IUBH Discussion Papers

BUSINESS & MANAGEMENT

Peculiarities of Services – a Critical Reflection

Carl B. Welker

IUBH Internationale Hochschule

Main Campus: Erfurt

Juri-Gagarin-Ring 152

99084 Erfurt

Telefon: +49 421.166985.23

Fax: +49 2224.9605.115

Kontakt/Contact: k.janson@iubh.de/

Autorenkontakt/Contact to the author(s):

Prof. Dr. Carl B. Welker

IUBH Bad Honnef

Mülheimer Straße 38

53604 Bad Honnef

Telefon: +49 2224.9605.227

Email: cb.welker@iubh.de

IUBH Discussion Papers, Reihe: Business & Management, Vol. 3, Issue 8 (May 2020)

ISSN-Nummer: **2512-2800**

Website: https://www.iubh-university.de/forschung/publikationen/

PECULIARITIES OF SERVICES – A CRITICAL REFLECTION

Carl B. Welker

Abstract:

It has often been claimed that services are so much special and featured by challenging characteristics such as "intangibility", "perishability" "simultaneity" and "heterogeneity". This paper will show that indeed services and industrial manufacturing are both featured by same process characteristics and challenges.
For this purpose, the paper introduces into the General Process Model as a tool for analysis and visualisation. Then, the named characteristics will be examined, including numerous examples easy to understand. The reader will understand that the above mentioned features either apply to any industrial manufacturing as well, or have academic but no practical relevance, or even reflect analytical failure in service theory. More important, the author points at the real issues worth being discussed: Products (services) that are highly customer-specific and demand arrivals with low predictability, both challenging capacity management and both calling for solutions manufacturing and services industries can deliver to each other.

Keywords:

Service characteristics, general process model, business process reengineering, service definition, service concept, service theory

JEL classification:

B40 - D24 - L60 - L80 - M10 - M11

Peculiarities of Services – A Critical Reflection

It has often been claimed that services are so much special and featured by challenging characteristics such as "intangibility", "perishability" "simultaneity" and "heterogeneity" (cp. van Looy et al., 2003, p.23).

This paper will show that the above mentioned features either apply to any industrial manufacturing as well, or have academic but no practical relevance, or even reflect analytical failure in service theory (cp. Welker, 2017).

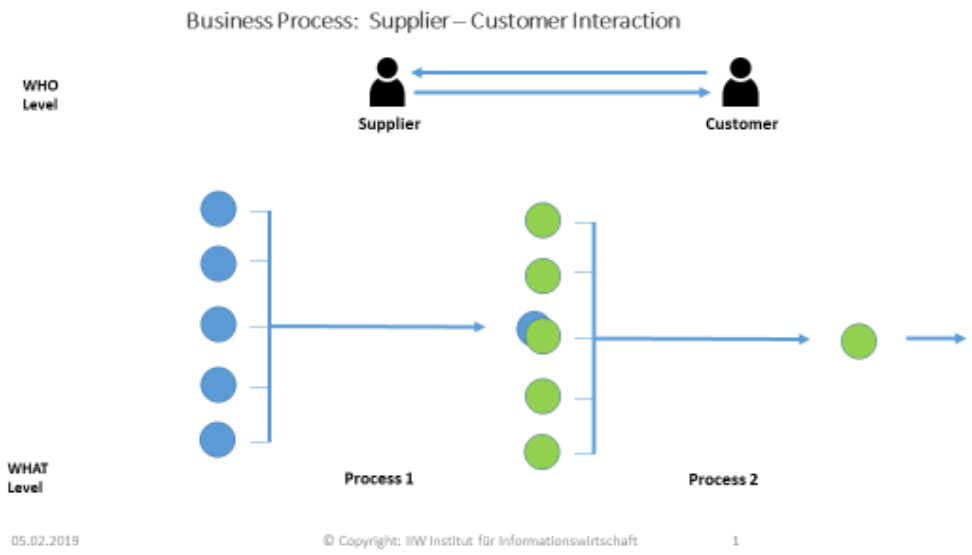
For the purpose of analysis we first introduce into the General Process Model (GPM), then we take a closer look at service characteristics.

1. The General Process Model (GPM)

In 1986, Jürgen Weber presented an analysis of an elemental performance process and applied it to services processes, namely to logistics operations such as transport, warehousing, handling. These operations have traditionally provided difficulties in performance measurement and controlling (cp. Weber, 1987). Weber´s analysis made clear that it is well possible to get hands on "intangible" process outcomes – making them accessible to measurement, detailled cost planning, quality control, and communication between customer and service provider. Later, this approach was broadened and further developed by the author (cp. Welker, 1993). Since then it has repeatedly been used within university seminars and for many business consultancy projects. The model supports many applications of which planning and control, quality management, process re-engineering, outsourcing, and new business development may be the most beneficial ones.

The model includes two levels: Actors (who?) and the business process (what?) – these levels may be interpreted as marketing / management and operations (see illustration 1).

Illustration 1: General Process Model



Source: Welker, 2017, p. 2

In first instance, we have to consider two main actors: supplier and customer. Both may be seen in their role as process owners, each of them being responsible for one of the both successive business processes. The supplier takes responsibility for a process which delivers an output which at the same time serves as an input resource for process 2.

In this relationship there may be an intense dyadic interaction and communication about the details of the product specifications to be delivered and the process to be carried out. Most of the service quality criteria

presented by Zeithaml, Parasuraman, Berry (cp. Zeithaml et al., 1985) for instance, would have to be applied on this relationship level, rather than on the product level which will be discussed next.

In second instance, the "what" takes place is discussed: processes and products. To be precise, examining one single elementary business process the General Process Model (GPM) distinguishes 4 layers. For the purpose of this article we simplify and just present the basic logic (see illustration 2):

1. Resource layer: Providing all resources needed, where all input resources have been generated as outputs of prior processes. Providing resources implies a "static capacity".

Example: Truck and driver standing and waiting for transport order, the cargo to be transported is not yet provided by the customer.

2. Process layer: the (still empty-running) process, i.e. resources are being activated now.

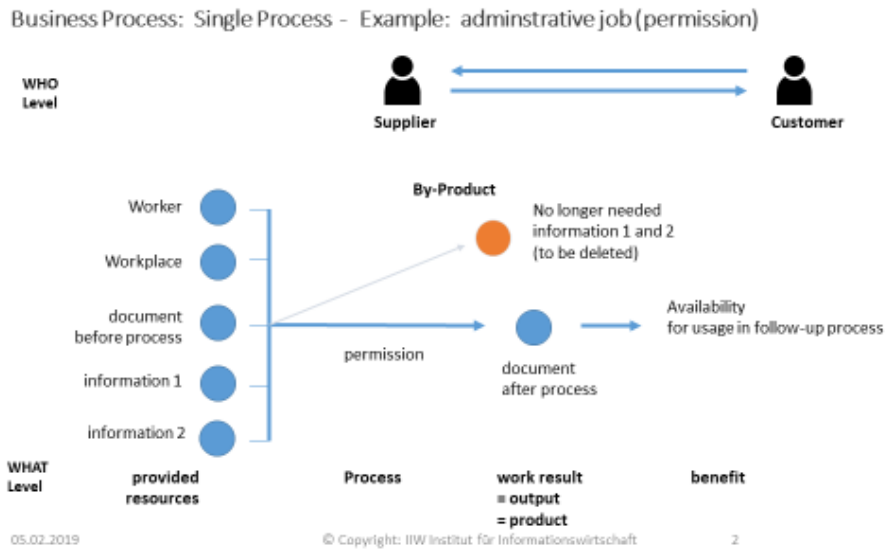
Please note that so-called object-factors, often to be provided by the customer himself, has not yet been provided, so at this layer it is impossible to reach any meaningful output.

Example: Bus and driver are cruising along the prescribed busline, but no passenger shows up: a transport of a person as the intended meaningful process output can neither be started nor be finalised.

3. Result layer = output: When all necessary factors were provided, the process was willingly and successfully carried out, this will lead to process outputs. This may be an output with a new shape like getting a pudding out of milk and pudding powder. It may also be just a tiny change of a feature such as adding some sugar to your pudding.

Process outputs comprise in first instance willingly intended main output, in second instance so-called by-product(s) as outputs maybe not really wanted and often called waste.

Illustration 2: General Process Model



Source: Welker, 2017, p. 3

Example: Main product: Output of the transport process is the change of place of a box of champagne that has been transported from Reims to Berlin in accordance with specifications such as destination point, delivery point of time, no deviations such as leakage, loss, delay, etc. As by-products we identify exhaust fumes from the engine and other - mostly unwanted - impacts of the process on road, driver, truck.

4. *Benefit layer:* In a successive process, our output will serve as an input factor. The benefit of our product is – still a bit abstract – that it is just being available for any follow-up process.

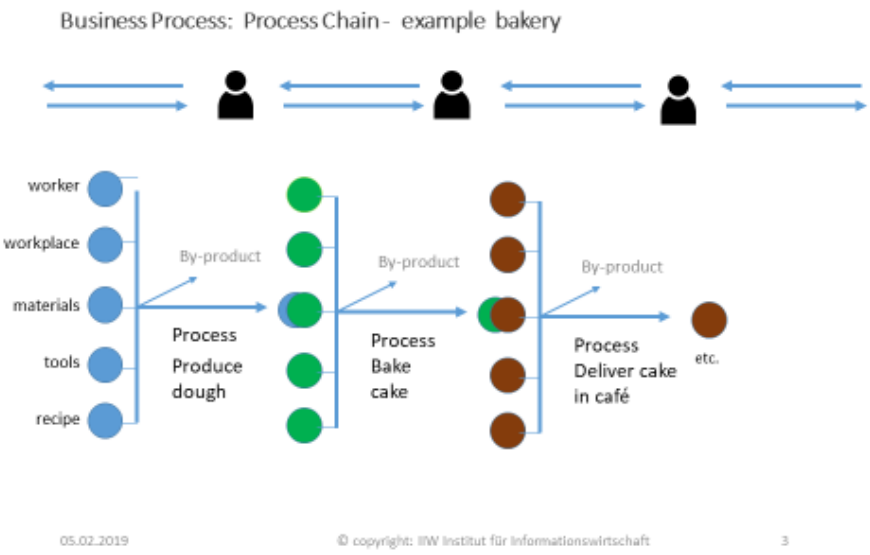
In practice there should of course be a more precise purpose, in order to justify having placed an order that will incur expenses.

The follow-up process however, is within our customer´s sphere, and the outcome of the follow-up process will deliver the benefit. Marketing theory tells us it´s rather the customer who feels, defines, evaluates the benefit – and not always in a pecuniary way.

Obviously, failure of our product output (bad quality, wrong time + place) would affect our customer´s process. This again led to a loss of benefit which would strike back on our business. That´s the reason why indeed learning about the purpose, the follow-up process lets us understand our customer and how we might help him, i.e. how our output could be improved to better support our customer´s process.

This model describes an elementary process. Several of these single elementary processes may be linked one by one and as a result we gain a process chain (see illustration 3).

Illustration 3: General Process Model



Source: Welker, 2017, p. 4

The General Process Model helps understand and visualise reality. After having presented the model, we now have a methodological fundament to discuss so-called “peculiarities” of services.

2. Peculiarities of Services

There are numerous characteristics of processes and process outcomes such as competitive relevance, strategic relevance, complexity, level of definition, level of determination, customer specificity vs. standardisation, interdependencies and many more (cp. Welker, 1993, pp. 106-147 and 233-238). They are evident when it comes to strategy, marketing, manufacturing, and procurement decisions. For the following, we will focus on so-called *peculiarities of servi*ces as they have been presented through the last decades.

2.1 Intangibility

Intangibility means the intended output is not tangible. More precise: The intended change of a feature, or complete newly created output is not touchable. Due to intangibility, some authors even argue services can not be owned.

Interestingly, there are just two (!) intangible changes, i.e. intangible services: changing the place (i.e. transport) or changing the point of time (i.e. storing an item or human, e.g. hotel overnight stay).

Besides those, there is only one more intangible thing called information - including reports, newspaper, advice, music, videos, educational services, divine services, entertainment, and digital substitutes for "real" products: software, digital money. However, information, for practical reasons is mostly fixed to a carrier such as paper documents, walls, plastic packages, paper notes, HDD, LED screens, beamer projection areas, a bio-chemical machine called brain.

In daily practice, intangible features (time, place or specification of information) may be fixed, measured, controlled comparatively easily, this because IT helps a lot nowadays.

In day-to-day language also plumbers, car mechanics, surgeons, or hairdressers would be called "service people" – as a matter of fact no intangible services outputs, since most resources, the process and the intended outputs (renewed sink, changed wheels, leg taken off, hair cut, curled, colorated) definitely very physical.

Conclusions: Indeed, intangibility may serve as the ultimate definition criterion for "services", therefore definitely crucial for academia, but of little relevance for business practice.

With regard to ownership: Property right theory, business contracting and law practice carefully distinguish owner´s and user´s rights. Any service output has an owner, even if the output is hard to return (hair cut, skyscraper turned down, tax declaration done) or just user licenses are resold in sophisticated manners (software code, streamed movies). Any output, any running process, and any resource can be possessed or owned by someone.

2.2 Perishability

Service gurus tell you that if an airplane takes off half-empty, the other half of its service capacity has gone, it is perishable.

The idea is, that, by contrast, a manufacturer could easily produce on stock, and thus a manufacturer´s capacity then nicely fully utilized. Industry experts would insist that also hardware manufacturers of customised batchsize-one products such as special machinery, customised fashion items, personalised computers and the like cannot produce millions of product variations on stock as well.

All of them do face a problem similar to a restaurant or doctor´s practice: demand in great variety and fluctuation, highly customer-specific solution needed, demand hard to predict. This means, all of them experience perishability.

Conclusion no. 1: All processes, i.e. capacities used in a given point of time, are always perishable and a process can never be stored because nobody can stop the time vector.

Conclusion no. 2: The real characteristic is that some products are customised and require a customer´s order, instructions, often even a special resource input provided by the customer himself – we call this *customer*

specificity and it is often found with a low predictability and in all these cases capacity utilisation is not trivial at all.

Please note: this is not a problem exclusive to "services".

Related to perishability, it is also claimed that "services" cannot be produced beforehand and then stored. But this is not correct.

Storage means: you carry out the process earlier than needed. Then you have to overcome time (i.e. store) til the moment you start using the output.

This implies two questions: 1) Does storing make sense and of course: 2) is it possible to store ?

Let us take a look at 2 examples:

Example 1 (manufactured product): Store your yoghurt for 10 years in your refrigerator. Possible yes. However, such food includes living organisms. The product will change its specifications over time, therefore storage is not meaningful – still possible!

Example 2 (a service): You want to present yourself with a proper haircut on 4th July 2021 celebrations. You get a special 10% discount offer by your hairdresser on 5th July 2020 and have your hair cut by 1 inch, every single hair. Indeed, these 1 inch shortening will last and still be off in one year from now, even in 10 years from now! But, as hair is growing, it will be too long again for your purpose in 1 year from now. Also this example shows: Storage of the output (= overcoming 1 year with hair cut by 1 inch) is possible, but not meaningful.

Variation: Have your hair cut by 2 or 5 inches. Storage is possible, and even meaningful because your hair will be still short enough for your purpose even 1 year later - if you accept looking like Kojak for a while.

Example 3 (a service again): You want to attend a congress in Minnesota on 19th May. You get a special tariff by your hotel for any night between 10th and 12th . You travel there 1 week earlier. You actually store yourself in bed and stay all week prior to the congress. Storage is possible. It is up to you to decide whether it is meaningful – perhaps not if it is just the congress you are after. Perhaps yes in case you love waiting for a week - in a very precise process logic this means you do precisely nothing else than just wait. Otherwise it would not be storage, not be waiting.

Certainly you can store any process output because you can store anything, provided the item does exist, means: it has been produced before.

Example: Let us assume a situation, where all this can be arranged earlier: For example you have your box of champagne transported from Reims (France) to Berlin (Germany) one week earlier because the winery has granted a discount for early orders.

In that case, a successful change of place of your champagne is "fixed" to the champagne, and of course this intangible process result "change of place" can and must very well be stored for all the week prior to your festivity. It looks surprising, but also this common situation shows a *service can basically be stored*.

It is always the result, not the running process (!) which can be stored – here we see why the GPM and its unambiguous terminology and clear academic distinction of "process" and "product" output is so important.

Conclusions: Perishability is a big challenge for business, but it´s trivial for (professional) academia.

And despite it often makes no sense: You can store anything that does exist, also service process outputs.

2.3 Simultaneity

Service gurus also tell you that production and consumption (i.e. use) of services happen at the same time. The reader may excuse this picture: So far, we have not seen any restaurant guest, lying on a grill together with their steak, eating it while it´s still being grilled. We assume there is another intellectual pathology we have to detect.

By definition, and following the GPM, any product requires a finalized process, otherwise no product output. A product that does not (yet) exist cannot be used for a follow-up process.

One may insist that ongoing processes may be witnessed and monitored – right, but monitoring is not yet consumption of the final output.

As we understand the problem, some people mix up the logical levels: monitoring happens at the actors (Who) level, consumption would be a follow-up operation (What level).

And, as we understand the problem from several discussions, some people change the subject while they are talking about. And here, we have to stipulate on analytical accuracy.

Example: Do you enjoy your candlelight-dinner while you are still dining? You might think yes, but: No – because precise analytics tell us: What you have actually enjoyed in the past 20 seconds, inmid the long process, was just step no. 23: cutting the perfect meat piece no. 8, shifting your fork to your mouth, chewing and swallowing piece no. 8 and thereby tasting the full aroma. Enjoyable! You may benefit from this tiny process, it delivered you proteins and fun.

But of course, you still cannot benefit from the complete dining process of this all-evening´s candlelight-dinner because it has not yet been finalized. These benefits only come after the complete thing is over.

Thus, for a correct analysis we have to make sure what is the output subject we are speaking about: The precise step no. 23 (enjoying meat piece no. 8) or the complete dinner finalized.

Conclusions: "Simultaneity" is an illusion – or a result of lacking analytical accuracy.

2.4 Heterogeneity

Service gurus further tell us that services are very heterogenous. What they mean: due to customisation there are uncountable many variations of your service product your customer may desire and you can realise. Obviously, with increasing numbers of variations, complexity costs, quality issues and other well-known problems arise. Still, there are methods and techniques to successfully cope with diversity. And when you order a Dell computer you are facing an industrial manufacturing example for "heterogeneity".

And that´s the challenge in services as well as in manufacturing industries: You often first need the customer order, a specification, a detailled instruction, or even resource inputs from your customer. All that does simply not allow for putting standard outputs on stock.

Conclusions: Heterogeneity is indeed a challenge, but again: this is not exclusive to "services".

3. Conclusions

After all: Is it meaningful to distinguish "services" from "non-services" – are there criteria to define and separate "services" from the rest?

In academia, by definition, *intangibility* is the feature. As shown, it may serve as an academic criterion, but it is of little relevance in business practice. Services then by definition only include transport, storage (warehousing and a hotel stay) and any information service with no physical carrier.

Perishability is trivial. *Heterogeneity* is not exclusive to services at all.

From our point of view, it is a by far more serious issue that in some service industries there is a lack of understanding of what is the process and what is a product. As a consequence, they argue "*non-storability*" and "*simultaneity*". And here, the General Process Model provides accuracy in micro-analytics of what is really going on in any sort of business, regardless whether "service" or "non-service". As shown, services can be stored.

Moreover, in business practice, “services” get very much “industrialised” when standardisation and simplification take place (compare fast food chains, parcel services, budget hotels) or heavy automation and digitalisation take place (e.g. banking, entertainment, educational services).

By contrast, many manufacturing industries have turned into service firms and tend to customise their products (e.g. Dell), earn their money outside their original hardware business with value-added services (e.g. HP, IBM) or financial services (e.g. Siemens, Volkswagen), and provide a 5-star-hotel-like personal attention approach with empathy (e.g. Rolls Royce Cars). Both sides are merging more and more.

As shown, the *two major problems* that really challenge operations management in all industries, e.g. special machinery, doctor´s practices, or 4-star-hotels, are namely

customer specificity, i.e. the product is customized (built-to-order): an order, instruction, or even customer´s own input resource is needed to start operations (e.g. car repair, hair dresser)

low predictability of quantity and quality of demand arrival.

Here´s where in all these industries tools such as forecasting, demand management, yield management, the modular design principle, or booking and reservation systems may offer a solution to problems arising in capacity management and business efficiency. Various industries can learn a lot from each other.

In the end, seen from a practical as well as from a theoretical point of view, it is not helpful at all and therefore obsolete to split into a service and a non-service world.

References:

Parasuraman, A.; Zeithaml, Valarie A.; Berry, Leonard L. (1985)	A Conceptual Model of Service Quality and its Implications for Future Research , *Journal of Marketing*, Fall 1985, pp. 41-50
Van Looy, Bart; van Dierdonck, Roland; Gemmel, Paul (2003)	*Services Management. An Integrated Approach*, 2nd ed., Financial Times, Prentice Hall 2003
Weber, Jürgen (1987)	*Logistikkostenrechnung*, Springer, Berlin 1987
Welker, Carl B. (2017)	*Produktmerkmale und die Besonderheiten von Dienstleistungen*, White Paper, IFG, Zurich 2017
Welker, Carl B. (1993)	*Produktionstiefe und vertikale Integration*, DUV, Wiesbaden 1993