How does Efficiency in Service Business Influence Service Quality?

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Abstract

In a service business, it is difficult to cope with all your customers' needs. They come and go with various wants and when it comes to their own good there are complaining. Such variances in the service business interfere the operation resulting in inefficiency. To come against all those fluctuate wants, Frei is suggesting a new way how to cope with this customer variability in the service business: Low-Cost accommodation and uncompromised reduction. However, his assertion that these solutions can reduce cost and enhance service quality at the same time is empirically not proved. Thus, the following research will be dedicated in the empirical proof whether the solutions mentioned above can enhance service quality while reducing cost by pursuing efficiency in the service business.

1. Introduction

Serving the customer in a palatable way by maintaining the degree of service quality and by considering the cost at the same time is not an easy task. A variety of caring and nurturing efforts to increase customer satisfaction inevitably raise service cost. Therefore, a tradeoff between service quality and associated cost needs to be carefully made. Such an optimal balance necessitates identifying the exact roots where these tradeoffs are based upon. According to Frei (2006), five service variables make the service business difficult to set the right trade-off level between pursuing efficiency and service quality, which are arrival variability, request variability, capability variability, effort variability, and subjective preference variability.

Arrival variability arises when customer wants are served at different timing. Customers do not all want service at the same time or at times necessarily convenient for the company. In other words, customers are coming unexpectedly and they want to be provided with the same service consistently. In a restaurant, for example, people are rushing at lunch times that would result in a waiting line of people to be served. This waiting line would result in

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dissatisfaction to the customer or inefficient work by the restaurant. This type of various arrival rates can be defined as arrival variability. In the classic way to address arrival variability, one can hire more people that can serve your customers. But this, in turn, will cause cost inefficiency in your business.

Request variability exists when there is a wide range of customer requests. In this case, customers' desires often do not emerge along standard lines. They pose real challenges for virtually every kind of service business. An advertising agency, for example, should take into account of each client's unique strategy.

Service business must also work with customers whose own capabilities differ. *Capability variability* occurs due to difference of knowledge, skill, physical abilities, or resources among customers. Naturally, the more the customer is capable of using the provided service the easier is it for her to get the expected service. Similarly, when the customer sufficiently understands how to consume the intended service, it is more convenient to provide the right service for the customer. In this regard, capacity variability can make a difference on both customer's and service provider's site. For example, South Korea's tax reporting system has currently been changed into an Internet-based system called Hometax. The tax reporter can easily report her change in her property on the Internet. But the capability gap between the people who are using this system differs so that some people are capable of reporting at home while others still have to visit the tax office and do the same thing, there.

In the movie "the terminal", the actor Tom Hanks gathers all the dumped carts at the airport and settles his lunch with the coins coming from those carts. This situation in which customers are dumping their carts is an example of *effort variability*. People are just indolent to get their carts back to the place where it is coming from. But in some cases when customers must perform a role in the service interaction, it is up to them how much effort they apply to the task to get the right service. If the customer is ready to be a part of the entire service process, the service provider can take off some load from its work and provide something in turn for it.

Customers vary in their opinions how to be treated in a service environment, which results in *subjective preference variability*. Customers' perception on the same service differs widely and it is difficult to know where customers fall on the relevant spectrum of variability. Some people understand the precise description of the bank staff to be cumbersome while others think it as a kind service. This example of the bank is a typical example of personal preference and it introduces as much unpredictability as any other variability which makes it harder to serve a broad base of customers.

The taxonomy above is important because operational issues in a service business can often be traced to problems created by customer variability. But the strategy to manage customer variability can vary according to the specific type of variability.

2. The Trade-Off between Efficiency and Service Quality

Customer variability spawns costly inefficiency. Frei suggests diagnosing the type of variability and decide whether to accommodate or to reduce the variability in the service business. Classical methods of accommodation and reduction for managing variability work well but they carry trade-offs. For instance, a restaurant that accommodates personal tastes of the customer enhances customers' fine-dining experience for the charge of extra premium prices to cover resulting cost increases. But if the restaurant reduces request variability by accepting only menu-listed orders, it improves efficiency by reducing complexity of the operating environment. In this case, the restaurant is making a trade-off between excellent service experiences for low price. Generally, companies that emphasize service experience tend toward accommodation, and those that emphasize operational simplicity usually tend toward reduction as a means to keep costs low. Thus, the classical way to respond to customer variability is to fully accommodate the customer or to make a trade-off in cost of the reduction of service quality. At this point, Frei indicated that there is a better way of treating all customer variables: "Managing customer-introduced variability does not have to come down to a stark trade-off between cost and quality." Figure 1 shows possibilities beyond classic reduction and accommodation strategies: low-cost accommodation and uncompromised reduction. .
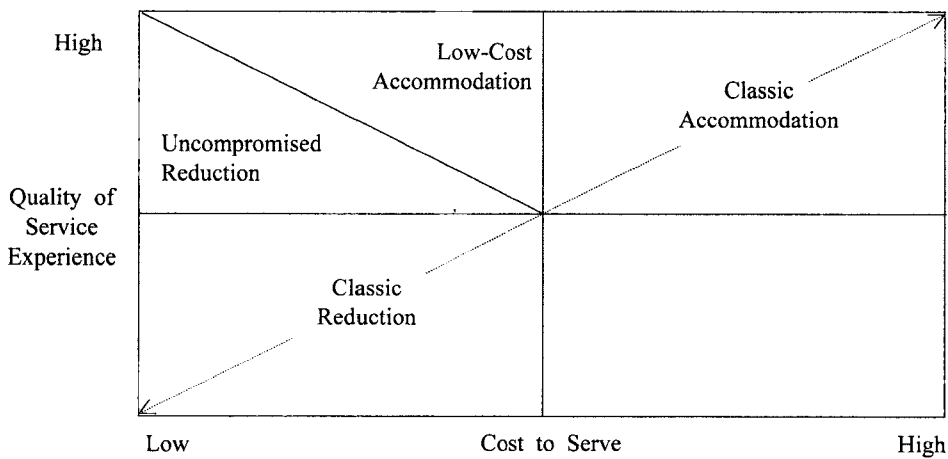
Source: Frei, Frances X., "Breaking the Trade-Off Between Efficiency and Service," *Harvard Business Review*, November 2006.

Figure 1. Trade-Off between Cost and Service Quality

According to Figure 1, the area above the diagonal offers service managers a solution to accommodate or to reduce service variability by not reducing service quality. These two help the company to offer ordinary service at low cost or reduce customer driven service varia-

bility without giving up service quality. The common idea of all low-cost accommodations for all sorts of customer variables is to hire low-cost labor or introduce self-service options. Similarly, in the uncompromised reduction approach, the main idea is to target customers on the basis of the variability type. One good example of low-cost accommodation was practiced by *Dell Computer* which accommodated arrival and request variability by outsourcing on-site customer service to third-party providers. In the late 1990s, as a new entrant in the market, Dell lacked expertise in customer service operations. The company faced with an alternative situation where it had to decide whether to accommodate customer variability or to reduce it. Dell's solution was to accommodate by maintaining service quality at low cost. Dell outsourced its on-site customer service to third party providers that served more than one client and thus were less disrupted by the variability imposed by Dell's customers than Dell would have been had if it had acted attempted to provide the service alone. Starbucks presents a good example of uncompromised reduction and the trade-off between efficiency and service quality. Starbucks' customers are allowed to choose among many combinations of sizes, flavors, and preparation techniques in its beverages. To reduce request variability, at the back of the service interface, Starbucks trains its counter clerks to call out the various orders of the customers in a particular way. In this manner, it can fill orders accurately and efficiently. At the front of the service interface, it attempts to teach customers to order by following the instructions on the detached pamphlet which is called "guide to ordering pamphlet." When customers are ordering in a wrong way, clerks are instructing customers by repeating the order to the customer not in the way it was presented but in the corrected way written on the pamphlet. Through this teaching behavior, Starbucks reduced its customers' capability variability.

The difference between low-cost accommodation and uncompromised reduction lies in the strictness of the service provider to the customer. In other words, it depends on the degree of concession how much the service provider is compromising with customers' wants. In the case of Dell computer, Dell is not restricting its customers with limited service which could have been occurred when Dell has owned its own on-site customer service center. It provides the same degree of service quality (thereby so fully accommodating its customers) by outsourcing this service to a third party. Thus, Dell is compromising with its customers' variability by pursuing efficiency, not by sacrificing service quality. On the contrary, Starbucks is not compromising with its customers. This can be corroborated by the "guide to order pamphlet" which Starbucks provides its customers. This pamphlet is limiting the service breadth of the customer by settling down an ordering manner which makes the service process of Starbucks much easier. Teaching how to order a beverage in the right way changes customers' behavior, not that of the service provider. Strategies how to manage other customer variables are listed in Table 1.

<div align="center">Table 1. Strategy for Managing Customer-Introduced Variability</div>

	Classic Accommodation	Low-Cost Accommodation	Classic Reduction	Uncompromised Reduction
Arrival	∘ Make sure plenty of employees are on hand	∘ Hire lower-cost labor ∘ Automate tasks ∘ Outsource customer contact ∘ Create self-service options	∘ Require reservations ∘ Provide off-peak pricing ∘ Limit service availability	∘ Create complementary demand to smooth arrivals without requiring customers to change their behavior
Request	∘ Make sure many employees with specialized skills are on hand ∘ Train employees to handle many kinds of requests	∘ Hire lower-cost specialized labor ∘ Automate tasks ∘ Create self-service options	∘ Require customers to make reservations for specific types of service ∘ Persuade customers to compromise their requests ∘ Limit service bredth	∘ Limit service breadth ∘ Target customers on the basis of their requests
Capability	∘ Make sure employees are on hand who can adapt to customers' varied skill levels ∘ Do work for customers	∘ Hire lower-cost labor ∘ Create self-service options that require no special skills	∘ Require customers to increase their level of capability before they use the service	∘ Target customers on the basis of their capability
Effort	∘ Make sure employees are on hand who can compensate for customers' lack of effort ∘ Do work for customers	∘ Hire lower-cost labor ∘ Create self-service options with extensive automation	∘ Use rewards and penal-tiest to get customers to increase their effort	∘ Target customers on the basis of motivation ∘ Use a norminative approach to get customers to increase their effort
Subjective Preference	∘ Make sure employees are on hand who can diagnose differences in expectations and adapt accordingly	∘ Create self-service options that permit customization	∘ Persuade customers to adjust their expectations to match the value proposition	∘ Target customers on the basis of their subjective preference

Source: Frei, Frances X.: "Breaking the Trade-Off Between Efficiency and Service," *Harvard Business Review*, November 2006.

3. Measuring Customer Experienced Service Quality

Frei (2006) proposes a solution how to manage customer variability which is the main cause of inefficiency and cost in the service industry. However, his contention has not been

empirically tested. Theoretically, the aforementioned cases of Dell Computer or Starbucks can be regarded as low-cost accommodation or uncompromised cost reduction. Still, the question arises as to if it improves service quality based on the customer experience, i.e, it can just be a case in which service variability of the customer is reduced while the quality stays unchanged or even lowered. The instrument for measurement used in this research is *SERVQUAL* which is widely used among service measurement activities (Parasuraman *et al.*, 1988). By using SERVQUAL, we premise that service is perceptional. This means that service quality is not objectively evaluated by the customer but is evaluated by the customer in a subjective way (service experience by the customer). Thus in this research, service quality is an attitude towards a product and not an objective aspect or feature of a thing or event (Harvey, 1998). Due to the intangibility of service, we set up an environment where people are evaluating their expectation and perception against the provided service. This will be measured by five underlying dimensions in the SERVQUAL measure (Berry *et al.*, 1994): *Tangibles*, *Reliability*, *Responsiveness*, *Assurance* and *Empathy*. Further, there will be no restriction whether the measured service is the quality of the process or result of the service. We also suppose that the low-cost accommodation and uncompromised reduction of service variability are enhancing effectiveness but not service quality. Thus, contrary to Frei's article, we hypothesize that there will be a negative or an unchanged result of service process or result. The underlying hypothesis of this paper is

Hypothesis: Low-cost accommodation and uncompromised reduction of service variability will have no effect or a negative effect on service quality

To confirm this hypothesis, we begin with a survey replied by 200 adult respondents who have used a service industry during the past three months. The sample size of 200 was chosen because the initial SERVQUAL measure development was based on the same scale. Contrary to other literatures on service quality, this research is not targeted towards users of a specific service industry. Neither is it choosing respondents near by a service facility because it is seeking after an overall evaluation of service quality. The measured service industries were chosen based on the service industries that have been researched in the SERVQUAL literature (Robinson, 1999). The industries that are representing almost all typical and often used service industries are as follows: Bank, restaurant, retail service, travel agents, hospital service, library service, internet retail service, lodging and transportation service, and consulting service (Ladhari, 2008). Among these industries, only industries that are also mentioned in Frei's article or are very close to the industry mentioned in his article were included. Fortunately, except for one type of service industry (lodging and transportation service), the rest were very close to the industries in Frei's article. The questions in the survey were made in the correlation of the five service variability types and the

SERVQUAL dimensions at a selected service industry. The research model highlighting the relationship between service variability and SERVQUAL is shown in Figure 2.
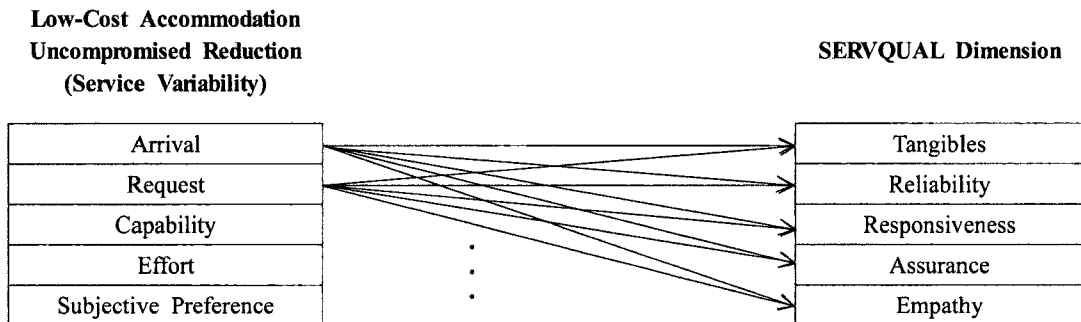
Low-Cost Accommodation
Uncompromised Reduction   **SERVQUAL Dimension**
(Service Variability)

Arrival
Request
Capability
Effort
Subjective Preference

Tangibles
Reliability
Responsiveness
Assurance
Empathy

Figure 2. Research Model

Respondents were asked to indicate their degree of agreement on a seven-point likert scale ranging from "1 = strongly disagree" to "7 = strongly agree." The sequence of questions for one type of service variability to one SERVQUAL dimension starts by asking a respondent how good the service of a given service industry will be in his expectation. Then, a situation in which one of the service variability is reduced through either by low-cost accommodation or by uncompromised reduction is presented. The respondent was asked to evaluate the perceived service quality of the situation based on the five dimensions of SERVQUAL. It is worth mentioning that there can be four possible pitfalls in this approach. First, low-cost accommodation and uncompromised cost reduction can differ from situation to situation. Second, it is vague to ascertain the border line between these two strategies and the classical strategy of accommodation and reduction. This means that different standpoints are differently diagnosing a given situation. Some interpret it as a classical manner while others think that it is a low-cost accommodation or uncompromised cost reduction strategy. Third, this research should have been done nearby a service business similar to the situation of the initial SERVQUAL measure development. But considering that the respondent can be influenced by a particular service business it can distract the respondent by making an overall evaluation over a service type. Fourth, the respondent should have been experienced the situation before the improvement by the above mentioned two strategies and after it is introduced into the system. Unfortunately, this is almost impossible task since it requires a total overhaul of the business which is unrealistic. To overcome all these difficult situations, we incorporated the same examples mentioned in Frei's article and tried to describe the given situation as concrete as we could in my survey. The data gathered through this procedure was then computed into a SERVQUAL result using the formula given below (Berry et al., 1994).

$$SQ_{ij} = P_{ij} - E_{ij}$$

SQ_{ij}: Service quality for customer variability i and SERVQUAL dimension j

P_{ij}: Perceived performance of the firm for customer variability i for SERVQUAL dimension j

E_{ij}: Expectation of the firm for customer variability i for SERVQUAL dimension j

4. Test Results and Empirical Analysis

The test result derived from the survey indicates that almost all service variables have a negative SERVQUAL output except for two. However, in total, this result can be interpreted as dissatisfaction from the customer because the total SERVQUAL score is averaging to minus .3729. Thus, the solution given by Frei turns out to be faulty because service quality is not improved. The test result of all possible connections of service variability and SERVQUAL dimension is listed in the table below which results indicate that the hypothesis in this research holds true.

Table 2. Research Results; SERVQUAL Scores for Each Relation

	Tangibles	Reliability	Responsiveness	Assurance	Empathy
Arrival	-0.852459	-0.0054645	-0.710382514	-0.2295082	-0.20765
Request	-0.52459	-0.420765	-0.415300546	-0.4863388	-0.448087
Capability	-0.136612	-0.0874317	**0.038251366**	**0.016393443**	-0.191257
Effort	-0.885246	-0.4153005	-0.606557377	-0.36612022	-0.464481
Subjective Preference	-0.355191	-0.3770492	-0.316939891	-0.36065574	-0.513661

The interpretations for the two results that have a positive outcome are the results for capability-to-responsiveness and assurance relation. To search for the possible reason that brought this result, we conducted an interview with 20 persons that replied to the survey. The most frequent reason in the interview for the connection capability to responsiveness was that respondents felt that being taught how to order well enhances service provider's efficiency so that the process goes quicker without being asked further questions. This was the most frequent answer given by respondents who were replying to the hospital case in Frei's article-also cited in the survey (the better the patient is capable of describing his illness the more he gets the right treatment). Because hospitals are supplying credence quality (Harvey, 1998), the doctor can better provide the patient with the recent care when the patient's capability is improved. In other words, the more the patient is capable of describing his symp-

tom, the better is the patient provided with the treatment from the field that he is not famil-
iar with. But consider what if the service business does not provide credence quality? Then
there is a possibility that the outcome at the capability fraction could turn to be negative
like the other results in the survey. But this is so far just an assumption. What is true
about the undergone investigation is that, the patient or the customer receives a feedback of
high responsiveness because of his good statement. This also falls under the relation of ca-
pability to assurance. At the interview above, respondents were answering that a good re-
sponse from the service provider gives trust and confidence to the customer that he or she
is getting the right service. The more the customer is involved in the service process by un-
derstanding how to correspond to the process, the more is she provided with better service.
This is applicable by other service variables, too. But the willingness to cope with low-cost
accommodation and uncompromised reduction seems to be the strongest at service capability
variability so that capability to responsiveness and assurance have a positive outcome.

Table 3. Research Results; Average of all Data

(i) Average of Expectation and Service Variability

		Expectation	Service Variability				
			Arrival	Request	Capability	Effort	Subjective Preference
Expectation		4.2819672	4.4043716	4.475409836	4.049180328	4.174863	4.306011
Service Variability	Arrival		4.0032787				
	Request			4.016393443			
	Capability				3.97704918		
	Effort					3.627322	
	Subjective Preference						3.921311

(ii) Average of SERVQUAL Dimensions

SERVQUAL Dimension	Average
Tangibles	3.7311475
Reliability	4.020765
Responsiveness	3.879781421
Assurance	3.996721311
Empathy	3.91694

Despite of the positive answers at the responsiveness and assurance fraction, the outcome
is within scale one which indicates that there is almost no impact on service quality. In
conclusion, in this result we can say that the service quality result measured by means of
SERVQUAL can be interpreted as dissatisfaction whereby the difference of the expectation

and perception is very small-almost nothing. This raises another question about *where* this small gap should be posted in the likert scale range. To answer this question, we computed the averages of all expectations, customer variability items, and the SERVQUAL dimensions. The result is shown in Table 3.

As we can see in the two tables, all expectations, service variability items, and SERVQUAL dimensions are averaging to scale 4 which stands for a neutral attitude. In these tables we can find out several things. First, the customer is not expecting much from the low-cost accommodation and uncompromised reduction before the service entrance. Because all averages for expectations are around 4. Second, the customer is realizing nothing special after encountering Frei's solution. This can be shown in the first table where all scores for service variables are averaging to 4. Even when one accommodates and reduces customer variables, neither does the customer perceive an extreme negative feeling nor a positive feeling from it. Third, the customer is thinking that she is obtaining nothing special after the service interaction. This can be proven by the second table in Table 3. All SERVQUAL dimensions are averaging to scale 4 which indicates that the customer is thinking that he or she is receiving nothing more or less from facing the process solution of Frei. Despite the positive results of capability variability reduction, these results are too little to influence the total average of the SERVQUAL dimensions. In short, the customer is not recognizing that he or she is getting something in surplus from the low-cost accommodation and uncompromised reduction. Why would this happen? Going back to the survey where we cited the same example that Frei mentioned in his article, Frei's solutions are not a brand new solution. All examples introduced in his article are already commonly used in the service business. That's why the customer is not expecting much or thinking that he is getting something positive from the variability reduction or accommodation.

In sum, Frei's suggestion of low-cost accommodation and uncompromised reduction has in total a negative result which says that this solution does not improve service quality. Analyzing the averages of the outcomes, we can observe that all averages of expectation, service variability, and SERVQUAL dimension are averaging to 4 which indicate a neutral attitude toward the low-cost accommodation and uncompromised reduction. The possible reason for this result would be that people are already familiar with Frei's suggestion and just take it for granted.

5. Conclusion

Every service company confronts four customer driven variables. Arrival, request, capa-

bility, effort, and subjective preference variability are the four types of service variables. To overcome these variables, there is an alternative to accommodate to the various customers' needs or just to reduce it. But in this procedure, there exists a trade-off between cost and quality. One has to decide on which side you will stand. When you accommodate to your customers' variability, you should pay more and when you just reduce it, quality goes down. At this point, Frei is suggesting a solution. Low-cost accommodation and uncompromised service variability reduction are the two. The former one is absolutely not compromising with its customers while the latter one is compromising, but at low cost. Actions like giving out buzzers or getting a waiting number to reduce arrival variability can be seen as un-compromised reduction while hiring low-cost workforce can be seen as low-cost accommo-dation. Frei claimed that this solution can enhance efficiency in a business and at the same time elevate service quality. However, this research casts a doubt on this claim and tries to present evidence that it is just improving efficiency while the service quality is descending. By means of the SERVQUAL measure, the outcome resulted in an overall negative output for service quality. Even though two connections had a positive outcome, these results were too little to turn the overall average into a negative one. Additionally, all results were with-in one which says that the gap between the expectation and the perception of the service performance was very small-almost the same. So, the costumer's perception of service varia-bility accommodation and reduction of Frei has almost no difference with the expectation prior to the service interaction (besides, the results were even smaller). Until here, we just had the difference of the two similar results of expectation and perception. But to know where those two similar outcomes were located (in the likert scale of 7), we had to run an-other computation. Trying to find the location of all expectations and customer driven serv-ice variability, we found that all averages were averaging to 4 which stands for neutral attitude. Thus, costumers perceived the accommodation or reduction of service variability as just normal. This means people were not expecting much from the service interaction and didn't find Frei's solution to be distinctive (averages of service variables). Further, people were thinking that they can't get something special from the interaction of Frei which is shown by the averages of the SERVQUAL dimensions. Trying to find a possible reason for this phenomenon, Frei's solution was not a brand new idea. Low-cost accommodation and uncompromised reduction was already adopted in many businesses so that customers were not aware of this efficient process while still thinking that service quality is a little bit negative.

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