Driving Competitiveness Through Servitization

A Guide for Practitioners

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DRIVING COMPETITIVENESS THROUGH SERVITIZATION

A GUIDE FOR PRACTITIONERS

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CBS COMPETITIVENESS PLATFORM

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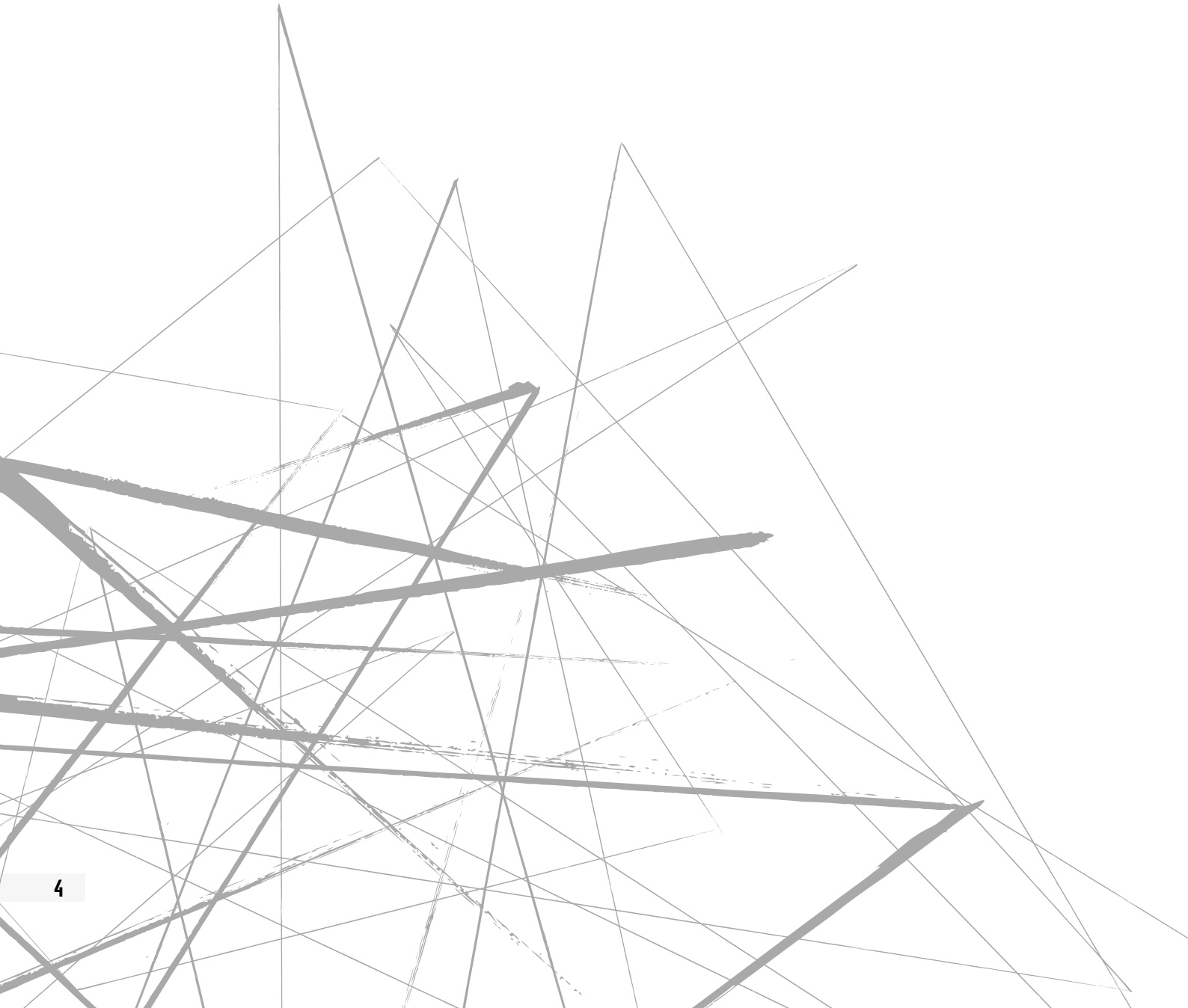
INTRODUCTION

Servitization, or adding services to the manufactured product, has become a strategy for increasing financial margins, getting closer to the customer and prolonging product lives. This is especially applicable to Western hemisphere companies in their efforts to compete with companies from low cost countries and emerging economies.

It is our hope that this booklet can assist managers to analyze and plan a servitization strategy. The text is brief and comprehensive to supplement a workshop, but can also be used separately as a quick guide on steps to follow for a manager when considering servitization for the company.

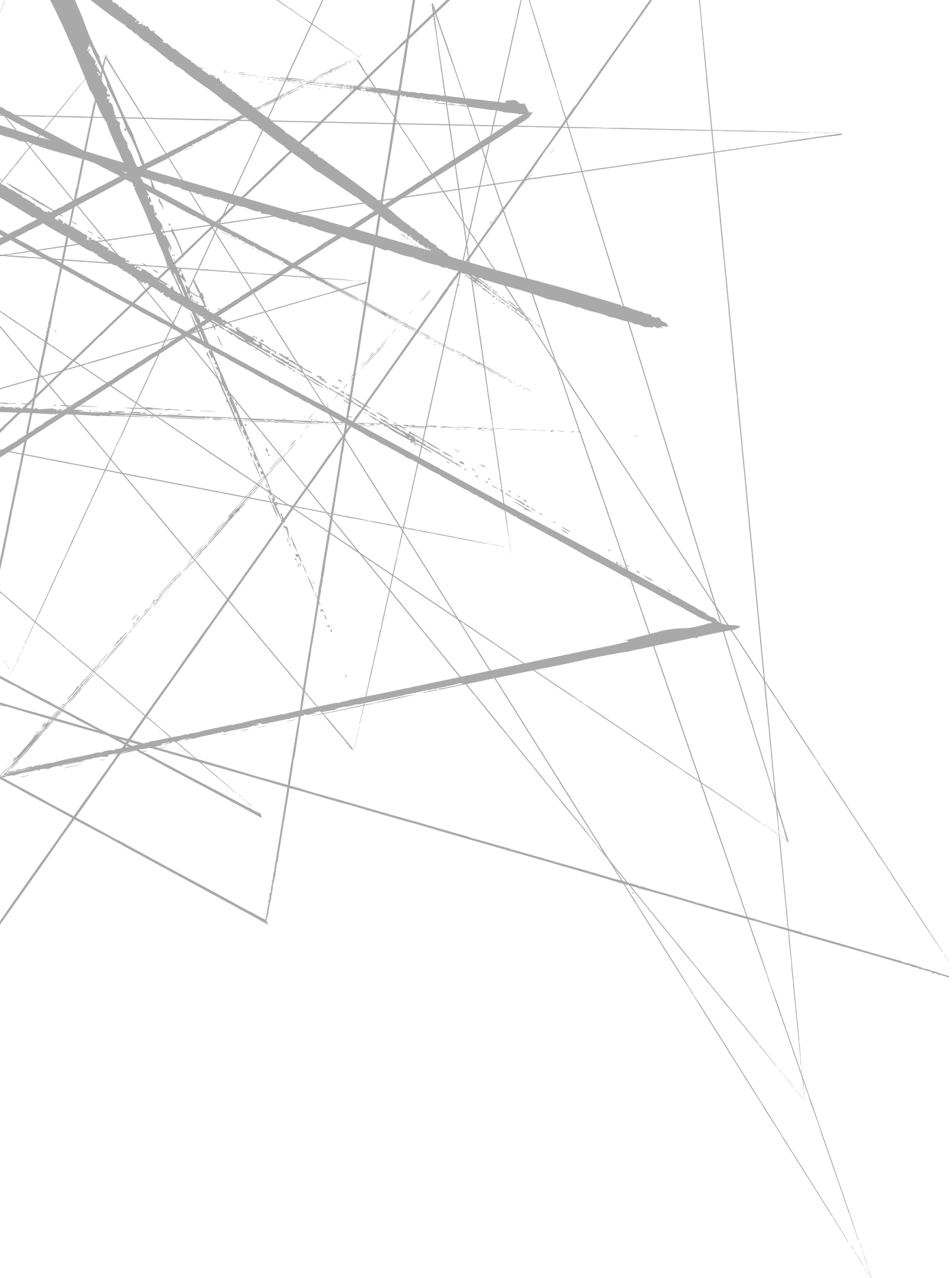
This booklet is produced to serve as a documentation of a research project together with industry on how servitization can be a strategy to enhance the competitiveness of manufacturing firms.



HOW TO READ AND USE THIS BOOKLET

The content and flow of the booklet has a progressive logic as shown in the table below with indications under what heading to find the discussion and the models for analyzing and planning.

	What we do	Heading
1	The first step is to analyze what developments around the company may influence our competitive situation. We can see these as challenges we have to respond to.	• Global challenges
2	We then consider how we can compete in this environment. Delivering high quality products and being reliable are some complementary factors in addition to offering a good price.	• Operations strategy
3	Now we think of servitization. What can be offered in addition to the product? From repair and maintenance to operating the product or even selling the function or performance of the product rather than only the product.	• Servitization of manufacturing • Extending your value proposition
4	With an idea of how far we want to go we think creatively of what services to offer. Some may be to just support the product with installation and training of staff while we may also develop our business with partnership and involvement in the customer's processes.	• Strategic considerations for servitization • Moving from product manufacturer to service provider
5	Now, when we know what we want to do, the issue is to clarify the service as a product, and agree on it with the customer.	• Contracting potentials and risk
6	In making the offer, the service relation has some implications on how we calculate costs. The price is not just based on sales, but on long-term commitments, long product life cycles and total costs for the user.	• Calculating costs
	We now move to implementing servitization	**Heading**
7	What is it that customers may potentially want and why will they be interested in buying the service together with the product? We consider the customers' decision to do activities or to buy them from us.	• Perspectives on servitization
8	Adding services to the activities of a company with a manufacturing history and culture is not that straightforward. There are several issues to address, including organizational developments. Of course, we must know what we want to do and how far we want to go. There is also a mindset to influence, capabilities to develop and a need to align the organization and the strategy.	• The servitization paradox • Challenges to servitization
9	Let's take a look at what Danish companies are doing to servitize	• Vestas • Alfa Laval
10	References for further information	• Sources



GLOBAL CHALLENGES

In the current global competitive environment, many companies are facing growing pressure on economic margins, a growing uncertainty on revenue streams, and volatility in the price of input factors. The ease of production in low-cost countries, the commoditization of products and the increasingly stricter environmental regulations are just a few factors that continue to disrupt established markets. Critical to improving the competitiveness of industrial companies is the development of operational capabilities to address these challenges. **Table 1** illustrates some of the key drivers that have a strong influence on global manufacturing operations.

***Table 1** – Factors and trends that affect industrial operations worldwide*

Factors	Trends	Description
Macroeconomic	Globalization	Competition from low cost countries
	Commoditization	Competition shifts to cost
	Customer demand	Risk aversion and new contract forms
Market	Lock in customers	Sale of equipment at low cost to profit from spare parts and maintenance
	Life cycle offerings	Total cost of ownership calculations
	New profit formulas	Fixed costs and long term, outcome based contracts
Technology	Internet of Things	Incorporation of sensors and actuators in machines to provide remote maintenance and continuous information
	Big Data analytics	Making sense and analysis of the vast amount of field data
	Additive manufacturing (3D Printing)	Displacement of inventory and spare parts by installing 3D printers at the customer's site
Environmental	Geopolitical	Export controls and conflict regions
	Ownership vs. usage	Using rather than owning physical assets is more economically sound for the customer and environment friendly for all
	Global resource scarcity	Energy prices, CO_2 reduction, design for disassembly, take back systems

OPERATIONS STRATEGY: COMPETING ALONG FIVE CONTINUA

Industrial operations strategy is broadly analyzed on five performance objectives as shown in **Table 2**. The list is generic and depicts the most commonly observed performance objectives.

***Table 2** – Competitive performance objectives*

Competitive performance objective	Implications	Examples of KPIs for manufacturing	Examples of KPIs for service
Quality	• Being right • Fit for purpose • Process control	• Defects per unit • Mean time to failure	Customer satisfaction
Speed	• Being fast • Risk of obsolescence	Cycle time for process	Response time
Dependability	• Being on time • Trust • Stability	% orders delivered on time	% faults addressed within time
Cost	• Being productive • Efficiency	Efficiency	Labor productivity
Flexibility	• Being able to change • Customization • Resilience	Range of product mix	Range of service mix

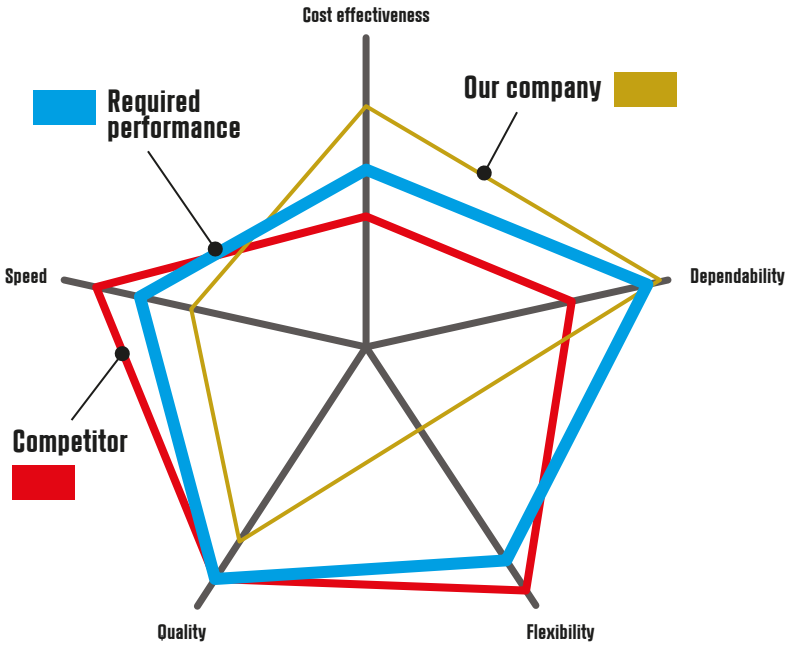


***Figure 1** – Performance Polar Diagram example*

Market and industry dynamics influence the choice and importance of performance objectives, and successful strategy entails making the right trade-offs and competing by setting the right priorities along the five continua. In setting competitive priorities it is important to develop a deep understanding of the value customers attribute to competitive factors. As **Table 3** suggests it is important to distinguish between qualifying factors and order winning factors and to develop appropriate metrics for measuring performance.

Table 3 – *Finding the right balance*

Companies need to make the right choices and trade-offs between five performance objectives. Understanding the difference between qualifying and winning factors is crucial.	
Qualifying factors	**Competitive order-winning factors**
"Need to be above a particular level in order for customers to consider your value propositions but beyond that, it's a waste of resources"	"The more you improve winning factors the better the chances are to create new business"
How do you measure?	
Develop metrics that reflect the overall performance your company provides to the client – remember that customers are getting one combined experience from the product and the services provided.	

While developing appropriate measures of performance is critical to success, practice shows that it typically represent a significant challenge for companies pursuing servitization. Key performance indicators should be adjusted to reflect the growing importance of the service business. As suggested in the text box, service market indicators can be a good starting point for developing KPIs for the service business.

Creating KPIs for your service business

Service performance has traditionally been hard to quantify. Practice shows that developing KPIs for a new service business requires a trial and error approach. A good starting point is to begin creating service market indicators.
– How well are you represented in service markets?
– What is the desired installed base?
– Are you providing service coverage in a customized and flexible way?
– What percentage of your revenues comes from service activities?
– What are your service profit margins?

SERVITIZATION OF MANUFACTURING: **A PROMISING STRATEGIC RESPONSE**

As a response to the competitive pressures described in **Table 1 (**p. 7), many of the world's largest capital equipment and manufacturing companies are placing growing attention on delivering a service rather than just a product, often at a higher margin. This "servitization" of manufacturing can lead to a higher market share and customer loyalty.

Servitization across sectors	OEMs report service revenue growth of 5-10% per year and by 2015: – **71% of global manufacturers** are expected to use services in order to differentiate their products – **82% of European manufacturers** are expected to focus on services.
Servitization is taking place across sectors while having considerable implications for strategic competitive advantage. In its most advanced form, it involves business models that integrate products and services in total solutions.	

"SERVITIZATION IS ABOUT COMPETING THROUGH VALUE PROPOSITIONS THAT INTEGRATE SERVICES WITH PRODUCT OFFERINGS"

Developing close customer relationships is critical to competitiveness and a key motivation for manufacturers to engage in a servitization initiative. Success requires a customer-centric organization that can manage the processes of its customers while increasing revenues or reducing risks and costs. A deep understanding of the customer context is required in order to develop successful value propositions, which can be of different types as **Table 4** indicates.

***Table 4** – Value propositions and customer expectations. Source: adapted from Smith et al., 2014*

Type of value proposition	Customer expectation	Example
Selling an asset	Quality and performance of equipment	Offer customized product
Providing recovery of an asset	Minimum disruption in case of equipment failure	Repair of equipment after notification
Maximizing the availability of an asset	Fault free equipment	Provide remote and preventive maintenance
Offering outcomes for the customer	Assisting customers to achieve their goals	Take over customer functions/activities

EXTENDING YOUR **VALUE PROPOSITION**

Practice shows that servitization develops gradually on the basis of a company's core-product offering. The figure below illustrates the most commonly observed stages that occur when embarking on servitization strategy. The breadth/extent and depth/complexity of the pattern illustrated here are dependent on the service opportunities available in the market and on the potential investment in service development.

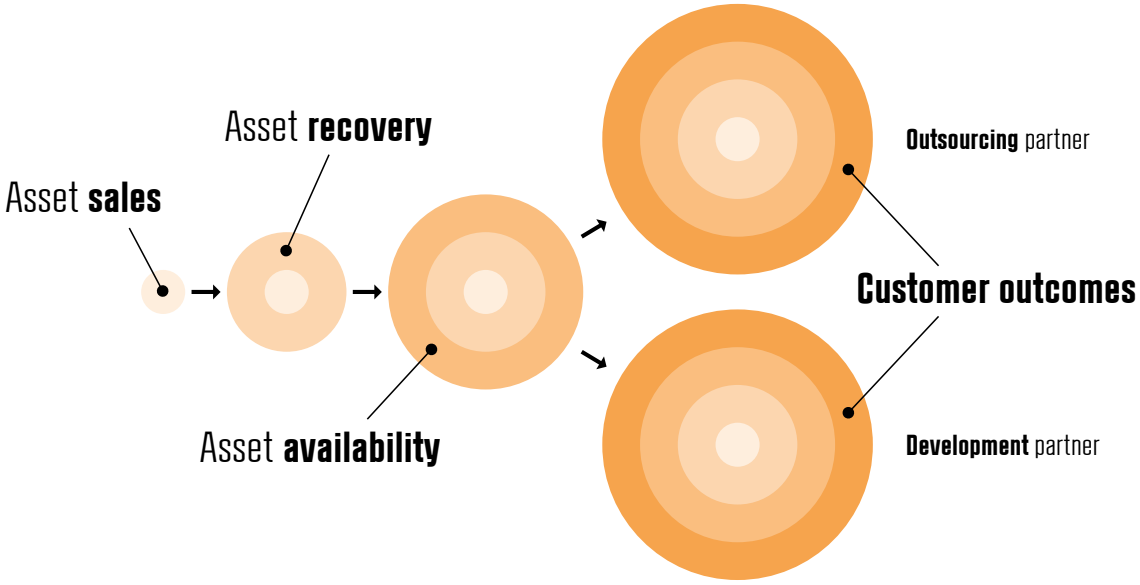


***Figure 2** – Extending your core product to offer customer outcomes.*
Source: adapted from Smith et al., 2014 and Fischer et al., 2014

Based on the core-product offering, manufacturers can begin to develop after-sales service that can support the recovery of equipment in case of breakdown. Working with after-sales service provides the experience to provide continuous support and guarantee uptime. In the most advanced form, firms take over customer activities and offer capabilities for customers to achieve outcomes – that is, provide access to resources in the form of service provision. Development partners usually support customers who require fast operations in R&D activities. On the other hand, outsourcing partners address needs such as reductions in capital employed or investments in fixed assets. In both cases, organizations are looking to provide outcomes or solutions to customers by providing access to resources in the form of service provision, perhaps drawing on the capabilities of different suppliers.

STRATEGIC CONSIDERATIONS FOR SERVITIZATION

Manufacturers seeking to integrate services in their offerings have a range of options available. Servitization can be a way of sustaining an established business but it may also be a strategic initiative that aims at creating new business.

Service offerings can roughly be divided into two categories:	
Do you want to protect established relationships within your installed base and lock out your competitors?	Do you want to cultivate new relationships and create new business?
You may consider services that mainly focus on existing equipment: – Training – Delivery – Helpdesk – Installation – Reactive repair – Spare parts and Maintenance	You may consider services that help customers to achieve outcomes: – Outsourcing partners – Vendor agnostic operations – Process oriented training – Business advising/Consulting – Preventive maintenance – Monitoring – Financing

"SERVITIZATION CAN BE THE MEANS TO SUSTAIN OR TO CREATE NEW BUSINESS"

MOVING FROM PRODUCT MANUFACTURER TO SERVICE PROVIDER

As a product manufacturer increases the relative importance of services and investment in the service business, it transforms from being a provider of ad hoc service support to having performance-based business logic.

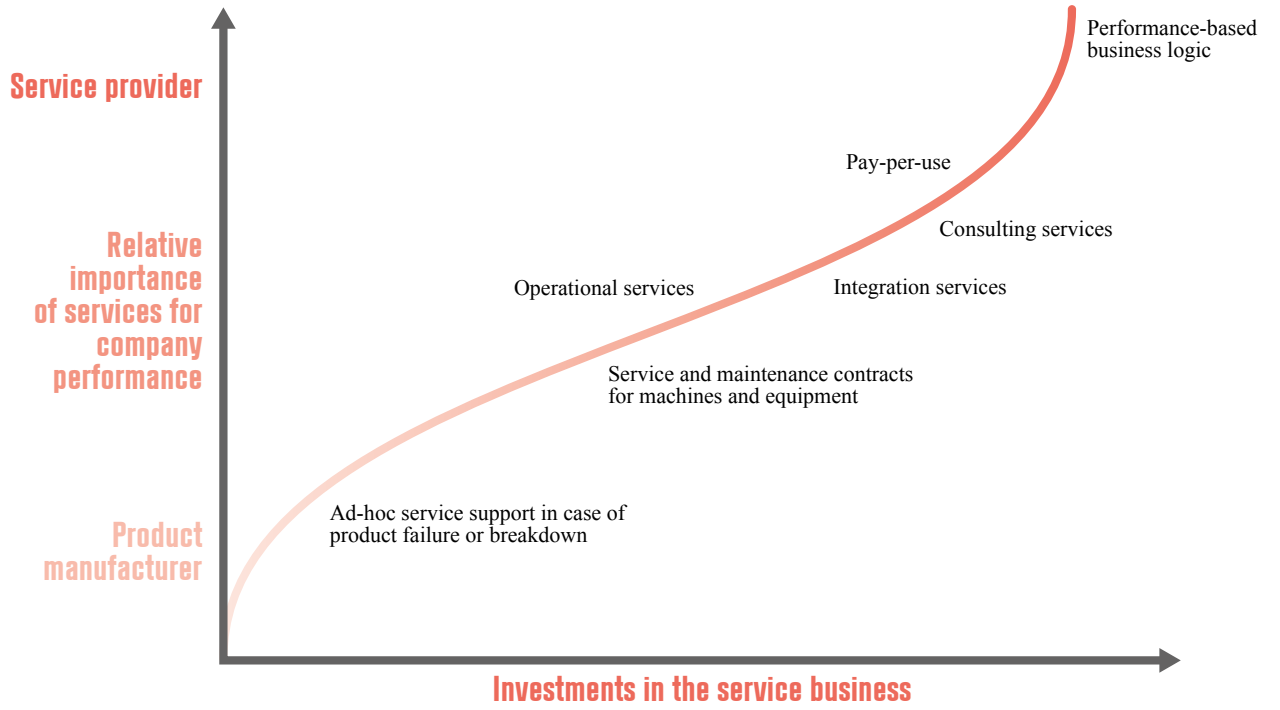


***Figure 3** – Moving from product to service. Source: adapted from Fischer et al., 2014*

Practice shows that manufacturers follow a progressive transformation from product to service. Initially, service offerings are integrated in the pricing of products or are just sold on an ad-hoc basis. Next, a contract with a fixed price can cover some of the activities related to the maintenance for a specified period. At a more advanced stage and after the necessary investments, fixed price offerings may cover all service costs. Finally, the most competitive offerings are the performance-based ones where the customer payments will depend on the degree to which the provider achieves performance goals.

CONTRACTING POTENTIALS AND RISK

The contract formation process is very important for manufacturing firms that wish to develop their service business. A "very good" service contract may have negative effects on product sales. In traditional contracts for capital goods, the initial purchasing of a system and the subsequent life cycle support are usually procured separately. For example, costs associated with maintenance-repair-overhaul (MRO), are seen as inevitable by buyers. Performance-based or outcome-based contracts peg the provider's remuneration with specific performance metrics. Thus customers do not pay for activities or tasks but pay for outcomes/jobs to be done.

***Table 5** – Types of contracts*

Type of contract	Clarification
Performance based contracts	High risk but also high margins. No pre-determined product involved – customer pays only for results.
Outsourcing contracts	Help customers to reduce capital employed - possibly by taking over operations
Development contracts	Design, acquire, make and/ or build customer systems
Availability contracts	Long term contracts that combine product and service offerings
Time and material contracts	Provision of material and personnel, usually on demand
Spare parts sales contracts	Low risk but also limited opportunities for creating a competitive advantage

"MANUFACTURING ORGANIZATIONS DEVELOPING A SERVICE BUSINESS NEED NEW WAYS TO INTERACT WITH THEIR CUSTOMERS"

By using new contracting mechanisms, providers take over what used to be the responsibility of their customers. This allows for higher profits but also increases risk exposure.

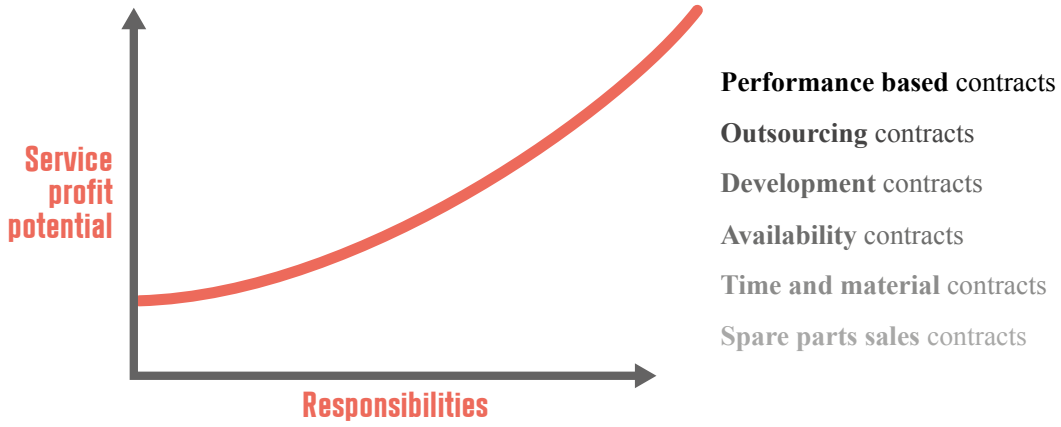


***Figure 4** – Contracts, responsibilities and profit potential. Source: adapted from Colen & Lambrecht, 2013*

A servitization strategy requires providers to change their ways of doing business. The price focused, short-term mindset entailing one-off transactions makes way for new relational strategies with single supply sources based on trust that create constant streams of revenue.

Experiences from practice show mixed results on profit when firms increase their service activities.
Service activities on a small scale increased profitability, but medium levels of service activity diminished it. Only after large-scale operations are established does profitability start to grow again.

***Table 6** – Risks involved in servitization. Source: adapted from Fischer et al., 2014*

	Potential Risk	**Example**
Recovery	Lack of service infrastructure	Involve partners, create service clusters and networks
Availability	Less revenue from service offerings	Penetrate your installed base in order to increase the adoption and capacity utilization
Development	Customer-specific development costs	Charge the design and the construction of services separately and offer to equalize them when the product is purchased
Outsourcing	Operational risks	Risk pooling, transfer risk to suppliers, integrate risks in pricing mechanism

CALCULATING COSTS

Depending on whether you are a supplier or a potential buyer, the following two tools are important for making strategic decisions within servitization strategies: Life Cycle Cost Analysis (LCCA) and Total cost of Ownership (TCO). Both focus on calculations that can prove to be invaluable for the development of service business in manufacturing companies.

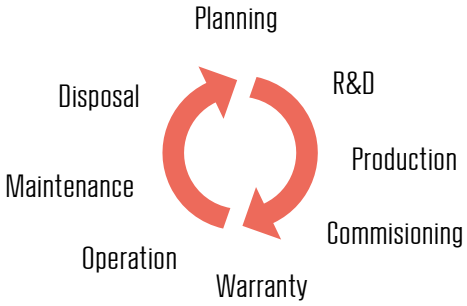


***Figure 5** – Example of LCCA*

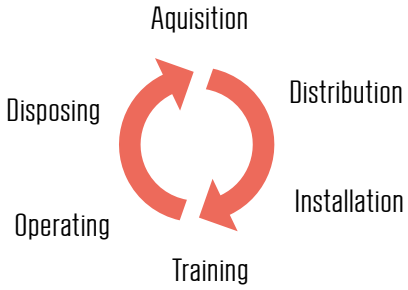


***Figure 6** – Example of TCO*

LCCA focuses on the aggregate of all the costs incurred in a product's life, from design, production, usage and disposal. **Figure 5** shows some of the costs typically included in an LCCA.

TCO shifts the unit price-oriented focus to a total cost-based focus, providing a more realistic cost of sourcing and supply. It provides a value estimation of benefits (e.g. energy savings) and the costs (including opportunity costs) associated with an asset. **Figure 6** provides examples of costs typically included in a TCO.

PERSPECTIVES ON SERVITIZATION: UNDERSTANDING YOUR CUSTOMERS

Understanding the motivation that drives customer decisions is critical for manufacturers seeking to add value through services. Identifying customer needs is an important first step in designing service offerings and operations capabilities for service delivery. From a customer perspective, servitization can be seen as a "make or buy" decision. For example, a customer may choose to conduct an activity internally or procure it as a service from the product manufacturer or from a third party service provider. **Table 7** indicates some of the customer needs that can motivate the outsourcing of activities.

***Table 7** – Understanding the customer "make or buy" process*

Typical customer needs	Implications for the service provider
Focus on core activities	Design services to seamlessly support and enhance the value of the customer's core activities
Restructuring costs	Evaluate the option of retaining product ownership and offering a "leasing" service
Access to talent	Adopt a customer centric focus and ability to offer expertise adapted to customer needs
Reduce time to market	Offer engineering and R&D capabilities as a service to the customer and become a development partner
Manage risk	Consider how scale, specialization and expertise can become a valuable source of mitigating business risks
Manage capacity	Increase flexibility of resources to mitigate fluctuations in demand when customers procure services to manage capacity
Increase scalability	Increase volume flexibility and ramp up speed

Typical motives for outsourcing include focusing resources on core activities and reducing capital tied to non-core activities. Addressing these requires service design to focus on seamlessly supporting the customer value creation and extending the revenue model to allow for accessing resources "as a service". The competencies of manufacturers can also be a powerful way for customers to reduce time to market, mitigate operational risks and access talent needed to optimize processes. Additional motives for outsourcing can be to manage capacity and increase scalability of operations. For service providers this requires careful considerations to increase the flexibility of resources and manage the uncertainty of demand in the customer portfolio.

THE SERVITIZATION **PARADOX**

Servitization promises to strengthen the competitiveness of manufacturers and is expected to deliver growth, profitability and stable revenues. However, practice shows that achieving the expected results from investments in the service business is not easy. A main reason for this servitization paradox is the difficulties in changing the focus of the organization and developing the necessary capabilities for excellence in service delivery. As illustrated in **Figure 7**, key levers for succeeding with servitization include setting the strategic direction, developing service design and delivery capabilities, adjusting organizational design and establishing a service culture.

***Figure 7** – Key levers for succeeding in servitization*

"CONSIDER THE IMPLICATIONS OF SERVITIZATION FOR NEW SERVICE DEVELOPMENT AND ORGANIZATIONAL DESIGN"

The relationship between the development and sale of products and services provides challenges for organizations traditionally having a product focus. For example, increasing service quality can lead to decreasing product sales, while increasing product quality may cause the customers to procure services less often. Defining a service strategy is insufficient for firms to succeed with servitization as they need to overcome implementation hurdles.

"CAREFULLY ALIGN PERFORMANCE MEASURES AND INCENTIVES WHEN DEVELOPING AND SELLING PRODUCTS TOGETHER WITH SERVICES"

CHALLENGES TO SERVITIZATION

In order to achieve the desired servitization outcome, firms face a stream of challenges that should be evaluated vis-à-vis the performance objectives, both in the short term and long term.

These challenges involve addressing questions such as how to:

- Create leadership support from top management to sales and operations managers
- Make the necessary investments to develop and implement services and solutions
- Change the mind-set and capabilities of the organisation to selling and delivering services and solutions
- Make a strategic effort to capture the potential of the installed base
- Develop KPIs and align incentives to ensure integrated sales and delivery of products combined with services
- Coordinate and align the development of new products integrated with new services
- Involve customers in the development process
- Create the necessary flexibility and adaptability to enable customization
- Formulate attractive value propositions through better understanding of customer needs
- Ensure that the quality of service provision lives up to customer expectations
- Specify Service Level Agreements to ensure an appropriate balance of risk and rewards in the face of information asymmetry
- Develop trustful relationships to support the investment in customer specific competencies
- Manage the geographical and cultural distances in a globally distributed network of service partners

VESTAS – CAPTURING THE FULL POTENTIAL OF THE SERVICE BUSINESS

With more than 60 GW, Vestas has the wind power industry's largest installed base of wind turbines. Close monitoring of more than 25,000 wind turbines provides a strong foundation for Vestas to develop its service business, and it is among the company's strategic goals to "capture the full potential of the service business". In the mid-term it is Vestas's aim to grow the service business by more than 30%.

As explained by Anders Runevad, Group President & CEO when presenting the 2013 annual report.

"*We should be able to get more efficiency from our scale in services from doing things consistently in the same manner across the globe. I have therefore also decided to create a new service organization reporting directly to me to get increased focus and transparency on the service business, and here we need to leverage the largest installed base.*"

Vestas has invested in developing industry leading computing capabilities and massive data on weather and performance from the constantly monitored wind turbines. This set of "big data" of global wind flow patterns and complex analytical models allows Vestas to provide their customers with valuable advice on the optimal locations for installing wind turbines. It also allows Vestas to continuously monitor and optimize the performance of the individual turbines in operation.

ALFA LAVAL – EXTENDING PERFORMANCE THROUGH SERVICES AND SOLUTIONS

Alfa Laval is a leading global provider of specialized products and engineered solutions based on three key technologies – heat transfer, separation and fluid handling. The products and solutions delivered by Alfa Laval are dedicated to helping customers to optimize the performance of their processes to become more productive, energy-efficient and competitive. This focus has led to an increasing focus by Alfa Laval on delivering services as explained by Lars Renström, President and CEO of Alfa Laval in the company's 2013 annual report:

"Since 2005, we have increased the number of employees in our service organization, as well as the number of service centers, by more than 50 percent, at the same time as our sales rose by more than 80 percent. Despite this sharp increase, we believe that the aftermarket still offers considerable potential… From a medium and long-term perspective, Service is expected to make a significant contribution to our profitability and growth."

As part of its strategic focus on service operations, Alfa Laval has expanded its service network and operates service centers across the globe combined with a vast network of service engineers for on-site maintenance and services. This allows Alfa Laval to offer a broad range of services from basic maintenance to upgrades, online monitoring, and process optimization. Based on its service capabilities Alfa Laval offers tailored solutions through performance agreements customized to the individual customers needs.

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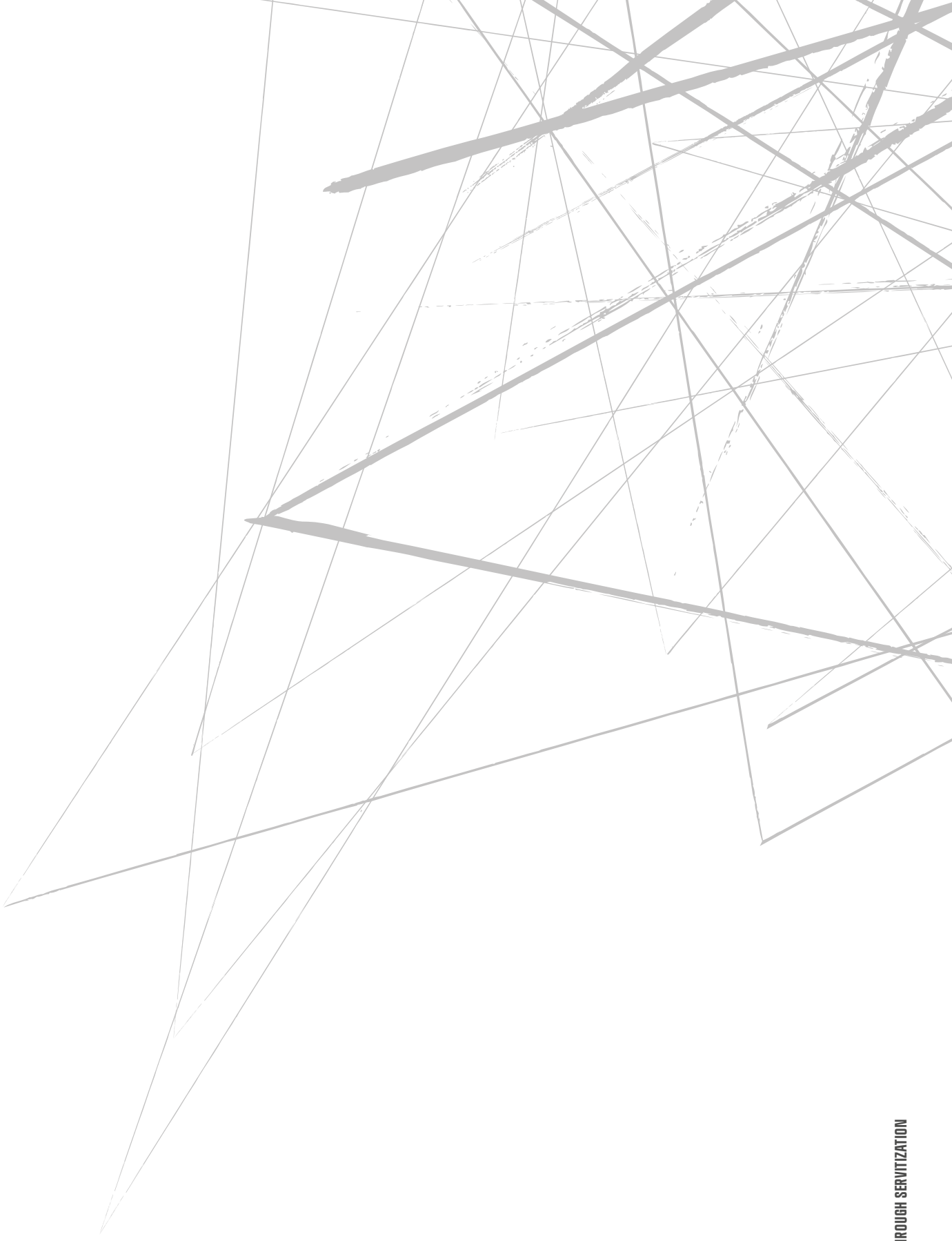

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