

# Survey of the Danish Servitization Landscape

## Service Performance and Service Strategies

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JULIANA HSUAN, THOMAS FRANDSEN & JAWWAD RAJA

# SURVEY OF THE DANISH SERVITIZATION LANDSCAPE: SERVICE PERFORMANCE AND SERVICE STRATEGIES



# INTRODUCTION

Servitization is about competing through value propositions that integrate service with product offerings (Avlonitis et al., 2014). This booklet provides a glimpse of the strategic movements in the Danish servitization landscape. In particular, it outlines the service performance and service strategies in the service offerings of 143 Danish manufacturing companies. The findings presented here may provide inspiration to Danish manufacturing companies in their servitization journey. Companies can compare their financial performance on the basis of services with that of other companies, including with regard to:

- the investment of significant resources on the development of services
- the revenue and profit from services
- the service strategies in service categories and service types

The booklet is organized as follows:

## **MAIN FINDINGS (P. 4-5)**

The four main findings of the survey are highlighted.

## **RESEARCH APPROACH (P. 6)**

The research approach of the survey is presented.

## **STRATEGIC SHIFT (P. 7)**

This section presents the findings on the proportion of companies investing significant resources on the development of services, over the past three years and in the next three years.

## **SERVICE REVENUE (P. 8-9)**

This section presents the findings on average growth in service revenue and an overview of service revenue growth.

## **SHIFTING TO SERVICE-BASED REVENUE (P. 10-11)**

This section presents the findings on the proportion of revenue stemming from services over time.

## **RELATIONSHIP BETWEEN PROFIT AND REVENUE (P. 12-13)**

This section presents the findings on the relationship between profit and revenue in 105 companies.

## **SERVICE PROFITABILITY (P. 14)**

This section presents the findings on the extent to which the services offered are profitable and the percentage of revenue and profit from services.

## **SERVICE STRATEGIES (P. 15)**

This section presents the findings on the service categories offered to customers, including customer service, after-sales service, R&D-oriented service, maintenance service, operational service, and smart service.

## **CONCLUSIONS (P. 16)**

## **APPENDIX: THE SIX SERVICE CATEGORIES WITH SERVICE TYPES (P. 17-18)**

The detailed percentages of the service categories with service types are provided.

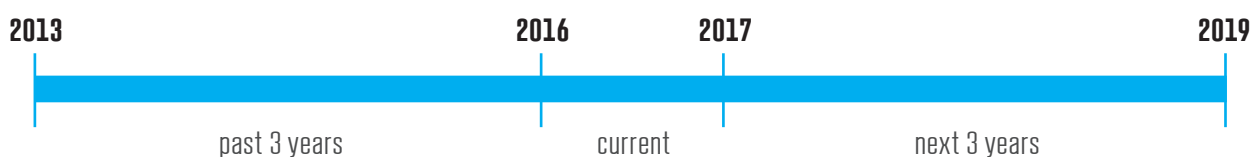
## **FURTHER READING AND OTHER CBS PROJECT RELATED PUBLICATIONS (P. 19)**

References to works cited in the booklet and details of other CBS Servitization Project related publications are provided.

# MAIN FINDINGS

While many Danish companies have begun their servitization journey recently, the majority of the companies that responded to the survey have profitable services; for a large proportion the product business is still the key driver of revenue and profit. The exciting news is that, irrespective of whether companies have invested significant resources on developing services or not, there is a positive effect on

revenue and profit performance. It is important to bear in mind that the survey data was collected between late 2015 and early 2017. Hence 2016 is the 'current' year for the majority of the companies, 2013-2015 represents the past three years and 2017-2019 the next three years. The results therefore cover a period of seven years, roughly from 2013 to 2019.



### **FINDING ONE: DANISH INDUSTRIAL COMPANIES ARE SHIFTING STRATEGICALLY TOWARDS AN INCREASED FOCUS ON SERVICES**

- The majority of the Danish industrial companies (52%) have invested significant resources on the development of services over the past three years, while 70% plan to do so over the next three years.
- Companies that have invested significant resources on the development of services have enjoyed significant service revenue growth compared to the companies that have not invested.

### **FINDING TWO: SERVICE REVENUE HAS BEEN GROWING OVER THE PAST THREE YEARS AND IS EXPECTED TO CONTINUE TO GROW**

- Service revenue is becoming a sizable fraction of the total revenue of firms as it currently accounts on average for 16% of the total revenue of the surveyed companies. This percentage is expected to increase by five percentage points to 21% over the next three years.
- Three years ago, service revenue accounted for less than 10% of total revenue for 59% of the companies, for 31% service revenue was 10-30% of total revenue, and for 10% it was more than 30%.
- In three years' time, 38% of the companies expect service revenue to account for less than 10% of total revenue, 30% expect it to account for 10-30%, and 32% expect it to account for more than 30%.

### **FINDING THREE: THE MAJORITY OF COMPANIES HAVE PROFITABLE SERVICES**

- Approximately two-thirds of the surveyed Danish companies (65%) find that they are offering profitable services.
- On average, revenue from services accounts for 16% of total revenue, while profit from services accounts for 20% of total profit.

### **FINDING FOUR: A WIDE RANGE OF SERVICES ARE OFFERED BY THE DANISH MANUFACTURING COMPANIES**

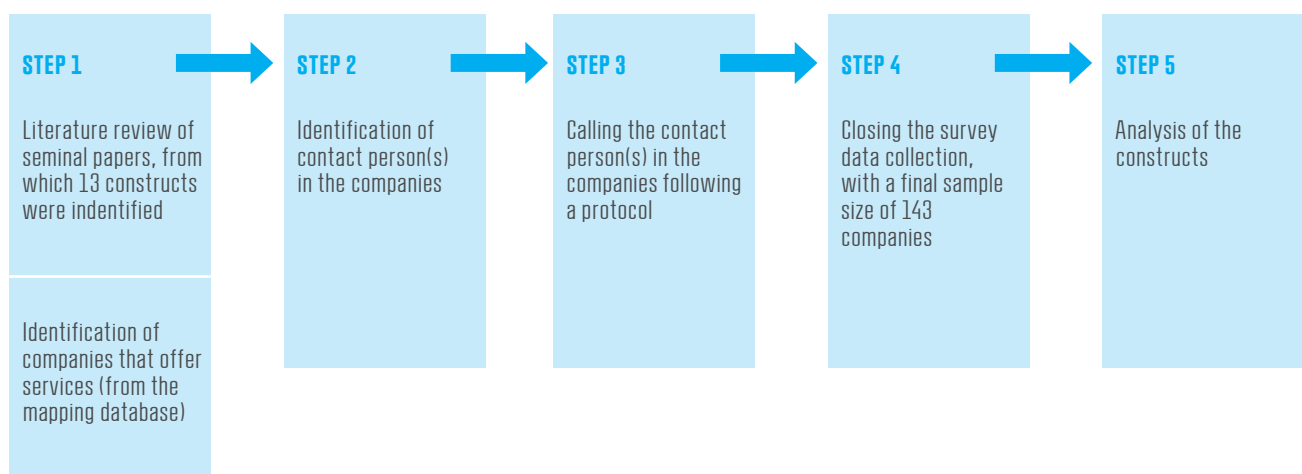
- The most frequent service category is *Customer Service*, which is offered by 97% of the companies.
- Other services frequently offered include *After-Sales Service* (86%), *R&D-Oriented Service* (86%), *Maintenance Service* (73%), *Operational Service* (67%), and *Smart Service* (55%).

# RESEARCH APPROACH

The survey was designed to explore the extent to which Danish manufacturing firms are providing services for goods. The purpose was to investigate whether and how companies in Denmark are changing their business models to reflect a service focus rather than a product focus. The survey data was collected between late 2015 and early 2017. In order to gain insights into the servitization of Danish manufacturing companies, the research team adopted the research approach illustrated in Figure 1. First, a literature review of seminal papers was conducted to identify key constructs. As a result, 13 servitization constructs were included in the survey: product innovation, product modularity, modular processes, service modularity, organizational distinctiveness, customer choice, service customization, complexity of customer needs, customer centricity, operational performance, business performance, service performance, and service strategies. This booklet focuses on the survey findings relating to the constructs of *service performance* and *service strategies*. The survey findings in relation to the other constructs will be published in separate booklets.

The sample of surveyed companies was identified from the mapping database (for details see Hsuan et al., 2017). All the companies in the sample were checked by the researchers to ensure that they offered services. Only companies that offered services on websites were invited to participate in the survey. The researchers then identified the contact persons in the companies, who were contacted by telephone and asked to participate in the survey. The researchers followed a calling procedure to ensure that the respondents were knowledgeable about the company's service offerings, revenue and profit from services, and service strategies. This allowed the researchers to distribute the survey to the most knowledgeable individual(s) within services in the company. As a result, 143 companies were included in the survey that forms the basis of the analysis presented here.

**Figure 1: The survey's research approach**

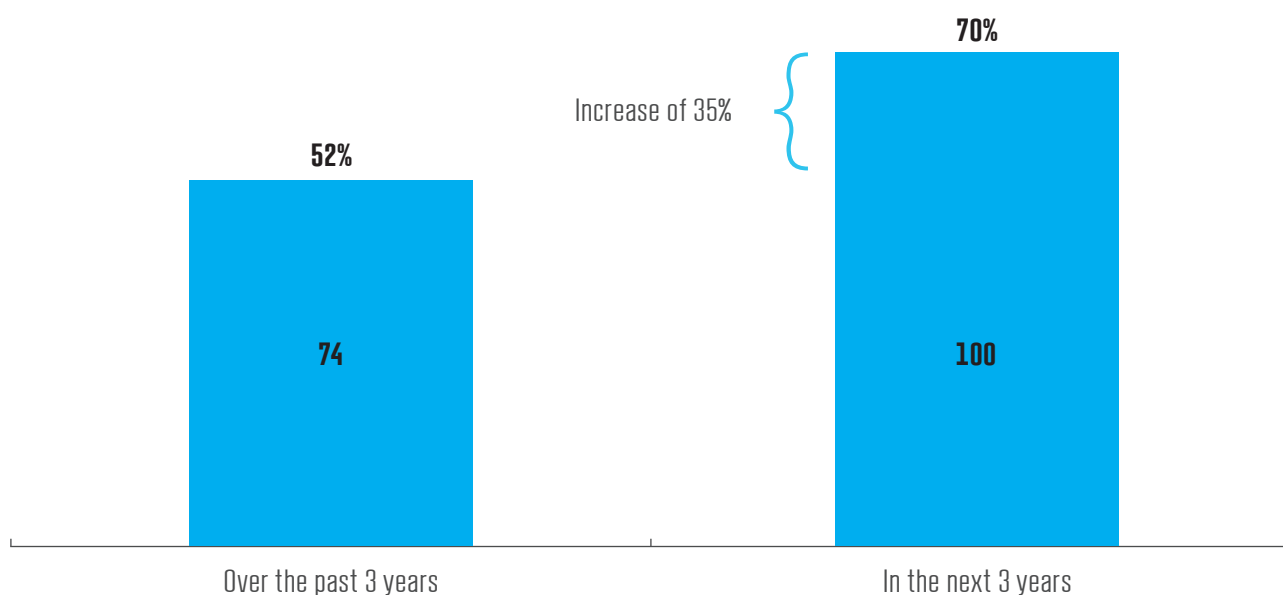


# STRATEGIC SHIFT

As manufacturing companies extend their service business in their servitization journeys, there is an expectation that financial returns will be positive, e.g. in the form of higher revenues and higher profit margins. Substantial investment in service business can lead to expansion of the portfolio of service offerings, but it does not guarantee improved financial performance or returns. In many situations, the higher cost of extensive service delivery can actually decrease performance. This dilemma is often referred to as the “service paradox” or “servitization paradox” (Gebauer, Fleisch and Friedli, 2005; Kastalli and Van Looy, 2013); it warns companies that although economic benefits are expected when implementing servitization, implementation hurdles can lead to potential performance decline (Kastalli and Van Looy, 2013).

Despite the paradox, Danish manufacturing companies seem to be optimistic in their efforts to improve financial performance by investing in the development of services. Figure 2 shows that while the majority of the firms (52%) have already invested significant resources on the development of services over the past three years, 70% plan on doing this in the next three years. The increase of 35% indicates that manufacturing firms are shifting strategically towards services.

**Figure 2: Proportion of companies investing significant resources on the development of services**



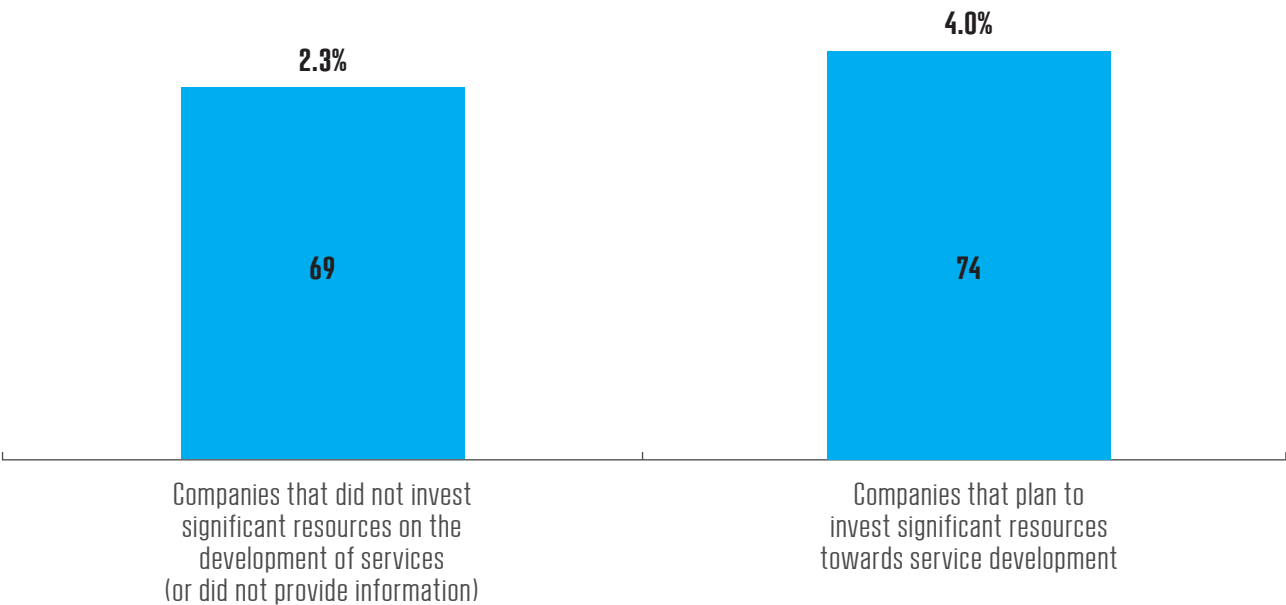


# SERVICE REVENUE

The positive effect of investing has a direct effect on service revenue. Figure 3 illustrates how service revenue has grown in terms of the allocation of resources to service development over the past three years. The 69 companies that did not invest significant resources on the development of

services (or did not provide information) experienced, on average, 2.3% growth in revenue from service. In comparison, the 74 companies that plan to invest significant resources towards service development experienced a 4.0% growth in service revenue.

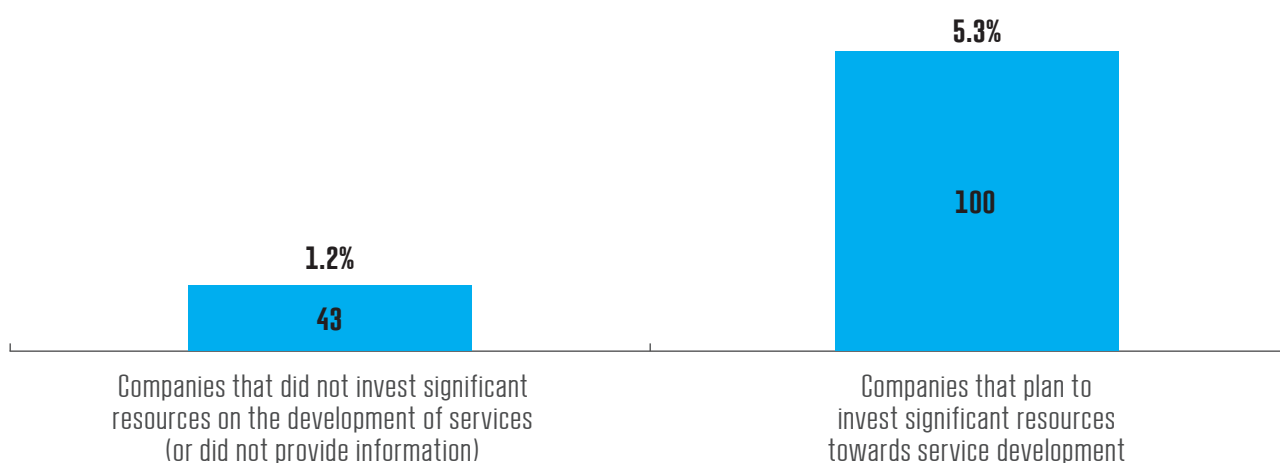
Figure 3: Average growth in service revenue (over the past three years)



The contrast is more striking when the companies look into the future. Figure 4 shows the average expected growth in service revenue over the next three years. On average, companies that plan to invest significant resources towards the development of services over the next three years (70% of the companies, Figure 2) expect higher growth in their service revenue (5.3%) than companies that did not invest

significant resources (or did not provide information); the latter expect to have average growth in service revenue of only 1.2%. Hence, for the majority of the surveyed companies there are strong expectations for growth in service and intention to invest in developing their service business. The trend over the next three years (Figure 4) is far more pronounced than that of the previous three years (Figure 3).

**Figure 4: Average growth in service revenue (next three years)**

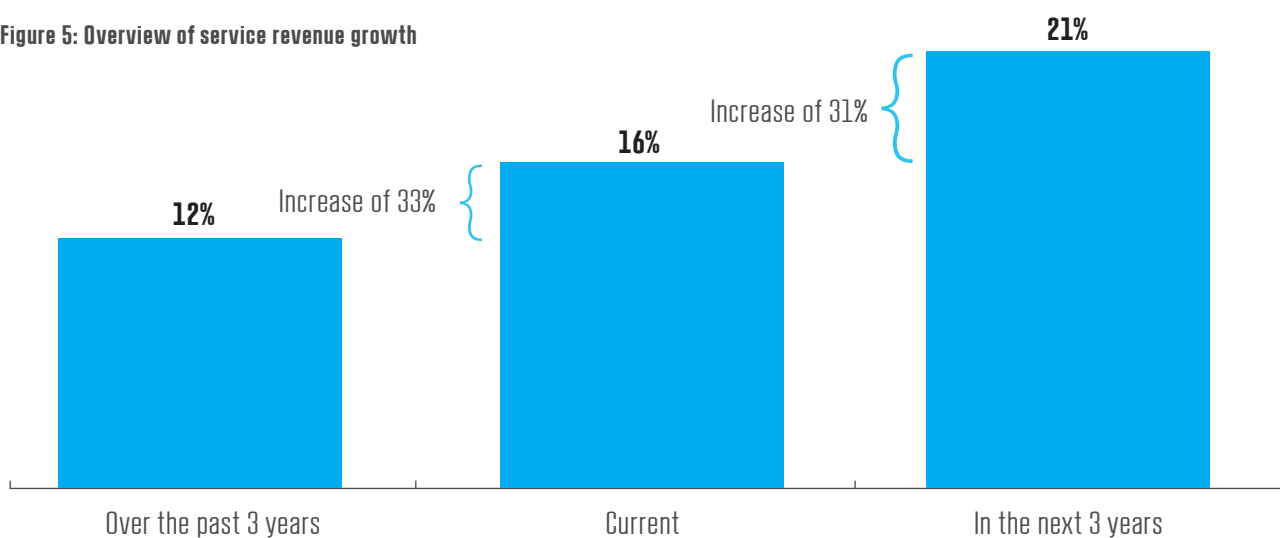


In summary, Danish manufacturing companies are optimistic in their outlook on revenue growth from services. Interestingly, even firms not investing significant resources on service development expect to see growth in service revenue.

Comparing the past, the present and the future outlook, the proportion of revenue stemming from the service business

has grown in the last three years and is expected to continue to grow in the future. Figure 5 shows that the revenue generated from services in the last three years has increased to 16% of total revenue – an increase of 33% (or four percentage points) compared to three years ago. The revenue generated from services is expected to rise in the next three years to 21% of revenue, an increase of 31% (or five percentage points).

**Figure 5: Overview of service revenue growth**



# SHIFTING TO SERVICE-BASED REVENUE

Figure 6 shows how expectations of the share of revenue from services are changing. Three years ago, only a minority of companies (10%) generated at least 30% of their total revenue from services. Over a period of seven years the number of companies that expect service revenue to account for at least 30% of total revenue has more than tripled. Correspondingly fewer companies expect services to account for less than 10% of total revenue. This suggests that the companies have started to shift their mindsets in their servitization journey by incorporating a service-based business model into their strategies.

## PAST

Three years ago, service revenue accounted for more than 30% of total revenue for just 10% of companies, while for 31% of the companies service revenue was 10%-30% of total revenue. The vast majority (59%) reported that service revenue accounted for less than 10% of total revenue.

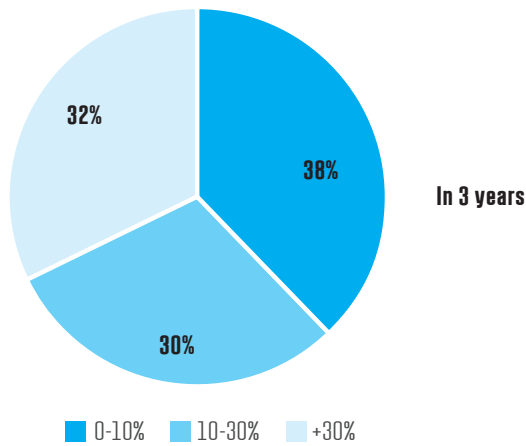
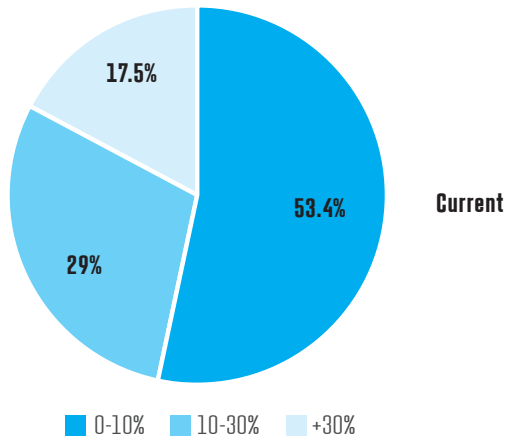
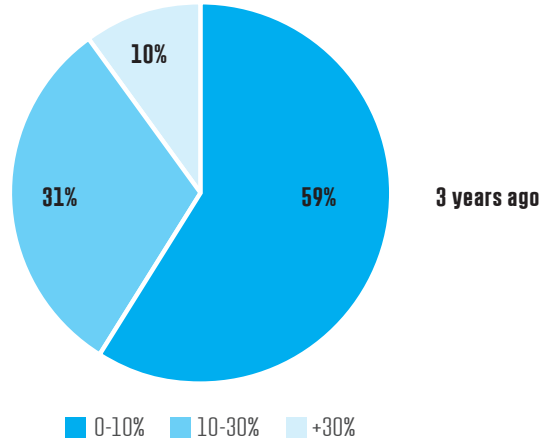
## PRESENT

Currently, 17.5% of the companies report that service revenue represents more than 30% of total revenue, while 29% state that it accounts for 10%-30%. The majority (53.4%) still class services as accounting for less than 10% of total revenue.

## FUTURE

When asked about how the company's revenue structure would look in three years, 32% of the firms expect service revenue to account for more than 30% of total revenue, while 30% expect it to represent 10%-30% of total revenue. The proportion of companies expecting service revenue to account for less than 10% of total revenue is 38%.

Figure 6: Proportion of revenue stemming from services

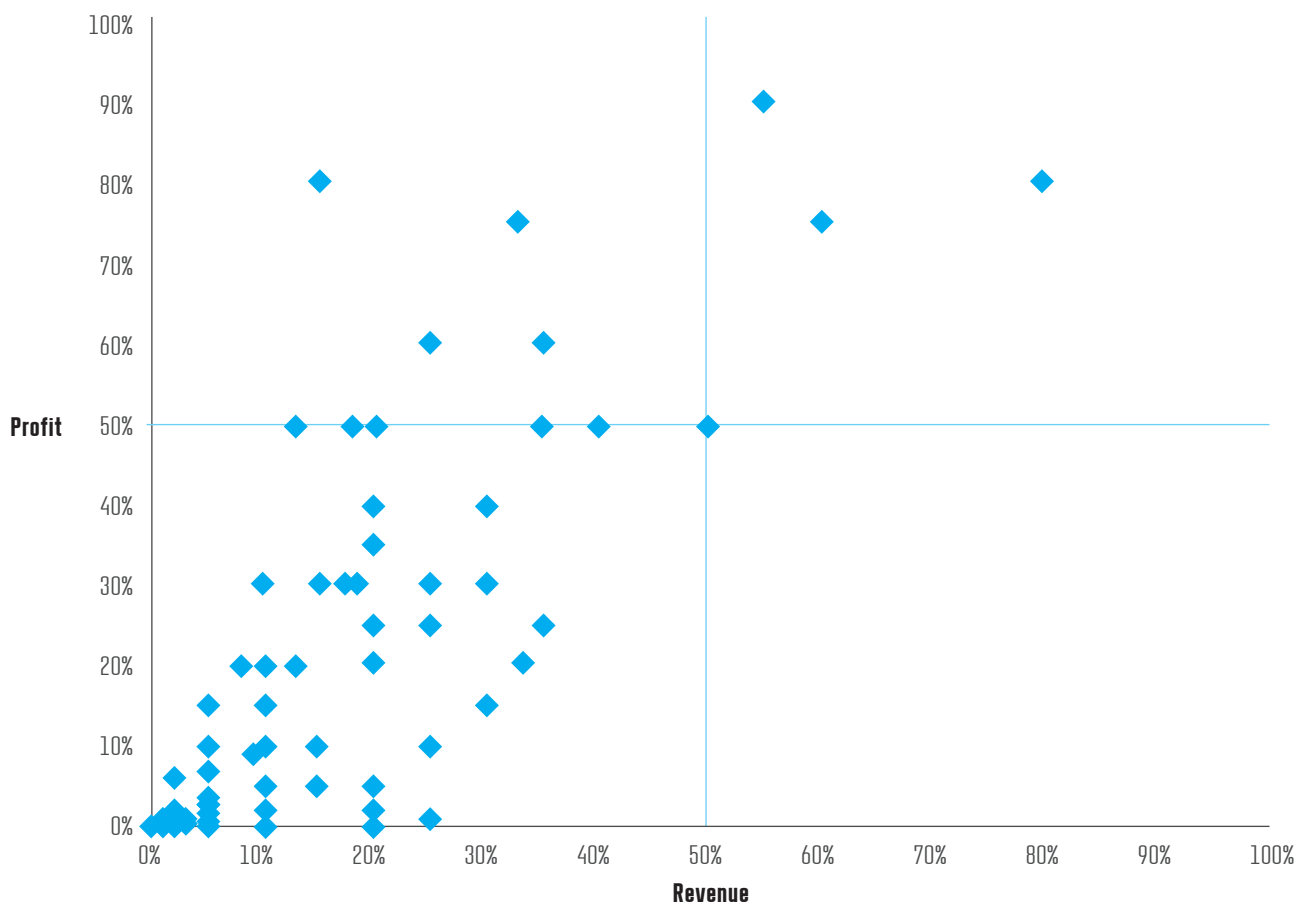


# RELATIONSHIP BETWEEN PROFIT AND REVENUE

To what extent are service revenue and profit driven by the service business? Figure 7 shows the relationship between profit and revenue for 105 companies; 38 companies did not provide information on either profit or revenue, or both. By dividing the graph into four quadrants, three clusters of data emerge. In the lower right quadrant services account for more than 50% of revenue but less than 50% of profit. The good news is that none of the companies fall into this quadrant, which represents an unprofitable service business.

For companies in the top right quadrant, service offerings account for more than 50% of both revenue and profit. These companies seem to have made the transition to a service-based business model. One might hypothesize that the revenue and profit of these companies revolve around services more than around the product business. However, only three companies are in this quadrant, which supports the impression that there are still opportunities for Danish manufacturing companies to pursue service-based business models.

Figure 7: Relationship between profit and revenue



The lower left quadrant represents the cluster of firms that derive less than 50% of their revenue and profit from services. This is where most of the companies are located, which supports the fact that many Danish manufacturing companies are still in the early stages of servitization. There thus seems to be room for increasing both revenue and profit from services.

The top left quadrant captures firms that obtain less than 50% of their revenue but more than 50% of their total profit from services. There is a handful of companies in this quadrant, in which profit could arguably be increased significantly if services accounted for a higher share of revenue, as profit in these companies seem to be driven by service offerings rather than product offerings.

**KEY MESSAGE:** There seems to be strong potential for Danish manufacturing companies to drive revenue and profit by expanding their service offerings and capturing a fair share of the resulting value. The starting point is the willingness to change mindsets to embrace service business, for example by changing thinking on how services and related value propositions are crafted and communicated throughout the organization and its industrial network. For manufacturing companies, services have sometimes been considered as a secondary value proposition offered for free. In such cases, services are cost drivers. With a service business mindset, services become drivers of revenue and profit and a central part of the organization. The shift in mindset requires companies to consider, for instance, the cost, value and pricing of services.

# SERVICE PROFITABILITY

Figure 8 shows that services do indeed provide an opportunity for driving service profitability. The vast majority of the companies (65%) reported that the services offered are profitable, whereas only 10% did not, and 25% were neutral in their opinion.

**Figure 8: Extent to which the services offered are profitable**

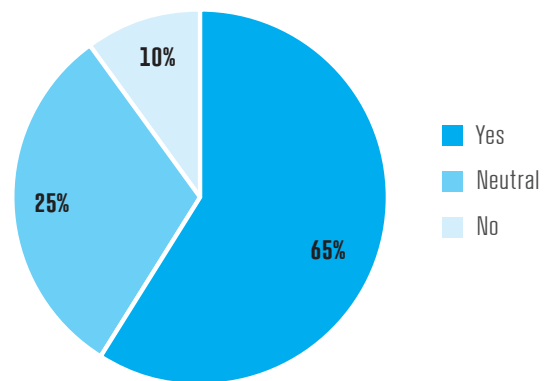
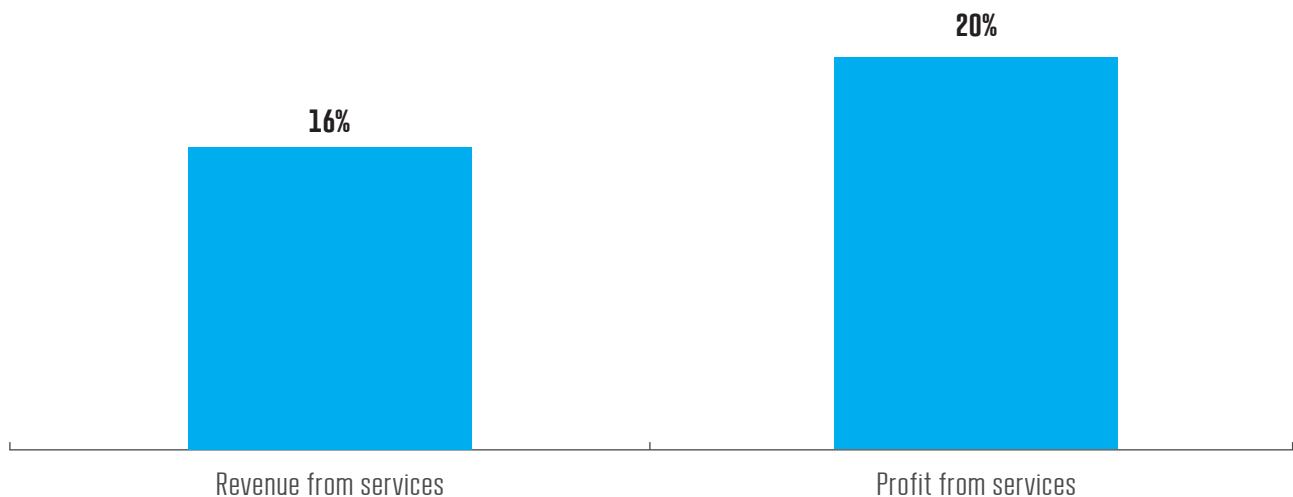


Figure 9 shows that services offer positive financial performance in terms of both revenue and profit. On average, revenue from services accounts for 16% of total revenue, while profit from services accounts for 20% of total profit.

**Figure 9: Percentage of revenue and profit from services**

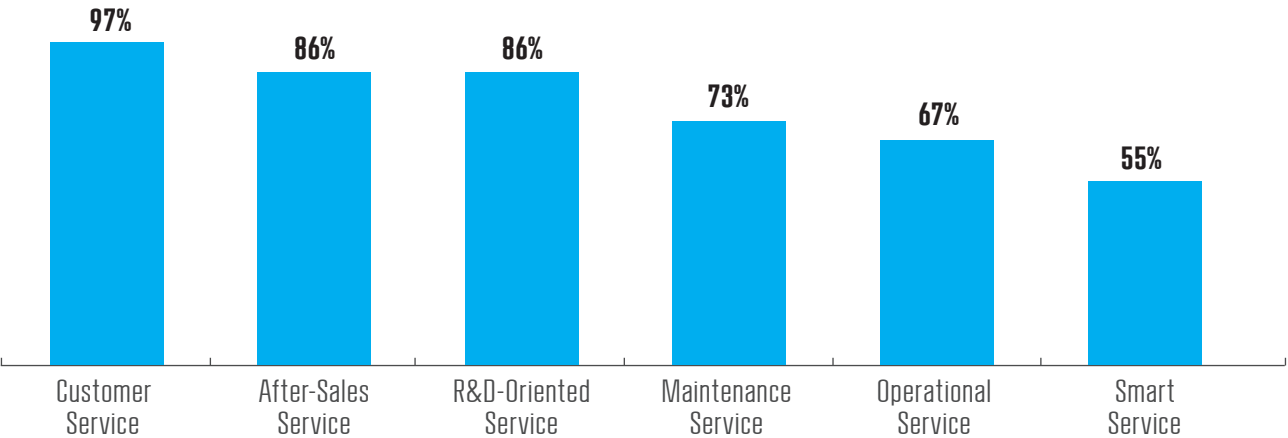


# SERVICE STRATEGIES

What service strategies are the companies investing in? Figure 10 depicts the percentage of companies offering at least one service in one of the six service categories: *Customer Service*, *After-Sales Service*, *R&D-Oriented Service*,

*Maintenance Service*, *Operational Service*, and *Smart Service*. Each service category encompasses several service types related to the overall category. See Appendix A for the service categories and the related service types.

Figure 10: Service categories offered to customers



97% of the companies offer *Customer Service*, which comprises basic services. Within these companies, the services offered include information services (56% of the companies), installation/commissioning (67%), transportation to client (71%), basic advice services (77%), and documentation (78%).

*After-Sales Service* comprises services carried out after the sale of a product. 86% of the companies offer this category of service. Within these companies, the services offered include help desk (48% of the companies), diagnostic services (61%), inspection services (65%), product-oriented training (68%), and repair services (89%).

*R&D-Oriented Service* covers services related to the research and development of products and processes for

the customer. 86% of the companies offer services in this category. Within these companies, services include process design (39% of the companies), business consulting in products and process development (50%), development services (52%), process-oriented engineering (tests, optimization, simulation) (62%), and construction (design) services (78%).

*Maintenance Service* refers to services related to keeping products and equipment functioning. 73% of the companies offer this category of services. Within these companies, the services offered include lifecycle maintenance services (34% of the companies), service-level agreements on maintenance (43%), process optimization through continuous maintenance (44%), full maintenance contracts (59%), annual maintenance activities (71%), and preventive maintenance (86%).



*Operational Service* covers services related to the management of the product, up-time or other product-related operational tasks. 67% of the companies offer this category of services. Within these companies, the services offered include managing the whole maintenance function (31% of the companies), operating repair teams for customers (35%), managing training and personnel development (36%), managing spare parts logistics (37%), recycling services (47%), and operating the product (58%).

*Smart Service* refers to services related to the utilization of technology, which has brought in a whole new range of services. 55% of the companies offer this category of services. Within these companies, the services offered include licensing service (20% of the companies), remote monitoring (52%), data analytics/diagnostics (57%), system upgrades (57%), and software upgrades (67%).

**KEY MESSAGE:** The survey shows that the 143 companies offer a wide variety of services in the six different categories, from generic basic advice services to the design of customer processes. The results also provide insights into the service types most frequently offered within each of the service categories. Companies might draw inspiration for additional types of services that they could offer in order to stay competitive. For example, for companies that are considering introducing smart services and want to learn about what is being offered, there is probably more (marketing or competitive) information available on software updates than on licensing services.

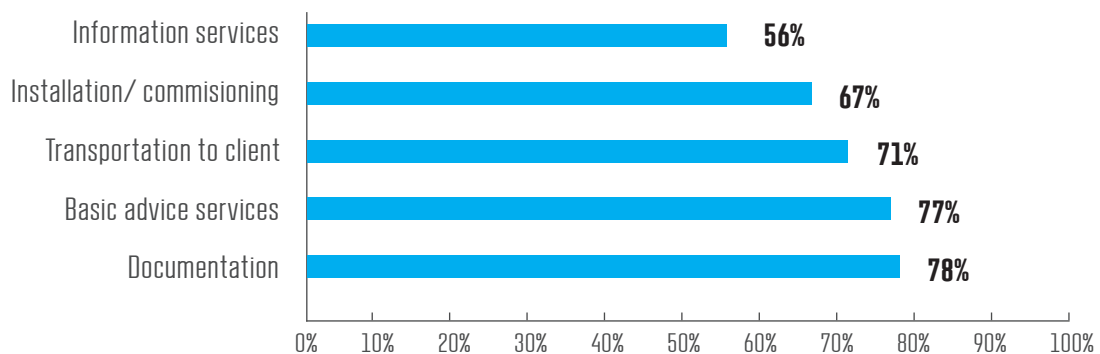
# CONCLUSIONS

The survey of the service performance and service strategies in the service offerings of 143 Danish manufacturing companies provides an insight into the extent to which Danish firms are providing services for goods and how they are extending their service business in their servitization journey. The findings presented in this booklet may serve as inspiration for other companies that are looking to undertake a servitization journey and those that are trying to expand their existing service portfolio. The main conclusions are:

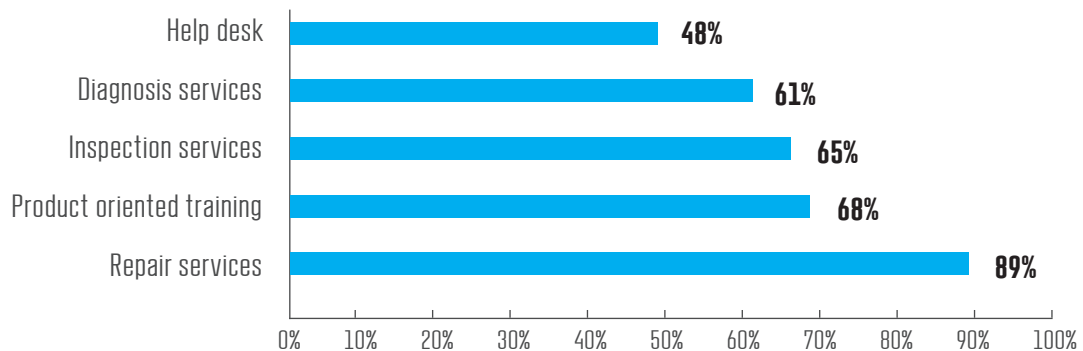
- Danish manufacturing companies are shifting towards service business
- Service revenue is expected to continue to grow for the majority of companies
- The majority of companies have profitable services
- Many companies are developing and offering advanced services, such as R&D-Oriented services and Smart Services

# APPENDIX A: THE SIX SERVICE CATEGORIES WITH SERVICE TYPES

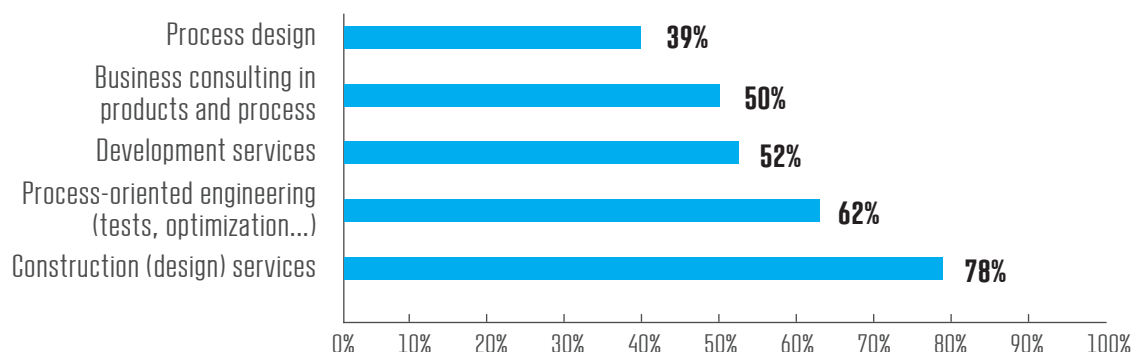
## CUSTOMER SERVICE



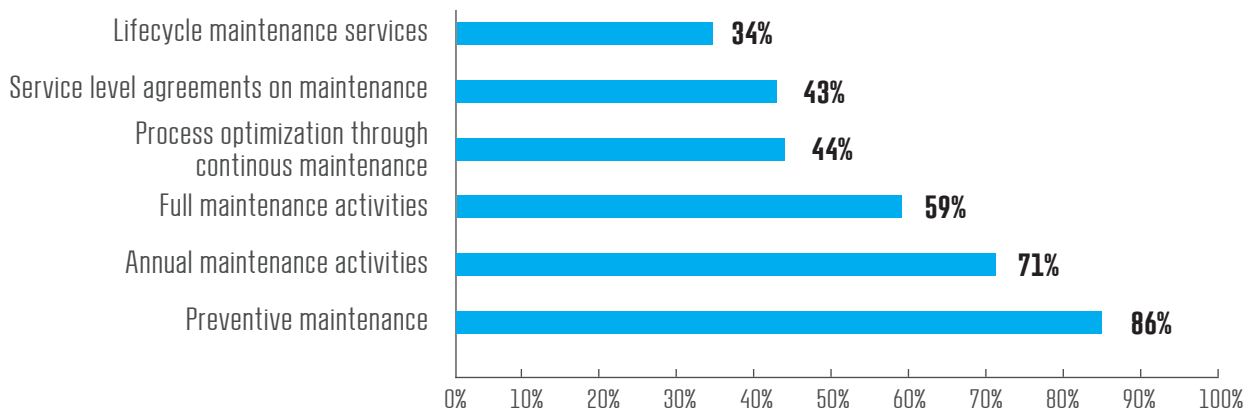
## AFTER-SALES SERVICE



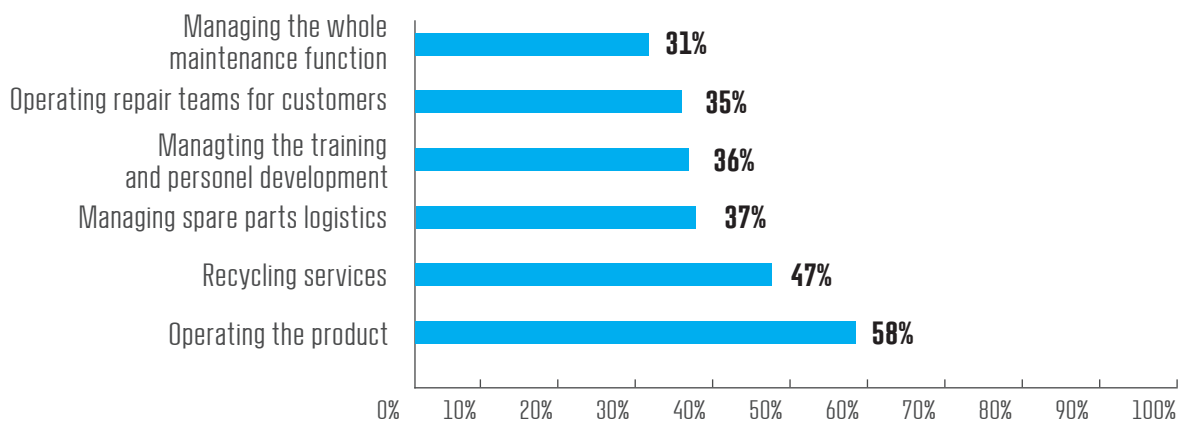
## R&D-ORIENTED SERVICE



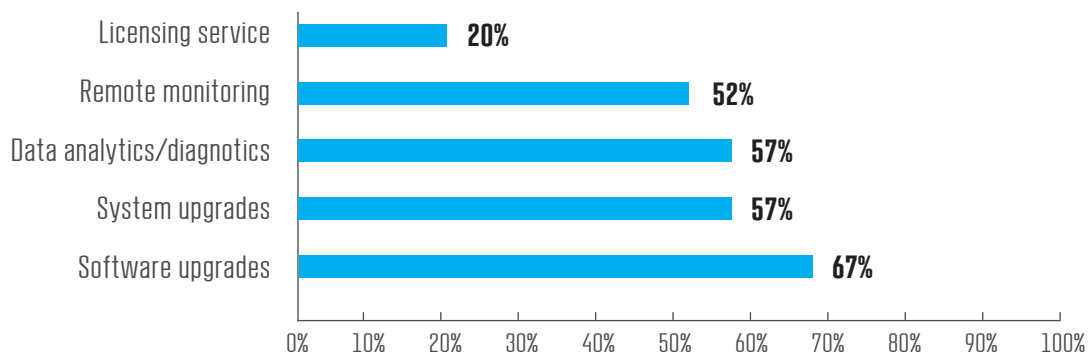
### MAINTENANCE SERVICE



### OPERATIONAL SERVICE



### SMART SERVICE



*Note: the values indicate the percentage of companies in the particular service category that offer this service type to customers.*

# FURTHER READING

## References

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Kastalli, I.V. & Van Looy, B. (2013) Servitization: Disentangling the impact of service business model innovation on manufacturing firm performance. *Journal of Operations Management*, Vol. 31, pp. 169-180.

## Other CBS Servitization Project Related Publications:

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 & Kjaer*. Frederiksberg: Copenhagen Business School, CBS.

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Karlsson, C., Stjernqvist, P., & Frandsen, T. (2018). Becoming a solution provider: Integrating in the customer process – The case of equipment producers and Trackunit as enabler. Copenhagen Business School, CBS.

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### SERVITIZATION RESEARCH AT CBS

CBS is undertaking a research project to examine the potential of services as a means of improving competitiveness for Danish industry. The project is supported by the Danish Industry Foundation and involves working closely with industry.

For more information, see [cbs.dk/competitiveness](http://cbs.dk/competitiveness) and [blog.cbs.dk/servitization](http://blog.cbs.dk/servitization)

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