# Customer participation and the performance of the production process: the case of automobile after-sales service

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# Customer participation and the performance of the production process: the case of automobile after-sales service

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## Abstracts

### Aims and issues of the communication

How the customer's role in the production process is conceived is a central question in services management that can be addressed through the perspective of human resources management (Bowen, 1986) or work analysis (Dujarier, 2008). The concept of customer deviance is then used to examine the role normally prescribed for the customer and situations where the normal process of coproduction fails (Tax et al., 2006).

The aim of this communication is to present the initial findings of a study aiming to describe and reveal the customer's real role, the real work of front-office personnel and the co-management of uncertainties frequently arising in the interaction process (Larson and Bowen, 1989) with the aim of improving the perceived quality of a specific service.

### Research design and methodology

The topic addressed is automobile after-sales services, a strategic business for car manufacturers, both financially and in terms of marketing. The competitive environment in this sector has greatly changed recently due to its liberalization and the evolution of in-car technologies. Improvement in the perceived quality of the interaction between customers and the service provider during after-sales service has become a strategic issue that has in particular led to rethinking the professional training of receiving agents. It is a matter today of supporting them in redesigning this interaction so as to make it more efficient. For this reason we defend the idea that a more detailed understanding of what the customer really does in this situation is an essential first step.

### Results of the research

The first stage should thus allow us to understand:

the tasks assigned to the customer according to the organization's mechanisms and the technical mechanisms defined by the manufacturer;

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the tasks assigned to the customer according to the description by receiving agents as to the normal role of the customer and deviance from it;

the tasks assigned to the receiving agent and the expected flexibility with regard to customers;

the skills required by the customer to successfully implement these tasks.

**Implications and limitations of the study**

Automobile after-sales service emerges as a sector that is emblematic of services in which, because they are hard to evaluate by the customer prior to using the service, the interaction between the customer and the service provider is the moment of truth for understanding and assessing the service provided, which is, moreover, carried out and produced in the absence of the customer. It is also a sector that is strengthening the standardization of its interaction process with the customer. These characteristics make customer management a key issue for these services. It is thus reasonable to hope that the in-depth analysis of this sector, which has to date been little studied, will contribute to the analysis of co-production and customer deviance.

**Keywords:** Customer Service, Performance, Quality, Human Resources, Automobile Agency.

## *Introduction*

Since the term co-production was proposed to analyze customer participation in service production, the study of this phenomenon has been enriched with new approaches. Customer participation includes all the tasks that the customer has to be responsible for, either alone or in interaction with contact personnel, in the production of a service.

The nature of customer participation varies according to the degree of standardization of the service and the latitude given to front office staff to adapt to customer expectations (see a presentation of this work in Larson and Bowen, 1989).

The more standardized the service process carried out in front of the customer, the more he must conform to a specific role, specified by the organization. Knowledge of and compliance with this "script" by the customer are supposed to increase the overall performance of the service, both from the standpoint of the customer and that of the organization (Orsingher, 2006). "A customer who is able to formulate his request, by knowing and understanding its implications, will be served better and more quickly" (Sabadie and Vernette, 2003).

Conversely, mistakes by the customer ("customer failure") can affect the customer's own experience, the experience of other customers present at the time or the company's productivity (Tax et al., 2006). In their recent review of the literature, Fisk et al. highlight four categories of consequences of deviant customer behavior: consequences for the customers themselves and their evaluation of the service; consequences for other customers present at the same time; consequences for the contact personnel – which has been particularly well described by Harris and Reynolds (2003); and consequences for the company, including the costs directly induced by the deviant behavior (repairs, legal fees,

etc.) and the indirect costs related to other consequences (turnover, loss of earnings due to the deterioration in the perceived quality of service) (Fisk and al., 2010, Table p 120).

Customer behavior consistent with the requirements specified by the company then becomes a lever for improving the overall performance of the production of a service, as it may be defined by the company. Thus the concept of transactional efficiency, proposed by Xue and Harker, characterizes the effectiveness of the customer in using the service, thereby enabling the resources mobilized in support of the customer to be reduced (Xue and Harker, 2002).

Can we therefore view any customer behavior that deviates from the planned process as symptomatic of the malfunction of the system? What does revealing these shortcomings tell us about the performance of the production system? Can we draw on the analysis of these failings to rethink the role expected of the customer, with a view to improving the efficiency of the production system? Such questions are at the core of our research.

Paradoxically, in many service activities, the customer's expected role is not explained. It is implicitly embodied in procedures entrusted to front office staff and is seen as being acquired by customers, even though this assumption is not consistent with the real state of affairs. It is therefore in principle difficult to pinpoint deviant customer behavior and its impact on the production system.

This study aims to examine the relationship between production performance and non-conforming customer behavior. We will first consider the customer's expected role by comparing regulatory and technical mechanisms and the representations of front-desk personnel and customers. In the second stage, we will show that non-conforming customer behavior is associated with problems in the service relationship and that the impact on the performance of the production system is not direct. We will then discuss the advantages of this analytic framework.

## *Research design and methodology*

This study is situated within the methodological framework of long-term intervention research. It is concerned with the interaction of customers and front-desk personnel in producing automotive after-sales service. After-sales service is a strategic activity for authorized automobile dealers and repairers, both financially and in terms of marketing (Donada and Vidal, 2001). Indeed such service strengthens the links between customers and the car brand. But it is also a difficult activity for the customer to evaluate, even after consumption, and as such it induces considerable suspicion on the part of the customer.

The competitive environment among manufacturers with regard to automobile servicing has greatly changed recently for both institutional and technological reasons. On the one hand, the opening up of the market that occurred in the early 2000s (Bakiri, 2007) resulted in liberalizing the sale of manufacturer spare parts and contributed to greater transparency on prices. After-sales services dedicated to a brand (primary network branch offices and franchises) consequently lost their privileged access to manufacturer spare parts. On the other hand, technological developments have altered customers' expertise regarding their vehicles and have profoundly transformed the cause-effect linkage in the event of malfunctions. Changing technology has both increased the complexity of car repairs and made it more difficult for customers to identify and understand the source of malfunctions.

Maintaining, or indeed improving, the quality of interaction and the trust relationship between customers and the service provider in the provision of after-sales service therefore becomes a strategic issue (Donada and Vidal, 2001).

Moreover, efforts are currently being made to codify the range of possible services through time grids and the associated costs (Gutierrez, 2006) with a view to improving vehicle maintenance scheduling. These efforts are transforming the interaction between customers and the contact personnel responsible for welcoming customers and advising them with regard to automobile servicing. This shift has allowed greater formalization of the production process carried out in front of the customer, which we will examine in section 1 below. It is therefore a favorable context for analyzing the performance of this production process and understanding the real role of the customer.

In an economic environment where access to competition has increased and where evaluation of the service has become more complicated for the customer, making a success of this transformation of the interaction process with customers is a major challenge for automotive brands. It justifies considerable effort in training reception personnel, as is reflected in the creation in 2004 of a dedicated bachelor's degree in such training: the OMSA (Organisation et Management des Services de l'Automobile) degree stemming from a partnership between ANFA (Association Nationale pour la Formation Automobile) and Paris-Est Marne-la-Vallée University. In this context, we have for several years been helping automotive brands think about changes in the interaction between customers and receiving agents and its effects on these agents' skills.

The study presented here is only part of this action research. It aims to provide a more detailed understanding of the expected customer-receiving agent interaction process and its shortcomings, with a view, in the second stage, to obtaining:

- An assessment of the performance of existing service processes at authorized dealers and repairers
- Better understanding of effective customer scripts
- Better training of receiving agents with regard to their linguistic capability, which is the basis both fir understanding the customer's requirements and building a relationship of trust between the customer and the authorized dealer or repairer (Mayen, 2007).

Here we present the methodology and initial findings from the exploratory stage of this research. Two production processes of the service, provided by two different brands, were studied:

- The process used at a general brand's authorized dealer and repairer operating an outlet in the Greater Paris area (hereafter referred to as company X).
- The process defined by a premium car brand and used at an authorized service dealer operating three outlets in the French provinces (hereafter referred to as company Y).

The first stage of the research involved looking at the production process formalized in principle by the organization, with a view to understanding the customer script wanted by the company. Accordingly we made use of:

- Examination of prescribed processes when these existed (for company Y only);

- Examination of technical devices (software for making appointments, repair orders, etc.);
- Face-to-face semi-structured interviews with front office staff and their line manager;[i]
- Semi-structured interviews with customers conducted by telephone;
- Observations made in situ in the two companies.

During these interviews (with customers, front-office staff and managers) and through our observations, we sought always to note any customer behavior that did not match the prescribed script for the customer. Such behavior is characterized by its deviation from the script provided by the company. We refer to this as non-compliant behavior. One of the challenges of the research is to determine whether such behavior is dysfunctional or is behavior defined by Harris and Reynolds (2003) as "actions by customers who intentionally or unintentionally, overtly or covertly, act in a manner that, in some way, disrupts otherwise functional service encounters." [1]

In the first section, we describe, in the form of a blueprint, the participation expected of the customer in the process of producing the service, as it emerges from technical devices (process) and interviews with the service providers. We show that although this process follows a "generic" process common to the different brands, there are differences in its implementation and in the customer scripts wanted.

In the second section, we identify dysfunctional customer behavior by focusing on the standpoint of contact personnel and their direct management. We show that some of the situations viewed as difficult by receiving agents may well be related to differences between customers' expected behavior and their actual behavior. We analyze the perceived consequences of these differences on overall performance. We then discuss the relationship between these differences and the performance of the co-production system.

In fact, the methodology chosen places us in the research stream that favors a definition of deviant behavior linked to the consequences of such behavior on the organization (Fisk and al., 2010). Indeed one of our objectives is to better understand such behavior within the framework of a business where the role of the customer in the service encounter is formally specified, as we show in the first part.

## I – the customer's expected role and its variants

The customer's expected role can be described by referring to the standard process for the maintenance or repair of a vehicle. This standard process (Giard, 2004) comprises four main stages (Bakiri, 2007).

a. Arranging an appointment

b. Receiving the customer with his/her vehicle

c. Carrying out the work in the body shop or repair shop

d. Return of the vehicle

[1] The full quote is "This article prefers the neutral term dysfunctional customer behavior to refer to actions by customers who intentionally or unintentionally, overtly or covertly, act in a manner that, in some way, disrupts otherwise functional service encounters" (Harris and Reynolds, 2003, p 145.)

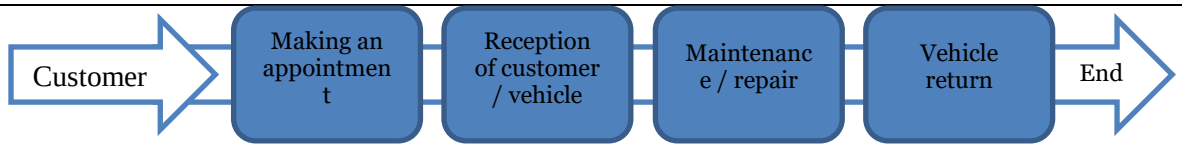


**Figure 1.** Process map of the stages of a maintenance/repair job following a customer request (based on Bakiri, 2007)

In company Y, these stages are formalized through a written procedure, designated by the brand as "standards" and communicated to the various categories of front office staff responsible for these tasks. This process does not explicitly formalize the role of the customer, except in the reception stage, in which three customer tasks are clearly specified:

- verification of the personal data recorded
- participation in the "vehicle inspection"
- signing the repair order form.

In company X, the various stages are not explicitly formalized. We therefore used the standard service procedure – as described by various contact personnel – to make explicit the customer's expected role. Note the lack of divergence between the three accounts by staff describing the expected production process and the customer's required script.

From the standpoint of the receiving agents, and in contrast to the views of some of the customers interviewed, for whom the script begins when a need arises, the script starts when an appointment is made. We describe this using the four stages of the standard process listed above.

### *Stage 1: Making an appointment*

The appointment stage should allow:

- all customer information pertaining to the implementation of the service to be noted;
- the customer's requirements and comments pertaining to his vehicle to be noted;
- all resources needed for taking charge of the vehicle (parts and the availability of mechanics in accordance with their specialties) to be pre-programmed.
- the price to be specified and made known to the customer, together with a date and time for the completion of the work;
- arranging with the customer when he will come and collect the vehicle and possibly ensuring his mobility in the meantime.

The blueprint of the appointment stage (

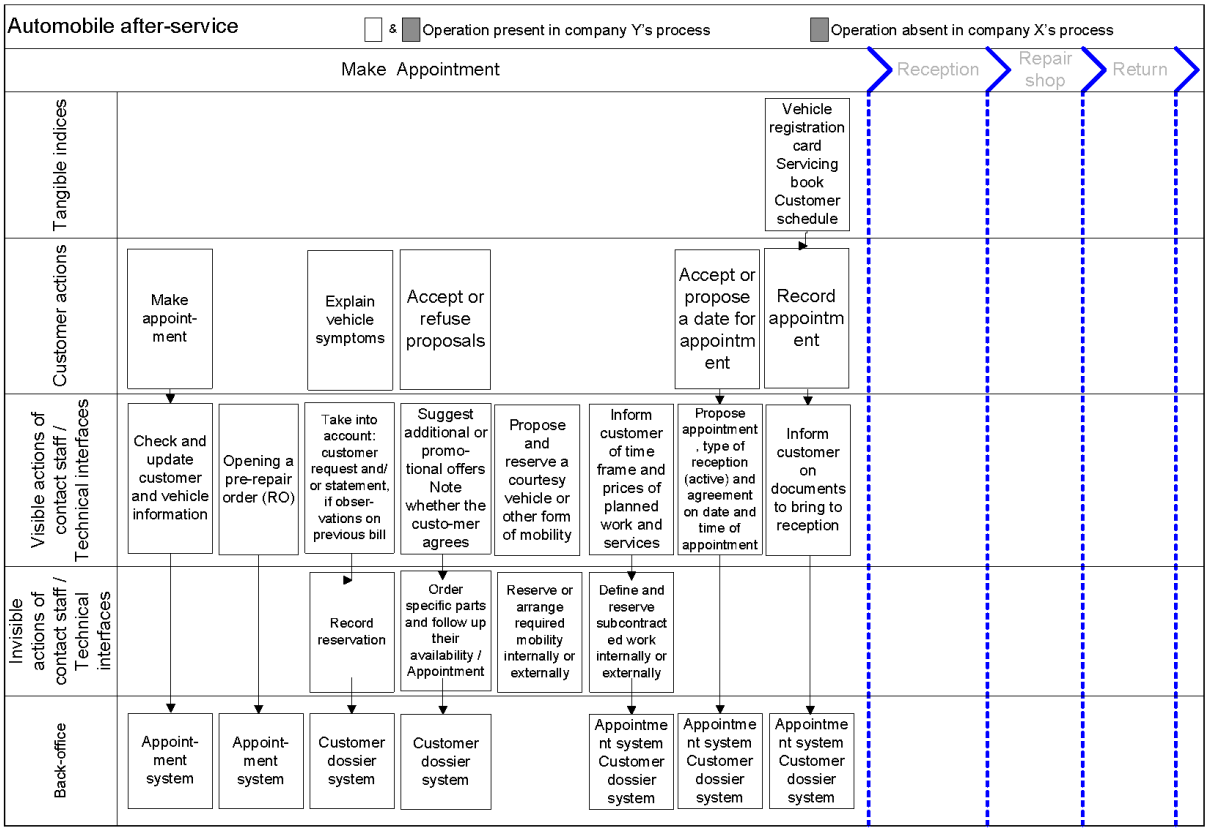


Figure 2) lists the various items produced by the personnel in charge of this stage in the interaction with the customer. As well as simply making an appointment, this stage is today a pre-diagnosis stage essential for the smooth implementation of the process, because it is at this stage that the resources needed to satisfy the customer's requirements are identified.

This amounts to a significant change compared to how this stage was implemented until quite recently, when it was simply a matter of recording the customer appointment subject to repair shop availability, without going into the details of the customer's request.

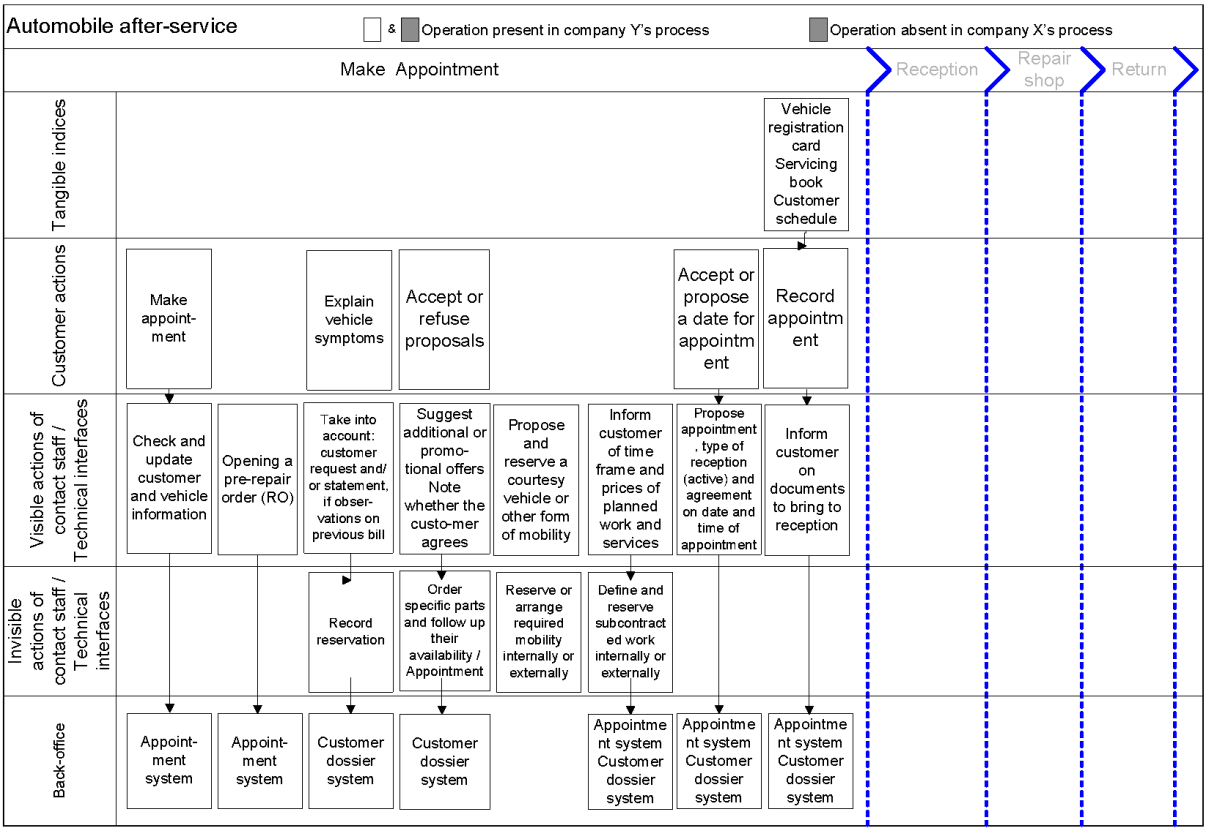


**Figure 2:** Blueprint of arranging an appointment

However, with most authorized car dealers and repairers, the standard process specifies that this stage takes place by phone. The customer has to make known what he requires without being able to show or explain his problem to an expert. The front office staff who deal with the customer during this stage have been trained to help him formulate his needs and expectations and to ensure that any problems have been reported by the customer.

Finally, it is during this appointment stage that peripheral services can be offered to the customer to facilitate his mobility (renting or the provision of a courtesy vehicle or other means of transport). This step is always included by company Y, whereas it has to be brought up by the customer in the case of company X.

### *Stage 2: Receiving the customer and his vehicle*

The second stage is the reception stage. Bakiri rightly points out that it involves welcoming the customer and taking charge of his vehicle (Bakiri, 2007).

This stage always takes place at the premises of the service provider and presupposes that the customer comes, with his vehicle, to the authorized dealer and repairer. Doing so may be difficult for the customer, especially when the vehicle is no longer roadworthy, in which case bringing the vehicle may require recourse to a third party, either a professional or someone known to the customer. Delivering the vehicle to the authorized repairer is thus not

necessarily easy for the customer, but it is considered by the reception personnel to be the sole responsibility of the customer and his insurance company (Company X, 1001).

The customer is required to take the vehicle to the designated location at a specified time, which presupposes he has managed to familiarize himself with the company's organization and layout. When he arrives, he may find other customers waiting, depending on how quickly their dossiers are being processed. In other words, the customer's experience of this stage is dependent not only on his actions but also on those of other customers present at the same time. This issue of the customer's "inactive" waiting – the time between his arrival on the premises and his being dealt with by a receiving agent – varies according to the organization of the authorized dealer and repairer. In company Y, it seems that customers experience long waits, and this is a major problem for the management of customer relationships, since being able to arrive at the scheduled appointment time is directly related to other customers respecting their own appointment times. Company Y's formal process, unlike that of company X, explicitly anticipates this waiting phenomenon and the responses to it (a dedicated waiting area, routinely offering the customer coffee, information about waiting times) and specifies the relevant management procedure (priority given to scheduled appointments).

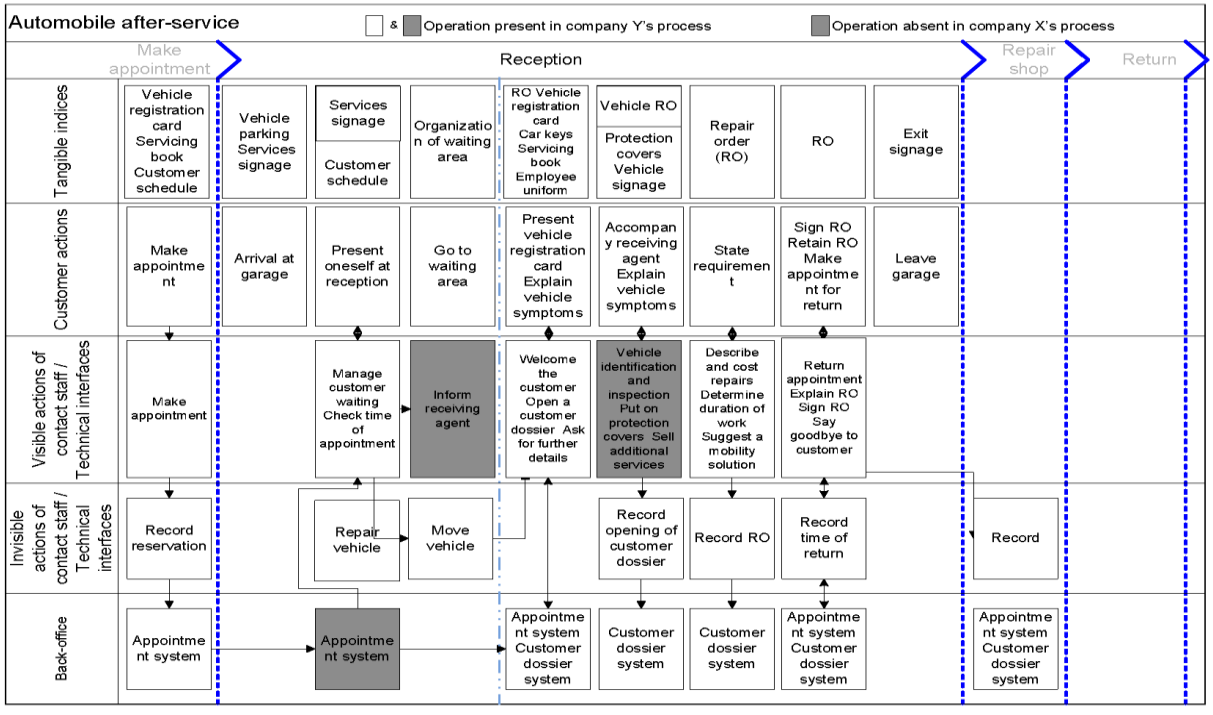


**Figure 3:** Blueprint of reception

The main purpose of this reception stage is to stabilize the request expressed by the customer when making an appointment by means of a repair order that puts the request into writing and specifies the price of the services required. This document is thus the expression of a contractual agreement between the customer and the provider, attested to by the customer's signature.

Depending on the company, the reception of the customer and vehicle is handled either synchronously or asynchronously (receiving the customer first, then the vehicle). This constitutes a major difference between the two organizations studied.

In the case of company X, the standard procedure involves receiving the customer and vehicle asynchronously. The customer goes to the reception desk after leaving his vehicle in the parking area. Checking the repair order takes place inside, between the receiving agent and the customer. The customer says where the vehicle is parked and leaves the keys and car registration documents with the receiving agent. In a second step, the receiving agent then takes charge of the vehicle and drives it to the servicing area, often in the absence of the customer. There is no cross-checking as to the condition of the vehicle except in a personalized reception situation or at the express request of the customer for a bodywork diagnosis, resulting in the receiving agent going to examine the vehicle.

In company Y too, the customer goes to the reception area after parking his car in the dedicated visitors' parking area. Next, the reception process then specifies that the vehicle to be taken charge of in the presence of the customer, who is required to participate in the inspection of the vehicle along with the receiving agent and to be present when the vehicle protective covers are installed. Thus the customer and the vehicle are received synchronously, thereby allowing a shared inspection of the state of the vehicle and minimizing the likelihood of any questioning by the customer as to the condition of the vehicle when it is returned. This step favors proposals for additional operations, since they stem directly from observation of the vehicle or from the presentation of promotional offers during the reception period while interacting with the customer. The repair order form is completed only at the end of this stage, thereby allowing the inclusion of any additional requests from the customer stemming from this process. The highly formalized nature of the reception process involves spending at least twenty minutes with the customer.

These two differences in the two processes are shown on the blueprint (

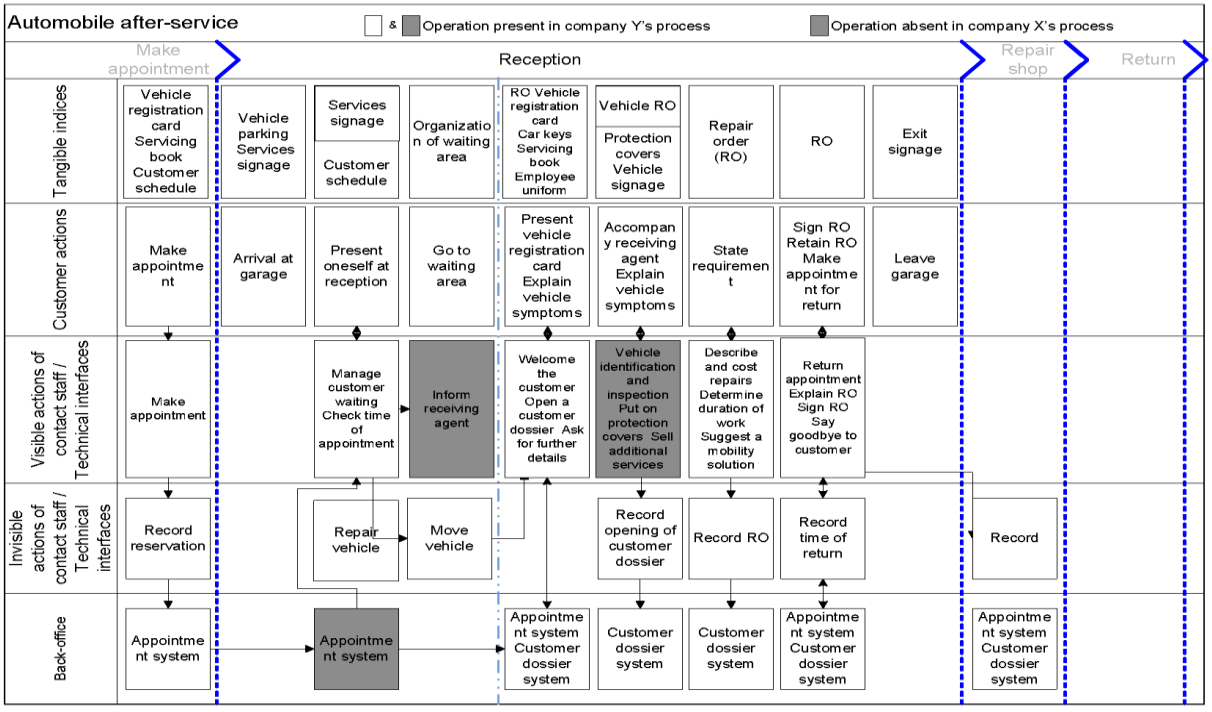


Figure 3) of the reception stage, with the personalized welcome of the customer on his arrival and the verification of the state of the vehicle not being explicitly specified in Company X's procedure.

### *Stage 3: Carrying out the work required*

The third stage involves the actual implementation of the work required, whether it be servicing, diagnosis or repairs. For simplicity, we here show only mechanical repair work. This stage normally takes place in the workshop, with the customer not being present. However, two situations may lead to the customer's involvement, thus justifying the formulation of a blueprint (Figure 4) for this stage.

During this process, the customer may be telephoned by a receiving agent to inform him of the results of a diagnosis. Specifically, there are two reasons for calling the customer during the repair stage.

- The mechanic finds that it is possible to carry out a simple maintenance task within the time available, but that this will involve an additional cost. The customer is called to ask whether or not he agrees to this initially unanticipated operation. For example, it may be a matter of changing the brake pads or the protective caps on the PTO shaft.
- The diagnosis requested by the customer reveals a serious fault which makes it dangerous to use the vehicle. The receiving agent calls the customer to tell him about this and give him an estimate of the cost of repair, and makes a note of what the customer decides (immediate repair, request for time to think about it, refusal of the repair work at the price proposed).

From the standpoint of receiving agents, the second situation is the most critical moment of the interaction, since it involves giving the customer a "nasty surprise." "*You give him a price for the maintenance work and you tell him you'll call him back if something is found while it's being serviced. So if you find something that's very expensive, inevitably, it's not going to make him happy. He already has a price in mind and he's hoping we won't call him.*" (Company X, 1001).

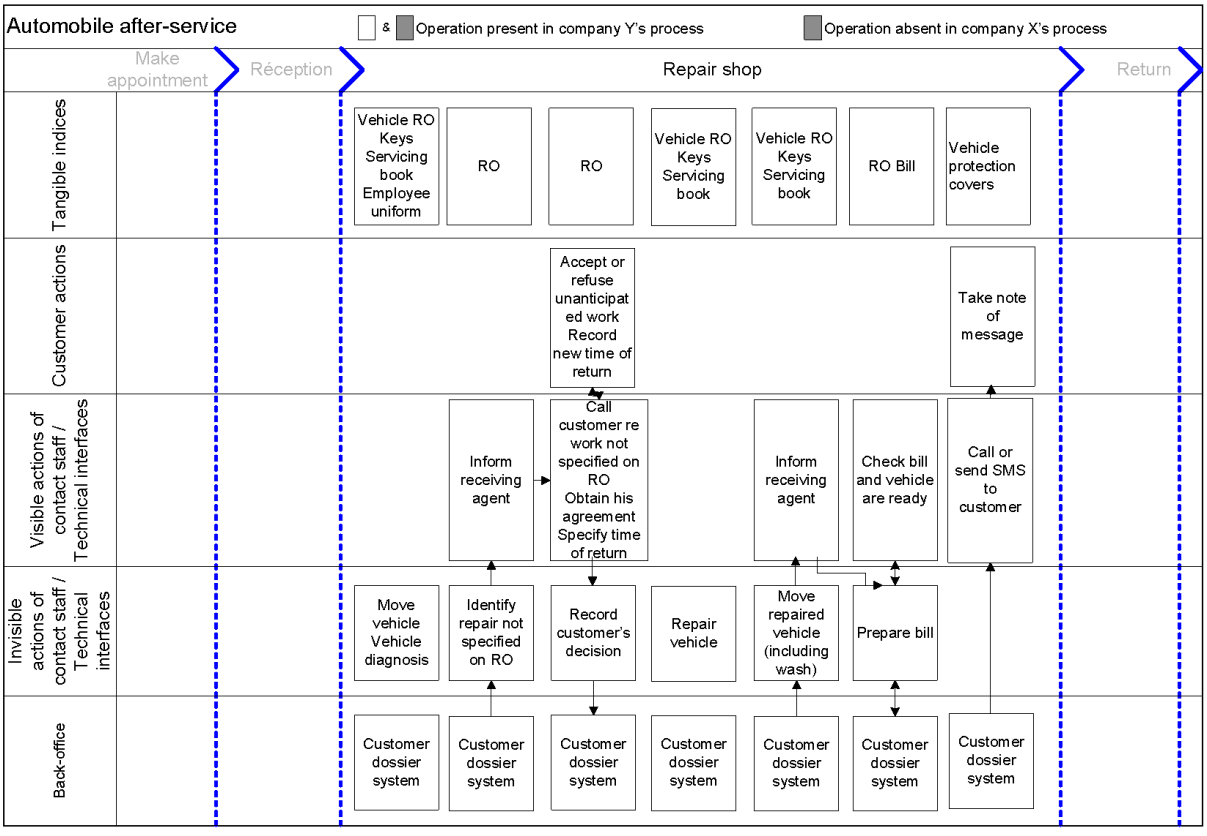


**Figure 4:** Blueprint of the repair shop stage

The conditions of the interaction between the customer and service provider are not in fact favorable to this exchange. The unanticipated call is likely to interrupt the customer during his work or day-to-day routine and forces him to focus on a possibly technical matter requiring a decision on his part. In making this decision he has to weigh up having a safe vehicle against the financial outlay involved in repairing it. This situation places the customer in position of asymmetry of information and dependence with regard to the authorized dealer/repairer (since he is not on the premises to discuss the diagnosis), as is recognized by the manager of Company X. "*On the phone, though, they're a bit reluctant, once you tell them something's got to be replaced, they see it as a forced sale. If you tell them about it, they'll say, they've twisted my arm again.*" (Company X, E1003).

But the potential conflict arising from this situation appears to be played down by receiving agents. *"People who've already come here, when they know us, they trust us. They are accustomed to seeing us, they know we don't sell for the sake of selling, they know that*

*when you make them aware of something, it's because it needs doing, unlike many garages where it's sell, sell, sell. When you give them an estimate in the evening, they know it's not urgent, it can wait. And when you call them during the day, they know it needs to be done. They are accustomed to this system. And what's more, they really like this system here.*" (Company X, E1001). Or again, "*We never start the work without the customer's agreement, without a signature, without sending a fax, without a signed estimate agreement form, things like that. 99.9% of the time, the customer doesn't get a surprise when the vehicle is returned.*" (Company Y, E2002-02).

This approach, which may seem constraining for both the customer and the staff, is intended to limit conflicts when the bill is explained to the customer at the return of the vehicle. At this stage, the process assumes that the customer has familiarized himself with the general process and knows – thanks to the tangible indicators presented in the previous stage – how to make the connection between the receiving stage (repair order) and the intervention stage (SMS, fax or orally, according to the type of work to be done), in which he was able to approve any additional work required.

While the entire anticipated production process aims to stabilize as soon as possible the terms of trade, this stage – when it involves calling the customer – can lead the two parties to renegotiate the terms of the repair order.

Two levers are then available to the front-office personnel, faced with such a request on the part of the customer:

- The possibility of a making gesture of goodwill, which sometimes requires the agreement of the manager and must therefore have been anticipated and justified in advance by the receiving agent;
- The possibility of suggesting payment in installments by the customer, at no extra charge, which is here a facilitating service (Grönross, 1990).

It is a matter here of customer management mechanisms that are not clearly formalized in the organization.

For his part, the customer may accept or reject the additional services that are offered or may postpone his reply to the authorized dealer/repairer.

The intervention stage ends with a phone call or text message to the customer telling him that the vehicle is ready or informing him of the need for additional time to complete the work. This communication aims explicitly to confirm the terms of the following step – returning the vehicle – designed to allow the customer to retrieve his vehicle.

### *Stage 4: Returning the vehicle*

The final stage is the delivery stage in Giard's general process (Giard, 2004). It is here given concrete expression through two key moments:

- billing the customer for the work carried out;
- returning the vehicle to the customer, the work having been completed.

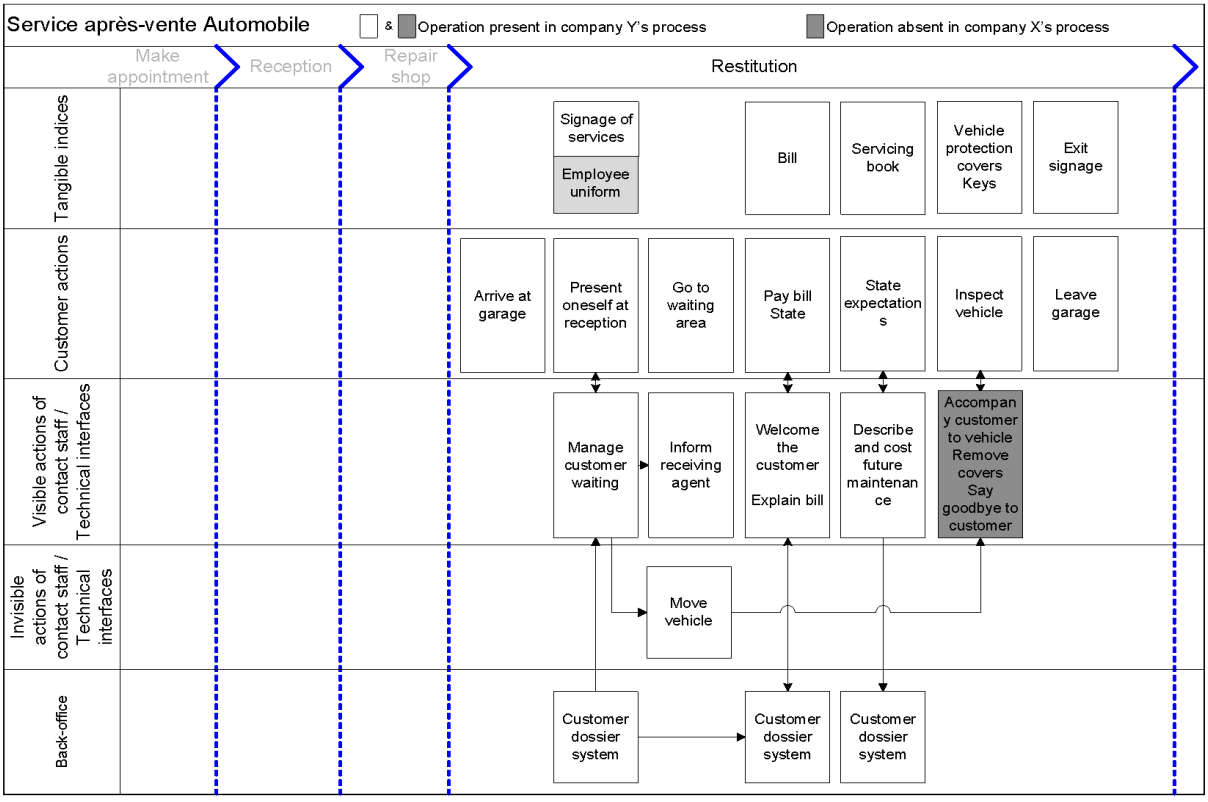


**Figure 5:** Blueprint of the vehicle return

The bill is a document in which the price of the service, made known to the customer beforehand, is broken down into parts and labor time. This document specifies the unit prices of parts and labor pertaining to the job, thus enabling customers to compare different service providers and possibly to challenge the validity of the prices applied. It is therefore also a significant stage in the interaction with the customer, who in Company X is taken care of by dedicated female staff: a receptionist and invoice clerk. They check, with the customer, the method of payment and ensure that it has been made before returning the vehicle to the customer by symbolically handing over the keys and telling him where his vehicle is parked. If the customer so requests, a more detailed explanation of the bill can be made either by the invoice clerk, for a simple job, or by the receiving agent or the garage foreman for a more complex job.

In company Y, the bill is always explained by a receiving agent before addressing the method of payment. "*Be sure to explain the bill because it involves relatively large sums of money. It's done very very fast here. A customer who pays without knowing what he's paid for, most of the time he won't say anything, but a customer who leaves dissatisfied, that wouldn't have happened if it had been properly explained it to him*" (Company Y, E3004-04). This operation can be a source of conflict between the two parties.

We thus see that in company X, unlike the prescribed process in company Y, the normal process does not provide customer support in retrieving his vehicle. The customer has to find his vehicle by himself and make sure it is functioning properly. This stage brings to

mind the stage in Giard, in which the customer can monitor the performance of the service provided and, indeed, some customers mention this checking stage in their account. "*Oh I [check] all the time, yes, yes, I take a look behind, but, I'm okay about garage mechanics, I do it at home. I don't do it in front of them because, well, I don't want to give them a bad name, give a bad image of the company. I prefer to do it at home, then afterwards I go back and say there's this, and this, and this, it's not right where you've made the repair, or I write to the head office.*" (Company X, E2002).

The findings from this initial analysis enable us to clarify an overall process revealing the script wanted by the customer. This is an essential step in identifying customer behavior that does do not conform to the process formalized in principle by the service provider.

This analysis also allows us to compare the organizational logics of different brands or companies. Thus, if we distinguish the tasks done the customer who initiates the repair or servicing by the company (making an appointment, initial formulation of his requirement, arrival, etc.) and the tasks that the customer carries out in response to being approached by the company, we find that in company Y the customer is more integrated into the production process, while being less autonomous because he is more directed in this process.

More generally, in the companies studied we observe a desire to minimize customer initiatives throughout the process, since what is deemed to be the efficient implementation of this process should lead to successive validations of the diagnosis made in the first stage of the process, as explained by this receiving agent: "*A successful return involves good advance preparation. That is to say, good reception at the outset, good follow-up, and customer reminders if necessary. If everything goes correctly, returning the vehicle presents no problem, because the customer is aware of everything, including the costs, which are usually specified in the morning. It all goes smoothly*." (Company Y, E3003-04).

In which situations does the service not proceed in accordance with the formal process, due to something the customer does? What do we learn from analysis of non-compliant practices and/or conflict situations on the implementation of these processes? We discuss this in the following section.

## II – is non-compliant behavior on the part of customers a source of unsatisfactory performance?

### *II – 1: Non-compliant customer behavior giving rise to a setback in the service relationship*

During the semi-structured interviews conducted with contact personnel and their manager, three sets of questions aimed to reveal situations that disrupt the customer-service provider relationship and the service provided.

- Questions pertaining to critical stages of the process (with follow-up on the nature of the dysfunctions that may arise from these critical stages);
- Questions pertaining to particularly problematic stories of reception or return;
- Questions pertaining to customers' "most common mistakes".

In particular, we analyzed situations where staff describe problematic customer behavior.[ii] 28 situations identified as problematic linked to customer behavior were thus described and analyzed. These may involve poor adoption by the customer of behavior expected by the

company. "*They think it's a good idea to come the evening before. Because, 'hey, I have an appointment for tomorrow morning, so I'm going to drop it off this evening'. Ok, except in the evening it's the vehicle return. He thinks he's being smart, and he'll wait 20 minutes before we can take care of him. And that's not so great for him*." (Company Y, E1009-09). Or they may involve the correct implementation of the process. "*If he arrives a quarter of an hour late, we'll have to spend 20 minutes with the gentleman, this customer. And inevitably, the next customer will be delayed and he won't be happy*." (Company Y, E1008-08). Finally, it may be a matter of the customer challenging the professional expertise regarding the diagnosis of the vehicle – in this case, the cause of the technical problem has a direct impact on the financial aspects of the repair. "*Well, we had a customer who broke the gear lever, he didn't understand how. I get the impression he's going to have a heart attack, because the manufacturer isn't prepared to include it under warranty, because it was the customer who damaged his clutch, which forced the gear, and this broke his gearbox*." (Company X, E1001).

For each situation described, we examined whether or not we could link it to the customer's non-compliance with explicitly specified behavior. The following table presents the results of this analysis.

With three exceptions, we were able to link all of these problematic customer behaviors to disparities between the customer behavior expected by the company and the behavior described. The exceptions involve "aggressive" behavior by the customer, whether or not connected to a previous experience with the company concerned (two cases of the customer going back for what he considers to be the same fault – wrongly, according to the personnel interviewed). These are certainly a matter of deviant customer behavior (Fisk et al., 2010; Harris and Reynolds, 2003), but the behavior in question is not – initially – a deviation from the desired script. A disparity only occurs in the second stage, when the receiving agent is not able to resolve the situation by mobilizing the resources provided for the process.

Two of the disparities mentioned in company X (see Table 1 above, items 1 and 7) involve a request by the customer to arrange his travel or bring in his vehicle that cannot be met by the service provided by company X, unlike company Y.

Thus we can link the most of the problematic customer behavior – mentioned by contact personnel – to behavior deviating from the process expected by the service provider. The question then arises: To what extent are these behaviors associated with less successful execution of the production system by the staff?

*Box 1*

*"Madame XX came to us with telephone reception problem in her car. According to her, in her car. The thing about this lady is that she's very proud of what surrounds her, and she's part of a circle where everyone drives a premium vehicle, not to the mention the brand, Audi, BMW, Mercedes. And in her opinion, none of her friends have encountered this problem. They drive BMWs. They have an iPhone 4. Nobody has a problem. And she's the only one who has problems. She very much resents driving a Y and having problems with her phone. In fact she was ashamed in relation to her friends. She didn't want to tell them she had these phone problems. She came once, she came again. She told us the problem lay with the vehicle. After we took it to the repair shop, it was clear that the problem lay with her phone. Madame XX goes back to Apple. I'm allowed to mention brands? She goes back to Apple, and they tell her that her phone works fine. There's no problem. It's your vehicle that has a problem. So, because we didn't have an immediate technical solution, she was very upset. She's a relatively old lady. How could I describe her? (…) She's very worried about how other people see her, what other people may think of her*." (Company Y, E3013-13)

TABLE 1 DISPARITIES INITIATED BY THE CUSTOMER

| Generic | Disparity in behavior | Company X | Company Y |
|---|---|---|---|

| stages | | | |
|---|---|---|---|
| Making an appointment | 1. Disparity between the service requested by the customer and service provision available | 1 occurrence | |
| Reception | 2. The customer arrives without an appointment. | 1 occurrence | |
| | 3. Disparity between the customer's scheduled arrival time of receipt and actual arrival time | 2 occurrences | 2 occurrences |
| | 4. The customer does not turn up for the agreed appointment | 1 occurrence | |
| | 5. Disparity between the repair order prepared when the appointment is made and the one validated by the customer | | 2occurrences |
| | 6. Disparity between the various items (vehicle registration card, driving license etc.) required for taking in the vehicle and the items the customer has with him | 2 occurrences | 2 occurrences |
| | 7. The customer has not foreseen his travel arrangements | 1 occurrence | |
| Maintenance | 8. The customer does not respond to a request for further work | 1 occurrence | |
| Restitution | 9. Disparity between the scheduled time of return and the actual arrival of the customer | 1 occurrence | 1 occurrence |
| | 10. Disparity between the price expected by the customer and the bill | 1 occurrence | 2 occurrences |
| | 11. Disparity between the customer's rights (warranty) as perceived by him, and the situation as perceived by the service provider | 1 occurrence | 1 occurrence |
| | 12. Disparity between the record made during the initial vehicle check and when the vehicle is returned (if a check is made) or a difference between the condition of the vehicle specified by the customer and its condition on its return | 1 occurrence | 1 occurrence |
| | 13. Disparity between the department receiving the customer and the department responsible for the vehicle return | 1 occurrence[iii] | |

## *II – 2: Are non-compliant behaviors a source of poor performance?*

In this exploratory study, we only have the points of view of front office personnel and their immediate management. It is therefore a matter of presenting here how this relationship is understood by the personnel responsible for customer management.

Customer behavior is viewed as disruptive in the planning of the garage's resources once it affects the appointment defined when the appointment was made. This occurs, for example, when the car is not brought in at the scheduled time as a result of the customer's behavior (Table 1, items 3, 4 and 6) or when changes in the customer's request disrupts the agreed programming (Table 1, item 5). Management of these uncertainties depends directly on the availability of non-assigned resources (for example, the repair shop's rate of loading). The consequences on the service provided to the customer (delay, postponement, cancellation of the job) have variable effects, depending on how this uncertainty is managed by the contact personnel, but also by the customer.

These behaviors have direct consequences that may result in loss of revenue (when a mobilized resource cannot be re-used for another repair) and that cause extra planning on

the part of management. When the company is unable to reconfigure its organization to respond to the customer's request, they also give rise to customer dissatisfaction.

More generally, non-compliant customer behavior has an impact on the customer's own experience. This point is emphasized by Fisk et al. (2010) and by Orsingher (2006), though strangely it is not raised in the study by Harris and Reynolds (2003). In many of the situations described by contact personnel, the consequences of the situation on the customer are mentioned or anticipated by the contact personnel. "*Even when he's late, he won't put up with being made to wait*." (Company Y, E1004-04), "*A customer who pays without knowing what he's paid for, most of the time he won't say anything, but a customer who leaves dissatisfied, that wouldn't have happened if it had been properly explained it to him*" (Company Y, E3004-04). Acts of vengeance by dissatisfied customers may even occur, as when they express their dissatisfaction by physically damaging the company's property or even other parked vehicles.

Such behavior may also be seen by other customers present at the time, and one of our situations shows that this consequence is perceived both by the customer and the contact personnel and may play a role in how the situation develops (see Box 1).

Finally, customer behavior has effects on the interaction between the customer and front-office staff, making the interaction more, or less, difficult for the service provider (Table 1. Items 9, 10, 11 and 12). A service relationship that does not go as expected may affect its quality as perceived by the customer if the front-office staff fail to provide a personalized and satisfactory response to the customer (Bitner et al., 1990). It can also affect its quality as perceived by other customers also present at the time. In addition it has implications for the functioning of the organization, when the customer's behavior impedes the planned process, requiring the mobilization of additional resources: unanticipated action on the part of the receiving agent or even the manager, thus generating stress for the contact staff. A case of physical assault on the receiving agent, causing considerable psychological trauma, was reported in company Y.

These results are consistent with the typology of the consequences of dysfunctional behavior proposed by Reynolds and Harris (2003) and supplemented by Fisk et al. (2010). Our study, however, shows the difficulty of linking non-compliant behavior on the part of the customer with one or more identical consequences, in that the consequences are closely related to how the situation is managed by those involved. We examine this issue in the following section.

### *II – 3: Consequences dependent on coproduction of customers' non-compliant behavior*

Finally, the impact of the customer's non-compliant behavior on the performance of the production system is perceived by staff in very different ways depending on how this behavior is managed by the company. The resolution of two identical deviations observed in company X clearly illustrates this point.

In company X, the planned vehicle return takes place between the return reception department and the customer, who is in contact with the invoice clerk and not the receiving agent taking charge of the vehicle when it was brought in. However, we observed (Figure 6) that most customers spontaneously go to the reception department (Figure 6. Physical flow 1b), or even go back, after payment of the invoice and collection the keys, to the return

department (Figure 6. Physical flow 2a), to obtain more information about the work carried out and any future work.

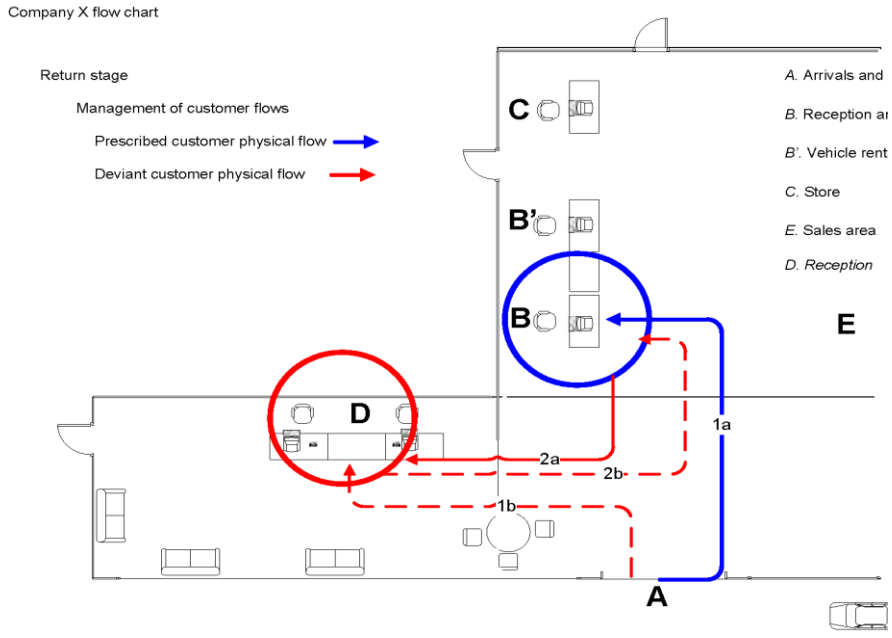


**FIGURE 6:** Company X flow chart. Customer physical flows during the return stage

These discrepancies were observed repeatedly during our observation phase. Managing them is done either by the receiving agents or directly by the workshop foreman (Box 2).

When asked about these recurring deviations, the receiving agents explained how they try to change customer behavior (and reduce the disparity) through better signage, so far with limited success. This deviation is clearly understood but is not viewed as problematic. Its impact on the performance of the production system was not evaluated.

We looked at two possible scripts [2] for resolving of this discrepancy, the consequences of which on the performance of the system differ.

In script 1 (Figure 6. Physical flows 1b and 2b), the receiving agent simply tells the customer which department is responsible for returning the vehicle. Contact between the customer and the receiving agent does not involve any other

Box 2

"*We explain why there's a problem. So that the customer leaves satisfied, so that he understands what we've done and what we haven't done. And why it's costing him so much. If the mechanic says to me 'Two injectors', the customer won't understand, because the car has four injectors, so why have we only changed two. We explain why we've only changed two, the two that are no longer any good, and that he may have a problem with the other two later. At the moment, these injectors are okay, that's the situation right now. If the customer wants to change all four injectors, we'll change them, but as far as we're concerned, there are only*

[2] Here, we rely on the observed service interactions to describe these scripts. We did not verify whether these behavior patterns, regarding either the customer's role or the role of the contact person, are recognized and validated by the organization, which is a limitation in relation to the theoretical concept proposed by Orsingher (2006).

interactions. The consequences on the production system may be evaluated in terms of:

- time lost by the customer (unanticipated waiting and travel);
- time spent on this interaction by the receiving agent and risk of error associated with the interruption of the ongoing proceedings;
- time lost by the other customers present.

In script 2 (Figure 6. Physical flows 1b and 2b), the receiving agent tells the customer which department is responsible for the return of the vehicle, but the customer benefits from this interaction, noting that there will be another person returning his vehicle, and asks the receiving agent more about the repairs carried out and the possible reasons for the problem. This corresponds to the situation described by the workshop foreman in the previous extract. In this case, the observed discrepancy with the desired process generates an improvised stage of personalized return of the vehicle which is not planned, but involves a personalization of the service, which is appreciated by the customer. Evaluation of the resolution of this deviation should therefore take account of negative effects on the performance of the system (interruption and time lost by the receiving and the workshop foreman, and waiting time other customers present), but also of benefit obtained by the customer, or the company, from this exchange.

This example serves to emphasize that the customer can voluntarily initiate a discrepancy, not by ignorance of the system, but so as to be able to benefit from additional support, not provided for in the formalized process.

The identification of a discrepancy between the customer's desired script and the script whose implementation we see is not sufficient to determine its consequences on the customer. The evaluation of the disparity by the customer will depend on how the situation was handled by the company and also on the customer's expectations with regard to the service.

## *Conclusion*

Automobile after-sales service is a business where where the primary value of the service is produced in the interaction with the customer. Subject to increased competitive pressure, automobile brands have chosen to standardize the service by strengthening the formalization of this activity's production process, traditionally considered to be a professional service (Dumoulin and Flipo) whose performance is based on flexibility and the capacity to adapt to the customer. Although the expected participation of the customer is important, it is now part of a specific desired script that we have tried to reveal, through conceiving a blueprint of this process.

To conform to the desired script, the customer must draw on knowledge (about his vehicle and the service process), know-how (understanding a repair order, an invoice, etc.) and knowing how to act (respecting the appointment time, parking properly, etc.). Any deviation from this script has a disruptive potential for the service production system. It can therefore be seen as a symptom of the dysfunction of the system which, depending on the situation and the company's strategy, may lead to changes in the offering and the production process so as to better satisfy customers or to change the real behavior of customers and improve the efficiency of the production system (Bancel-Charensol et al, 2011).

However, the consequences for the functioning of the system can be assessed only by analyzing how this "deteriorated" situation will be handled by the organization and the customer.

Hence identification of discrepancies between an expected situation and a real situation can only be a first step in the analysis. Our initial findings reveal the advantage of analyzing the resolution of these discrepancies and, in particular, the role played by the customer in the resolution, with a view to better understanding the implementation of a co-production system.

Analysis of non-compliant behavior by customers and its consequences on the performance of the production system is an essential step for the company to design an efficient customer script (Tax, Colgate and Bowen, 2006). The table of disparities, presented in this paper, is a necessary step, in our view, towards an analysis of the frequency of these discrepancies and of their impact on performance.

This exploratory study enables us to define two lines of thought.

On the one hand, it is a matter of continuing to think about the characteristics of an efficient co-production system. Systematic comparison of the shortcomings in customer behavior produced by the two different processes of receiving the customer and taking over for his vehicle within the same production structure could provide answers. The introduction of a personalized reception service in companies X and Y offers an opportunity for applied research.

On the other hand, by revealing the real work of customer, this study sheds light on the role of front office staff in the co-management of uncertainties frequently generated in the interaction process (Larson and Bowen, 1989). Analysis of the strategies implemented by front office personnel to resolve the problematic situations generated by the customer and examination of their performance, from the standpoint of the organization and of the customer, will contribute to the review of a competency framework for receiving agents. It could also be the starting point for role play, describing the behavior of a "deviant" customer in a defined situation, which could be used in training to better prepare receiving agents for their actual work and to improve customer support.

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[i] Two receiving agents and one manager in company X, five receiving agents and two managers in company Y

[ii] This attitude is not always displayed by receiving agents, since nearly half the problematic situations were directly linked to mistakes by front office and back office staff.

[iii] Discussed in the following section