

Analyzing Industrial Service Businesses in Switzerland

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ABSTRACT:

The goal of this project was to develop a methodology to analyze interactions between industrial businesses, with service offerings as the emergent field of interest. To realize this goal, we produced a standardized set of case studies broken down into company and service offering levels, piloted interview and survey formats, and created metrics to further analyze services. The project resulted in the creation of eight case studies that explore different methods of service delivery across four key industries, a guide for future researchers to continue to investigate this aspect of business, and documentation of wider social implications found in the research process.

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CHAPTER 1: INTRODUCTION

Henry Ford represented a cutting edge approach of industrial practice and business strategy and, with the introduction of mass production, overtook manufacturing firms and industries in 1913 (The Evolution of Mass Production). As this industrial movement grew, standardized products took the place of hand-built models with many people wanting quick, popular market items. However, this business model focused only on implicit knowledge or knowledge that was learned from a hands on approach, and gaining a product based outcome. Companies did not focus on the customer, thinking mainly about the efficiency and productivity within their business and disregarding what was outside of their domain. This included viewing other businesses primarily as competition or as unusable in their field, leading to little collaboration between businesses.

As the market became increasingly competitive in the 1980's and 90's, companies had to look at new ways of selling their products. Old techniques faltered as industries were still making products to be bought instead of being used, and as society began to focus more on the individual rather than society as a whole. Individuals wanted products designed for them specifically rather than products made for the generic market. A new strategy emerged in some leading companies with the addition of services. This gave businesses a competitive edge over their counterparts, who were doomed to fail if they themselves did not keep up with market demands. Successful companies began to sell products to specific groups within the market (Ulwick, 2005). Companies began expanding their focus to other forms of knowledge to be more explicit rather than just implicit. This shift is known as servitization, and this also describes the combination of intangible and tangible products by companies to maintain profitability.

Today almost every company and business uses services to keep up with their competition and keep their customers satisfied. It now just depends on the level of services that makes each company different, and where and how the product will be used (Vandermerwe, 1993). Most current research has focused on business to customer relationships within the service industry. Service innovation has transformed businesses from product manufactures to service providers. This has caused industries to change from a blue collar labor force to a population of white collared workers due to the change in the work available. Most companies are no longer manufacturing the product themselves but instead outsource to another country. Business oriented jobs are now more common.

Though services have become a large part of business, they remain largely un-researched. There have been significant studies performed on the topic of business to consumer relations, but not much in business to business interactions. The consideration of "industrial services" in this paper will primarily focus on manufacturing companies' interactions with client businesses, but many of the key principles can be identified through other general business to business interactions. While there are companies that use their business to business relationships in an advantageous way, it is still a large resource of untapped potential for innovation. Because it is a relatively undefined area, innovation is quick to occur and there are many new practices being used. As the field becomes customary, innovation will become slower and it will be more difficult to create new models and ideas.

The shift from manufacturing to services has begun a social shift in the way customers view businesses. Focusing now on the individual rather than the population as a whole, companies are using services to target key markets within the general population. The shift now from customer orientated services to business orientated services will cause another transformation in the social aspect of business. While before, large businesses were replacing small businesses, a reverse effect is showing signs of change, as small companies begin to transition to services more cheaply and

efficiently than large businesses can. It is not known now exactly how this will manifest, but it will mostly likely have implications on how the customer is viewed and how businesses interact.

The team intended to delve into the Swiss industry field to address the lack of methodological tools to systematically evaluate service offerings and their delivery. This was undertaken first by creating a comprehensive set of interview and survey questions for both businesses that provide services to other businesses and the businesses that receive these services. The questions were tailored to their respective viewpoints. The team simultaneously created a case study template and a complementary guide for future researchers to follow. The results from the interviews were compiled into a few short example case studies presented in a PowerPoint format, analyzing the qualities that define service excellence. The resultant materials were designed for use in an educational setting by Professor Schulz and Doctor West at the Lucerne University of Applied Sciences and Arts - School of Engineering and Architecture.

CHAPTER 2: BACKGROUND

Businesses have long focused on selling products to generate revenue. More recently, the focus has shifted to securing lifetime customers, namely other businesses, past the initial sale by providing services. This shift has been reflected by changes in business models and market strategy. The different approaches to enable the restructuring and progression towards a service mindset were considered, using some current instances of successful companies. Before these changes were analyzed across Swiss companies, it was necessary to introduce fundamental business concepts to understand existing problems and define the scope of the project.

Background Topic 1: Business Models and Market Strategy

General Business Models and Market Strategy

Businesses are grouping into conglomerates called strategic business units, or SBUs for short. By organizing into these SBUs, they can share ideas and resources. A lot of management and business background is shared amongst these SBUs. These resources can either be tangible or intangible. A supplier to customer relationship is one based on having a customer business being supplied by another business with resources – be they intangible, such as consulting work, or tangible resources, such as raw materials. Business to business marketing is different than business to consumer marketing, especially because the target audience is significantly smaller and has much different needs. Strategies for marketing to businesses are much more specialized and require more provider resources (Brennan, Canning, & McDowell, 2007).

A key to any successful business venture is good management. Internal business practices, as established by management, enable the business to more efficiently do business with other companies. Anderson considers there to be four behavioral skills that are becoming of a good manager. These skills are interaction, allocation, monitoring, and organizing. Interaction skills refer to how the manager deals with others, both inside and outside the firm. Allocation skills involve how effectively the manager handles people, time, and money. Monitoring skills in a manager's skill set allows him to observe either directly or indirectly on what is going on, and includes the ability to know when to step in. Organizing skills are a manager's ability to use a formal structure or not use a formal structure to accomplish his tasks (Anderson & Narus, 1999).

Strategy is essential to any successful business venture. Brennan separates strategy into 5 P's: plan, pattern, position, perspective, and ploy. Plan is the first P; essentially it is where the business is, where the leaders would like it to be, and how they are going to get there. Next is pattern, or making sure the plan and strategy are stable and unchanging over a long period of time. Then position, or being in the right place at the right time. Fourth is perspective of a business – internal practices that shape an ultimate view on how they will handle business on a large scale. Last is ploy, or witty business practices. Many businesses will explore strategic alternatives, which is the process of testing multiple possible strategies and comparing their worth to optimize profit and value (Brennan et al., 2007).

Market strategy is formed from business strategy. The resources and fundamental value-based strategies defined by the business strategy are used to help answer the questions that lead to market strategy. These questions are the same questions put forth in the 5 P's of strategy, namely in the plan phase. These questions include “what do we know,” “what do we want to accomplish,” and

finally “how will we do it?” These resources are anything that a firm can consider valuable, such as knowledge, equipment, capital, or employees (Anderson & Narus, 1999).

Anderson describes transnational market offerings with the three A’s. Adaption is the first A of market offerings. It is making as much money as possible by focusing on a local area as opposed to a larger area. Second is aggregation, which is making money on a regional scale by taking advantage of the economies of scale. The last A is arbitrage, or outsourcing to a number of different markets across multiple parts of the world and across multiple parts of the supply chain. Most business are advised to focus on one or two A’s so that they may best utilize their resources and so that they may excel in those areas (Anderson & Narus, 1999).

Service-Based Business Relations

In the new business model, services are considered integral to market offerings. There are four characteristics that are considered unique to services. These are intangibility, inseparability of production and consumption, perishability, and heterogeneity. Intangibility is a characteristic describing services that have to be experienced. Inseparability of production and consumption is a characteristic describing the behavior that as services are produced, they are then also consumed, and it is impossible to separate the two. Perishability builds upon inseparability of production and consumption by stating that services cannot be saved for a later time. Heterogeneity states that services are not completely consistent due to the dependency on the provider and their potential variance in delivery (Anderson & Narus, 1999). At the end of the day, the number of products in use sets the basis for services that companies can offer their customers, referred to as the “installed product base.” (Baines & Lightfoot, 2013)

Background Topic 2: Introducing New Practices in Industry

Service Aspect of Business

The term “servitization” is entering the business world to describe the shift of existing companies toward incorporating intangible products into their existing product base of tangible items. This enables companies to maintain profitability in today’s market, and often results in a closer relationship with a smaller number of customers. To make this transition, the end goal of the business providing the service has to be the improvement of the customer company’s efficiency and effectiveness. At the end of the day, the service being offered has to benefit the client in order to maintain the inter-business relationship (Baines & Lightfoot, 2013).

Businesses now use a combination of the intangible and tangible when marketing to the masses. These intangible services are produced as a solution to a client problem; businesses then use their combination of skill and knowledge to organize the needed solution. While there are different levels of service depending on how involved the service provider is, all businesses now use services to keep their specific customer bases satisfied. This can be seen in companies such as call centers that are put in place for customer use in case of product questions or concerns. Many of these services not only influence the innovation process, but are influenced by other innovations.

According to Wagner, there are two different types of innovation when referencing knowledge, and five service patterns of innovation that firms use when working on projects. There is exploitative innovation, which builds upon knowledge already used, as well as the use of familiar skills to improve upon known processes and information. The focus here is on maintaining an existing customer base and ensuring that they are meeting their needs. Explorative innovation

disregards the skills already known, and focuses on acquiring new knowledge. This knowledge is then applied to the business’s practices to gain access to new customers and new markets (Wagner, 2013). The five different types of innovation focus on what motivates the innovation for the firm and can vary from technology driven to customer driven. Table 1 **Error! Reference source not found.** references these five innovation patterns.

Supplier-dominated	Innovations are derived from hardware industries then implemented by service industry users for their clients. Ex. Cash registers and mobile phones.
Innovation Within Services	Innovation and implementation take place in service firm and may be technological or non-technological. Ex. New products, product bundle, or delivery system.
Client-led	Service firm is responding to clients’ needs, focusing on mass market segments. Ex. Green banking services.
Innovation Through Services	The innovation process from within the client firm is influenced by service firms. Ex. Providing an innovative tailor-made software package.
Paradigmatic Services	Innovations driven by technology, regulations, or other dramatic changes causing new infrastructures or new types of knowledge. Ex. Large-scale introduction of multi-functional “smart cards.”

Table 1. Five Innovation Patterns

Supplier-Client Interaction

Customer-driven innovation tries to use inputs from the consumer in order to develop new ideas and produce new products. This system, however, runs into issues when the customer gives vague or unhelpful inputs. Often the customer will try to provide solutions to problems or give specifications about the product. While this seems like valuable information, this approach assumes that consumers are qualified to determine how the product should work, while the opposite may be true. As a result, products that are developed this way often end in failure.

The market-led approach is a newer suggestion as a replacement for the customer-driven innovation model. The key difference between the two is the level of involvement the service firm has in identifying the needs of the client. In the traditional customer-driven system, it is entirely the customer who informs the provider of the “jobs” that it needs to complete, and what equipment it needs to do them. In a market-driven approach, the service provider works with the client to identify jobs that are underserved or needs that are not met. Often the provider finds areas the client was unaware they needed assistance in or identifies easier ways to accomplish certain tasks.

This method of identifying innovation paths has several advantages. The first is that it has a much higher rate of success. By identifying the needs and creating a service in response, providers do not waste time and resources developing a service that will not be useful. It is important to note that, for reasons addressed later, this process requires more than just interviewing customers about

what they need; it also requires learning a fair amount about their industry. It also is a path to greater growth. Often clients will have jobs they need accomplished that existing services will handle, but they are not aware that these services are offered. In this way, the provider can both fulfil a need of the client and increase their market share. Finally, by analyzing the needs of the client instead of operating under assumptions, the provider can develop a tool that will more fully satisfy their needs (Ulwick, 2005).

Businesses and firms have many different types of partners outside of their company including consultants, universities, consumers, and competitors. Having external collaborations allows firms to trade external knowledge and ideas, which they can then combine with their internal technique and information. This open innovation concept creates opportunities for innovation within the company and within the partnership. Successful companies and innovators build upon their partners' technologies, products, services, and processes to better improve their own, especially because private external knowledge is much more valuable to businesses than internal knowledge. The external knowledge can give businesses a competitive edge. Companies that have absorptive capacity also tend to prosper due to their "ability to recognize, assimilate, and apply knowledge from external sources which goes beyond selecting the right external partners and being exposed to external sources of innovation." (Wagner, 2013)

Rather than with research and development (R&D) activities, business to business service firms innovate more through the use of services. R&D collaborations can have a positive effect on innovation; however, this is dependent upon who the firm is working with. Universities and suppliers are shown to have a positive impact on innovation, while competitors will have a negative impact. R&D collaborations with customers have no overall impact on innovation. In regards to collaborations not concerning research and development, all external partnerships are beneficial when improving upon services already put into place. Customers, however, are the most beneficial when companies are looking to add a new service. This is primarily due to customers wanting to share tacit knowledge; they know what they need from companies, while other external sources know more about the services already being used. Universities and consultants end up having a smaller degree of contribution to the improvement or development of services due to having less knowledge of the market and the customers. They can still help the innovation process with businesses and firms (Wagner, 2013).

As outlined in Service Design, providers should consider how best to deliver value to the customer when developing a new service model. Service models can be created for different levels of involvement with the customer, and should have some sort of measurement set up to evaluate the process as it develops and beyond. The customer's experience with the service is what will ultimately determine the success of the interaction. According to Polaine, Lavrans, and Reason, "services are co-produced between the providers and users." The service provider should work with the customer to tailor the service to their needs. Prototypes ranging from simple discussions between the companies to small-scale simulations can be beneficial in the development stage to ensure a workable end product. A helpful tool to get to this stage is a "service blueprint" that illustrates the connections between supplier and client business processes and how they will interact (Polaine, Lavrans, & Reason, 2013).

An example of a business that has transitioned from products to services in the UK is ICI Explosives. ICI explosives started off as a nitro-glycerin explosive manufacturer; however, as explosives moved from nitro-glycerin to a new type of slurry based explosives, ICI could not keep up with the competition in terms of producing cheap explosives and switched to services. These services included on-field explosive experts at quarries. This allowed the company to operate at a much lower cost because they did not require large manufacturing facilities and large amounts of workers anymore (Macintyre, Parry, & Angelis, 2011).

Some businesses started off as service providers, such as the Royal Automobile Club (RAC). The RAC is part of an insurance group that offers excellent road side service; this would be comparable to AAA in the US. A customer of RAC can have a simple service package that just provides roadside service or can pay for more extravagant packages that provide for hotels and guarantee trip completion. The customer pays for the service yearly and may not even use that service in that payment period, but the guarantee of help is something many RAC customers simply cannot live without (Macintyre et al., 2011).

Incentives

All businesses need to be innovative in some way to have a competitive edge. Certain business structures foster innovative thinking and progress more than others. Miller and Wedell-Wedellsborg suggest an approach that is inclusive of all aspects of a business, reaching all employees. Their outline of what elements construe an innovative environment touches on the social atmosphere, organizational tactics, beneficial connections, and actually incorporating new ideas into existing processes. Often, businesses look to managers and isolated meetings to come up with new and creative solutions or strategies. All employees can recognize opportunities for improvement if they are consistently directed toward key problems. Inter-departmental connections, customer focus groups, and customer visit teams can aid the creation of an innovative atmosphere. The key takeaway is to incorporate innovation into the actual business processes (Miller & Wedell-Wedellsborg, 2013).

Incentives that have encouraged businesses to move towards establishing services are economic growth in other countries and increased outsourcing to decrease production costs. Traditionally product-based companies facing these competitive factors cannot remain profitable by continuing to sell their existing goods in the same fashion (Baines & Lightfoot, 2013).

Both sides in a business-to-business interaction enter into service contracts with certain goals in mind. The business providing the service aims to generate higher profit with the same customers. If the provider is able to establish a long-term service relationship with their client, it will decrease the amount of competition. On the other side of the interaction, the business receiving the service is looking to benefit by focusing on its own processes. Ultimately, there will be decreased operational costs as well as improved system performance if the service is rendered in the proper manner (Baines & Lightfoot, 2013).

Sustainability

Sustainability is essentially the awareness of societal effects on the planet and how the human race can have a positive impact as opposed to a negative one. There are four general ways to define the success of a sustainability system. The first is if it is general, which means that it can be applied to a multitude of situations. Next is if it is concrete – if it can be understood and applied by the general public without any trouble or confusion. Thirdly is if it is sufficient, or if it covers all of its bases and accounts for issues where unsustainability could creep in. Lastly is if it is necessary; there needs to be a serious purpose not just a want (Thompson, Larsson, & Broman, 2011).

Innovation can be and often is driven by sustainability ideals. There are four major ways to define innovation. Incremental innovation is slow nonstop improvements, whereas the converse is radical innovation, where innovation happens very quickly in spurts. Then there is also product innovation, which is the production of new goods and services, and then there is process innovation, which is ways to improve these existing goods and services. The push to sustainability can be natural or forced. Primary reasons for sustainability drives include legal requirements,

efficiency, or general interest or desire to act morally or ethically. Generally, legal requirements towards sustainability can spur radical innovation spurts. Efficiency improvements generally follow a slower, more incremental innovation style. The moral interest driven innovation can be radical or incremental, and completely depends on the person or organization trying to implement the changes and their resources. Initial innovations in new areas can come very easily and quickly as the “low hanging fruit” is researched, however as all the easy solutions are found it can become harder and harder to reach higher levels of innovation (Thompson, Larsson, & Broman, 2011).

Business sustainability, both environmental and economic, is an important factor in innovation. This is being accomplished by transitioning to providing services as opposed to selling products as a path to profit. The president of Hewlett Packard defines a sustainable business as one which is making this shift. A common impetus for this shift is a shrinking customer base; although the total number of customers is falling, businesses can provide services to these customers past the original sale in order to maintain profits (Rothenberg, 2012).

An example of this is the Gage solvent manufacture. Gage is the leading provider of industrial solvents for the Chrysler motor group, but that relationship was challenged when the EPA came out with new regulations regarding solvent use. Chrysler was required to greatly reduce their solvent use to come into line with the new guidelines. Faced with losing their most important client, Gage was forced to innovate. They developed “cobra,” a much more environmentally friendly product, but one that required much more direct management. Gage moved from just selling the solvent to managing its use as well. The Gage representatives worked with the shops to instruct them in the use of cobra and monitor their usage. This new service approach allowed them to maintain their profits and develop their customer relationship (Rothenberg, 2012).

Another example of this shift is PPG, a paint maker for Chrysler. Like Gage, PPG was at risk of losing Chrysler as a customer due to EPA regulations. However, PPG likewise developed a service based industry. They began to manage the stock in the paint shops, monitor the usage of paint, and maintained the equipment to reduce leakage. In addition Chrysler had PPG teach others how to use the same service based model. These ongoing service contracts provided large revenue sources for PPG and allowed them to keep a valued client (Rothenberg, 2012).

Finally Xerox (a paper and printing company) employed a service strategy to keep a client from moving to a competitor. United Health Services Hospital was considering moving to one of Xerox’s competitors in order to save money, but Xerox convinced them to stay by performing an “office document assessment.” An ODA looks at the printing habits of a company and identifies inefficiencies and waste. This helps the client by saving on printing in the long run and it helped Xerox retain a client and increase profits (Rothenberg, 2012).

The fundamental idea of this service model is not necessarily to sell products and then maintain a service contract for them, but to provide the service of determining what products are needed. Gage determined how much solvent was really needed and if it could be reduced; PPG did the same with paint. This may seem an odd choice for companies formerly so focused on direct sales, but in reality much of this shift would have happened with or without the provider. This is a powerful example of consumer or market driven innovation; providers are seeing an underserved job in the market and creating a service to fill it (Rothenberg, 2012).

Identifying Problems

There are, however, some issues with this new system, the majority of which have to do with getting providers to let go of old ways. Many suppliers, who have always made money by selling tangible products, have a difficult time letting their primary revenue source be intangible services. In addition, most of the sales people for the suppliers work on commission; as selling products has

been their skill set and livelihood for so long, many do not feel comfortable with the idea of this system being compromised by moving to selling intangible ongoing services. There have been some attempts to address the latter problem, namely changing commissions to be based on total revenue generated (including the ongoing service profit) as opposed to the revenue generated in the one-time sale of a product (Rothenberg, 2012).

Roland Berger – a business strategy consultation firm in Switzerland – has identified some of the issues that they have seen companies having as they shift their focus to providing services to customers. The businesses offering the services may be having a hard time sustaining production while developing and implementing a service model. The customers who could benefit from the services may also be having a difficult time understanding this process and how they will profiting at the end of the day. Some service providers have taken the approach of creating new business units, which has disassociated the servitization process from both the capabilities of the supplier and the needs of the consumer (Angehrn, Siepen, Schmitt, & Kern, 2013). However, the overall organization of the business will need to change to allow for intangible product offerings (West, 2013).

The less structural hurdles companies face when creating services have more to do with the market environment. Especially when establishing a new service, customer standards and competing businesses have the potential to block development. With a standardized product base, customers may even purchase parts themselves, or go through third-party businesses instead of manufacturers. Some companies, although offering an increased variety of services, are not seeing returns on these investments at the present (Angehrn et al., 2013).

Background Topic 3: Applications in the Field

Caterpillar Case Study

Caterpillar is considered a leader in the service industry. They offer “advanced services,” which is characterized by a high level of interaction between the customer and provider. The service contracts they establish can last up to ten years, and outline a risk/reward balance for both parties. If the equipment Caterpillar delivers is used more or less than agreed on, the appropriate company will be compensated. This company is so successful with its service offerings because it is able to focus on the benefit to the customer; they actively support the customer, but do not encroach on its core business processes. Caterpillar also charges for its services in terms of the customer’s business units. Information and communication technologies are implemented in the field to optimize the service offerings. The processes are monitored so the company knows if the equipment is being used in the intended manner for maintenance purposes, or if any modifications are needed for specific customer needs (Baines & Lightfoot, 2013).

Cultural Implications

Swiss businesses can be considered a part of a larger industrial sector that includes German and Austrian businesses. The “DACH” grouping – an acronym for this group of three countries – has an industrial base of machinery, manufacturing systems, transportation, and energy equipment (Angehrn et al., 2013).

One consideration of the effect of culture on business relations is whether the potential customer is more likely to simply consume a product or get it serviced. In individual consumer terms, US citizens’ tendency is to use products until they deem it necessary to purchase a new one,

rather than spend extra money to upkeep the existing product. This may translate to business-to-business interactions; the suppliers have to consider what the customer is willing to pay for. If a business is attempting to offer a new service, it will have to demonstrate its financial advantages to its customers (Baines & Lightfoot, 2013).

CHAPTER 3: METHODOLOGY

This project was intended to help the Lucerne University of Applied Sciences and Arts - School of Engineering and Architecture by developing supplemental course content for the University's business students. This material defines the service industry, its key components, and exemplary operations by assessing the service culture as a whole and analyzing the quantitative and qualitative aspects of it. This project was intended to delve into the relatively un-researched field of industrial business services and create a methodological tool for the students to use to educate themselves on the major lessons that industrial services can offer.

The businesses of interest were divided amongst four business segments in the DACH area (Austria, Germany, and Switzerland). These were energy, manufacturing, transportation, and medical devices. These had been identified by the sponsors as the most relevant to the interests of the university. The team had one member devoted to each segment and its associated companies. This fostered deeper understanding within industries, and allowed the other team members to review materials for clarity from an outside viewpoint. Dr. West works closely with the Swiss consulting firm, Roland Berger (RB), which is establishing a research basis for business-to-business service relationships. The team's approach drew on this firm's materials.

To achieve our goal, the project was split up into three main objectives. The first objective was to develop a case study template to analyze industrial service providers. To help refine this template, the team wrote eight sample case studies that will also be used as examples for the students. The second objective was to develop a data collection tool that can be used to obtain the information that is used in the case study. The third objective was to create a "how-to" guide to assist future students in the writing of case studies. The three deliverables informed each other as the project progressed. This process is outlined in Figure 1. As detailed in our later recommendations (Figure 28), if further research was conducted, meaningful interview and survey results would also be used to better inform the case study layout.

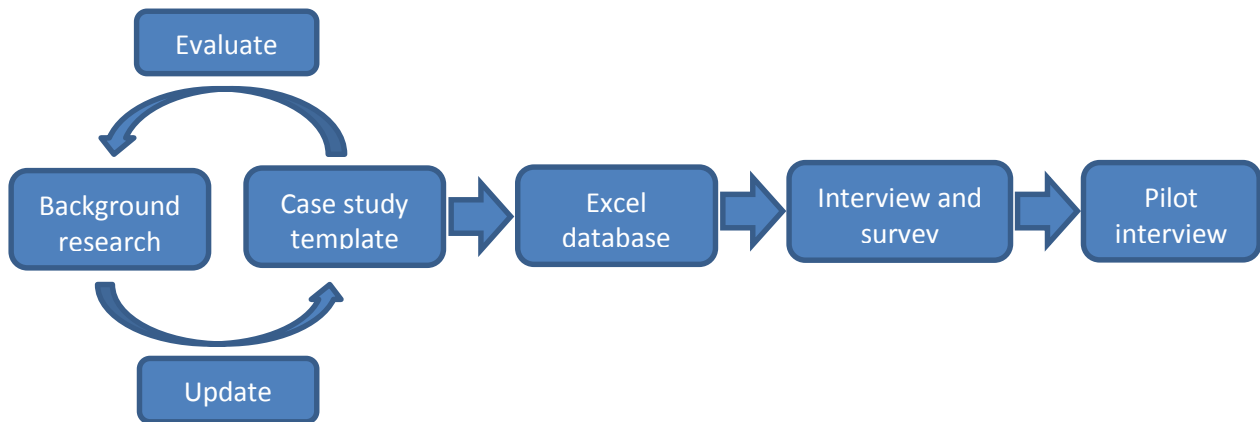


Figure 1. Methodology Flowchart

Objective 1: Develop a Case Study Template

Developing a case study template for students was the first major task our team worked on. Dr. West provided each member a company to research, and each member wrote a PowerPoint case study draft following the format developed during the ID2050 preparation term. The goal in writing

these case studies was to provide the team with a raw working material to refine into the final case study form. The first case studies written evaluated the companies SKAN AG, AAB Automation, Voith Turbo, and Alstom.

An early version of the case study was based on Roland Berger's representation of key performance indicators (KPIs) to develop a tool to analyze service providers based on six points. These points are: business understanding, service portfolio, organization and process, service marketing, unique selling proposition, and service pricing. Some of the criteria that are taken into account to determine how well a company performs in each area are listed below.

Business Understanding: Understanding customers and the service being provided. It is important for the provider to understand their target customers' needs and where they are. They also need to know about their competitors and the overall culture of the service they are providing.

Service Portfolio: How much of the market share a provider has for any given service segment. The extent to which providers use a customer for an entire life cycle and the length of that cycle.

Organization and Process: The extent to which there is a clear organization for service delivery. Minimization of waste (both time and resources) in the process of service delivery. The reward for employees for following the organization of the service and minimizing waste.

Service Pricing: Consistency or non-consistency in pricing based on customer. Promotions such as sales, rebates and discounts.

Unique Selling Proposition: The level to which products and services are intertwined. The amount of the process that is proprietary. Ease with which service can be provided, therefore how quickly it can be accomplished and the disruption to the client.

Service Marketing: The extent to which customers are classified into groups or segmented. The appropriateness of the sales channels that are used to address customer needs. The amount of knowledge gathered about the different segments.

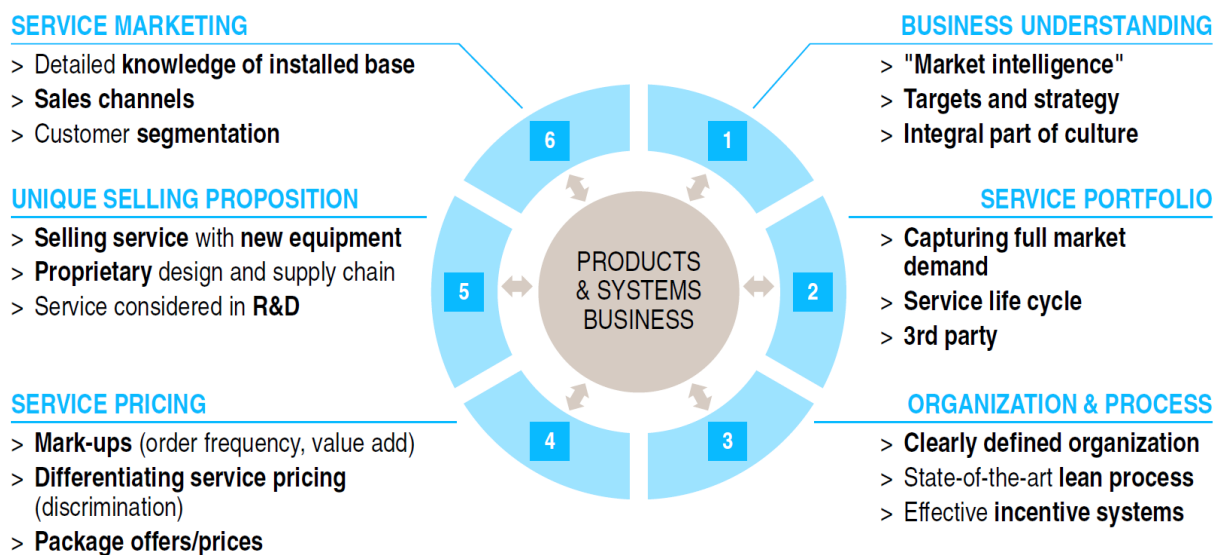
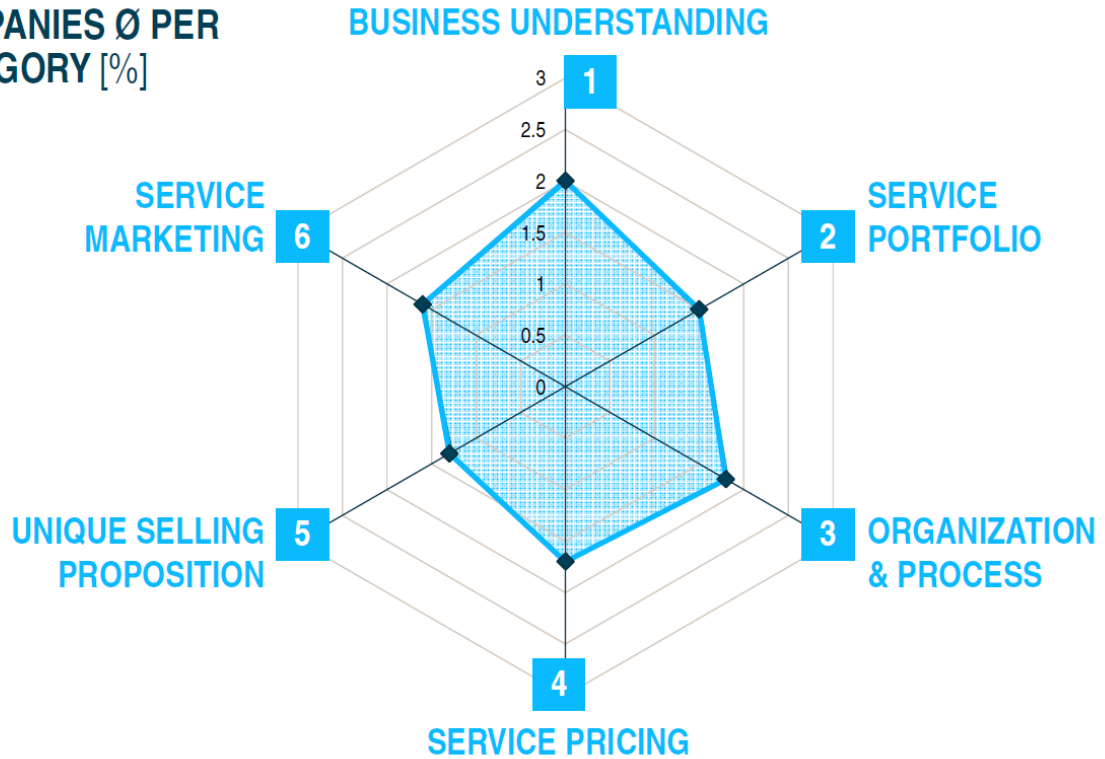


Figure 2: Six Service Points of the RB Model for Service Excellence

COMPANIES Ø PER
CATEGORY [%]



Scale: 0 = not established, 3 = well established

Figure 3: Six Service Point Example

The RB model provided an effective entry into working within the field of industrial services as, on the surface, it is a relatively simple system. This rating method remained a core part of the case study into the current version; however, the case study developed further and no longer focused solely on these parameters.

The primary development of the case study took place over the first four weeks of the project. Each of the team members worked on their own case study within their business segment and revised the case studies per the sponsors' comments and ideas. This process helped develop the case study template further and resulted in a better understanding of what case study format conveyed the findings the best.

One result of these revisions was a split level case study, representing the company's business unit and service levels differently. This differentiation allowed for a clearer discussion of the organizational structure of the companies while still performing a deep analysis of the service offerings. In addition, it allowed the team to cover a larger number of services that companies offer.

The majority of the analysis was accomplished using graphics. This allowed the team to concisely convey a large amount of information to the reader of the case study without losing their attention. One of the most important graphics displays the "customer value proposition" that companies offer their clients. The customer value proposition can be thought of as the answer to the question: "How does a provider support the core process of a company through their service offerings?" Answering this question became one of the central goals of the case study.

During this process it was necessary to have a central database where information could be held about the companies of interest. This information was meant to be used in developing graphics

for the case studies, and for quick comparisons between different companies. Managing the data for each independent company would have been unwieldy and challenging to work without a central database. The information gathered in the database included the rankings for the RB scale, all relevant financial information, the company's segment, and the contact for the company. In order to test the validity of the template, it was applied to four additional companies.

Objective 2: Develop a Data Collection Tool for the Case Studies

In order to write the case studies addressed above it was necessary to develop a data collection method with associated tools. Several different methods were used in attempt to gather information, although some of them ask for redundant information in order to confirm the data. The three primary methods used were a web search, interview, and survey.

Web Search

The first tool used during case study writing was an in depth web search. During this web search, the team looked for various information regarding three main categories: information to help fill in the RB scale, information regarding customer value proposition, and financial data. The team used this tool initially as it was relatively easy and gave a good idea of the company's service offering and culture.

Most of the information for the RB scale and customer value proposition could be found on the service offering section of company's websites. Finding financial information proved harder, but it was often possible to find some on the investors' relation section of company's websites and on the company's most recent annual report.

Survey Design

In order to obtain some of the financial information not available on the website and to gain additional information about service offerings, a survey was developed to distribute to service providers. We used existing surveys provided by Dr. West and modified them in order to get specific information necessary to complete the database and thus the case studies.

In the survey, we attempted to gather qualitative information about the companies and how they developed the way they did and how incorporating services impacted them. These questions were intended to get a better understanding of the company so more subjective parts of the case study could be filled out. Based on sponsor and advisor feedback, the survey was further edited until it was ready to be pilot tested. In order to get pilot data for the survey, it was sent to representatives from the various companies we had written case studies on. The survey was also posted on Dr. West's LinkedIn page to get additional pilot data.

Another survey was also developed to be given to customers of the service providers. The intent of this survey was to get an understanding of how the customer values the services provided and where the services can be improved. It also serves as another method to confirm that the information from the web search was reliable. The development process for this survey mirrors the process for the provider survey, except this survey was not piloted.

The use of these surveys will allow companies to provide broad responses (Appendix A). These questions will receive numerical responses with qualitative reasoning to support the data. Company size, how customer needs are met, and services provided are examples of the questions asked in the survey. This information will allow patterns to be drawn between different businesses

and their practices. The interview is more detailed and evaluates the companies' practices more in-depth, allowing for these patterns to become more developed and defined.

Interviewing Companies

A set interview plan was also developed to gain more detail on the companies being researched. For the interview plan, the same questions were used from the survey, however the interview was designed to stress the more qualitative questions. The interview was an important step in writing the case study as it confirmed much of what was determined from the web search and survey, including the some of the key learnings found in the case study.

In the pilot interview (the summary of which can be found in Appendix C), we were unable to get financial information, but were able to confirm much of the information from the website, which gave us valuable insight in to the usefulness of the interview process. The interview questions asked were intended to capture the scope and successfulness of the service offerings of the business of interest. The quality of a service offering was evaluated based on Roland Berger's six dimensions as discussed above. The businesses have a range of sizes, models, and service packages; the interview questions anticipate these differences, and are open-ended to capture a variety of answers. As seen in Appendix B, there are two sets of interview questions depending on the side of the service relationship the team is focusing on.

On the service provider side, the team aimed to gather relevant fiscal data about company performance. Those numbers would be supplemented by the qualitative questions. These are focused more on the setup, delivery, and continuation of specific services. These questions are important as they give a "personal" aspect to the answers that cannot be obtained by the web search or survey. The evaluation of "value" delivered to a customer through a service can be considered in terms of revenue growth, cost savings, and business sustainability (Euroma). For the service customers, the team was interested in seeing how the service was chosen and implemented on the customer's end, and what value they have received from it.

Once the questions were solidified, the team created an interview format (Appendix B) to utilize when talking to business contacts. This included an introduction of the team member(s), the purpose of the project, and how the information they provide would be utilized.

Objective 3: Develop a Guide to Writing Case Studies

In order for the insight and process learned during this project to be transferable to a later group of students, it was necessary to write a "how-to" guide on writing case studies. In this guide, each slide in the case study was analyzed. The purpose of the slide and its overall purpose within the study was then briefly discussed. Once the purpose had been fully defined, the guide then presented the students with a method for filling out the information on each slide. Depending on the individual nature of each slide, the content either followed the template closely or asked the case study writer to be creative.

In addition to these instructions, the team formed a more in-depth analysis of each slide. In this analysis, the purpose was discussed in more depth and a greater understanding was given of how the corresponding slide fit into the case study. The analysis also outlined and discussed, when applicable, some of the important business concepts that motivated each slide. The "how-to" was designed to give students a better understanding of each slide's takeaway lesson, ultimately adding to the value they gain from the exercise. A copy of the guide is given in the appendix. The "how-to" and the accompanying analysis of the slides are in the following chapter.

CHAPTER 4: FINDINGS AND ANALYSIS

As the data collection process developed during the course of the project, it became apparent that more time and energy were necessary to produce quality methods and tools. The focus therefore shifted more towards the prototyping of a technique to compile relevant information, with less extensive data collection and analysis than originally anticipated by the team. There is a lack of a “standardized conceptualization and measurement technique that could be used in the framework of services and customers of any type,” which prompted the team to focus more on these processes (Suuroja). Our discussion aims first to explore more abstract observations by delving into the real nature of current service culture and what we can learn from it, then shift to our efforts to collect meaningful information through the use of surveys and interviews, and conclude with our approach to representing our findings through the use of case studies and other final deliverable materials.

Key Considerations

Our central findings, as discussed throughout this section, are summarized below:

1. Good business practice
 - a. Customers value services that are:
 - i. Clear in their value proposition
 - ii. Easy to implement in their processes
 - iii. Performed reliably
 - iv. Able to add quality to their processes
2. Data accuracy:
 - a. Relies on the validity of the claims on company websites
 - b. Could be improved by the measurement of provider claims against actual delivery
3. Appropriate representation of information
 - a. Caution should be exercised whenever confidentiality issues arise:
 - i. With regards to financial data
 - ii. With regards to relationships between companies
 - b. Companies should be represented in a fair and truthful manner
 - i. Emphasis has been placed on best practices and positive lessons for educational value
 - ii. Efforts were made to follow an impartial and consistent scoring method for the legitimacy of the study
 - c. Intangible nature of service offerings

Service Culture Observations

The “culture” surrounding services refers broadly to the provider’s outlook on services and any larger factors influencing business relationships in terms of services. In the process of analyzing service offerings, the team used a rating system based on the broad criteria outlined by the business consulting firm Roland Berger (Figure 2). The company websites of service providers that were clear in their presentation of services offered and how the clients would benefit were given the

highest ratings by the team. Service offerings are strongly influenced by customer experience and perception, even in traditionally product-based industries. When implementing services, the customer will be more likely to enter into more complex long-term arrangements if the value to their company is presented clearly. The ease of the service integration process also impacts customer perception.

When the team first started to use the Roland Berger ranking system that was described in detail in the methodology section, some issues presented themselves. In practice, many of the elements of the scoring system are vague and left open to interpretation. This leads to difficulties in assigning scores in a fair and consistent manner. Each team member focused on a different industry segment in an effort to keep the scoring procedure constant across companies in the same industry. This consideration is important to attempt to make valuable comparisons possible. Although the nature of the evaluation process is extremely subjective, this echoes the intangible nature of service offerings, and illustrates inherent difficulties of this area of study.

The primary sources used in all of our case studies and analyses were the websites of the companies of interest. This raises the question of the validity of the information collected. The websites give details about what service offerings are in the companies' portfolios, but this does not reflect the quality of the delivery of the services. The accuracy of how the service is provided to the customer is much harder to measure than product delivery. Evaluation of the services by customers would allow for more realistic representation of how company claims on their websites translate in real business transactions. Again, this approach raises confidentiality issues; poor ratings by customers would have the potential to damage professional relationships. Another issue is that many of these companies do not release financial information publicly. If they do, there is not a focus on analyzing the role that services play in supporting the company, or how they compare to product sales.

In the process of producing the eight initial case studies, the team noted the importance of fair and accurate representation of companies and their services. The case studies are phrased in terms of what was done well and what can be learned from good examples in service. In this context, it would be possible to gloss over negative findings and skew customer perception in favor of certain service providers. Likewise, highlighting instances of good business strategy is important for the intended audience of the case studies, but could give prospective customers a negative impression depending on the phrasing and overall presentation. Emotional aspects like respect and trust are integral to business partnerships; the intent of the study is to foster learning and development, not to harm existing or potential relationships.

Data Collection Tools

The interview and survey questions are meant to cover a wide scope of both qualitative and quantitative information that together capture how businesses are performing, specifically in the area of their service offerings. The case studies have been categorized into "company level" and "service level" slide decks to capture background information about the business or business unit being considered, as well as more detailed information about their services. It would be beneficial to have two or more service level slide decks per company to capture the range of options available to client companies. The content of the slides is discussed in greater detail in the next section to illustrate our findings about the best method of organizing and presenting key information.

Initial Survey and Interview

The interview template (Appendix B) was piloted with one contact from ABB Automation (Appendix C). The team ran into complications with confidentiality concerning financial information. Many of the qualitative questions were also met with broad answers that were too general for use. While the individual interview did not yield the expected results, it still gave us a better understanding of how the interview could be used. With the responsive contacts, the interview would be able to provide financial information giving insight into how the business is performing compared to others. It would also give more in-depth responses to the questions and would allow for the completion of the case study.

The surveys were piloted by posting the templates (Appendix A) to Dr. West's LinkedIn page to get a broader amount of responses. Only two responses were recorded as of the end of the project, but the responses provided financial information and qualitative data necessary for a case study to be completed. With more responses in the future, the surveys would allow patterns to be drawn across many businesses and their practices.

Case Studies

We collected the information included in the case studies from company websites. The team's initial case studies were based on companies with websites outlining service offerings in a clear manner per Dr. West's knowledge and recommendations. In a continuation of these case studies, there could be issues with companies that do not have such clearly articulated service offering descriptions on their websites. In the team's preliminary online research, some companies in industry appeared to lack clarity or breadth in their services. The analysis performed by the team is based on the descriptions of service that providers give; further discussion with customers would be necessary to evaluate the validity of the companies' claims. Evaluation of the actual delivery of the service offerings has not been performed, and poses more confidentiality issues. Such an analysis could strain company relationships.

The following analysis follows the "how-to" guides the team produced (see Appendix D: Printable Company Guide and Appendix E: Printable Service Guide) in order to both illustrate the intended purpose of each slide in the case studies and assist others conducting similar research. There is a "key learning" highlighted at the bottom of most slides to summarize what the reader should take away from them. For students, this is the main idea that fosters understanding of how companies interact with respect to services. For businesspeople working in industry, this shows what the company did well and what lessons could be applied in other companies. The slides will be introduced by Dr. West in any applications they are used in, namely a book or curriculum, to provide a framework. Additional "backup" slides and/or files are included in the team's case studies to cite references. The intent of each slide is analyzed below using the pages of the how-to guide for reference. The slides are sampled from a number of different companies to try to give a range of clear examples.

Company Level Template Analysis



Figure 4. Company Title Slide

The title slide (Figure 4) is a simple slide compared to the rest of the case study. However, this relatively straightforward slide conveys more information than is readily apparent. This is the first slide of the case study; it is therefore important to have a picture that engages the audience. In addition, the picture should convey a feeling of service. Playing to the emotions of the audience helps fulfil this stipulation. A person, or, even better, two people interacting gives off this feel of customer friendliness. Pictures of just the product itself feel cold and do not particularly serve the purpose of creating a service mindset for the reader of the case study.

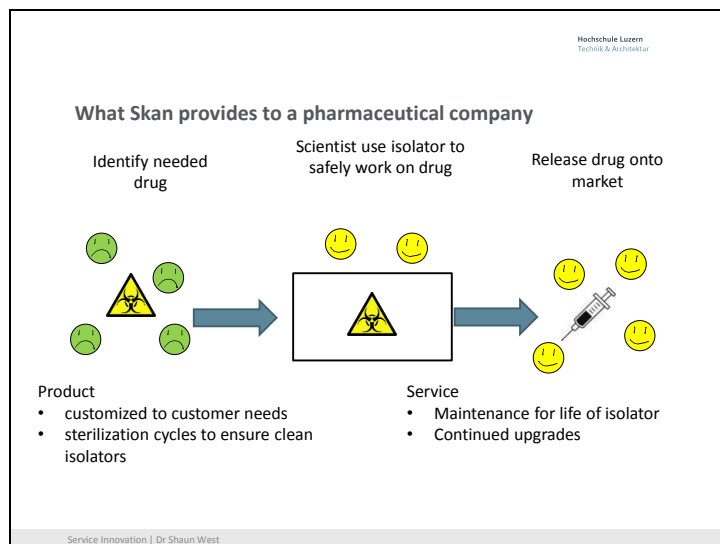


Figure 5. Company Freeform Slide

The freeform slide in the case study (Figure 5) is both very open in its design and challenging in its concept. The idea behind the slide is to convey the basic value that the service provider gives to the customer in order to achieve two goals. First, in the event that the reader does not read the entire case study, they will have the key information on the freeform slide. Second, it prepares the reader for the rest of the case study. The information is displayed graphically in order to help the reader understand the process quickly.

Developing the freeform slide is a complicated and ambiguous process. Fundamentally, the author needs to ask the questions, “What is the fundamental customer value proposition?” and “How does it fit into the customer’s core processes?” The overarching lesson that can be taken away from the company must be considered. The answer to the above questions, and thus this slide, should support this main lesson. It is important that the content of this slide can clearly and concisely explain this in such a way that it can stand alone from the rest of the study, but still support the remainder of the slides. The team tried to explain the company’s unique elements in very few words and have a clear message about how the provider impacts their customer.

A good example of this problem is the slide that was produced for SKAN AG. The slide walks through the general process of producing a new drug for the market and explains how SKAN’s equipment is used in the process. It then breaks down the two kinds of services SKAN provides: customization and maintenance. Both of these services are oriented around meeting customer needs, clearly conveying the message that services should be designed as such.

ABB automation provides industrial robots and systems	
<p>Background</p> <ul style="list-style-type: none"> ▪ Robotics industry – includes software, process equipment, assembly ▪ 4,600 employees ▪ Over 200,000 robots in installed base 	<p>Service delivery</p> <ul style="list-style-type: none"> ▪ Range of basic to advanced services ▪ Specific packages per service offering section
<p>Culture</p> <ul style="list-style-type: none"> ▪ Website is easy to navigate ▪ Multiple ways to find service offerings ▪ Set up to give customers an idea of how the offerings can fit into their processes and help them 	<p>Lessons learned</p> <ul style="list-style-type: none"> ▪ Presenting services so that the customers understand their value ▪ Packaging service offerings as well as offering customizable options ▪ Consulting services to help customers identify areas for improvement ▪ Creating lasting relationships

Figure 6. Company Overview Slide

The company level overview slide (Figure 6) introduces the company and what it does, evaluates key elements such as culture and service, and identifies lessons to be learned from the company. This slide gives context to the rest of the presentation. In the case of ABB, it tells us that this company is a large robotics company; as such, it can be expected that they are no longer dealing with some of the early start up issues present in other companies. This contextual information is valuable to understand much of the information presented later in the case study.

In addition to some basic contextual information about the company itself, the slide also presents information about the specific services offered by the company. From this it is clear that ABB has a fairly large service presence as it offers all kinds of services, “basic” to “advanced.” If the

service delivery only incorporated basic services, this would demonstrate a smaller service presence, which is not to say it is not worth looking at.

A basic description of the “culture” is also given on this slide. This is not unlike a summary of the service culture slide shown in later material, but it focuses more on the website and presentation of culture. The idea behind looking at culture here is to give portray whether or not this company values the service aspect of the business. A poor website and hard to find service offerings indicate that the company is primarily product focused, while a well-designed site and easy to find service offerings generally indicate the opposite. This reflects the strength of the service marketing, not the actual quality of the services the company provides.

Finally the lessons learned begin to give the reader an idea of the overall message they can expect to see throughout the study. Ideally, it allows them to identify key facts in the rest of the case study as the information is presented, but before the lesson is revealed.

Hochschule Luzern
Technik & Architektur

Alstom provide advanced services to beat competitors

Segment	Energy equipment and services
Customers	Energy operators and transmission
History	Works with electrical generation and transmission, large-scale electrical grid infrastructure, and is a major rail vehicle manufacturer
Service offered	“Advanced Services,” maintenance, repairs, engineering and consulting, extensions/upgrades/retrofits, service agreements, training, reconditioning, operational support, technical assistance
Service forms	Long-term contracts
Competitive environment	Siemens AG, GE Energy, Vossloh AG (one of the leading companies in rail infrastructure and rail technology)

Service packages are tailored to customer to maintain relationship

Service Innovation | Dr Shaun West

Figure 7. Company Detail Slide

The company details slide (Figure 7) describes the company’s background in detailed, concise statements. It is used to convey general information about the company’s history and what it entails. It is composed of the topic on the left hand side and the succinct descriptions on the right hand side. The company details slide varies from the service details slide because this one focuses on the business unit and company level as a whole, while the service details slide focuses on the particular service offering being evaluated. This slide is beneficial in giving the audience important background information for the company’s segment that is being focused on.

This particular slide references Alstom, a company in the energy industry. It describes some of the general information of Alstom such as its customers for their energy segment and their main competitors, GE and Siemens. It also provides the services being offered by this segment and what forms are used for the service. The title highlights what this slide and the case study will be describing and the takeaway lesson succinctly sums up the slide, providing the audience with a final learning.

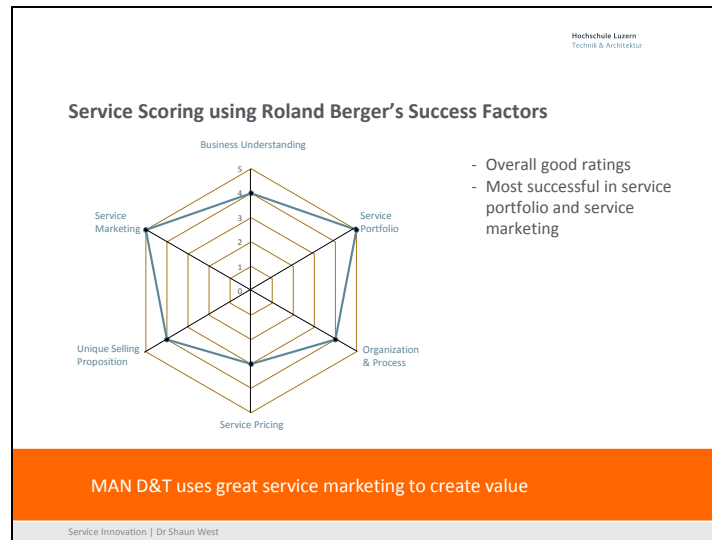


Figure 8. Service Scoring Slide

The next slide (Figure 8) centers on the Roland Berger scoring system, which was key in developing the team's initial understanding of service evaluation. The advantages and complications to using this analytical approach surfaced as we became more familiar with the material. The advantages stem from the easy to read analysis of companies where each category is broken down into further subsections to allow for more in-depth analysis. The radar could even be broken down into a total of eighteen subsections. This shows a larger picture of what is really going on and allows the viewer to see weak and strong areas that might average out to middling rating. Say, for example, a company scored a 0 on "market intelligence", a 3 on "targets and strategy," and a 5 on "integral part of culture." This combination would receive a score of 2.67 which, rounded up, gives the "Business Understanding" section an average of 3. This score, when only showing the business understanding number, gives the company a very neutral rating and makes it seem like the company might have an average overall knowledge of the section as a whole. This can lead to misconceptions about a business's ability to successfully foster a productive service culture. This is the reasoning for the individual eighteen subsections scores found in the database. Another advantage to using the scoring system is the qualitative data it provides. It is very easy for a novice to fall into the trap that everything in business is numbers; this provides a very incomplete picture of service understanding as a whole.

In addition to the benefits of the Roland Berger service scoring system, this approach also leads to some complications. The major complication attributed by the IQP team to the Roland Berger service scoring system is the way these scores are determined. In the beginning of an author's analysis and case study construction, many of these values are based off of gut feeling while looking at a website. After a significant number of service scorings have been performed, the case study author can then go back and adjust values for companies as they get a better feel for the service scoring system and normalize the values. Another disadvantage to using this system is the kind of box it puts the evaluator in, as it is very easy to become locked into the mindset that these are the only factors that affect the service level success of a company. Due to this disadvantage, it is very important for the person working on the final case study analysis and deliverables to realize the Roland Berger service scoring system is but one of many tools available to them to analysis service success. The other things that should be considered with this analysis is the quantitative data of a

company. While there are some sections that involve quantitative numbers such as service pricing, clearly represented quantitative combined with the qualitative data of the service scoring provides a much clearer picture of where the company stands in its service achievement. While the Roland Berger service scoring system does come with its difficulties, the pros far outweigh the cons, and the author is able to produce a clear overview of the company's approach to services. The team combined this with other analytical tools to offset its limitations.

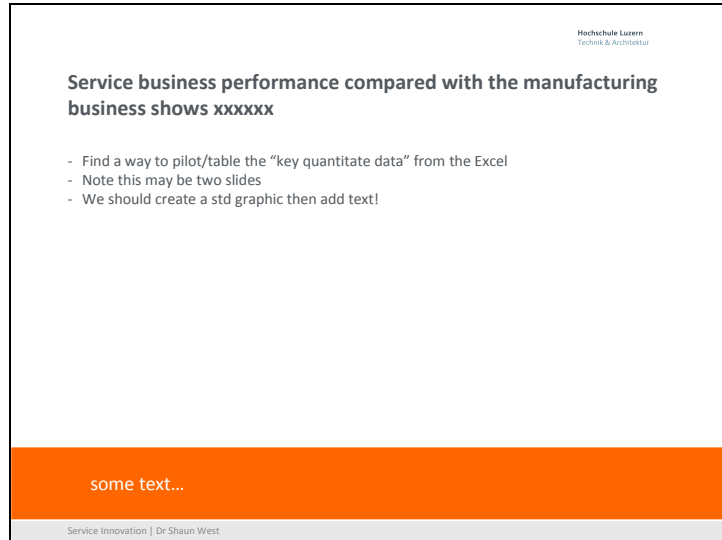


Figure 9. Key Quantitative Data Slide

This slide (Figure 9) looks at two important numbers companies have to consider: margin and return on sales. When this slide is completed, it will ideally have many companies represented as small dots indicating the relationship between their margin and return on sales. The company the specific case study is about will be labeled for easy reference of where they stand compared to other companies in the same industry.

Depending on where on the graph a company lies determines if they have a pricing issue, a volume issue, both, or neither. If the company has high return on sales, but low margin, there is a pricing issue and the company should start to raise prices. If they have a high margin and a low return on sales, they have a volume issue and need to sell more services. If they have both low return on sales and margin, then the company needs to act quickly to increase sales and prices. If they have both high return on sales and margin, then they are in good standing and do not need to take corrective measures.

This information can be vitally important for companies and people reviewing them. It gives an indicator of the overall health of a company and where it is in the market. From this, it is possible to narrow the field of companies to identify examples of "best practice" in the service industry.

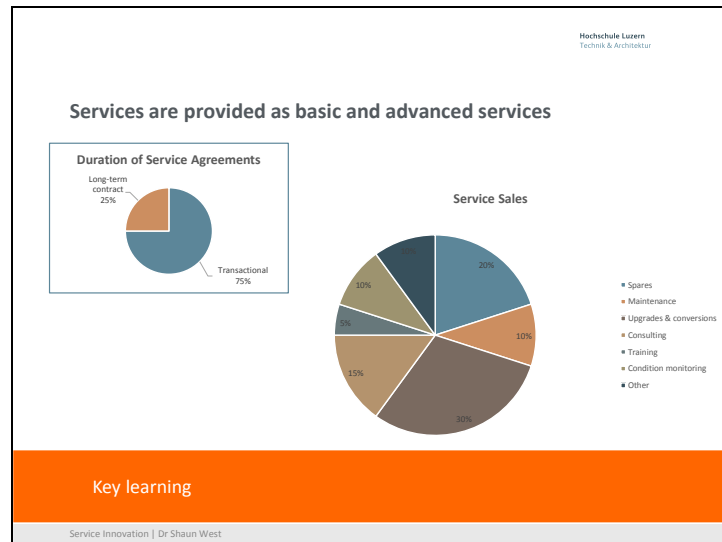


Figure 10. Service Breakdown Slide

This slide (Figure 10) aims to convey two types of information about the company’s service agreements with their customers. The first is the duration of the interaction with the client; the pie chart in the upper left portion of the slide compares the percentage of service agreements that are transactional versus those that are a part of a long-term contract. Transactional agreements are typically basic services that customers choose on an as-needed basis. Contracts are often tailored to customer needs, and represent intermediate to advanced services. The more long-term agreements the company has with its customers, the more interaction they have with them. Long-term contracts establish better relationships between the provider and customer, and ultimately give the provider insights into how customers are actually utilizing equipment. This information can help the company improve its product and related support services (Appendix C).

The second pie chart breaks down the service offerings into seven different categories: spares, maintenance, upgrades and conversions, consulting, training, condition monitoring, and “other.” This reflects how the company is actually serving its customers – although the provider may offer a wide range of service offerings, the customers’ choices reflect where they see value. Ideally, this slide will be populated using information from interviewing an individual within the business. This information is not publicly available, and may be considered too confidential to share with outsiders. It may be discovered that this information is not tracked by service providers. If the information is available, it would allow the researcher to better evaluate the strengths and weaknesses of the company’s offerings.

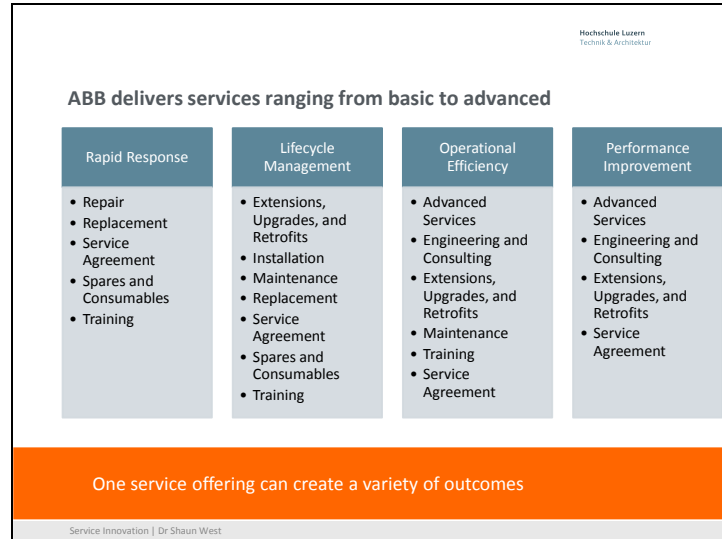


Figure 11. Service Offering Slide

The content of this slide (Figure 11) is based on the information readily available on the website of the company of interest. Although there are four categories in this example, the number of categories and service offerings in each will depend on how the company presents its services to potential customers via their website. In this and other cases, some offerings span a number of categories. This slide emphasizes the service portfolio dimension from the Roland Berger analysis, and reflects some of the service marketing. The entire service portfolio should be captured here; this shows all the choices that the customer has in terms of type and intensity. The content here will reflect the quality of the service marketing as well – if the customer’s options are not detailed clearly on their website, they may appear to be lacking a variety of services. Again, the “key learning” highlighted at the bottom of the slide aims to capture what the company did well in this area.

This particular information is specific to ABB Automation. This company outlined four key areas for their prospective customers: “rapid response,” “lifecycle management,” “operational efficiency,” and “performance improvement.” Many of the individual service offerings are listed under multiple categories. Customers with different goals in mind for their companies may end up coming to ABB for the same service offering. The choices range from simple and product-focused (spares and consumables) to complex and abstract (“advanced services,” engineering and consulting). The client has many options, and can choose both how much support they want for their processes, and how much control they will have over their equipment usage (ABB).



Figure 12. Service Culture Slide

The service culture slide (Figure 12) is beneficial in showing how a business is organized and how they specify their services. This assessment is done by evaluating the business through their published material, such as their website or brochures. While there is some backup for the slide using examples, it can be challenging to properly identify which assessment is most suitable.

The organizational intensity can be evaluated three different ways. It can be tactical, where a business does something only because their competitors also does it. It can also be strategic, where a business does something because that is how the management wants it done. Or it can be cultural, in which a business only does something because that is the way they have always done it.

The service specificity can be assessed three different ways as well. The first way it can be assessed is by primarily providing customer services. This can be providing a phone number to call or having an online support option. The service specificity can also be based on how heavily a business focuses on product services. This is when a business will provide services to their product only such as installation, warranties, and upgrades. The third way is when a business mainly focuses on selling a service as a product rather than the product alone. This can be when a business will service all products whether it is their product or a competitor's.

These assessments are then plotted using Mathieu's model showing how the company compares to others. An example can be seen in Figure 13 below.

		Organizational intensity →		
		Tactic	Strategic	Cultural
Service specificity ↓	Customer services	A Toll-free numbers	Dell on-line	Toyota/Lexus
	Product services	Basic extended warranties	GE Medical systems	Caterpillar
	Service as a product	Non-OEM repairs	Fiat in IT	IBM Global Services

Figure 13. Service Culture Typologies

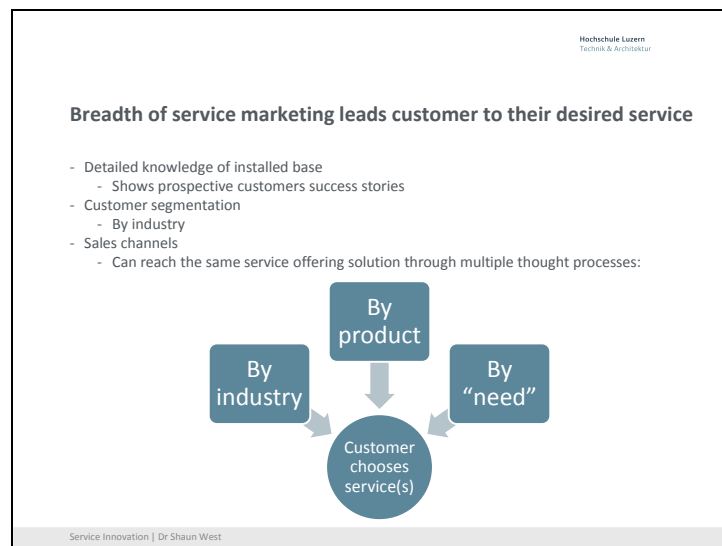


Figure 14. Key RB Rating Slide

This slide (Figure 14) is intended to work closely with the Roland Berger service scoring slide. The initial slide gives an overview of the general ratings and identifies the company’s strongest area. The dimension that was identified as the strongest on that slide is explained in greater detail here; the three subsections under the category of interest can be evaluated to give greater depth to the rating. The content of this slide will be specific to whichever of the six categories the researcher felt was strongest, in order to provide a strong learning example for students.

This example focuses on the service marketing dimension of the Roland Berger criteria for ABB Automation. For this company, the website marketed the service offerings very clearly. The evaluation of the three subsections of its service marketing are at the top of the slide. The marketing was given high ratings because the website was easy to navigate, even for an industry outsider. ABB reflected its knowledge of its installed product base by providing prospective customers with sample success stories for equipment and service packages in different industries. ABB also segments its customers “in all possible ways” on a case-by-case basis (Appendix C). This

is reflected clearly in the categorization of services on the website; there are many different ways for customers to find the service they want.

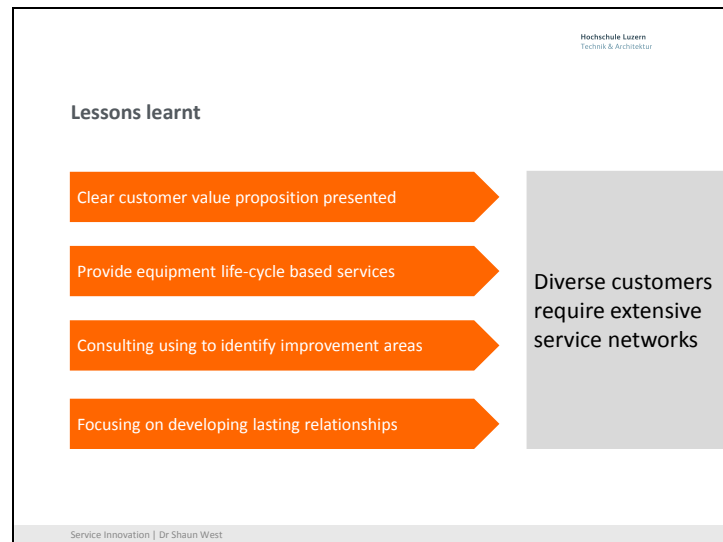


Figure 15. Company Level Lessons Learnt Slide

This slide is used as a summary at the end of the case study. It is used to tie in some of the key learnings that can be found throughout the PowerPoint. It is composed of the main four lessons learnt and one final statement to summarize the main concepts of the case study. These will vary from each case study, as each company will display different aspects of good business practices. The lessons can be taken from previous slides' takeaways and used to derive an overall message.

The lessons learnt slide is beneficial as a conclusion to the case study because it ties everything together and leaves the audience with a clear message of what the PowerPoint was meant to present. While the specific lessons can vary depending on the creator of the PowerPoint and how they viewed the company, the purpose of the slide – to capture key ideas and lessons – remains the same.

This particular slide is referencing the lessons learnt from the ABB Automation case study. The four lessons concisely explains what ABB did well. The overall message, “diverse customers require extensive networks,” sums up the four key lessons and leaves the audience with a clear understanding as to what ABB performs well in and how they handle their customers.

Service Offering Level Analysis



Figure 16. Service Title Slide

The title slide for the service offering level (Figure 16) should convey the same feeling of customer friendliness as the title slide for the company level. The larger title outlines the specific service offering that is the focus of the bulk of the analysis.

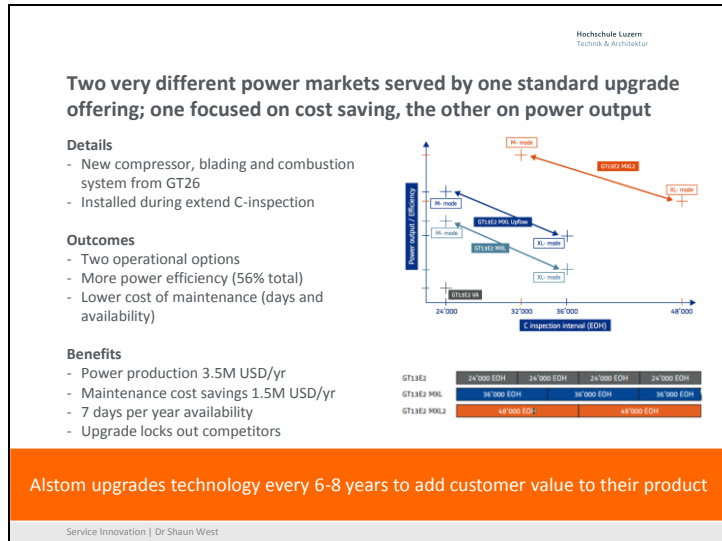


Figure 17. Service Freeform Slide

The freeform slide for the service offering case study subsection (Figure 17) is a bit like an overview slide. In the confines of one slide, both what the company does best in terms of service and a break down the service offering are being presented. Due to the nature of this slide being “freeform,” depending on the author of the case study, a diverse range of slides can be produced. Generally, the concept being presented to the audience is that the company provides this service

offering in a way that creates value for the customer. In many ways it is an overview that will be later explained in greater detail in the subsequent slides.

Similarly to the title slide, this slide must also incorporate some eye-catching elements to draw the audience in. This slide early in the case study must get a lot of information across so that even if the reader puts down the case study here they still have a general idea of what the rest of the presentation was about. The danger of having a slide like this is if the case study author does not efficiently and accurately represent the service in this slide, the reader may take away the wrong lessons that may be better explained in the following case study slides. On the other hand, this slide provides easy access to a good deal of information and typically a very informative graphic that sums up the service offering very neatly.

Another danger of using the freeform slide is a lack of uniformity. If the compiling group is trying to have a very uniform looking casebook this slide seems to deviate significantly from that goal. However, this slide also gives the case study author more flexibility and creativity than they would without it. This flexibility allows the case study author to fit in some aspects of the service offering that might not fit in to the rest of the template. This can save an important element specific to a certain company from being left out. The added creativity can allow an author to feel like they have left their mark on the specific case study, as it is the only slide that has much room for a flexible analysis as opposed to a more structured method of case study writing.

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ABB offers a wide range of service levels and packages

<p>Background</p> <ul style="list-style-type: none"> ▪ Fixed automation – transition to more flexible processes ▪ New robots have 6 axes of movement ▪ More tasks can be performed with the same robot in the same space 	<p>Product-service systems offered</p> <ul style="list-style-type: none"> ▪ “Advanced services” – performance data collection and analysis services ▪ Engineering and consulting ▪ Extensions, upgrades, and retrofits ▪ Maintenance; spares and consumables ▪ Training ▪ Service agreements
<p>Value proposition</p> <ul style="list-style-type: none"> ▪ Better production quality ▪ Faster cycle times ▪ Better production flow ▪ Reduced employee turnover 	<p>Lessons learned</p> <ul style="list-style-type: none"> ▪ Tackling complicated systems maximizes the cost effectiveness for the customer ▪ Offering many paths to customizable solutions lets the customer get what they need for their application

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Figure 18. Service Level Company Overview Slide

The service level company overview slide (Figure 18) is meant to give an introduction to the company’s service offerings. It begins with some of the background of what the service revolves around; in this case it is ABB’s advanced robotic systems. This provides an idea about the nature of their services and the technical level at which they will most likely be carried out.

The product services and system offered gives the reader a view of what makes up an overall service offering for this company. It gives a feel for how the company breaks down a specific service package into smaller “subservices.” This can often give us insight into the overall organization of the service delivery that was discussed in the company level company overview.

This slide is the first time that the value proposition a company gives to the customer is fully introduced. It reveals how the provider actually supports the customer with the services described

above. Value proposition is likely the most important information on this slide as it sets the stage for much of the later analysis of the services provided by the company. The value proposition generally speaks to maximizing gains the customer has or minimizing pains, to be fleshed out in greater detail in a later slide.

As in its company level counterpart, this slide draws the reader’s attention to the lessons that it will be possible to get from the case study. This will allow the reader to more readily pick up on key information and messages in the study.

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Alstom GT13E2 MXL2 upgrade implemented to improve customer relationship and keep competitive edge

Segment	Power generation
History	GT13E2 introduced in 1992, update and upgraded since introduction
Basic service	Upgrades to customer to meet market needs: lower costs or more power/higher efficiency
Service described	Upgrade with new compressor, combustion system and blading. Installed during an extended C-inspection
Competitive environment	Alstom were facing customer pressure and non-OEM competition this was an innovative upgrade to create a lockout for non-OEMs

Upgrades provide options for customer and competitive edge for Alstom

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Figure 19. Service Detail Slide

The service details slide (Figure 19) describes the service offering’s background, which is what the service offering is, why the service is being offered, and how it is being offered. It is used to gather general information about the service’s history and what it entails. It is composed of the topic on the left hand side and succinct descriptions on the right hand side. The service details slide varies from the company level because this slide focuses only on the particular service offering being evaluated while the company details slide focusing on the business unit and company level as a whole. This slide is beneficial in giving the audience important background information for the service offering that is being focused on. By providing this information, readers can understand the environment in which the service is being offered in.

This particular slide references Alstom’s GT13E2 MXL2 upgrade as its service offering. This offering can be generally summed up using this slide while providing background information and history of the upgrade. The title highlights what this slide and the case study will be describing and the lesson succinctly sums up the slide, providing the audience with a final learning.

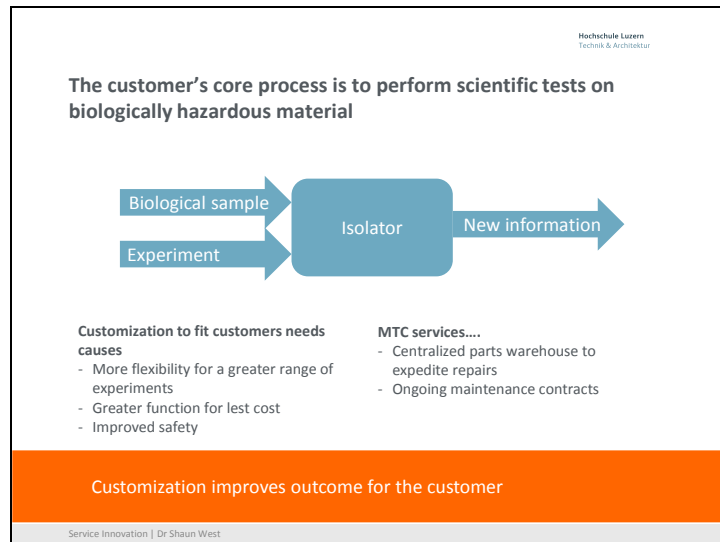


Figure 20. Customer Processes Slide

The customer processes slide (Figure 20) is an interesting slide from the standpoint that it takes more of a customer perspective on the whole topic as opposed to the providing company's perspective. This means the slide really takes an in-depth approach in regards to the customer's core processes, how they achieve them, and how the providing company supports these core processes. The main purpose of this slide is to introduce the reader to what the customer actually does, and why they might want the service offering that the company is providing.

One of the strengths of this slide is the fact that it is the only slide that really addresses the customer's processes, not just what the providing company offers to the customer. Many times it may be noted that what the providing company believes they offer to a customer and what they actually offer from the company perspectives may be completely different. Without this being brought to the company's attention, this can lull them into a sense of lethargy in terms of innovation. If they believe they are fully addressing the customer's needs and wants, then they see no reason to improve on the service offering unless another company is luring customers away by providing more. This analysis would ideally be performed in more depth in conjunction with the customer level survey results. These results plotted in the opportunity chart would help reveal where companies could improve on specific service offerings.

This slide also presents some difficulties and weaknesses. A major weakness of this slide is the mindset that the author must step into to write it. The author must take on the guise of the customer; if the author has not conducted an interview with the customer then it can be extremely difficult to know exactly what the customer wants out of the service. This mindset can be even more difficult to step into for an author who does not have firsthand experience in the segment that the service offering resides in. This can become overcome somewhat as more case studies are written, allowing the author to become more attuned to what each segment attempts to offer. However the best way to overcome this hurdle is to interview customers, find out what they really do, how they are currently receiving their service, and how they would like that to change.

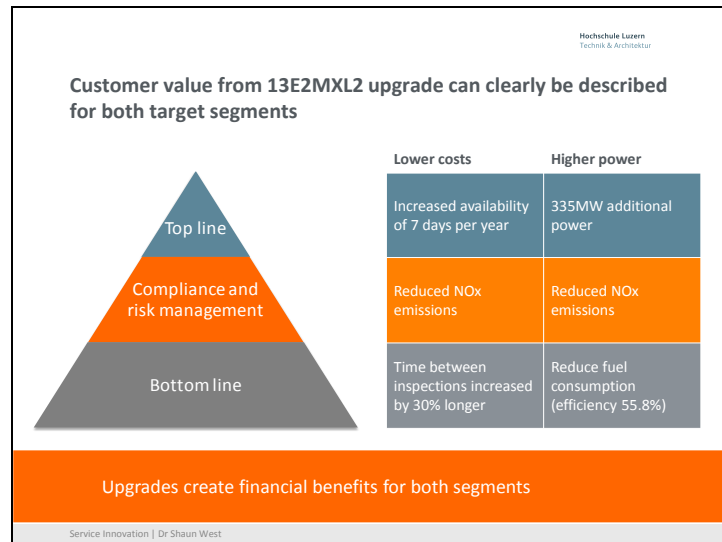


Figure 21. Customer Value Slide

The value that the service offering aims to give the customer is illustrated using a pyramid graphic in this slide (Figure 21). The “top line” benefits refer to elements of the service that increase the customer’s profits. “Compliance” and “risk management” refer to ways the service helps the customer comply with standards (e.g. environmental standards or industry-specific regulations) or reduce workplace risks. “Bottom line” benefits illustrate how the service can save the customer money. This slide works closely with the pains/gains slide, which is described next. The focus of both these slides should be kept on the service itself and not the product.

In this example, the service provided by Alstom is an upgrade that can provide different benefits for different segments in industry. The two columns on the right give details about why the service is valuable to the customer. The top line is related to increased production, which helps the client earn more money. The bottom line shows what the customer saves with this service in terms of time and fuel. Environmental considerations are included in the middle portion. These details evaluate the service offering based on what it claims to do for the customer.

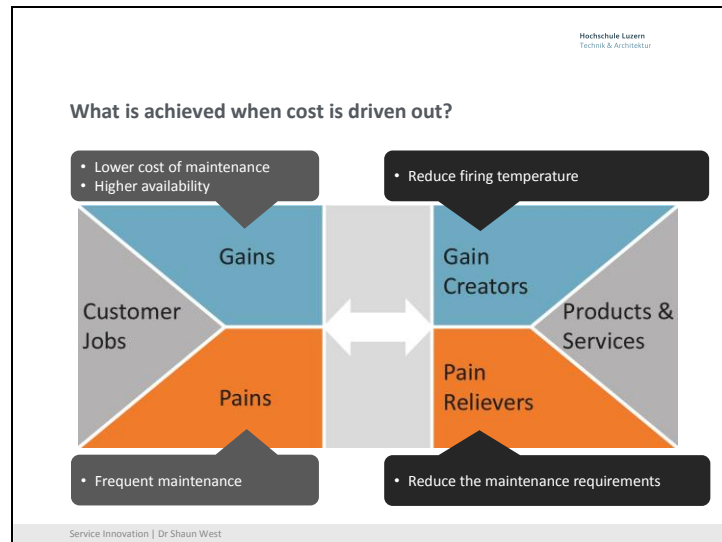


Figure 22. Process Pains and Gains Slide

The process “pains and gains” slide (Figure 22) helps build a bit on the customer value proposition. While not directly from the customer’s perspective, it does use a few of the assumptions from the customer core processes slide, and works directly with the customer value slide. In this context, the gains are very similar to the top line improvements, and the pains are very similar to the bottom line troubles that are relieved by the service improvements. At the end of the day, it aims to achieve how the service alleviates customer pains and augments customer gains.

This slide provides a lot of information in one graphic. This graphic has been standardized to be used across all of the service offering case studies and is a very simple one for the author to fill in. An extremely simple slide like this also carries some difficulties. One of the biggest problems is running out of space. Many times a customer may have more gains or pains that can be added to the list; however, more often than not, the size of the slide cannot accommodate all of this information. To most appropriately fill out the slide, it is recommended that the author obtains the information from personal interviews with customers similar to the customer process slide. In order to get the most accurate information it is recommended to interview with several customers of similar segments; while they may not all be trying to achieve the same end, they will give good insights on the multiple different ways the service can be applied to their pains and gains.

This analysis takes a highly service-based approach and attempts to present what customer value is really gained through the application of the service. In some aspects, these pains and gains are simple, such as less responsibility for the customer and increased profit, but they can also become intricate. It also removes the mindset from a product based system, where the customer receives the product from the providing company and that is the only interaction that the customer and provider have. This allows for the service culture to grow and add to the customer lifetime value, and also adds to the customer’s dependency on the providing company through the service offering.

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What is achieved when Isolators are customizable

Assumptions

- Isolators customized to customer needs
- Unnecessary features slow work and could lead to mistakes
- Faster results = faster development

Outcome

- Reduced number of mistakes
- Results are produced faster
- Drug released faster

Willingness to pay

- Faster drug release means more money for pharma company
- Beating competitors to market

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Figure 23. Financial Evaluation Slide

This slide (Figure 23) is meant to analyze the financial side of customer value proposition. A key feature of this slide is the “willingness to pay.” Willingness to pay details the exact reasons why a customer would want to partake in the service the provider offers. Often, this slide will contain actual numbers detailing costs and potential profits; in the case of SKAN above, the pharmaceutical market is so variable that the numbers can be hard to predict. Instead, the discussion can focus around the potential of beating competitors and bringing a revenue stream to market faster, both of which can be extremely valuable.

The assumption on the left represents the set of circumstances that need to be in place (or are assumed to be in place) in order for the service to provide benefits as anticipated. This is a valuable piece of information for both the provider and customer as it determines whether the investment in the service is appropriate for the outcome.

The outcome section details the results from a successful service delivery. These are often numbers relating to reduced cost or increased efficiency. Students can use this section to compare it to the assumptions to determine if the service is truly mutually beneficial and from this, determine the customer’s willingness to pay as described above.

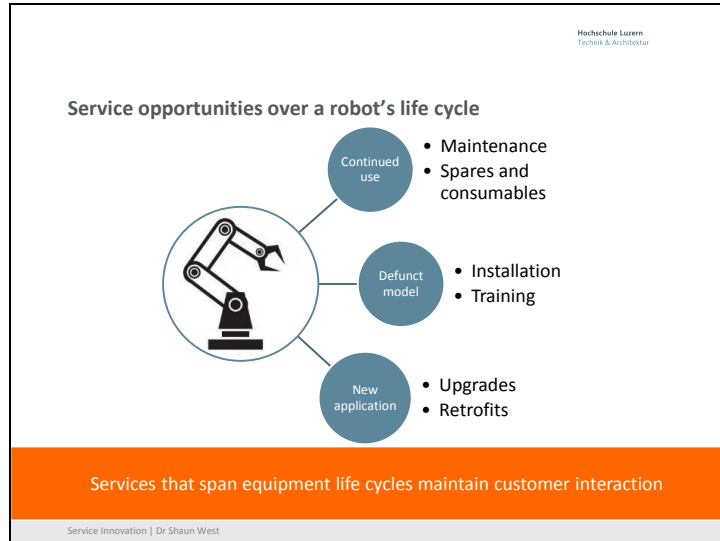


Figure 24. Service Lifetime Slide

This slide (Figure 24) reflects how the service provider interacts with their customers. The service offerings follow the opportunities available to the provider over the equipment's life time. Since the method of service delivery is depicted, the graphic on the slide may be based on a system or a piece of equipment that the provider sells. In this example, the company's services are closely tied with its products, and there are opportunities for services to be performed along different stages of the lifecycle of the equipment. The more that the provider interacts with their customers, the more opportunities there are to learn about the customer's processes. The three sections highlighted in the example above show how the product, in this case a robot, creates opportunities for service offerings to provide the customer continued assurance for the equipment's reliable operation.

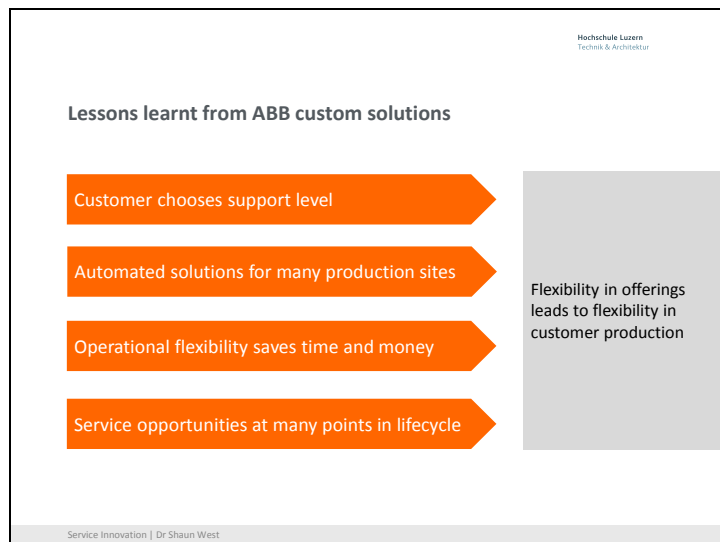


Figure 25. Service Level Lessons Learnt Slide

This slide (Figure 25) is used as a summary at the end of the case study. It is used to tie in some of the key learnings that can be found throughout the PowerPoint. It is composed of the main four lessons learnt and one final statement to summarize the main takeaway of the case study. These will vary from each case study, as each service will display different aspects of good business practices that a company offers. The lessons can be taken from previous slides and used to derive an overall message.

The lessons learnt slide is beneficial as a conclusion to the case study because it ties everything together and leaves the audience with a clear message of what the PowerPoint was meant to present. While the specific takeaways can vary depending on the creator of the PowerPoint and how they viewed the company, the purpose of the slide – to capture key ideas and lessons – remains the same.

This particular slide is referencing the lessons learnt from the ABB Automation service offering case study. The four lessons are all very succinct and concise in explaining what ABB did well when offering their service of custom solutions. The overall message of “flexibility in offerings leads to flexibility in customer production” sums up the four key lessons and leaves the audience with a clear understanding in what this particular service succeeds at and how this service is beneficial to both the company and their customers.

Database Material

Qualitative data only presents a part of the overall greater service picture. In order to get a full image of what is actually going on, fiscal data must also be collected. This is data that is easily quantifiable, however it also cannot stand alone without the accompanying qualitative data. Much of this information can be collected by the team through the use of surveys, interviews and looking at company annual reports.

The team collected a list of relevant financial data into a master excel database. This database includes over 400 companies, which were split into four segments: Automation, Energy, Medical Devices and Transportation. These key financial indicators that were recorded into the master excel database include the Mathieu intensity and specificity ratings, service and product word count, EBIT margin, service percent, service growth, Roland Berger service excellence ratings, equipment and service sales and gross margins, and full time employees. Many of these values can be plotted against values from other companies to see where companies currently stand against their competition and how incorporating service into their business has increased profit and overall customer satisfaction. This information and following graphics provides a major incentive for companies to take part in this study. The graphics in the final deliverable will show companies where they need to improve, focus less on, and spend money on to maintain position for a wide range of their service offerings.

To explore the potential for improvement within companies, two metrics in particular were selected for specific services. These metrics are how important the customer believes that service is and how satisfied the customer is with how that service is provided. From there, these two metrics were put into an opportunity table. This table has four columns, one for each important factor; importance, satisfaction, opportunity, and status. An example of this table can be found below in Table 2. Opportunity is calculated by adding the importance to the greater value of the satisfaction subtracted from the importance or 0. Afterwards, the opportunity numbers were compared to the opportunity number of competitors offering the same service, to allow companies to see how they stand up to each other. This allows companies to figure out which sectors they need to improve or which sectors they are over supporting, if they want to stay competitive in those areas. An example of the opportunity comparison table can be seen in Table 3. As shown in Figure 26, services with an

opportunity value greater than 12 typically denotes an underserved market, services that have a low importance value are easily overserved by companies, it is important to find a happy medium and get the importance and satisfaction values very close to each other.

Service	Importance	Satisfaction	Opportunity	Status
A	9.5	3.2	15.8	Underserved
B	9.5	7.5	11.5	Opportunity
C	9	9.2	9	Served

Table 2. Opportunity Table

Customer satisfaction rating				
Outcome	Opportunity	Service Co A	Service Co B	Comments for A
1	15.8	5	2	Improve to +7
2	9.1	6	5	Watch
3	2.4	3	7	Unimportant

Table 3. Opportunity Comparison

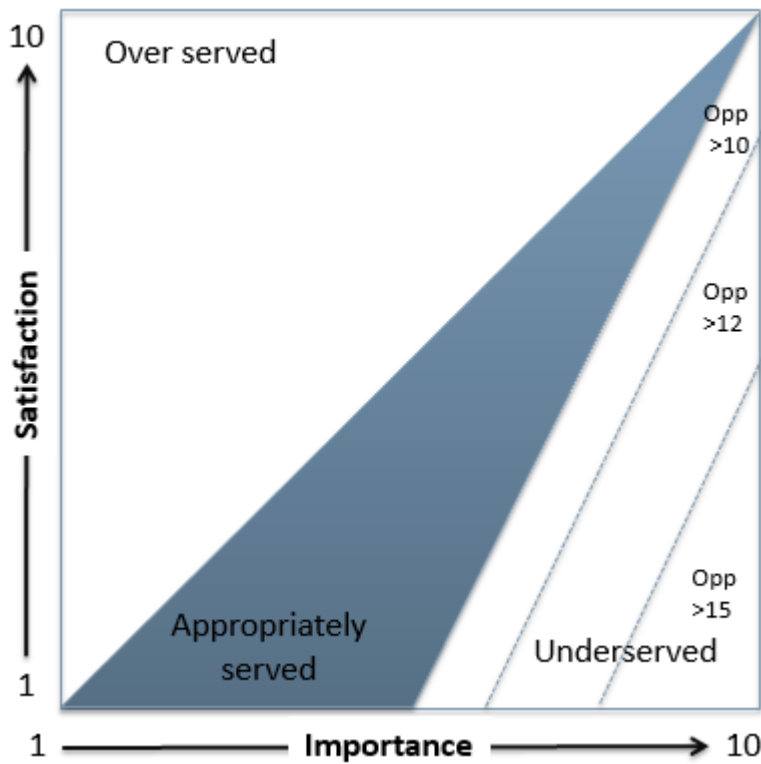


Figure 26: Opportunity Graphic

Another way to analyze a company's success on certain services and products is to plot the profit margin against the return on sales. An example of this plot can be found in Figure 27. As seen on the graph, a company with a low return on sales but a high margin insinuates a pricing issue on the provider end. Similarly a company with a high return on sales but a low margin suggests that there is a volume problem. The reason for these tables and charts is a deliverable that the companies who agreed to provide us with information can use to make decisions on how to improve upon their business model. These two influences will be used to create a tool to identify companies' current standing and areas for improvement.

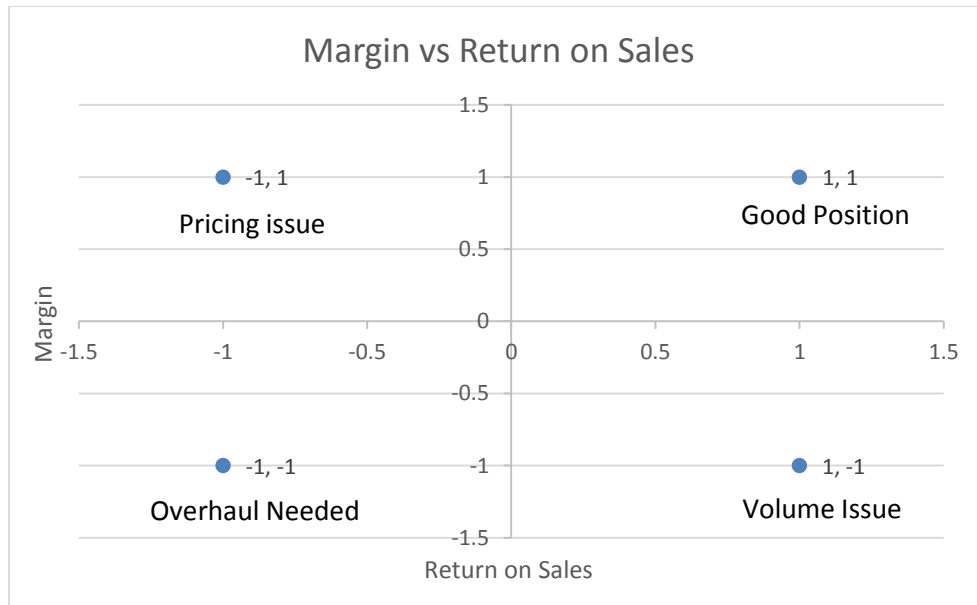


Figure 27. Margin vs ROS

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

After careful analysis of the current project, our recommendations for future use are described in the following section. They have been shaped by our own experiences with the project and they evaluate how the project can be improved upon.

Data Gathering and Processing Recommendations

Since industrial services and their studies are emerging fields, the team encountered some problems with finding and using data relevant to the field. The overall scope of this topic proved to be extremely large, encompassing not only the evaluation of companies but the general environment of services in industry. Thus, in order to be able to notice major trends in the field, it would be necessary to develop a large number of case studies. The fourteen week scale of the preparatory term and IQP term is an insufficient amount of time to be able to develop and analyze these case studies. We recommend that any future project following this one be expected to take place over the course of several years.

Due to this evolving and complex nature, we recommend that any subsequent projects incorporate a much more rigorous level of analysis. For this reason, and to limit the time spent on background research, we recommend that business students be used in any continuation of this project. If incorporated into relevant business courses, our approach could be a valuable learning tool to supplement related materials.

Recommended Future Use

To continue the project further, we developed a continuation of the methodology we followed to complete our project (Figure 28). To use this process successfully, our first recommendation would be to increase the number of interviews to get more detailed responses on company service offerings. Also, sending out surveys to a much larger sample size would yield more accurate results and allow for a better comparison of data. Focusing on these more than the personal interviews would result in a larger amount of information overall due to the amount of time it takes to schedule and hold interviews, although there is no guarantee of a high response rate. These would all help with the next recommendation to develop more in-depth case studies. It would also be beneficial to use additional analytical methods in conjunction with those provided by Roland Berger. A way to cut down on the subjectivity error would be for one person to work on every case study or to have a group of people collaborate on the same case studies. Presenting at business conferences could result in greater networking opportunities, and would be an easy way to get the project known to the business community.

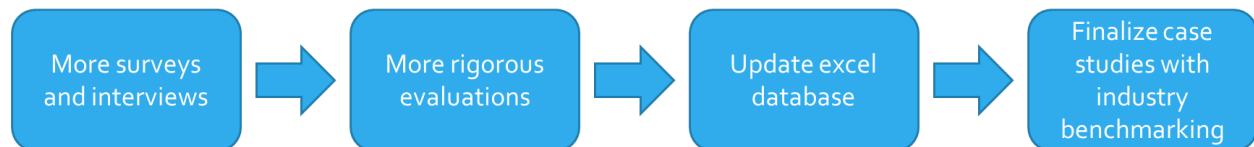


Figure 28. Recommended Methodology

The case studies are currently intended to act as a supplement to lessons for service innovation courses. The final recommendation would be to deliver the final results to all the companies who participated in the study. This would allow companies to see how they stand against their competitors and how they are viewed by their customers. In addition, companies would be able to have an outside perspective on how their company is viewed and what their website says about them. This could influence how they choose to display their value proposition and service processes. This would allow case studies to be written in terms of improvements needed rather than illustrating examples of best practice. These recommendations can be used to meet the full potential of the project.

During the course of the project we encountered a major question that was beyond the scope of the project, but tangentially connected. The question was about the morality of fair and accurate representation versus positive representation in case studies and what value this gives to the companies and customers that was briefly addressed in the service culture section of the discussion. Ethical considerations are vital for the validity of our approach, but are outside the realm of this project. To make these recommendations feasible, more time, funding, and access to companies would be necessary.

Proposed Future Research

To address these concerns, a more involved research project could delve deeper into the receiving end of services. An approach involving interviewing or sending surveys to customers would help determine the validity of service provider claims. This would focus findings on the evaluation of the actual value delivered to customers, and yield more accurate results. Instead of relying solely on proposed service delivery, a future study could better reflect actual customer experience and perception. Such a research project would face similar confidentiality and data collection and analysis issues as the team encountered on the service provider side, and would likely have more potential to strain business relationships. One possible approach would be to find companies that are willing to evaluate their services with their partners in an effort to identify and improve weaknesses in their service offerings. This would grant a greater sense of anonymity as well.

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APPENDIX A: SURVEY TEMPLATE

Provider Level

Industrial Service Industry

Notice: This survey has been compiled by a team of students from Worcester Polytechnic Institute in the United States of America to collect data for a project led by Dr. Shaun West of Lucerne University of Applied Sciences and Arts - School of Engineering and Architecture in Switzerland. The project will generate case studies illustrating service offerings of manufacturing companies. The following questions aim to capture how your company approaches the development and execution of services, including some financial data to provide benchmarking. This body of information will allow the project team to define “service excellence” more clearly for future use. Any commercially sensitive information that we gather will not be shared publicly, but will be used in relative terms of "better/worse" when compared to other companies in the same industry. This survey is voluntary, and participants may decline to answer any or all questions. Please feel free to contact Dr. West (shaun.west@hslu.ch) with any questions, comments, or concerns. Please check the box below notifying that you understand and wish to continue.

I understand (1)

Note General

Q1 What is the name of your company and business unit?

Company (1)

Business unit (2)

Q2 Please enter your email address.

Q3 Does your organization provide both products and services?

Yes (1)

No (2)

Answer If Does your organization provide both products and services? Yes Is Displayed

Note Service offering and customer value proposition

Answer If Does your organization provide both products and services? Yes Is Selected

Q4 Does your business have a service team/ division that is separate from the manufacturing business?

Yes (1)

No (2)

Comments (3) _____

Answer If Does your organization provide both products and services? Yes Is Selected

Q5 Do you sell products at low margin and expect to make the difference on the services and spares?

- Yes (4)
- No (5)
- Comments (6) _____

Q6 What are your customer segments? Select all that apply.

- Academia (1)
- Advanced Materials (2)
- Aerospace (3)
- Automotive (4)
- Chemical (5)
- Construction (6)
- Consumer (7)
- Cosmetics (8)
- Electronics (9)
- Environmental Technologies (10)
- Food (11)
- Lab (13)
- Machinery (14)
- Medical (15)
- Naval (16)
- Packaging (17)
- Pharamuctials (18)
- Power/Energy (19)
- Printing (20)
- Process Industries (21)
- Resource (22)
- Sheet Fabricating (23)
- Teletronics (24)
- Textiles (25)
- Tools (26)
- Trade (27)
- Transport (28)
- Woodworking (29)
- Custom (30) _____
- Custom (31) _____

Q7 What value do you give your customers that your competitors do not?

Note Financial indicators

Q8 Please fill in the following information to the best of your ability.

Total annual equipment sales in USD (1)

Total annual service sales in USD (2)

Comments (3)

Q9 What percent of you installed base is known at least by their company name and email addresses?

Installed Base (1)

Comments (2)

Q10

_____ What is the percent of installed base serviced by your firm? (1)

_____ What is your percent of installed base serviced by others? (2)

Q11 What percent of your sales are directly from your installed base?

Q12 Estimates are fine. Numbers should add up to 100. What percent of your sales are.....

_____ spares based? (2)

_____ maintenance based? (3)

_____ upgrades/conversions based? (4)

_____ consulting based? (5)

_____ training based? (6)

_____ condition monitoring based? (7)

_____ Other (8)

_____ Other (9)

Q13

What is your equipment gross margin (percent)? (1)

What is your service gross margin (percent)? (2)

Comments (3)

Q14

What is your equipment EBIT (Earnings before interest and tax) margin (percent)? (1)

What is your services EBIT (Earnings before interest and tax) margin (percent)? (2)

Comments (3)

Q15

What is your equipment growth (Compound annual growth rate percent over 3 years)? (1)

What is your services growth (Compound annual growth rate percent over 3 years)? (2)

Comments (3)

Note Non-financial indicators

Q16 How many full time employees does your business unit employ?
Number of FTE (1)
Comments (2)

Q17
How many of your full time employees are equipment focused? (1)
How many of your full time employees are service focused? (2)
Comments (3)

Q18
How many service centers do you have? (1)
How many full time service employees do you typically have per center? (2)
Comments (3)

Q19
_____ What percent of your sales are one time transactions or short term contracts? (1)
_____ What percent of your sales are long term contracts? (2)

Q20 How long do your service contracts normally last in terms of years?
Length (1)
Comments (2)

Q21 How long does it take for you to answer a client's request for information or for support in terms of days?
Emergency (1)
Normal (2)
Comments (3)

Q22 Do you tailor your services to your customer's needs?
 Yes (1)
 No (2)
 Comments (3) _____

Q23 Would you be willing to interview with us?
 Yes (1)
 No (2)

Q24 Is there anything else that you would like to add that you feel would help us understand your company's approach to services?

Q25 Since this research is in the pilot phase, do you have any suggestions for improving this survey?

Client Level

Customer Service Level

Notice: This survey has been compiled by a team of students from Worcester Polytechnic Institute in the United States of America to collect data for a project led by Dr. Shaun West of Lucerne University of Applied Sciences and Arts - School of Engineering and Architecture in Switzerland. The project will generate case studies illustrating service offerings of manufacturing companies. The following questions aim to capture how your company receives services from company. This body of information will allow the project team to define "service excellence" more clearly for future use. Any commercially sensitive information that we gather will not be shared publicly, but will be used in relative terms of "better/worse" when compared to other companies in the same industry. This survey is voluntary, and participants may decline to answer any or all questions. Please feel free to contact Dr. West (shaun.west@hslu.ch) with any questions, comments, or concerns. Please check the box below notifying that you understand and wish to continue.

I understand (1)

Note General

Q1 What is the name of your company? What is the name of the company you receive services from?

Your Company (1)

Providing Company (3)

Q2 Please enter your name, title, and email address.

Name (1)

Title (2)

Email (3)

Q3 What services did you receive from $\{q://QID1/ChoiceTextEntryValue/3\}$ (if more than 5 just most important to you, similarly if less than five just the list as many as you receive)?

Service 1 (1)

Service 2 (2)

Service 3 (3)

Service 4 (4)

Service 5 (5)

Answer If What services did you receive from the providing company (if more than 5 just most important to you)? Service 1 Is Not Empty

Note Service offering and customer value proposition

Answer If What services did you receive from the providing company (if more than 5 just most important to y... Service 1 Is Not Empty

Q4 Please rate $\{q://QID3/ChoiceTextEntryValue/1\}$ based on how important it is to you and how satisfied you are with the service.

_____ Importance (1)

_____ Satisfaction (2)

Answer If What services did you receive from the providing company (if more than 5 just most important to y... Service 2 Is Not Empty

Q5 Please rate $\{q://QID3/ChoiceTextEntryValue/2\}$ based on how important it is to you and how satisfied you are with the service.

_____ Importance (1)

_____ Satisfaction (2)

Answer If What services did you receive from the providing company (if more than 5 just most important to y... Service 3 Is Not Empty

Q6 Please rate $\{q://QID3/ChoiceTextEntryValue/3\}$ based on how important it is to you and how satisfied you are with the service.

_____ Importance (1)

_____ Satisfaction (2)

Answer If What services did you receive from the providing company (if more than 5 just most important to y... Service 4 Is Not Empty

Q7 Please rate $\{q://QID3/ChoiceTextEntryValue/4\}$ based on how important it is to you and how satisfied you are with the service.

_____ Importance (1)

_____ Satisfaction (2)

Answer If What services did you receive from the providing company (if more than 5 just most important to y... Service 5 Is Not Empty

Q8 Please rate $\{q://QID3/ChoiceTextEntryValue/5\}$ based on how important it is to you and how satisfied you are with the service.

_____ Importance (1)

_____ Satisfaction (2)

Q9 Are there services you wish you were provided that you currently are not? If so what are they?

Q10 Is $\{q://QID1/ChoiceTextEntryValue/3\}$ to the best of your knowledge working to address these concerns?

Yes (1)

No (2)

Comments (3) _____

Q11 How do you negotiate service contracts with $\{q://QID1/ChoiceTextEntryValue/3\}$?

Q12 What is the impact that services have had on your relationship with $\{q://QID1/ChoiceTextEntryValue/3\}$?

Q13 What does $\{q://QID1/ChoiceTextEntryValue/3\}$ do that was unexpected, but that you find valuable?

Q14 Why did you decide on $\{q://QID1/ChoiceTextEntryValue/3\}$?

Q15 How flexible is $\{q://QID1/ChoiceTextEntryValue/3\}$ with their services?

Q16 Is there anything else that you would like to add that you feel would help us understand your company's approach to services?

Q17 Since this research is in the pilot phase, do you have any suggestions for improving this survey?

APPENDIX B: INTERVIEW QUESTIONS

For Providers:

1. General Information/Shift to Services
 - a. What services do you provide your clients?
 - b. What is the impact that services have had on your business relationships?
 - c. What is your business model and why did you choose it?
 - d. What new challenges did you face when incorporating services? Did you have to hire more people?
 - e. Why did you choose to incorporate services in your business?
 - f. Is your service division integrated with your production, or is it a separate business unit?
 - g. Do you have ongoing service contracts or do you provide one time services?
 - h. Do you include services in your R&D processes?

2. Creating Customer Value
 - a. What value do you give your customers that your competitors do not?
 - b. Who delivers the services?
 - c. How long does it take for you to answer a client's request for information or support?
 - d. How long does it take to preform your service?
 - e. What services do you provide to your clients that aren't expected, but that your clients like?
 - f. How do you tailor your services to your customer's needs?
 - g. How many service centers do you have?
 - h. How do you assess additional needs your clients may have?

3. Generating Profit
 - a. Do you segment customers by common factors?
 - b. How are new customers targeted?
 - c. What is your market share (big companies)?
 - d. What is your average value per client?
 - e. On average, how often do you get return clients?
 - f. How long do your service contracts last?
 - g. Do you benchmark your service offerings against those of competitors?

For clients:

1. How valuable are the services you receive?
2. What services do you receive?
3. Are there services that you wish you were provided that you don't currently have?
4. How do you negotiate service contracts?
5. What is the impact that services have had on your business relationships?
6. Did you consider many competitors when establishing this service relationship?
7. What does the provider do that was unexpected, but that you find valuable?
8. How flexible are the provider's services?

APPENDIX C: ABB INTERVIEW

Service Provider Interview

Interviewers: Service Team and Dr. West

Date: April 17, 2015

Company name and business unit: ABB

Interviewee and position: Christopher Ganz, Group Service R&D Manager

Note: Mr. Ganz has a coordinating role that covers the R&D processes across all of ABB's business units. He works to bring "service thinking" into the organization.

Background

1. What kinds of services do you provide your clients?
 - Company sells products and systems
 - Services follow the products' lifecycle
 - Commissioning
 - Failure: replacements
 - Upgrades
 - End of life services
 - Both long and short term service offerings

2. Why did you choose to incorporate services in your business?
 - Customer expectations
 - Reliability (equipment kept operational)
 - Critical devices in customer processes
 - Good business opportunity
 - Learn a lot about how the customer uses the product; can use information to make improvements
 - a. What challenges, if any, did you face when incorporating services?
 - Company has offered services for a very long time
 - Increasing service coverage over last 5 years

3. Does your business have a service team/division that is separate from the manufacturing business?
 - 5 divisions, with 3-5 BUs each (\$1-3 billion)
 - Services may or may not be present within these BUs, depending on the focus
 - Service managers present at every level
 - a. Who delivers your service offerings?
 - ABB's service organizations
 - Have some channel partners

4. What is the impact that services have had on your business relationships?
 - Increasing role in their business
 - Creates more regular contact with customers
 - Extending services beyond the product to include operations as well

5. What are your customer segments and why?
 - Segmented “in all possible ways”
 - Industry, geography, company size, markets served
 - Different between products and services
 - Case by case basis

Financial Information – interviewee declined to answer; ABB keeps all information not included in the annual report confidential

NOTE: SENSITIVE NUMBERS WILL BE KEPT CONFIDENTIAL TO THE STUDY

6. How many full time employees does your business unit employ?
n/a

7. Do you sell products at low margin and expect to make the difference on the services and spares?
n/a

8. What is your total equipment sales in USD? What is your total service sales in USD?
n/a

9. What is your equipment gross margin (percent)? What is your services gross margin (percent)?
n/a

10. What is your equipment EBIT margin (percent)? What is your services EBIT margin (percent)?
n/a

11. How many of your full time employees are equipment focused? How many of your full time employees are service focused?
n/a

12. What is your equipment cost in USD? What is your services cost in USD? [Can be used to find cost/FTE]

n/a

13. What is your equipment growth (Compound annual growth rate percent over 3 year)? What is your services growth (Compound annual growth rate percent over 3 year)?

n/a

14. What is your percent installed base known (with company names and addresses)? What is the percent of installed base serviced by your firm? What is your percent of installed base serviced by others?

n/a

15. What percent of your sales are transactional? What percent of your sales are long-term contracts?

n/a

16. How would you break down your service sales (by percent) into the following categories: **(note estimates are fine)**

n/a

- a. from your installed base?
- b. spares?
- c. maintenance?
- d. upgrades/conversions?
- e. consulting?
- f. training?
- g. condition monitoring?

17. How long do your service contracts normally last?

n/a

Customer Value

18. What value do you give your customers that your competitors do not?

- Equipment may provide a certain amount of lock-in
- ABB service technicians are supported by an extensive R&D network, and so have a large knowledge base available to solve problems
- Vs smaller competitors: provide global coverage and broader scope (many services and entire systems)
- Try to be faster and more effective than very similar competitors like Siemens

- a. How are new customers targeted?
 - Many channels
 - Depends on customer
 - b. How often do you get return clients?
 - Note: may want to word this in terms of customer retention
 - Ongoing services even if they are not contractual
 - Try to extend contracts
 - Retention was low at one point, current standing unknown
19. How long does it take for you to answer a client's request for information or for support?
Emergency and normal
- Depends on relationship with customer (level of service agreement)
 - Dedicated contract will result in faster response
 - Will have a specific contact who is knowledgeable in the field
 - Start investigating problem in 30 min to 1 hr
 - Depends on the complexity of the equipment
20. Do you tailor your services to your customer's needs?
- Almost always
 - a. If so, how?
 - Detailed discussion with customer
 - Service levels
 - Basic – inspections, paying per hour
 - “Gold contract” (?) fast response
 - Depends on customer situation/needs
 - One customer may need a number of different services at different intensity levels
 - Some standard packages based on products
 - Wide service portfolio
21. How many service centers do you have? How many full time service employees do you typically have per center?
- 1 per country for smaller countries, many for larger
 - May have 1 per BU in larger countries
 - Thousands of service centers
 - Service employees depend on the country size, etc
 - Resources may be close to existing customers

22. Is there anything else that you would like to add that you feel that we missed?

n/a

APPENDIX D: PRINTABLE COMPANY GUIDE

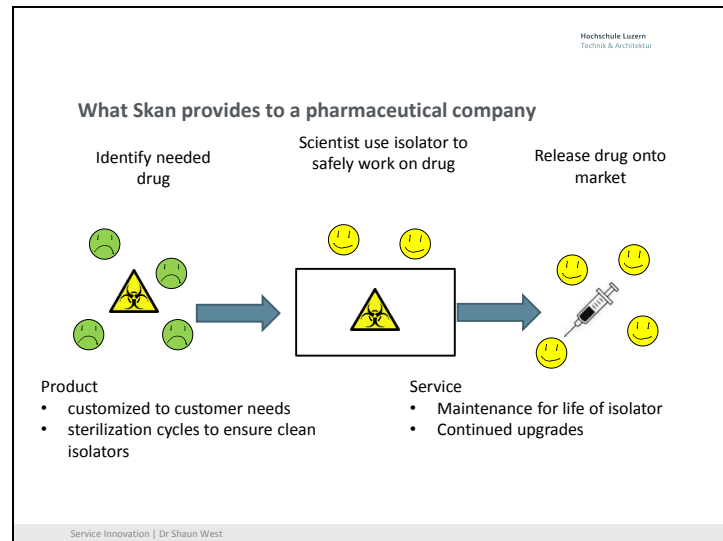
Slide 1



Title Slide

Purpose: Identify the company of interest and the scope of the slide deck.

Slide 2



Freeform Slide

This is the first slide after the title. It has no defined form and thus will require some creativity and thought to complete. Here are some basic things to think about while designing it:

- It is meant to highlight something important that the company does to create value for the client
- It should be able to stand alone from the rest of the deck
- It should express the information through a graphic

For an idea of what to put onto the slide, ask three questions:

- Does the process or idea encapsulate the basic feeling of the company?
- Can the idea be boiled down into a simple take-away in a single slide?
- Does it flow with the rest of the slide deck?

Once an idea has been settled on, it needs to be expressed graphically. This requires some creativity and ingenuity on the part of the student, but if done correctly will effectively communicate the important learning from the company.

Slide 3

Hochschule Luzern
Technik & Architektur

ABB automation provides industrial robots and systems

<p>Background</p> <ul style="list-style-type: none">▪ Robotics industry – includes software, process equipment, assembly▪ 4,600 employees▪ Over 200,000 robots in installed base	<p>Service delivery</p> <ul style="list-style-type: none">▪ Range of basic to advanced services▪ Specific packages per service offering section
<p>Culture</p> <ul style="list-style-type: none">▪ Website is easy to navigate▪ Multiple ways to find service offerings▪ Set up to give customers an idea of how the offerings can fit into their processes and help them	<p>Lessons learned</p> <ul style="list-style-type: none">▪ Presenting services so that the customers understand their value▪ Packaging service offerings as well as offering customizable options▪ Consulting services to help customers identify areas for improvement▪ Creating lasting relationships

Service Innovation | Dr Shaun West

Company Overview Slide

Purpose: To provide an overview of the company and highlight a business unit of interest if applicable.

Creating the slide:

Background – includes general information about the size of the company and what industry it is in.

Service delivery – broad information about the range of services provided.

Culture – reflects how the services are presented on the website.

Lessons learned – brief summary of some of the key takeaways from the company level slide deck.

Notes:

The “lessons learned” section should be completed after the analysis outlined in later slides.

The culture can be evaluated using Mathieu’s business organization and service intensity concepts.

Slide 4

Hochschule Luzern
Technik & Architektur

Alstom provide advanced services to beat competitors

Segment	Energy equipment and services
Customers	Energy operators and transmission
History	Works with electrical generation and transmission, large-scale electrical grid infrastructure, and is a major rail vehicle manufacturer
Service offered	"Advanced Services," maintenance, repairs, engineering and consulting, extensions/upgrades/retrofits, service agreements, training, reconditioning, operational support, technical assistance
Service forms	Long-term contracts
Competitive environment	Siemens AG, GE Energy, Vossloh AG (one of the leading companies in rail infrastructure and rail technology)

Service packages are tailored to customer to maintain relationship

Service Innovation | Dr. Shaun West

Company Detail Slide

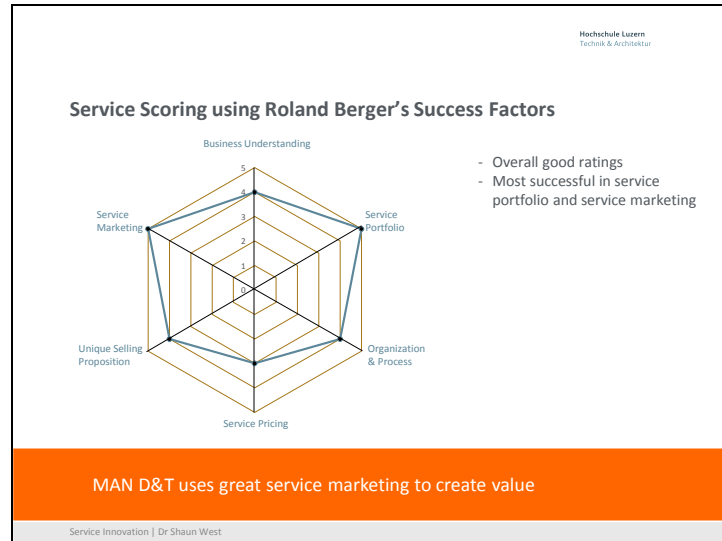
Purpose: To provide more detailed background information on the company; focused around the services.

Creating the slide:

The right-hand side of the table should be filled in succinctly.

A key takeaway at the bottom of the slide keeps the overall theme of the information related to the company's service offerings.

Slide 5



Service Scoring Slide

Purpose: General assessment of the specific company and how it handles services

Creating the slide: Each of the 6 RB criteria are broken down into 3 more subsections and rated on a scale from 0-5; these three numbers are then added together and averaged to generate the graphic.

Subsections:

Business understanding

- Market intelligence
- Targets and strategy
- Integral part of culture

Service portfolio

1. Capturing full market demand
2. Service life cycle
3. 3rd party

Organization and practice

- Clearly defined organization
- State of the art lean process
- Effective incentives program

Service pricing

1. Mark ups (order frequency, value add)
2. Differentiating service pricing
3. Package offers/prices

Unique selling proposition

- Selling service with new equipment
- Propriety design and supply chain
- Service considered during R&D

Service Marketing

1. Detailed knowledge of installed base
2. Sales channels
3. Customer Segmentation

Once the graphic is adjusted to reflect the ratings given, comment to the side on what is bad/good, why, and write the takeaway lesson at the bottom.

Slide 6

Hochschule Luzern
Technik & Architektur

Service business performance compared with the manufacturing business shows xxxxxx

- Find a way to pilot/table the "key quantitate data" from the Excel
- Note this may be two slides
- We should create a std graphic then add text!

some text...

Service Innovation | Dr Shaun West

Key Quantitative Data Slide

Purpose: To evaluate the company's performance relative to its competitors.

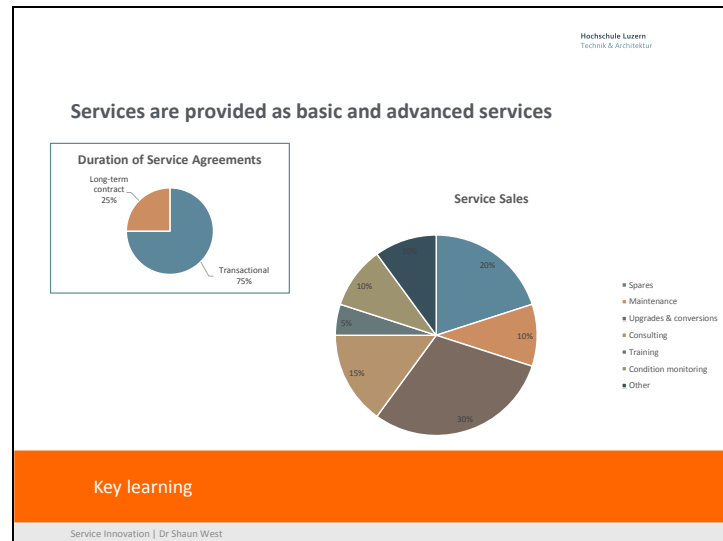
Creating the slide:

TBD

Notes:

There may be issues collecting sensitive financial data from the companies.

Slide 7



Service Breakdown Slide

Purpose: To illustrate what types of services the company provides overall.

Creating the slide:

Ideally, this slide will be populated using information from interviewing an individual within the business. The two areas of interest on this slide are the length of service interactions and the types of interactions.

Length – % transactional vs % long-term contracts

Type – spares, maintenance, upgrades/conversions, consulting, training, condition monitoring, other

Notes:

The presentation of this information is intended to illustrate the duration of service agreements and which services customers are actually choosing from the provider.

Slide 8



Service Offering Slide

Purpose: Illustrate what services the provider offers, and how they are marketed to their customers

Creating the slide:

- Headline capturing what service offerings the provider offers
- Division of services based on how they are presented on the company website
- Lists of services within these divisions
- Key takeaway – what can the observer learn from this?

Notes:

- Information taken from the company website
- Will reflect the service portfolio strength and the quality of service marketing

Slide 9



Service Culture Slide

Purpose: identifying the organizational intensity and the service specificity of the business; this allows for comparison

Creating the slide: The business can be assessed with information found using the company website.

The organizational intensity is identified as either tactical, strategic, or cultural.

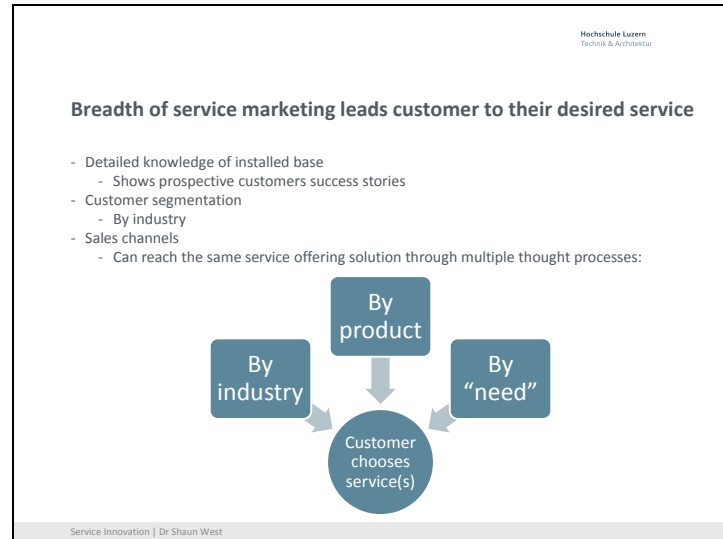
- Tactical - business will do something because their competitors also do it
- Strategic - business will do something because their management wants it done
- Cultural - business will do something because that's how it has always been done

The service specificity is identified as customer services, product services, or service as a product.

- Customer service - phone number to call for assistance or online support.
- Product services – a company will only offer services for their own products
- Service as a product – a company will provide services for all products not just their own

The company can then be plotted using Mathieu's model. The right hand side explains why the organizational intensity and service specificity were chosen for the company. An appropriate title on top is needed to explain the slide and a takeaway lesson at the bottom to sum up the slide.

Slide 10



Key RB Rating Slide

Purpose: To analyze the RB service dimension identified as the strongest on the service scoring slide.

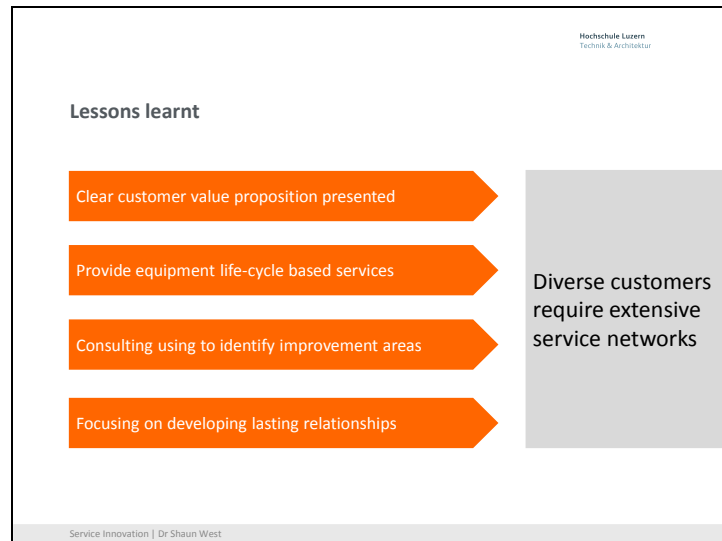
Creating the slide:

The Roland Berger service scoring slide is used as a guide for the creation of this slide. The dimension that was identified as the strongest on that slide is explained in greater detail here; the three subsections under the category of interest can be evaluated to give greater depth to the rating.

Notes:

A graphic can be used to illustrate concepts if appropriate. This example focuses on the service marketing ratings.

Slide 11



Lessons Learnt Slide

Purpose: Providing the audience with a summary of the findings.

Creating the slide:

The lessons on the left come from the key takeaways of previous slides in the series. The statement on the right is the main lesson that can be learned from the company in question.

Notes:

This slide focuses on the positive findings of the study – what the company did well in respect to service offerings, as to offer good examples to students or business leaders.

APPENDIX E: PRINTABLE SERVICE GUIDE

Slide 1



Title Slide

Purpose: Identify one specific service offering in the company of interest.

Slide 2

Hochschule Luzern
Technik & Architektur

Two very different power markets served by one standard upgrade offering; one focused on cost saving, the other on power output

Details

- New compressor, blading and combustion system from GT26
- Installed during extend C-inspection

Outcomes

- Two operational options
- More power efficiency (56% total)
- Lower cost of maintenance (days and availability)

Benefits

- Power production 3.5M USD/yr
- Maintenance cost savings 1.5M USD/yr
- 7 days per year availability
- Upgrade locks out competitors

GT3x2	24'000 EOI	24'000 EOI	24'000 EOI	24'000 EOI
GT3x2 MHL	36'000 EOI	36'000 EOI	36'000 EOI	36'000 EOI
GT3x2 MHL2	48'000 EOI	48'000 EOI	48'000 EOI	48'000 EOI

Alstom upgrades technology every 6-8 years to add customer value to their product

Service Innovation | Dr. Shaun West

Freeform Slide

Purpose: To capture what makes this service offering unique or successful in a creative manner.

Creating the slide:

There is no standard format to this slide. A graphic representation like the one above should clearly depict what the service is and how it aims to benefit the customer.

Notes:

This slide should be completed after background research and the completion of the rest of the slides in the series.

Slide 3

Hochschule Luzern
Technik & Architektur

ABB offers a wide range of service levels and packages

Background <ul style="list-style-type: none">Fixed automation – transition to more flexible processesNew robots have 6 axes of movementMore tasks can be performed with the same robot in the same space	Product-service systems offered <ul style="list-style-type: none">“Advanced services” – performance data collection and analysis servicesEngineering and consultingExtensions, upgrades, and retrofitsMaintenance; spares and consumablesTrainingService agreements
Value proposition <ul style="list-style-type: none">Better production qualityFaster cycle timesBetter production flowReduced employee turnover	Lessons learned <ul style="list-style-type: none">Tackling complicated systems maximizes the cost effectiveness for the customerOffering many paths to customizable solutions lets the customer get what they need for their application

Service Innovation | Dr Shaun West

Company Overview Slide

Purpose: To provide an overview of the service offerings of the company, highlighting the customer value proposition.

Creating the slide:

Background – focuses on what the company produces, and any unique or innovative elements.

Product-service systems offered – details how the service offerings operate with respect to the products sold by the provider.

Value proposition – description of the end result that the provider claims to give their customers.

Lessons learned – brief summary of some of the key takeaways from the service level slide deck.

Notes:

The “lessons learned” section should be completed after the analysis outlined in later slides.

Slide 4

Hochschule Luzern
Technik & Architektur

Alstom GT13E2 MXL2 upgrade implemented to improve customer relationship and keep competitive edge

Segment	Power generation
History	GT13E2 introduced in 1992, update and upgraded since introduction
Basic service	Upgrades to customer to meet market needs: lower costs or more power/higher efficiency
Service described	Upgrade with new compressor, combustion system and blading. Installed during an extended C-inspection
Competitive environment	Alstom were facing customer pressure and non-OEM competition this was an innovative upgrade to create a lockout for non-OEMs

Upgrades provide options for customer and competitive edge for Alstom

Service Innovation | Dr Shaun West

Service Detail Slide

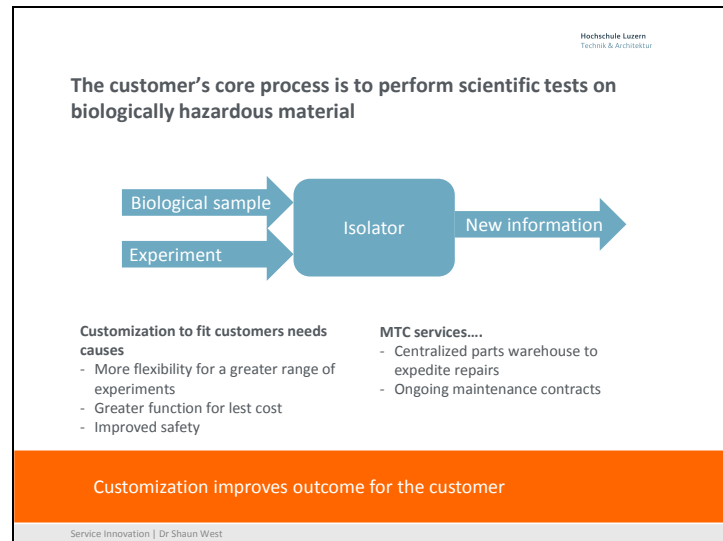
Purpose: To provide more detailed information about the service being described.

Creating the slide:

The right-hand side of the table should be filled in succinctly.

A key takeaway at the bottom of the slide gives the reasoning behind the service offering from a business standpoint.

Slide 5



Customer Processes Slide

Purpose: To show the value the client is getting from the provider.

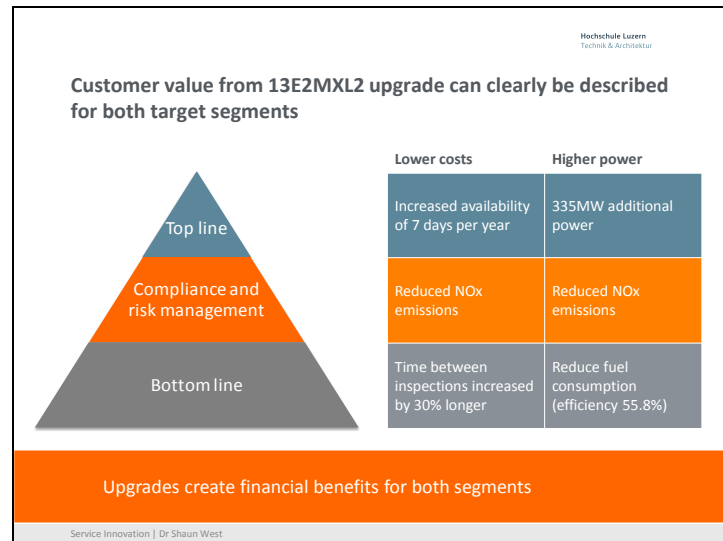
Creating the slide:

This is achieved by outlining what the customer does in a central graphic, and then describing how and where the provider supports their processes.

Notes:

The core process can be conveyed through a simplified input and output illustration.

Slide 6



Customer Value Slide

Purpose: To outline the proposed benefits to the customer.

Creating the slide:

Top line – how the service increases the customer’s profits.

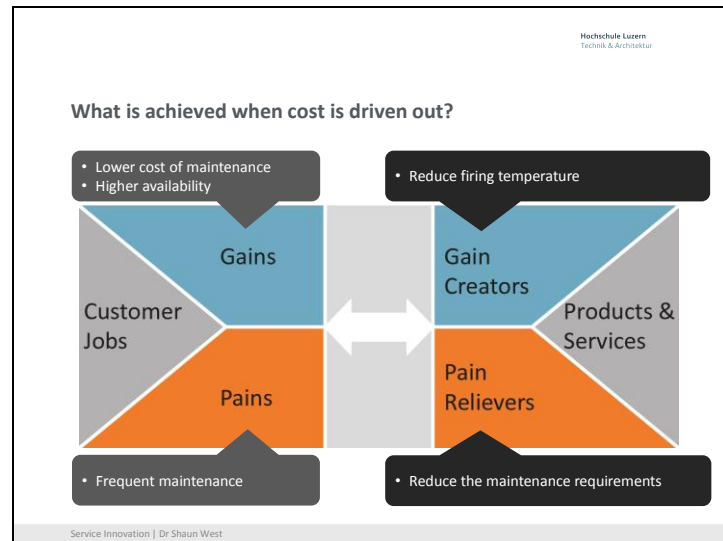
Compliance and risk management – how the service helps the customer reduce workplace risks or comply to standards (e.g. environmental standards).

Bottom line – how the service saves the customer money.

Notes:

This slide and the next work closely together; the focus should be kept on the service itself and not the product for both.

Slide 7



Process Pains and Gains Slide

Purpose: To identify how the service aims to improve customer process performance.

Creating the slide:

The “gains” highlight areas for improvement in the target customer’s systems, and the “gain creators” show how the service offering can implement these improvements.

The “pains” highlight existing problems that the company’s customers have, and the “pain relievers” show how the service offering can eliminate these issues.

Notes:

As with the previous slide, the pains and gains should be process-focused to reflect the role of the service offering, rather than product-focused.

Slide 8

Hochschule Luzern
Technik & Architektur

What is achieved when Isolators are customizable

Assumptions

- Isolators customized to customer needs
- Unnecessary features slow work and could lead to mistakes
- Faster results = faster development

Outcome

- Reduced number of mistakes
- Results are produced faster
- Drug released faster

Willingness to pay

- Faster drug release means more money for pharma company
- Beating competitors to market

Service Innovation | Dr. Shaun West

Financial Evaluation Slide

Purpose: To illustrate what the service offering's financial benefits are to the client.

Creating the slide:

Assumptions – any information about the customer's operations that are relevant to the service offering.

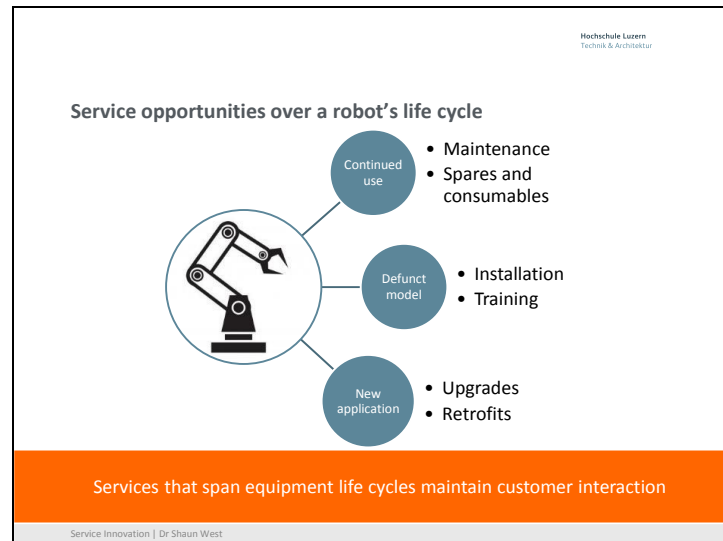
Outcome – what the service offering is capable of doing for the customer based on these assumptions.

Willingness to pay – why the service is a worthwhile investment.

Notes:

This slide focuses on the potential financial benefit for the customer.

Slide 9



Service Lifetime Slide

Purpose: To illustrate the delivery of the service offering.

Creating the slide:

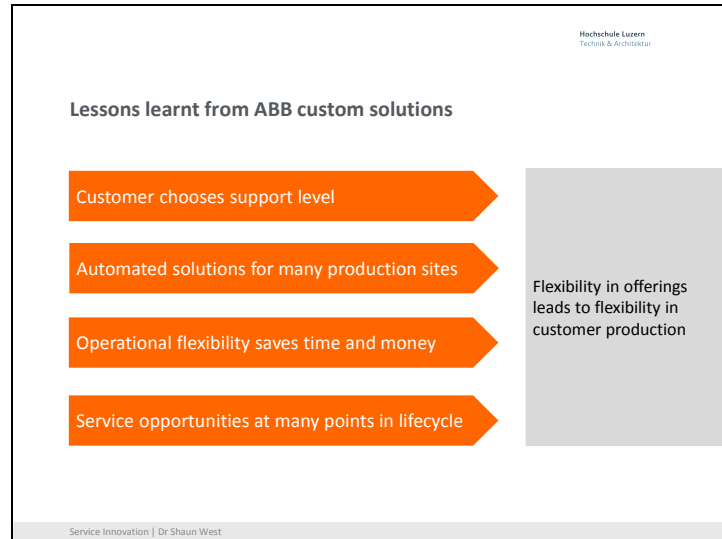
The method of service delivery is depicted. This may be based on a system or a piece of equipment.

In this example, the company's services are closely tied with its products, and there are opportunities for services to be performed along different stages of the lifecycle of the equipment.

Notes:

This slide reflects how the service provider interacts with their customers.

Slide 10



Lessons Learnt Slide

Purpose: Providing the audience with a summary of the findings.

Creating the slide:

The lessons on the left come from the key takeaways of previous slides in the series. The statement on the right is the main lesson that can be learned from the service offering in question.

Notes:

This slide focuses on the positive findings of the study – how the provider proposes its services can benefit potential customers.