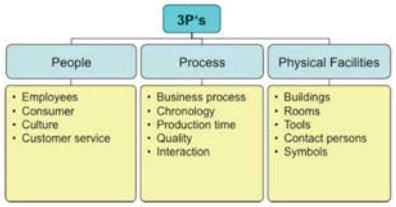
SI Crib Sheet

Intro

Products can be copied quickly and easily → think more imaginatively



Service business enjoys higher **margins** and improved cash generation:
New products (more competition, fight for price): ROS = 5%
service ("lock in" effect): ROS = 15 – 20%

Humanising – "employee–as-a-disposable-tool" model
Service is a holistic "team game" → service mindset within organization / people wanted to be treated nicely / service innovation is people-intensive, need a lot of interaction → people deliver service experience → put money into people, e.g. training
Why "humanising": Employees are more motivated and therefore more productive / go the extra mile for you / the customers feel comfortable – people prefer talk to people / people to people is important to get the information

Value of intangibles
Intangibles become more and more important with services (value received = all benefits [tangibles and intangibles]

Service Alliance
Organisation: Network, Customer, People /
Information: Technical, Commerecial, Through Life /
Technology: Technical, Materials, Assets / **Risk**: Scope, Profitability, Financial
Before you can innovate in service, you must know your past / capacities and where to acquire new ones / market / customer(s) and their markets / people / culture

Winning at services
Customer/service-oriented culture / Clearly defined strategy / Value services for the sake of service / Adapt business models / Collaborate with customers and partners / Know their customers and the installed base / Creativity and 'eyes wide open'/ Leadership seen on 'shop-floor' spreading the message (and enforcing the culture)

Doblin "Innovation process – virtual cycle"
Set innovation strategy:
Design, build and launch innovations:
Become better innovators:

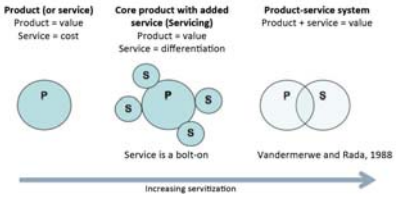
Understanding Culture

Differences between product and service company
Service: humanistically, client-based, supporting the customer / emotional, form / combined production and delivery / service with minor goods / service = value / simple structures
Product: technocratically, supporting product, efficiency-based / factual, future / separate prod and delivery / tangible goods with minor services / service = cost / complex structures

Mathieu's 3x3 Matrix

Greater specificity on **service axis** – the provider becomes closer to the customer
Organizational intensity axis: if services are >30% of sales, you cannot be "tactical" / **tactic** = I have to do it because customer want it/competitors do it / **strategic** = we must go – we will go / **cultural** = you don't even have to think about
Benefits: strategic, financial, marketing → Improved services, Improved customer satisfaction, Improve sales volumes and margins
Costs/risks: change in behaviour has risks, also resistance against change → strategic, political costs

Servitization (Vandermerwe and Rada)



The impact of know-how diffusion
no time to document → you lose experience you had before / Trust has to be built up first (apprentice → older guy), the know-how follows later
Tacit knowledge: subjective knowledge ("know-how") → poorly documented
Explicit knowledge: objective knowledge ("knowing about") = formulas, techni. specifications, computer programes
Models for sharing know-how: embryonic limited sharing (via personal networks), KIBS broker know-how transfer, networked sharing (norm)
Benefits of know-how-exchange network: faster innovation, faster/more duplication, reduced risks
Barriers: KIBs brokers must be accepted by all parties, high costs (salary + travel), addtitional costs for know-how system, local staff must experience work in other locations

Life-Cycles for engineered products

Market segment "Services for engineered products"
big, industrial equipment, e.g. trucks, engines, turbines, trains
Life-cycle: build → operate → maintain → (sometimes accidents =) spares → upgrades → decommissioning

Services	Service sales share		EBIT	Cycle
Commissioning/installation		20%	$	CAPEX
Training		3%	$$$	CAPEX/GDP
Maintenance contracts		5%	$$$	GDP
Maintenance/inspections		16%	$$	GDP
Spare parts		40%	$$$$	GDP
Updates, upgrades and retrofits		5%	$$	CAPEX
Software/engineering		2%	$	GDP
Other		9%	$	CAPEX/GDP

$ = 5% ROS (approx)

Commissioning – low margins: sold as new equipment deal, normally a high competitive process
Spares – high margins: once the unit has been installed the OEM has a "virtual monopoly" in parts sales / price is 2-3x cost (cost plus not value pricing)
When equipment **reaches its original design life, service upgrades can be sold** → need to understand needs and value drivers of owner/operator, opportunity to re-focus relationship
Sometimes the **equipment may be too big to remove** and cannot be replaced in the facility or the base plate/alignment may not be possible with a new replacement. → Every project requires innovative solutions and has a different risk profile

When OEM no longer exists:→ possible to service things!
Issues: How to do maintenance? How to get trained? How to get information? Spare parts? Similar product available?
Improve customer experience: look for alternative OEM product, replace product for free, sell the production to the customer, hand-over know-how

Value of a breakdown
Facts: tonne of copper: 8k USD / capacity of truck: 300 tonnes of ore / operated at 90% of capacity / Ore yields: 3% / round trip in 2 hours / avg. time to repair = 3days
Calculation: 8,000 x 300 x 90% x 3% x 3 x 24÷2 = 2.33M USD (24÷2 = Number of round trips per day)
Break-down leads to high frustration, aggressive, maybe operator gets penalties for delay / new truck: 10M USD / **Implications**: Focus on how to improve reliability and availability (pre-emptive maintenance, monitoring, have repair parts in-house) / **Assumptions** are key

Look at Customer's customer
Because there are outcomes of your customer's customer and they have to be understood → if they got no work, you have no work → be able to forecast actions

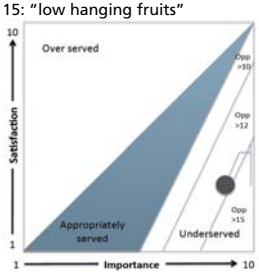
Power by the hour –alignment of drivers
Fees are charged on fixed-cost-per-flying-hour basis. → You only get money for engines that perform well

Value of unknown needs

Hidden needs go beyond normal service improvements / opportunity to discover new markets or to disrupt existing / improves alignment of drivers between owner/operator and service provider

Outcome-driven questioning system (Ulwick)
"What are you trying to achieve by using product/service X?"
Formula: Direction + Measure + Outcome desired
Direction: Minimize / Maximize
Example: Minimize the likelihood that the blade will go off track.

Opportunity algorithm
Opportunity = Importance + MAX(Importance-Satisfaction), 0)
Importance and Satisfaction are rated on 0-10 score
Score > 15: extreme areas of opportunity, Score 12-15: "low hanging fruits"



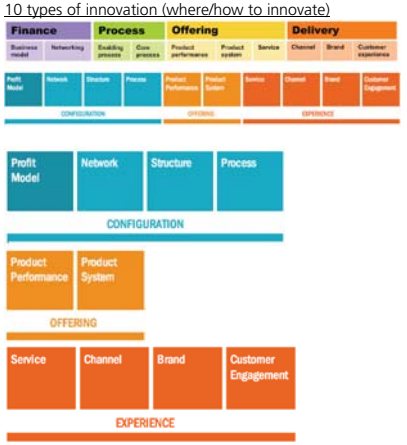
Segmentation on outcomes → allows to target our innovation
Outcome-driven segmentation allows us to discover: unique opportunities in mature markets / demanding customer segments that would be willing to pay more for elaborate solutions / segments that are unattractive and should not be targeted / over-served segments that could be attractive for disruptive innovation / best way to enter an existing segment as a new player / segments with high growth potential
Opportunities that are likely to be attractive: related opportunities that form a theme / unrelated opportunities that provide growth avenues / single opportunities that could be addressed with a new (ancillary) services / over-served outcomes that add unnecessary cost
→ Companies must find the fine balance between delivering too much and too little function.
Underserved outcomes should be addressed, overserved outcomes should be cutted off (they just add cost)

Outcomes for a power plant
maintenance costs, fuel switching, start reliability, hot/cold starts, loading/unload, time between inspections, safety, reliability, availability, active power, reactive power

Development of innovation processes

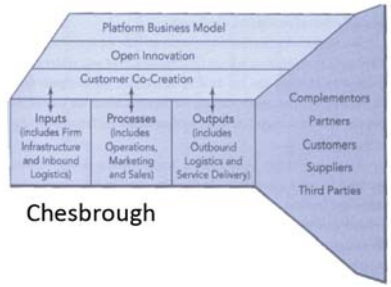
6 Innovation Myths
Myth → Reason why it's a myth
1) Innovation comes from being creative... → Creativity = Ideas, but Innovation = Ideas + Action (put them into practice)
2) Innovation is about creating a hot new product... → copying is easy and gets easier every day
3) Senior executives should stay away from geniuses at work... → leaders should set framework
4) Financial analytics are paramount… → future is only a guess on today's assumptions
5) Seek reliable concepts to ensure success in the marketplace → really key is to improve customer outcomes
6) An innovation 'stage-gate' process is vital... → slow, cumbersome and suited to some types of product development

10 types of innovation (where/how to innovate)



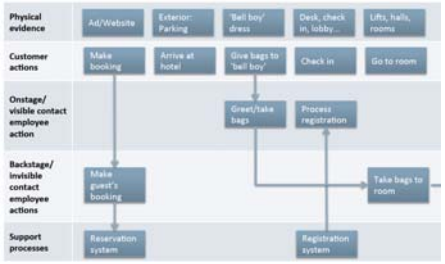
You can innovate in any of these areas. Innovation in services can be highly profitable and in many places. Where we spend most (product) we get least return. But it is needed to build up trust (tangibles).

Chesbrough's Services Value Chain = different from Porters



Very different to that of Porter. Porter's traditional value chain is about better products, lower costs and higher margins. The centre of activity of the Services value chain is the customer experience

Service Blueprinting



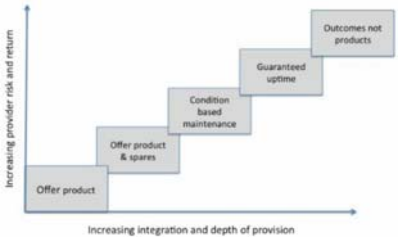
Defending products with services

Every market has its own dynamics

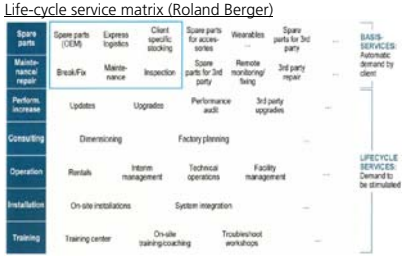
High-level range of services for engineered products offered by many OEMs (Bain)

Advanced services (risk/asset transfer)	O&M	Consulting and financial services	
Value adding services (Performance commitments)	Modernization and life extensions	Upgrades	Long term service agreements
Basic services (Warranty backed)	Commissioning	Inspections	Spare parts

Service stair case (Neely)



Life-cycle service matrix (Roland Berger)



Changing the business model

Business Model Innovation can be managed

Business Model Canvas (Osterwalder)

9 building blocks → starts with customers (serving them, they have the money)

Customer Segments: Airlines, companies, financial buyers

Value Propositions: bundle, newness, help getting the job done, brand

Channels: sales force, web sales, own stores, wholessales, agents

Customer Relationships: personal assistance, co-creation, user grouos, dedicated support

Revenue Streams: Types: Asset sale, usage fee, licensing / -Fixed pricing: List price, Customer segment dependent / Dynamic pricing: negotiation, real-time market

Key Resources: physical, intellectual, financial, human

Key Activities: production, problem solving, platform/network

Key Partners: gain economies of scale, reduce risk and uncertainty

Cost Structure: cost or value driven, fixed and variable costs, economies of scale / scope

Collecting ideas

The very minimum amount of data is 40 returns – 40 surveys, 40 focus groups, 40 interviews → or mix of some

Tools, uses and limitations

Tool	Uses	Limitations
Surveys (web or paper)	simple feedback tool, cheap	often incomplete or poor returns
Interviews	one-on-one surveys with mire in-depth input	Time consuming, selection of interviewees critical
Brainstorming Workshop	good to get feedback within clear guidelines	risk of group-thing without clear moderation
Focus groups	good for getting more in depth feedback	need to have good moderation to make sure it works
Kaizen journals	good for service team to give instant / direct feedback	can be hard to review
Post-service feedback	collection of data on a particular project	need to ensure that the feedback is sent to the right person
direct observation	Watch and learn with a customer	costly

Who has valuable ideas? → Everyone!

Empowerment of employees at all levels helps employees to speak out with ideas (or at least highlight problems) → Asking for ideas is a sign of empowerment and trust / can improve employee satisfaction / deployment of ideas improves service delivery

Customers are key stakeholders in idea generation – they use the equipment for many years

Collect: Customer's own process or the criteria to measure value / intangibles that they value / customer's metrics / customer outcomes and their importance / customer satisfaction / processes the have to do but don't like to do

Not to collect or ignored: customer requirements (often too vague) / solutions (it's good to collect a list of their problems) / a list of needs or benefits (often too vague)

→ Always give feedback to those who provided the ideas

Who to speak with (Upstream or downstream?)

Who are the real customers rather than the companies your bill?

Don't trust sales to provide reliable input: sales are not viewed as neutral by the customer, sales will tend to focus on "features" and price / remember you have others who have experience points with customers (inputs more reliable than sales, more contact points with the customer)

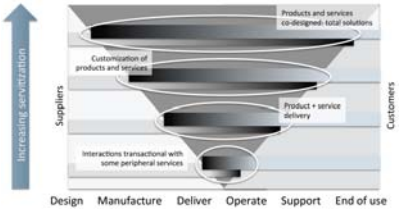
Old vs. new style

1) Planning is key to know what to use and when
2) Visualize the content as much as possible → cartoon, storyboard, 3D
3) Capture the big picture rather than the detail
4) Visualize the relationships → mindmap
5) Collective assumptions → ask the obvious questions again and again
6) Ensure that the language is shared by all → limit use of acronyms
7) Joint understanding → stop, check, ask questions
8) Trigger ideas → Use the form 'what if…', Challenge assumptions, Ask 'what outcome for the customer does that give'

Alignment of drivers

Servitization continuum (Tool)

Understand the journey for transforming a manufacturing business into a service organization. Helps also understand service partnerships



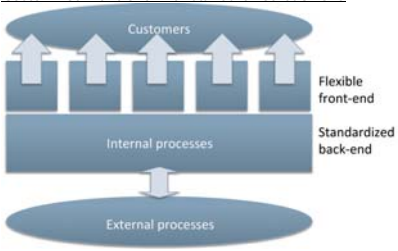
Stage 1: Arm-length relationship (commodity market, cost focused) → some peripheral services

Stage 2: Arm-length relationship with standardized products and services (cost focused but now some added value) → product and service delivery

Stage 3: Close relationship allowing discussions of needed outcomes to allow customization of products and services (customer satisfaction high, value is growing in importance, suitable for complex products and services) → Customization of products and services

Stage 4: Working together like a single organization (Joint venture or alliance agreement, flexibility, value/risk transfer, customer satisfaction high) → Co-designed P&S, a total solution

Customized front-end with standardized back-end



Standardized back-end: Standardization provides a basis for cost management (efficiency) / Standardized processes provide economies of scale / Standard customer experience for core processes ("the way we are" or "the way we do things")

Flexible front-end: "pick-and-mix" front end allows customization for the customer / customization allows alignment of drivers / the approach ensures economies of scope (scope is backed up with customized back end / additional scope can be added [internally or externally supplied])

LTSA (Long-term service agreement)

outcome-driven agreement / can align drivers / provides risk transfer at a known price / outsourcing-tool that effectively locks out competition

Creating the right processes

Stage-gate process

Stage-gate = controlled process with checks and balances

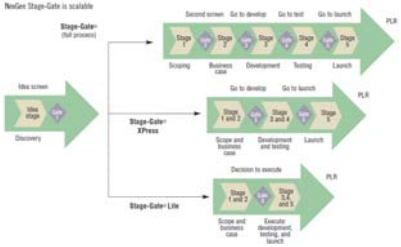
Intention: product development tool / for use in larger companies / to review portfolios

Issues: Fails to capture small day-to-day innovations that are created through necessity in a service organization / fails to capture all of the different types of innovation taking place

Outcomes of highly productive stage-gate process: customer focused / heavy front-end homework before development starts / spiral development-loops with users throughout development / holistic and effective cross-functional teams / Metrics, accountable team, P&L reports for continuous learning / Lean, saleable and adaptable stage-gate process

Real value of stage-gate in SI: Anyone in the business can enter an idea / archive of ideas that we can share / know where the ideas come from / know who has the ideas / quickly replicate the new services / management has oversight / know where we have developed new services

Stage-gate Lite and Xpress



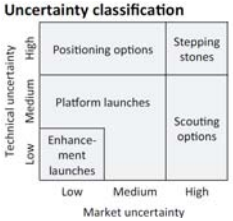
Incremental / disruptive innovation

Incremental or sustaining: small improvements,

Disruptive/breakthough or radical: sth. that hasn't been there before, can change market forces

Open Innovation demands that all stakeholders are involved

Uncertainty classification



Coordination of the process is important in a service environment as this leads to faster success and reduces stagnation → A program manager is responsible (governance, project review etc)

A weakness small service shops is that they don't know the full capabilities the combined network of know-how: important to have a "catalogue" of business innovations (from ideas to actual solutions delivered) / support needed for those innovation in service is needed (to share best practices, share learning, share experience with tools)

New technologies

Service should be considered from the beginning of product development

Customer contact points

Service, Outcome(s), Customer, OEM, Other

Service concepts

1. Supply of the service manual and the list of spares / **2**.Outsourcing of service commitments to a local contractor (Caterpillar) / **3**.Provision of individual services on a transitional basis / **4**."pic-and-mix" services on a transitional and annual basis – simple integrated solution / **5**.Longer-term partnership created by aligning drivers – risk sharing between parties / **6**. What platforms could we create that would help improve the service delivery, the relationships and brand loyality

→ Without the service concepts created discussion / surveying with the potential owner / operators and partners becomes virtually impossible!

2nd-tier OEMs

Your installed base of equipment should be viewed as your capture market → database

As OEM, you'll be googled

Reasons why you should know who and were

Improve the sales base, spare parts leads/sales can be improve into service sales, Failed quotes (new units and service), Increase your market opportunities Help improve the experience of your customer base (repeat business)

OEM vs. non-OEM

no capability difference, but OEM often has completive advantage → use of new technology and installation of units give first mover advantage, risk profile of many of their customers

Advantage of non-OEMs: price (cost benefit), intangibles (deliver as customer desires plus customer experience), speed (OEM may act slowly), multi-vendors services (economies of scope)

Disadvantage of non-OEMs: no captive fleet, poor data on installed fleet, risk becoming a labour provider and fight on price

Advantages of wide range of services

better understanding of your products / customer relationship / economies of scale & scope (e.g if you're serving 1 or 10 machines you need a service shop, but with 10 you can split up costs more which makes your more competitive)

EXAM CASE

market segment "service for engineered products": high precision machines and equipment, complex automation and robotic solutions, 'mobility' systems, equipment for the production of electricity (p.4)