (Figure 1), which has a few key considerations: (a) the costs of developing and delivering digital services to the customer, (b) the price of the digital offering, and (c) the customer's perceived value of the digital offering.

Figure 1: The price-value continuum



Value-based pricing shifts the focus away from the cost to produce or competitors' pricing to the value that products or services can generate based on customers' needs, which is particularly relevant for digital services. However, although such a shift in focus may be a simple concept, diverse customer perceptions of value make it hard to achieve in practice. Such diversity increases the need for accurate customer segmentation, insight, and customization.



We do not have what I would call real value-based pricing. We still see service as one component. But what we actually should see is hardware, initial hardware, initial software, service, digital services, etc., in a full customer lifetime value pack. And we don't do that basically ... we don't think pricing all the way through the lifetime of the customers.

(Vice President)

FOR A FEE OR FOR FREE?

One question manufacturers must consider carefully is whether to charge a fee for digital services. Some manufacturers decide to provide digital services for free as they can be challenging to implement with the firm's current pricing strategy. Other reasons for not charging for digital services include fear of competitors' actions, inertia, or resistance

from customers or the organization's sales function. Regardless, offering digital services for free is likely to have consequences: Ulaga and Michel (2019) suggest that "free" can create a vicious cycle of poor quality, lack of incentives, and limited value. In contrast, charging a fee creates expectations, motivation, and can ensure high quality. This is not to say that everything should be charged; some services may simply be hard to price.



We need to have a pricing strategy around our digital services. And that's where it gets a little blurry. How much can you charge for that? So you need to dig into what's the actual value proposition and what the resource is.

(Senior Vice President)

But arguing that simply charging a fee will solve everything is too simplistic: giving away digital services for free might be preferable when, for example, as a non-valued element in a discounted offerings.

Besides the challenges to firms of articulating and quantifying value, there are several myths about pricing digital services. In the next section we detail some of the myths industrial firms might encounter and discuss the most significant challenges in pricing digital services.

MYTH-BUSTING PRICING FOR DIGITAL SERVICES

Identifying the value created from digital services is essential, as is successfully capturing a fair share of it. However, various myths about how to price digital services often prevent industrial firms from capturing value. Of the many pricing myths, we discuss below six that are of particular relevance for industrial firms. Figure 2 provides an overview of the six most relevant myths.

Myth #1: Costs and margins should determine the price for digital services

Firms often use either a cost- or competition-based pricing model, but understanding and creating customer value can improve value capture. Although costs are vital, they are not the best criteria for pricing digital services. Instead, value should be the primary driver, which may require additional capabilities in identifying and quantifying potential customer value (Hinterhuber, 2016).

Myth #2: Digital services should be given away

For many industrial firms, digital services are novel complements to existing products and services, which can be challenging to package commercially. While it can be tempting to provide digital services for free to enable capital sales, this practice risks undermining their value potential. Industrial firms should challenge views such as “there is no value in digital services” by developing clear value propositions (Ulaga & Michel, 2019).

Myth #3: Our current culture is just fine for pricing digital services

Industrial firms often have proud histories of providing state-of-the-art products. However, digital services challenge existing business logic and likely change how firms create, sell, and deliver their products and services. While leveraging existing capabilities is important, an outside-in view based on intelligent customer segmentation is vital to developing a culture centered around creating customer value (Liozu & Ulaga, 2018).

Fig. 2:
Six common myths about pricing digital services.

Myth #4: Our salesforce will love new digital services

While innovative digital services can be enchanting, firms should expect pushback from the sales function. Digital services often involve a shift from capital sales to long-term contracts, which can complicate communication during the sales process. Introducing digital services impacts the sales strategy, so it is vital that firms develop sales force capabilities and review any sales incentives to achieve sales targets (Liozu & Ulaga, 2018).

Myth #5: Pricing models should be as simple as possible

Although customers should understand the pricing of digital services, overly simplistic pricing may result in missed profit. Providers that are excellent at pricing use intelligent customer segmentation and understand their customers' price tolerance, value drivers, and needs. Price models designed for the sake of simplicity alone are not recommended; focus instead on modeling "payment-by-results" (Bertini & Koenigsberg, 2020).

Myth #6: The more features in digital services, the more customers will pay

Industrial firms typically address complex customer needs by delivering customized solutions and services. This may be a strength, unless customers develop feature fatigue where technical complexity and too many features overshadow customer value. Successful firms focus on customer needs, where less is often more (Ramanujam & Tacke, 2016).

Organizations should address the pricing myths for digital services from the outset. Developing a fair and accurate pricing model is a task that spans functional areas and is vital for success.

PRICING MODELS FOR DIGITAL SERVICES

It may be convenient to use the same pricing model that has been prevalent in the company for years, as internal and external stakeholders are already familiar with how it works. However, it can be worth considering an alternative pricing model to capitalize on new opportunities, given that *how* you charge is as important as *how much* you charge. Compared to one-off sales, a new pricing model needs to consider multiple aspects, including the benefits and challenges of particular contexts and customers. There is a range of pricing models available, but we discuss below four options that we consider most relevant for pricing digital services.

Subscription-Based Models

These models entail selling a product or service to receive recurring revenue, often monthly or yearly. Such models may include traditional and digital services sold individually or as part of a package. Examples include care- or service-level agreements for industrial equipment comprising software upgrades, extended warranty periods, and conditions for spare parts and repairs. While such models can ensure customer centricity and are a convenient and transparent way for digital services to complement product offerings, customers need to be convinced before they subscribe and in time renew their subscriptions. One drawback is that such models can be simple for competitors to replicate and it is easy for customers to cancel their subscription.

Freemium Models

In these models, customers receive a basic offering for free—such as monitoring and cloud storage—but pay for more advanced features like diagnostics and reporting. Freemium models make it easy for customers to try the offering, allowing for rapid adaptation, enabling access to data, and creating multisided platforms. However, freemium models require careful analysis of value: which digital services will you provide for free, and how will you entice customers to pay for more advanced features? Many customers perceive “free” as low value, may limit themselves to a basic service simply because it is available, and over time become accustomed to free service.

Dynamic Pricing Models

Here, price is determined by various factors based on demand (price changes over time or across customer segments or bundles of products/services) or capacity (to optimize the use of service capacity) (Ng, 2008). Digital servitization can enable dynamic pricing, including advanced maintenance activities to capture maximum value from industrial assets. In addition, dynamic pricing can be suitable for services offered as a platform through which customers offer their own digital services, where again price and service levels depend on multiple factors (Liu et al., 2021). Dynamic pricing is thus customer-centric, can enable optimization and value capture, and reflects market fluctuations. However, it requires access to potentially sensitive customer data and involves complex algorithms, which can risk unsettle customers, and might imply higher risks.

Outcome-Based Models

The operational or financial outcomes of industrial solutions (rather than the products or services consumed) are the basis of these types of pricing model. For example, Rolls Royce TotalCare® features “power by the hour” where airlines are charged on a dollar-per-flying-hour basis to transfer maintenance and risks back to Rolls Royce and maximize the availability of aircraft for service (Rolls Royce, n.d.). Other examples include contracts that oblige service providers to maintain the functioning of an entire industrial system, such as a production site. Revenue from outcome-based models is based on measurable performance and is often enabled by digital services and access to data (Bertini & Koenigsberg, 2020). Outcome-based models are customer-centric, enable high-value capture and transparency, and are difficult for competitors to replicate. However, such models require the acquisition of data and the identification of valuable and robust metrics. They can be challenging to implement and involve high risk.

Table 1 summarizes the benefits and challenges of relevant pricing models for digital services.

Table 1. Pricing models for digital services

Model	Description	Benefits	Challenges
Subscription	Based on selling a product or service to receive recurring revenue (e.g., care agreements for industrial equipment)	<ul style="list-style-type: none"> • Convenience • Recurring revenue (monthly or annually) • High transparency • Customer-centric 	<ul style="list-style-type: none"> • Simple to replicate by competitors • Convincing customers • Renewal • Customers can cancel easily
Freemium	Customers have access to a basic free offering but pay for more advanced features	<ul style="list-style-type: none"> • Customers can try the product or service • Rapid scaling of adaptation • Potential network effects 	<ul style="list-style-type: none"> • Customers may limit themselves to the free version • Customers become accustomed to “free” • Requires careful value analysis
Dynamic	The price of a product or service changes dynamically based on demand or capacity factors (e.g., advanced maintenance of wind farm assets based on the market price for electricity)	<ul style="list-style-type: none"> • Enables optimization and value capture • Customer-centric • Accommodates market changes 	<ul style="list-style-type: none"> • Requires data access • Complex pricing algorithms • Can upset customers • Includes market risks
Outcome-based	Price determined by measurable outcomes (operational, financial, or pay-per-use), often enabled by digital services	<ul style="list-style-type: none"> • Customer-centric • High-value capture • High transparency • Difficult to replicate 	<ul style="list-style-type: none"> • Requires acquisition of data • Valuable and robust metrics • Difficult to implement • High risk

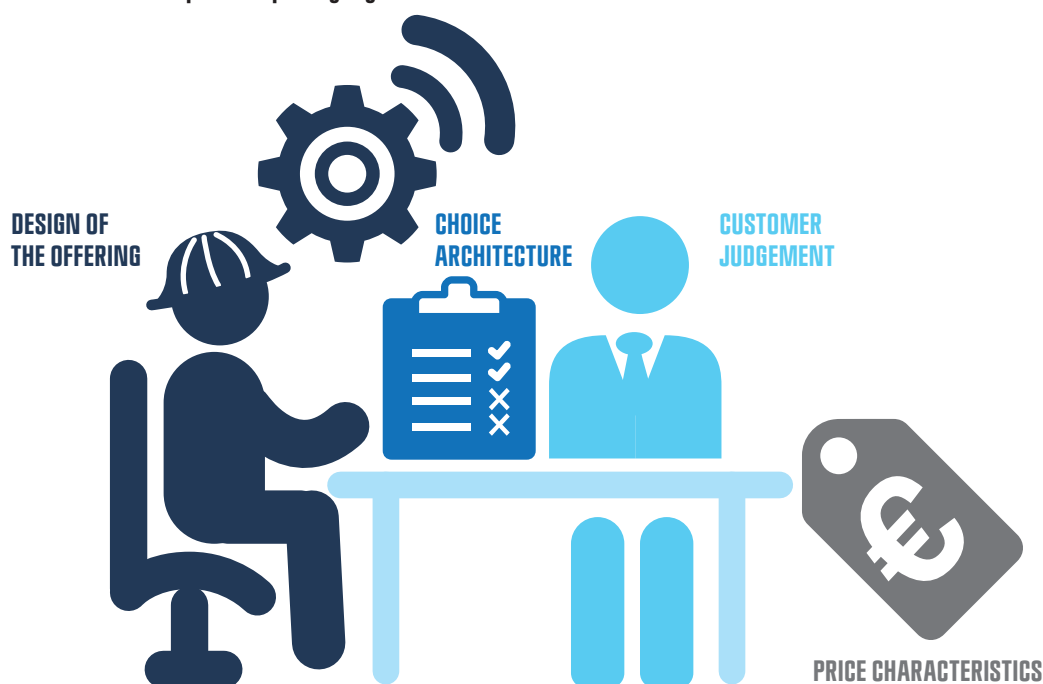
Which pricing model an organization adopts will depend on multiple factors, such as customer segmentation, the digital service offered, and the industry’s maturity. New pricing models will likely be adopted more slowly in manufacturing contexts than in software contexts (Burton et al., 2019). Organizations must carefully evaluate their own and their customers’ operating environments to determine which of the pricing models best suits their circumstances and business objectives.

BEHAVIORAL PRICING FOR DIGITAL SERVICES

Traditionally, research on pricing has assumed human rationality, which has been shown not to fully reflect how individuals make decisions. Instead, human emotions and cognitive biases impact decision-making, emphasizing the need for holistic pricing strategies that accommodate human behaviors. Rooted in behavioral economics, behavioral pricing seeks to accommodate behavior patterns that are not entirely rational. Where value-based pricing reflects customers' willingness to pay, behavioral pricing considers how context-dependent customer perceptions change over time. This implies that customers' purchasing decisions can be influenced in different ways to benefit the provider. Often, it is not the price level per se that seals a deal but how customers perceive price fairness in the way the price is communicated.

Although most behavioral pricing research focuses on consumers, many concepts are also applicable in business-to-business contexts where individual and organizational heuristics impact purchasing decisions (Monroe et al., 2015). When designing and pricing digital services, industrial firms should seek to understand and systematically influence how their customers make decisions. While there are many ways to do this, we propose four fundamental aspects for firms to consider: (a) design of the offering, (b) choice architecture, (c) customer judgment, and (d) price characteristics (see Figure 3).

Fig. 3. Four behavioral aspects to pricing digital services



DESIGN OF THE OFFERING

It might seem that customers understand the offering and the benefits of digital services, however this is likely a false assumption. Often, offerings are overambitious and include too many features; so-called feature fatigue makes such offerings less appealing. Moreover, individuals generally avoid extreme options—known as the compromise effect—opting instead for more moderate solutions with which they are more familiar.

CHOICE ARCHITECTURE

Providers should carefully consider the architecture of choices through which customers can configure service offerings. How options are framed and presented—for example on websites, in proposals, and contracts—can influence customer choice. Including default options can nudge customers toward specific offerings, and instructions can influence perceptions of value. For example, offering a premium service can persuade customers to upgrade from a basic to an intermediate service, even when only a few customers choose the premium offering itself.

CUSTOMER JUDGMENT

Pricing digital services should be a win-win for providers and customers, but it is not always perceived as such. It is important to be conscious that individuals are more concerned with what they might lose rather than what they might gain. This is called loss aversion and implies that individuals experience losses more severely than equivalent gains (Kahneman & Tversky, 1979). A related bias is the endowment effect, which suggests that, irrationally, individuals value an owned product higher than its market value. Industrial companies seeking to provide digital services often find it hard to access clear reference prices in the market, which makes it

hard to compare and substantiate the value of their offerings. Hence, providers tend to overvalue their offerings and customers tend to undervalue opportunity costs and thus prefer simpler, more familiar services rather than complex, novel digital options.

PRICE CHARACTERISTICS

Of course, the price itself can influence decision-makers. Individuals form price expectations to which they refer when evaluating purchasing decisions. Such individual references are based on experience of past prices and act as anchors impacting perceived price fairness. For digital services, firms must take care not to over- or underestimate the effects of discounts or free service on reference prices and long-term profitability: offering digital services for free may induce the zero price effect whereby individuals have a positive affective evaluation of a service simply because it is free. In free-mium business models, the zero price effect can complicate the aim to persuade customers to upgrade. Finally, price thresholds can impact decision-making beyond what might rationally be expected. Reference prices and price thresholds are individual and dynamic, so organizations should base their pricing strategies on careful customer segmentation and analysis of price elasticities.

Pricing digital services is a challenging undertaking that many industrial firms associate with strategic responses to differentiate their service offerings. To design and implement successful pricing models, organizations must learn to discover value for customers, as discussed in the next section.

DEVELOPING CAPABILITIES FOR VALUE-BASED PRICING AND SELLING

Effective pricing of digital services based on value requires that firms develop the necessary capabilities to identify, analyze, communicate, and verify value (Raja et al., 2020). Discovering value for customers is central to value-based pricing.



VALUE IDENTIFICATION: CAPABILITIES TO FIND AREAS FOR NOVEL VALUE CREATION

- **Identifying customers** open to co-develop innovative digital services can often help to identify potential value. However, based on differences such as ownership structure and maturity, customers likely perceive value differently.
- **Customer segmentation** is crucial to assessing and identifying potential value, and not necessarily in traditional market segments. Assessing customers' competencies and their propensity to value digital services can provide a basis for segmentation.



VALUE ANALYSIS: CAPABILITIES TO GAIN INSIGHT INTO CUSTOMER VALUE CREATION PROCESSES

- **Customer value analysis** provides insights into customers' production and value creation processes. This is an important step in identifying opportunities for improvements such as increased efficiency and effectiveness of equipment and processes.
- **Value proposition development** is essential to ensure that the value of digital services is integrated into customer value propositions. For industrial firms, this can involve integrating digital service value propositions into tenders for sales of complex equipment, including in the bid and proposal stages.



VALUE COMMUNICATION: CAPABILITIES TO CREATE AND COMMUNICATE VALUE

- **Value creation** involves the perceived value-in-use for the customer, for which value is essential. Identifying and accessing central decision-makers in the customer's buying center is a prerequisite for effectively engaging customers in conversations about value creation.
- **Value communication** is enhanced when supported by digital service metrics that record performance improvements. Such metrics clearly relate performance improvements to digital services, making it easier to illustrate how they might impact individual customers.



VALUE VERIFICATION: CAPABILITIES TO QUANTIFY AND CAPTURE VALUE

- **Quantification and value assessment** is an analytical process that assesses the value delivered and showcases the potential benefits to customers. This requires tools such as total cost of ownership that allow customers to calculate the value from implementing digital services.
- **Value capture** is crucial for ensuring that pricing models reflect a fair share of the value created. Value capture requires the capabilities to evaluate and negotiate prices commensurate with the value delivered.

VALUE DISCOVERY

While industrial firms typically have the expertise to develop value-creating digital services, value discovery is affected by multiple variables and relationships. By discovering value with customers, industrial firms can develop new value constellations with previously untapped potential.

The relationship between identified and demonstrated value is intricate and manifest in service delivery. For digital services, this suggests a continuous search for new ways to enhance value. In turn, this requires both analytical and relational capabilities to access and interpret customer data in ways that support the creation of value for customers.

PRICING DIALOGUE TOOL: UNDERSTANDING THE VALUE OF DIGITAL SERVICES

This tool can be used for collaborative discussions to better understand the value of digital services and identify how your organization's capabilities for discovering value are

positioned. Below are instructions for how this dialogue tool may be used for group discussions in your organizations.

Instructions

Go through each section of the tool in turn, completing the following steps:

1. Score your company on the respective scale of 1–5.
2. Start by discussing section A, then follow the steps below.

- I. As a starting point, group members with the lowest scores share their challenges with the rest of the group.
 - II. The other group members provide feedback on how to potentially solve their challenges and engage in a discussion.
 - III. High-scoring group members share their positive experiences and, where appropriate, explain how they approached and solved problems.
3. Next, follow the same procedure outlined in Step 2 with Section B.
4. Repeat the procedure for Section C.
5. Repeat the procedure for Section D.
6. After discussing each of the three sections, collect the most promising case examples shared.

SECTION A

Value identification 1 = not at all, 5 = very clearly

1. Do you know the main value drivers for your digital services?
2. Can you articulate your value proposition for digital services succinctly?
3. Do you know your customers' willingness to pay?
4. How well do you know your "need to have" vs. "nice to have" features for digital services?
5. Do you know how much your customers value your digital service features?

1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

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SECTION B

Value analysis 1 = not at all, 5 = very clearly

1. Have you segmented your customers?
2. Have you created different value drivers for different customers?
3. Does willingness to pay differ between customer segments?
4. Do you have dedicated pricing tools?
5. Do you have the capabilities to create the right tools?

1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

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SECTION C

Value communication 1 = not at all, 5 = very clearly

1. Can you name your benefit statements for digital services?
2. How clearly do you communicate the value you create to customers in their language?
3. Have you created different value messages for different customer segments?
4. Have you trained your sales teams to communicate and sell value?
5. How well do you know your customers' KPIs for digital services?

1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

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SECTION D

Value verification 1 = not at all, 5 = very clearly

1. To what extent have you quantified the value created by your digital services?
2. Can you quantify the value that you deliver to specific customers?
3. Are you monetizing your digital services sufficiently to capture value?
4. Are you ensuring that no money is left on the table from digital services?
5. Do you have knowledge management systems to share pricing-related information?

1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

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SUMMARY

Digital services—typically including connectivity of equipment, monitoring, reporting, and diagnostic services, and predictive and preventative maintenance—are rapidly becoming an essential element in the offerings of industrial firms.

- Industrial firms face several hurdles in the transition to digital services. These often include adapting organizational processes and culture to support the integration of products, services, and data.
- Capturing a fair share of the value created from digital services is an important consideration in which pricing strategy and pricing models are key. Pricing digital services requires developing appropriate pricing methods that shift the focus away from cost- and competition-based pricing to value-based pricing.
- When developing pricing strategies, industrial managers are likely to face several pricing myths. When creating digital services, such myths should be busted head-on to succeed with pricing and capturing value.

- Industrial firms can adopt various pricing models from a range of options, including subscription-based, freemium, dynamic, and outcome-based models. Each model has its benefits and challenges and firms should adapt them to their and their customers' context.

- Industrial firms should consider behavioral and cognitive biases and adopt pricing tactics related to the design of the offering, the choice architecture, customer judgment, and price characteristics.

- Firms should learn to discover value with their customers by developing capabilities for value identification, analysis, creation, and verification.

Finally, industrial firms can use the pricing dialogue tool to understand the value of digital services and identify and develop the capabilities necessary for value-based pricing and selling.

REFERENCES

- Bertini, M., & Koenigsberg, O. (2020). *The ends game: How smart companies stop selling products and start delivering value*. MIT Press.
- Burton, M., Burns, D., & Kermisch, R. (2019, November). *Choosing the right pricing model for equipment as a service*. Bain & Company. <https://www.bain.com/insights/choosing-the-right-pricing-model-for-equipment-as-a-service/>
- Frandsen, T., Raja, J. Z., & Neufang, I. F. (2022). Moving toward autonomous solutions: Exploring the spatial and temporal dimensions of business ecosystems. *Industrial Marketing Management*, 103, 13–29.
- Gebauer, H., Fleisch, E., & Friedli, T. (2005). Overcoming the service paradox in manufacturing companies. *European Management Journal*, 23(1), 14–26.
- Gebauer, H., Fleisch, E., Lamprecht, C., & Wortmann, F. (2020). Growth paths for overcoming the digitalization paradox. *Business Horizons*, 63(3), 313–323.
- Hinterhuber, A. (2016). The six pricing myths that kill profits. *Business Horizons*, 59(1), 71–83.
- Kane, G. (2019). The technology fallacy: People are the real key to digital transformation. *Research-Technology Management*, 62(6), 44–49.
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2), 263–292.
- Liozu, S., & Ulaga, W. (2018). *Monetizing data: A practical roadmap for framing, pricing & selling your B2B digital offers*. Value Innovation Advisors Publishing.
- Liu, C., Zhou, Q., Lv, J., & Jiang, Y. (2021). Sales price and service level on a dedicated online service platform: The dynamics under competing reference quality. *Computers & Industrial Engineering*, 162, 107779.
- Monroe, K. B., Rikala, V. M., & Somervuori, O. (2015). Examining the application of behavioral price research in business-to-business markets. *Industrial Marketing Management*, 47, 17–25.
- Ng, I. C. L. (2008). *The pricing and revenue management of services: A strategic management approach*. Routledge.
- Porter, M. E., & Heppelmann, J. E. (2015). How smart, connected products are transforming companies. *Harvard Business Review*, 93(10), 96–114.
- Raja, J. Z., Frandsen, T., Kowalkowski, C., & Jarmatz, M. (2020). Learning to discover value: Value-based pricing and selling capabilities for services and solutions. *Journal of Business Research*, 114, 142–159.
- Ramanujam, M., & Tacke, G. (2016). *Monetizing innovation: How smart companies design the product around the price*. Wiley.
- Ritter, T., & Pedersen, C. L. (2020). Digitization capability and the digitalization of business models in business-to-business firms: Past, present, and future. *Industrial Marketing Management*, 86, 180–190.
- Rolls Royce. (n.d.). *Airlines*. <https://www.rolls-royce.com/products-and-services/civil-aerospace/aftermarket-services/airlines.aspx>
- Sjödin, D., Parida, V., Kohtamäki, M., & Wincent, J. (2020). An agile co-creation process for digital servitization: A micro-service innovation approach. *Journal of Business Research*, 112, 478–491.
- Töytäri, P., Rajala, R., & Alejandro, T. B. (2015). Organizational and institutional barriers to value-based pricing in industrial relationships. *Industrial Marketing Management*, 47, 53–64.
- Ulaga, W., & Michel, S. (2019). Bill it, kill it, or keep it free? *MIT Sloan Management Review*, Winter, 44–50.

PROJECT PUBLICATIONS - FURTHER READING

- Frandsen, T., Boa, S. Ø., & Raja, J. Z. (2019). Pricing structures for solutions: An exploratory study within the oil and gas industry. *International Journal of Production Research*, 57(22), 6977–6992.
- Frandsen, T., & Raja, J. Z. (2017). Mini case: Radiometer – blood testing every second of the day. In K. Goffin & R. Mitchell (Eds.), *Innovation management: Effective strategy and implementation* (3rd ed.). Palgrave.
- Frandsen, T., Raja, J. Z., Boa, S. Ø., Pflueger, L., & Basner, K. (2017). *Expanding markets through analytical services and solutions: A case study of Brüel & Kjær*. Copenhagen Business School.
- Frandsen, T., Raja, J. Z., & Neufang, I. F. (2022). Moving toward autonomous solutions: Exploring the spatial and temporal dimensions of business ecosystems. *Industrial Marketing Management*, 103, 13–29.
- Hsuan, J., Frandsen, T., Raja, J. Z., & Basner, K. (2017). *Servitization in industrial firms: Mapping and analyzing the Danish service landscape*. Copenhagen Business School.
- Jovanovic, M., Raja, J. Z., Visnjic, I., & Wiengarten, F. (2019). Paths to service capability development for servitization: Examining an internal service ecosystem. *Journal of Business Research*, 104, 472–485.
- Karlsson, C., Stjernquist, P., & Frandsen, T. (2018). *Becoming a solution provider: The case of equipment producers and Trackunit as enabler*. Copenhagen Business School.
- Raja, J. Z., Chakkol, M., Johnson, M., & Beltagui, A. (2018). Organizing for servitization: examining front- and back-end design configurations. *International Journal of Operations & Production Management*, 38(1), 249–271.
- Raja, J. Z., & Frandsen, T. (2017). Exploring servitization in China: Challenges of aligning motivation, opportunity and ability in coordinating an external service partner network. *International Journal of Operations & Production Management*, 37(11), 1654–1682.
- Raja, J. Z., & Frandsen, T. (2021). Coordinating and aligning a service partner network for servitization: A motivation-opportunity-ability (MOA) perspective. In M. Kohtamäki, T. Baines, R. Rabetino, A. Z. Bigdeli, C. Kowalkowski, R. Oliva, & V. Parida (Eds.), *The Palgrave handbook of servitization* (pp. 519–538). Palgrave Macmillan.
- Raja, J. Z., Frandsen, T., Kowalkowski, C., & Jarmatz, M. (2020). Learning to discover value: Value-based pricing and selling capabilities for services and solutions. *Journal of Business Research*, 114, 142–159.
- Raja, J. Z., Frandsen, T., & Mouritsen, J. (2017). Exploring the managerial dilemmas encountered by advanced analytical equipment providers in developing service-led growth strategies. *International Journal of Production Economics*, 192, 120–132.
- Raja, J. Z., Neufang, I. F., & Frandsen, T. (2022) Investigating tensional knots in servitizing firms through communicative processes. *Industrial Marketing Management*. In press.

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