# Servitization strategy and cost management

Session 14

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# Agenda

- Servitization business model
- Strategic managerial control for servitized firms
- Life cycle costing in servitized firms
- Target costing in servitzed firms
- Performance measurement in servitized firms
- Profitability measurement in servitized firms
- Cost structures and measurement
- Pricing
- Profitability measurement in different PSSs

# The servitization business model

- A culture based on service innovation, customization, flexibility, variety, intangible aspects, customer's needs, networks and partnerships
- The company borders change
- Time horizons in decision-making focus more on long-term and the life cycle
- A shift in the mindsets from transactional to relational marketing
- Some issues related to the customer who has to accept that it is not always necessary to take ownership of the physical product and becomes involved in operations, with an impact on both the efficiency and the effectiveness of product-service delivery
- Challenges of time scale emerge, as firms engage in multi-year partnership.

Difficulties for manufacturing companies in understanding and measuring

- the cost side of servitization
- price side,
- why even though revenues can be increased by servitization, often the growth in revenues is followed by a profit drop.

**THE ROLE OF STRATEGIC MANAGERIAL CONTROL FOR SERVITIZED FIRMS**

# Strategic managerial control for servitized firms: introduction

- Servitization strategy requires manufacturing companies to jointly consider and manage different aspects, which characterize two different business archetypes, the "Product-based" archetype and the "System-based" one, which usually occur independently in a single firm

- The coexistence of two archetypes implies a great complexity of servitized firms that could be difficult to understand and manage, without the consistent adoption of management approaches, mechanisms and processes, and that asks for the adoption of different strategic managerial control mechanisms

- The challenge in the adoption of strategic managerial control in servitized organizations is not to develop new concepts, approaches and mechanisms, but to apply known and well-developed concepts, approaches and mechanisms accordingly with their specific context and features

# Two different business archetypes

## “Product-based” business archetype

•Typical of firms where the majority of committed costs arises as a consequence of the **characteristics and attributes of new products and services**, defined and decided in the R&D phase of the life cycle.

•There is a **direct relationship** between the company’s profitability and each single PPS’s profitability in its life cycle.

• Relevance of the **life cycle** of product and related services and of the **supply chain**.

• Mainly manufacturing companies with batch and discrete production processes and complex products made by assembling a relevant number of different components and using different and complex technologies.

• Also services focused on projects (i.e. software development)

## “System-based” business archetype

•Typical of firms where profitability derives from the consistency between decisions concerning the investment in capacity**,** in the medium-long term, and the **ability to saturate the installed capacity** with sufficient volumes of transactions in the short run.

•The company’s profitability in the short run arises in a **systemic way,** be exploiting economy of scales**,** and as a consequence of an adequate relationship between sunk fixed costs of capacity and sales volumes/revenues.

• **Marketing efforts** have a significant role in influencing customers’ behavior to increase the number of transactions and contacts between the company and the customers, thus impacting on sales volume, and to assure the consistency between service offerings and different customer segments’ needs, thus impacting on customer value and pricing.

• Services, especially **mass-market services** and manufacturing firms characterized by **continuous flow** production processes.

# “System-based” business archetype: the case of maintenance contracts

- The move towards maintenance contracts is often triggered by a desire to make better use of the existing service organization.
- For the service provider, once the service organization is in place, it becomes a fixed cost and capacity utilization is the main driver of profitability.
- Established service contracts reduce the variability and unpredictability of demand over the available capacity and allow a higher than average capacity utilization.
- Because of the intangibility of service contracts, customers often use service provider identity and reputation as a proxy when evaluating service offerings.
- Relationship marketing provides an appropriate base for convincing more customers to buy more services and/or accept a fixed price covering all services over an agreed period.
- Thanks to a well recognized and trusted brand, a servitized firm can offer service contracts to customers, based on pay per use, in order to try to saturate its service capacity.

# Strategic managerial control for different business archetypes

**"Product-based" business archetype**

**Strategic profitability planning**

- Target costing
- Life cycle costing
- Inter-organizational cost management system
- …

**"System-based" business archetype**

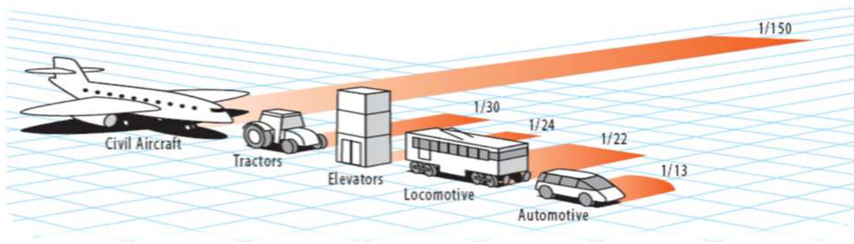
**Performance measurement and profitability management**

- Performance Measurement Systems
- Activity Based Costing
- Activity Based Management
- …

# Life cycle costing in servitized companies

Following a life cycle costing approach allows a manufacturing firm to exploit services' benefits

- Substantial revenues are generated from a high installed base of products with a long life cycle
- This fact has pushed economic value downstream toward providing services required to operate and maintain products.




- Services require relatively less investments than manufacturing activities.
- Being more labor dependent and because of their intangibility, services produce competitive advantages, revenue and profits that might be more sustainable and reliable.
- They allow also customers to better exploit value and TCO in the service-product life cycle, by reducing forecasting activities and product maintenance and operating costs

# Life cycle costing in servitized companies

A life cycle costing approach allows manufacturing firms to propose to customers rental and pay per used contracts instead of the product ownership

**Advantages for producers**

- They can control customer's behavior along the life cycle of the product use
- They can benefit from higher points of contacts to propose and sell new services and solutions
- They can define in advance a fixed amount of spare parts and services volume
- They can plan more in details the physical flows of spare parts and improve the efficiency and effectiveness of JIT

**Advantages for customers**

- They can know in advance the total costs of use of the product
- They do not have to pay any money to buy the product
- They may benefit from tax reliefs
- They can simplify the operative and economic product management by avoiding a direct manage of assurance, maintenance, repairing and costs of accidents, which are set in the rental contract.

# Total cost of ownership and value: customer's point of view

- Durable goods
- Financial and emotional investiment

- Cost of ownership

**In the after sales the cost of ownership may be influenced through operating/maintenance costs and residual value**

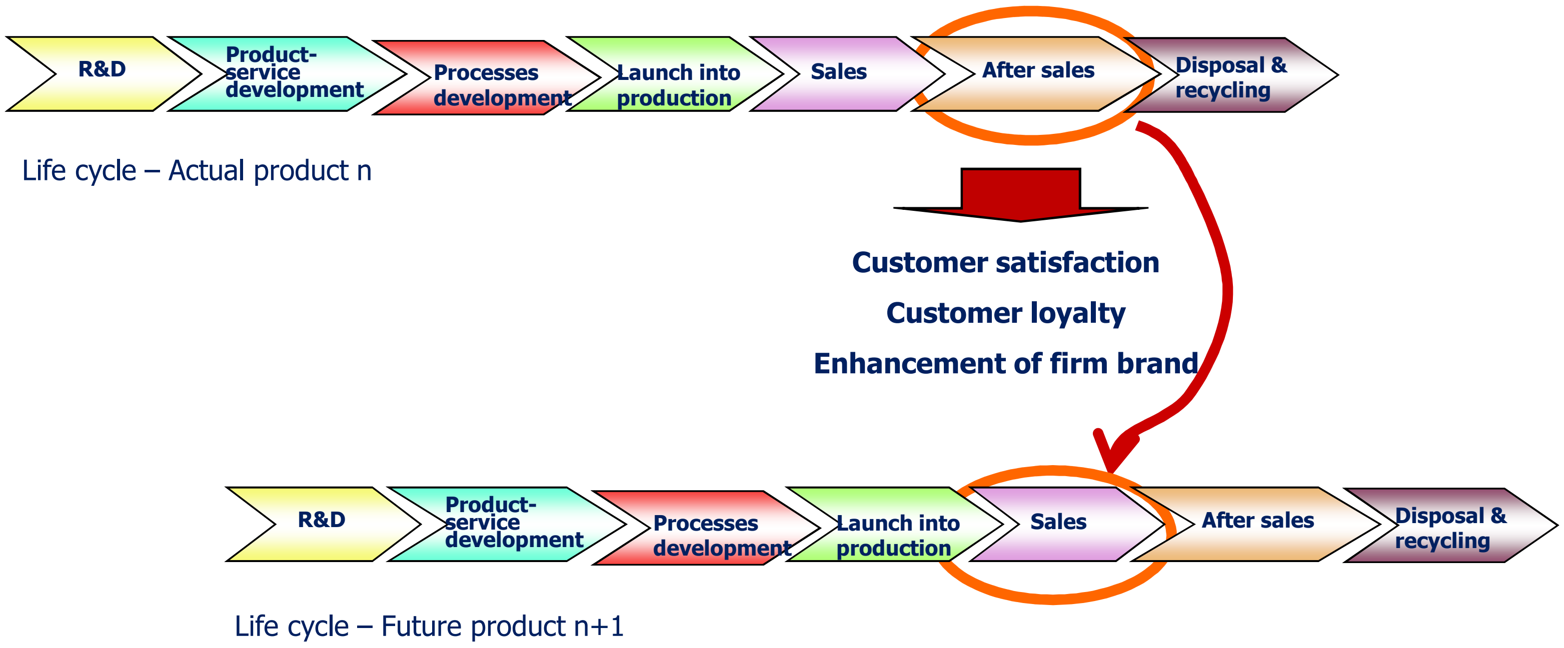
Product price + operating/maintenance costs – residual value

By life cycle costing (and target costing) it is possible to reduce the TCO for customer in the product's life cycle and to increase the product net present value, allowing the manufacturer to get higher customer satisfaction and loyalty.

# Factors that impact on the product’s net present value and on operating and running costs

| Product’s net present value | Running, maintenance, warranty and repair costs (after sales costs) |
|---|---|
| | |
| ▪ market success of a new model | ▪ fuel/energy consumption |
| ▪ market segment (luxury or other) | ▪ cost of labor |
| ▪ product features (e.g. feeding and motorization for cars) | ▪ cost of spare parts |
| ▪ economic trend | ▪ maintenance programmes/contracts |
| ▪ legislation | ▪ insurance costs |
| ▪ product offer | ▪ expected trend of new products' price |
| ▪ expected launch of new models or restyling of actual models | ▪ product offerings in the market |
| ▪ time to market of new products | |
| ▪ running, maintenance, warranty and repair costs | |
| ▪ brand image | |
| ▪ second-hand market trend | |

# The role of after sales as «pre-sales» of new products and related services




- Planning and managing after sales services, since the product R&D phase, allows a firm to consider the life cycles of at least two products: the actual products and the future ones.
- After sales may operate as a "pre-sale" of new future products and related services

# Target costing in servitized companies

Target costing, as a methodology aimed at planning committed costs in the product-service system's life cycle, consistent with the target price and the target profit, will not change in servitized firms in terms of logic, principles and process.

"For service businesses the focus is the service delivery system. Although, the key issues – understanding the needs of the market, customers and users, and ensuring satisfactory financial performance at a given cost or price which does not exceed the target cost – remain" (CIMA NHS Working Group, 2005: 7).

# Target costing in servitized companies

However, target costing in servitized firms has to take into account that developing services and estimating their value, target price and target cost require to deal with different and more complex issues than developing products:

- the involvement of customers in the value creation;
- the importance of the activity and process dimension, when delivering services, that requires to design and develop not only product features, functionalities and attributes, but also value added activities of the delivery process;
- the relevance of downstream activities of the supply chain, that asks for extending target costing to the relevant actors of the value chain;
- the importance of intangibles components, that imply R&D of not only tangible product features, functionalities and attributes, but also of intangible functionalities and service components;
- the cost structure, with a high weight of indirect fixed costs, which are difficult to allocate to each single product-service system and have to be committed at a firm level;
- difficulties in assessing customer needs and value, due to the relevance of IHIP attributes of services

# Key central questions in Performance Measurement

## What

***Objects***

- Products
- Services
- PSSs

- Customers

- Activities & processes

- Single firm
- Supply chain

***Performance areas and dimensions***

*Results*
*Financial performance*

*Driver of performance*
Typical of:
- Pure manufacturer
- Service company

## How

***Type of indicators***

*Financial measures*

Profitability analysis
- Resources-costs
- Cost structure & types
- Cost accounting: ABC

- Customer value
- Revenues models and pricing

*Not financial measures*
- KPIs

***Type of values***

- Actual
- Budget/standard:
  - ✓ Internal: difficult to adopt standardization
  - ✓ External: Competitors & Customers

***Decision-making context***

- Certainty
- Risk
- Uncertainty

## *When*

***Decision-making horizons***

- long term – life cycle
- short term

# Key central questions in Performance Measurement: profitability measurement

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# The key drivers of servitization profitability management

***Complexity of the combined offering***

- Multiple services are sold jointly with products
- From a single service/product line profitability emphasis to the profitability analysis of a combination of products and services devoted to deliver value to the customer

***Complexity of service management: services' features***

- Inseparability
- Heterogeneity
- Intangibility
- Perishability

***Customer centricity***

- The interaction between the manufacturer and the customer as well the active involvement of the customer in service delivering have significant impacts on the firm efficiency and effectiveness
- From producer's lifecycle to customer 's life cycle (total cost of ownership)

***Long run and network orientation***

- Life cycle perspective
- Supply chain perspective

**Impacts on profitability management levers (cost and prices)**

# The key drivers of servitization profitability management: complexity of the combined offering

***Complexity of the combined offering***

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**Product-service system (PSS)**

Combined and joint value offering to the customer

**Sales conjunction**

- Joint, common, indirect fixed costs
- No allocation of indirect costs
- Main object of analysis: PSS & Customer

**Different customers' needs**

- Multi focused firms
- Flexible service offerings
- Standardized packages & personalized options

# The key drivers of servitization profitability management: service's features

**Typical features of services**

- **Inseparability** → Services results are place and human resource dependent
  - Joint costs
  - Costs influenced by customers (front office activities)
  - Difficult to plan and commit costs, revenues and profitability
  - Difficult to use any performance measure before the service is sold
- **Heterogeneity** → Difficult to standardize service delivery
  - Greater variation in performance level: cost and quality
  - Cost depend on customers and not only on employees
- **Intangibility** → Difficult to control process & to plan activities
  - Difficult to assess the relation between costs/ resources and value/price/results
- **Perishability** → Service capacity is time sensitive
  - Difficult decisions on investment in service capacity
  - Difficult planning & managing demand peak

# The key drivers of servitization profitability management: customer centricity

***Customer centricity***

- The interaction between the manufacturer and the customer as well the active involvement of the customer in service delivering have significant impacts on the firm efficiency and effectiveness;
- From producer's lifecycle to customer 's life cycle (total cost of ownership).

**Interaction between the manufacturer and the customer & active involvement of the customer in service delivering**

- Customer labor less expensive
- Better customer experience
- Customer productivity
- Customer components in productivity KPIs
- Front office activities

Service quality
Costs

Difficult to program & standardize

# The key drivers of servitization profitability management: orientation

***Long run and network orientation***

- life cycle perspective
- supply chain perspective

**Perspective**

- life cycle → Committed cost & TCO
  Customer Value
- supply chain → Different actors

# The cost structure of servitized firms

**Product-service system**

- Fixed, indirect, joint costs

  Difficult to allocate joint costs to single PSS components

- Switching costs, lock-in costs

**Customer involvement**

- Difficult to use standard costs

**System based archetype**

- Fixed sunk costs

  originated by investment in service capacity

- Costs of activities and processes

**Product based archetype**

- Committed costs

  In R&D of PSS and related activities and processes

# Customer value in servitized firms

**Customer value difficult to assess**

- Intangibility
- Sales conjunction
- Differentiation & customization
- Stable & long term relationship with customers
- Experience good
- Information overloading
- Network externalities & positive feedback
- Coordination of value chain

**Solutions**

- Flexible offerings
- Modular & standard approach
- Firm reputation, customer trust & loyalty
- Cognitive models to select & use information
- Marketing policies
- Alliance & partnership
- Non financial performance

# The profitability levers: the cost-price relationship

***Costs***

- Mainly committed in the PSS life cycle
- Fixed
- Common and joint

***Prices***

- Based on life cycle analysis
- From single product/service price to “sistemic” revenues
- Consistent with customer value and customer behaviour in product-service usage

# Gamma case study: the company

- Multinational company operating in automotive industry.

- The relevance of the servitization strategy for the Gamma group is well represented by the pillars of the company's strategy for the next five years. They can be summarized as follows: a stronger focus on customer, a switch from the car ownership to the functionality provided by the car, the mobility, a more global approach to the business.

- Main services provided:
    - Servicing, Assistance, Financing and Insurance
    - Electric services
    - Professional services
    - Mobility services

- **Long-term rental service** → **Gamma renting**

- ✓ Car rental for a period from 12 to 60 months
- ✓ Liability, fire and theft insurance
- ✓ With the full service package formula also:
    - Maintenance (ordinary and extraordinary)
    - Full comprehensive insurance
    - Fuel card
    - Tyres replacement

***Use oriented PSS***

# Gamma case study: the long term rental value drivers

- **Strong cooperation with after-sales and finance department** (external market conditions but availability of specialized personnel and original spare parts, assurance services)

✓ Synergies from integration between departments
✓ Better use of available capacity

- **Availability of reliable used vehicles**

✓ Synergies between the new car and used car business activities
✓ Optimization of profit margin coming from the whole offerings during the whole product life-cycle

- **Car use and management optimization** (reliability of components and maintenance activities, lower risk for accidents)

✓ Positive impacts on used car value
✓ Rapid dismission of used car fleet

# Gamma case study: the long term rental price-cost relationship

**Pricing**

**Monthly fixed rent**

Service quota

The amount depends on the service package chosen by the customer and linked to the car usage

Financial quota

- Financial charged calculated on the difference between the purchase price of the car, net of discount, and its residual value (net present value) at the end of the rental period
- Interest rate defined on the basis of the cost of capital expected by the company

**Costs**

- **Vehicle purchase:** same conditions applied to external competitors operating in the rental service sector ( see norms set up by the authority)
- **Liability, fire, theft, comprehensive insurance:** service provided by Gamma Finance that, in turn, supplies assurance contracts by means of agreements with external assurance companies
- **Maintenance:** services purchased by dealers at the external market price
- **Fuel:** purchase price defined on the basis of agreements with oil company

# Gamma case study: the long term rental profitability drivers

**Used car management**

- The used car management and the appraisal of the residual value are the real strength points of Gamma Renting.

- The used car net present value represents a fundamental item having a relevant impact on the rent calculation and therefore on the profitability of the Gamma Renting supply.

- Gamma defines the residual value starting from the estimate of Eurotax Blu, Infocar and Experteye with some adjustments. In fact, at the end of the rental, the vehicles have to be aligned with the standard value defined according to their usage. Eventual abnormal damages are charged to the user. On the average, the value of the used cars managed by Gamma Renting is some percentage points higher than the evaluation applied by external long-term rental companies, that apply more prudential estimates.

Moreover

- Dealers can have available a recent, reliable vehicle fleet, guaranteed by the manufacturer.

***low average stock times and higher sale prices and margins*.**

- The integration between Gamma Renting and the Gamma commercial network makes it possible to have an effective provision channel for the used vehicles, fed at defined deadline

***reduction of the average stock times for the used cars.***

# Gamma case study: main evidences

**Use oriented PSS**

- **The value of conjunction between different services (service package) and different business activities (new car, rental service, used car, after-sales)**
- **The role of the joint offering for a real appraisal of servitization profitability**
- **The impact of servitization on the capacity and resource use optimization (i.e. after-sales division)**
- **The cost-plus method use for pricing of service offering**

# Beta case study

- Multinational company operating in the following markets: office printing and imaging, intelligent content capture and data extraction, enterprise search software, enterprise content management, business process management, document output management, customer communications management and financial process automation.
- The company is organized in two operating segments: Imaging Solutions and Software Services.
- The turnover realized by printers and multifunction devices sales represents about the 15% of the total revenues, while the rest comes from services.
- Main services provided:
  - ✓ document workflow
  - ✓ business process solutions
  - ✓ content management solutions
  - ✓ **managed print services**

- Managed Print Service (MPS) area is a bundle of software and services offering enabling to optimize and manage an organization's print infrastructure and document output, improving the whole efficiency of the printing activities and realizing cost savings.
- MPS has evolved over the years, it also includes electronic information and workflows.

***Use oriented PSS***

# Beta case study: the MPS price-cost relationship

**Pricing**

**Monthly rent**

↓

**Adjusted Cost-plus pricing method**
(service cost estimates)

↓

**Costs**

- **Hardware –** Production cost
- **Consulting –** Customer Operation Manager activities
- **Installation/implementation -** Transport, technician costs, warehousing
- **Set up -** Customer need analysis, contract definition activities
- **On going -** Asset management (included the personnel devoted to follow the contract and the technicians on site required by the customer), consumable management (mainly toner cartridges forecast) and recurring consulting → **Adjustment for consumables consumption**
- **Contract closing –** Machines pick-up and dis-installation.

# Beta case study: the MPS price-cost relationship

## Adjustment for consumables consumption

Monthly, the forecasts are adjusted, taking into consideration the data related to the actual toner consumption.

### Toner Reconciliation Calculation Model

$$\text{Adjustment} = [(a*(x-y-z))-k]*(CPP)$$

- Where:
- a= expected productivity of the single toner
- x= n. of toner delivered during the month
- y= n. of toner sitting in the customer warehouse
- z= n. of defective toner
- k= n. of estimated printed pages
- CPP = estimated toner cost per page.

The final price is broken among the different activities composing the service, according to the cost classification criteria

For each item of the contract, the financial office of the subsidiary is able to define the profitability realized.

# Beta case study: main evidences

**Use oriented**

**PSS**

- **The role of customers consumption behavior in service pricing**
- **The activity based approach in cost and profitability calculation**
- **The relevance of the database availability for improving the cost and resource consumption estimation process**

# Concluding remarks: the cost structure of servitized firms

**PSS offering characteristics** ➔
- Fixed, indirect, joint costs
- Some difficulties to allocate costs to single PSS components
- Switching costs, lock-in costs

**Service features** ➔
- Fixed, sunk costs originated by investment in service capacity
- Activity based approach (cost of activities and processes)

**Customer role and involvement** ➔
- Personalization, unicity
- Difficult to use standard costs

**Long run/ network orientation** ➔
- Committed costs in R&D phases
- Interdependency among activities, subjects, organizational units

# Concluding remarks: the cost structures of different PSS

| | | Result oriented PSS | Product/use oriented PSS |
|---|---|---|---|
| **Typical cost structures** | **Labor vs equipment costs** | Labor costs prevail<br>Capacity defined by available labor time | Equipment costs prevail<br>Capacity defined by a mix of human resources and other resurces |
| | **Relationship between variable and fix costs** | Fixed specific costs of projects prevail | Fixed indirect costs prevail |
| | **Cost allocation to PSS** | Labor costs easily allocated to PSS, by time indicators | Difficult allocation of indirect costs |

# Concluding remarks: the pricing approaches

**Price**

**Customer value**

- **Customized price**: a customized offer is delivered to each customer. Thus a customized price is defined for each single customer, accordingly to specific products and services offered. This pricing strategy may apply to segments of similar customers, instead to a single customer;

- **Versioning**: different versions of the product-service are proposed to customers, who choose the version considered more appropriate with respect to the price-value relation;

- **Group pricing**: different prices are defined for different groups of customers who give value to similar combinations of value and price.

# Concluding remarks: the pricing approaches of different PSS

## Product-oriented PSS

- Mark-up for labor and spare parts
- Hourly rate

- **Cost-plus pricing**

## Use-oriented PSS

- Pay per use

- **Cost -plus**
- **Value based pricing**

## Result-oriented PSS

- Complete solutions: fixed price covering all services over an agreed period – flat rate
- Price related to a measurable outcome: performance based pricing
- Risk reward sharing mechanisms

- **Cost -plus**
- **Value based pricing**
- **Pay per outcome**
- **Risk sharing**

# PMSs for servitization: a proposed framework