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# TRANSITIONING TO A SERVICE-DOMINANT LOGIC: BENEFITS AND IMPLICATIONS (THE MERCEDES-BENZ AFTER-SALES SERVICE DEPARTMENT CASE)

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Resumo

Desde a primeira publicação sobre o tema em 2004, Service-dominant (S-D) logic tem contribuido extensivamente para a reformulação e contestação dos princípios básicos do Marketing e dos modelos organizacionais tradicionais pelos quais se regem as organizações. No entanto, há uma necessidade latente de casos de estudo empíricos que apliquem os principais conceitos e premissas de S-D logic a casos reais. Como tal, o presente trabalho tem como foco um caso de estudo aos serviços pós-venda da Mercedes-benz, numa tentativa de construir uma visualização da actual estrutura organizacional dos serviços pós-venda da firma e outra visualização da mesma estrutura através de uma lente S-D logic.

Após uma análise literária às publicações consideradas mais relevantes acerca do tema, o presente estudo teve por base em entrevistas feitas a stakeholders da empresa e de um questionário à satisfação do consumidor. Foi identificado um gap entre o valor proposto pela empresa e o valor perceptido pelos consumidores, que apesar de reconhecerem o valor dos serviços após-venda da marca não os utilizam. Este estudo propõe depois uma análise crítica que permita à Mercedes-benz uma aproximação a um modelo organizacional alinhado com as premissas S-D logic e que coloca o consumidor actual como um actor activo no processo colaborativo de co-criação de valor, bem como as implicações que isso traria para a empresa.

Abstract

Since the first publication on the matter back in 2004, Service-dominant (S-D) logic has contributed intensely for the reformulation and contestation of Marketing principles and traditional organizational frameworks still adopted by companies. Thus, this paper focuses on a Mercedez-benz's after-sales services case study, as an attempt to construct a visualization of Mercedes-benz's actual after-sales services framework, and another visualization of that same framework through an S-D logic lens.

After a literary analysis to the academic publications about the subject that were considered to be the most relevant, this research paper was based on stakeholders interviews and a consumer experience questionnaire. It was identified an existing gap between the firm's value proposition and the value perceived by the consumer, whose adherence rate to the brand's after-sales services is low regardless of recognizing them as important. This research paper then proposes a critical analysis that allows Mercedes-benz to create an organizational framework aligned with S-D logic's premises that transforms consumers into active actors in the value co-creation process, as well as the managerial implications that would bring.

# CHAPTER 1. INTRODUCTION

## 1.1 Context

Since the first publication on the matter (Vargo & Lusch, 2004), Service-dominant logic has been the subject of numerous debates, discussions and even improvements (Vargo & Lusch 2008b; 2014; 2016). However, it is still on the process from leaving its pre-theoretical stage (Brodie et al, 2011) and to transition from just a concept to become a universally accepted organizing framework for management and marketing.

Founding fathers Vargo and Lusch have repeatedly encouraged scholars from numerous fields of study to take part of this open-source evolution (Vargo and Lusch, 2011), stating that the unfolding of opportunities for S-D logic is only possible with the participation of the academic community (Lusch & Vargo, 2014).

When analyzing the Service-dominant logic's literature, the lack of empirical support when compared to Goods-dominant logic is latent (Edvardsson et al, 2011). Without an empirical effort, S-D logic won't be provided with the validity and credibility it needs to emerge from a mere developing concept to an actual theory (Kryvinska et al, 2013).

This research paper intends to diminish the existing empirical gap in S-D logic's literature, by providing a case study that analyzes the practical application of service-dominant concepts and premises in an organizational environment. The presented case study intends to be a small contribution to the development of a more solid and refined theoretical foundation for service science, aiming to make more clear the social and economic exchange phenomena.

## 1.2. Goals

### 1.2.1 Main goal

This research paper intends to contribute to fill the empirical gap in Service-dominant logic's literature, by providing a single case study intended to strengthen and develop the field of S-D logic and its foundational development. As a consequence, the goal is this research is to perceive Mercedes-benz after sales service from a Service-Dominant logic perspective and identify and overcome any inconsistencies that might exist in terms of the company's value proposition.

1.2.2. Partial goals

In order to achieve previously defined goal, some partial goals have to be fulfilled. The relevance of these partial and how it is intended to accomplish them is described in this subchapter:

i.    Analyze the evolution of Service-dominant logic

It is crucial to analyze S-D logic's heritage and evolution of foundational premises and axioms, as an attempt to provide a retrospective analysis that serves as ground to the current situation and explains its relevancy.

ii.    Perceive Mercedes-benz's offer

Through the analysis of quantitative and qualitative research it is intended to identify a perception of Mercedes-benz's value proposition for the customer.

iii.    Perceive Mercedes-benz's offer under S-D logic

By using service-dominant logic's core concepts and premises, it is intended to create a visualization of the firm's value proposition through an S-D lens, aligning Mercedes-benz's framework.

iv.    Describe and compare the two logics

Fundamental conclusions from the previous visualization will be withdrawn, pointing out main differences, resemblances and strategic opportunities between the actual Mercedes-benz offer and the one built under service-dominant logic.

v.    Describe customers after-sales services' perception

Quantitative and qualitative analysis of crucial data will be performed as an attempt to create a better understanding of Mercedes-benz's customers experience regarding its after-sales services.

vi.    Develop management recommendations to improve Mercedes-benz after-sales services' value proposition

It is intended to develop incremental improvements that the firm could consider in order to reevaluate its value proposition regarding after-sales services. These recommendations are an attempt to create an opportunity for Mercedes-benz to rethink the role of its services as value-creating, as a way to achieve a balanced centricity between its current mindset and the service-dominant one.

## 1.3. Methodology

The present dissertation presents a single case study research, which intends to pave the way and support the achievement of the main goal, as well as of the partial ones. The case study research method was selected since it is revealed to be useful in observing and studying relevant characteristics from real-life events (Yin, 2003), and having in mind the contemporary and unexplored aspect of the topic (Yin, 2009). Being a single case study, the conclusions withdrawn from it are not necessarily applicable to other environments and other surroundings outside the populational sample (Yin,2009).

## 1.4. Scope

The present case study research focuses on a single company, Mercedes-benz, more specifically on its After-Sales Services offer. Conclusions withdrawn from this research are not necessarily applicable to other sectors or departments inside the firm (Yin, 2009).

## 1.5. Structure

*Chapter II – Theoretical Background.* The present dissertation starts by analyzing the empirical background of Service-dominant logic, its core concepts and premises and its main criticisms in order to establish a solid foundational background for the development of the rest of the research.

*Chapter III – Methodology.* The methodological process will be explained, as well as the tools used for data collection and analysis.

*Chapter IV – Data Analysis.* Qualitative and quantitative findings from the research process and other relevant data will be analyzed, as well as the firm's current value proposition and a possible one under an S-D logic lens.

*Chapter V – Concluding Comments.* This chapter will highlight the main conclusions from the present research, as well as establish managerial comments and suggestions. The limitations from the present study will be listed and possibilities for further research will be analyzed.

# CHAPTER 2. THEORETICAL BACKGROUND

## 2.1 Introduction

This chapter aims to provide a conceptual background in the pursuit of this research's main objective, approaching the different concepts surrounding the subject and discussing what was considered to be the most relevant literature.

The mentioned core concepts throughout this chapter can be schematized as in Exhibit 1.

*Exhibit 1: S-D logic's core concepts*

| S-D Logic | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Actors | | | Resources | | Service | | Value | | | |
| Time Bound | Relationally Bound | Resource Integrating | Operand | Operant | Goods | Currency | Unique | Cocreated | Proposition | |
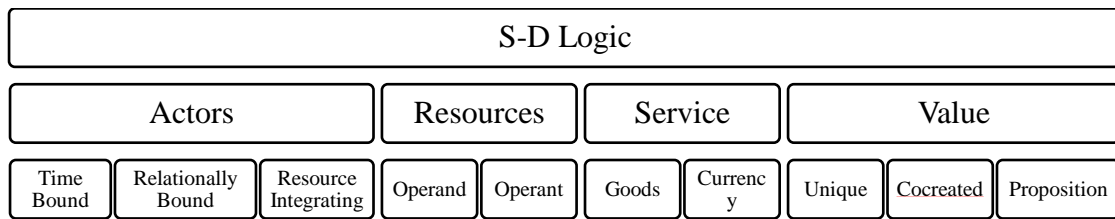
*Source: (Lusch & Vargo, 2014)*

## 2.2. G-D Logic VS S-D Logic

When it comes to the way companies see their value creation process and how they sell and distribute their products, two logics can be found in literature: a goods-centered, manufacturing one (G-D logic) and a service-based one (S-D logic). Goods-dominant logic stands that the trade of physical goods is the primary focus of economic exchange, and gives services the secondary role of *intangible goods* or add-ons to goods (such as after-sales services or customer services) (Vargo & Lusch, 2008). This logic is based on the combination of Adam Smith's work (1776) and Newtonian mechanics, in the context of the Industrial Revolution where "productive" activity was directly linked to the production of physical goods and activities that did not result on the creation of tangible goods (such as services) were not considered relevant to the national wealth (Lovelock & Gummesson, 2004; Vargo & Lusch, 2004). Even though it is easier for economists to focus only on tangible output, G-D logic was adequate and made sense only in an era where marketing's main concern was the exchange and distribution of physical output (Vargo & Lusch 2008).

S-D logic, on the other hand, places service provision as the main purpose of Economic exchange and gives intangibility, exchange processes and relationships a fundamental role (Vargo & Lusch 2004; Vargo &Lusch 2008b), as it is implied in one of its fundamental premises. S-D logic views wealth as the result of the application and

exchange of specialized knowledge and skills, opposing the traditional manufacturing view that believes wealth is obtained through tangible resources and good (Vargo & Lusch, 2008). Shostack (1977) defended that was urgent for service marketing to break free from goods marketing, and that creating a new marketing discipline focused only in services was the solution; however, it is *all* marketing that needs to break free from the manufacturing-based model, since S-D logic proposes the usage of merely Marketing or Management terms with the service-focus implicity understood (Gummesson *et al*, 2010).

This shift brings up a crucial difference between the two logics about the usage of the technical terms *service* and *services*. *Service*, as a singular noun, refers to the process of applying competences and knowledge for the benefit of another party (Vargo & Lusch, 2004b) and is commonly used in S-D logic. It embraces the idea of exchanging *operant resources* – often intangible and dynamic resources capable of acting on other resources - in order to create value. However, the plural *services* refers simply to the universally accepted definition that portraits services simply as the opposite of goods, and is focusing in *operand resources* – tangible resources that require an action to be performed on them to generate value – as the main way to measure value (Vargo & Lusch, 2008). This difference is crucial for the so called "service firms" (such as airline companies or automobile companies), that should change their focus from simply *producing services* (as the opposite of producing goods) towards *providing service.*

## 2.3. Resources and value co-creation

The difference between operand and operant resources is fundamental in understanding the two logics. According to the service dominant mindset, *operand* resources are resources on which an operation or action is performed on to produce an effect, such as raw materials and other static and finite goods, and they have a central role in the old manufacturing goods-based logic. G-D logic seeks to control, own and produce these operand resources, and value is embedded in them as they reach the stage of final goods. *Operant* resources, on the other hand, are employed to act on operand resources (or even on other operant resources) – these are resources that produce effects, (Vargo & Lusch 2004; Lusch & Vargo 2014) and they are often intangible and dynamic (like knowledge and skills, for example). S-D logic sees physical goods as mere transmitters of operant resources, and places them in the center of Economic Exchange since this view claims that people only engage in it to acquire the benefits of specialized competences. As Vargo & Lusch (2004: 3) stated, "resources are not; they *become*". Even the role of the customer

changes based on if he is seen as an operand *resource* or as an operant resource. S-D logic sees the customer as a cocreator of value and primarily as an operant resource, while the goods-based model sees the customer as a resource that marketers act upon: the firm segments the customer, distributes to the customer, and ultimately sells to the customer, seeing him as a target and, ultimately, as an *operand* resource (Vargo & Lusch, 2004).

By placing the consumer in an active role in the value creation process, S-D logic is implying a collaborative relationship between the firm and the service beneficiary in the whole process (Vargo & Lusch 2008b; Lusch & Vargo, 2014). This collaborative relationship has two different components that are worth mentioning: co—creation of value and co-production (Lusch & Vargo, 2006b). Value co-creation is basically what S-D logic is all about, and the term "producer" was changed in one of the original fundamental premises to "creator" as soon as the authors realized how easily it could be linked to the old manufacturing logic (*producer* is a term that is somehow associated with physical goods and units of output) (Vargo & Lusch, 2006).

The user is always a co-creator of value (Vargo & Lusch, 2008b), since value creation is not an unilateral process and the user has a fundamental role in determining and creating it, even after the moment of purchase – which makes it closely tied to the concept of "value-in-use" (Lusch & Vargo, 2006) and with the experimental and relational part of it (Lusch & Vargo, 2006b). However, the customer's involvement in co-production is *optional.* Co-production is a mere component inside value co-creation (Lusch & Vargo, 2014), where the user has an active role in the developement of the core offer itself (Vargo & Lusch, 2008b), contributing with either operand or operant resources (Vargo & Lusch 2014). This participation can be in the design or invention of the offering (Lusch & Vargo 2006), like a customer going to a store where he can customize his or her clothes, or even a student asking questions to a professor that somehow would help the rest of the class (Lusch & Vargo, 2014). However, these represent very different levels of co-production based on how much the user is involved in it, and a new questionn surfaces: "How to measure the extent of how much a service beneficiary is an active participant or coproducer?" (Lusch & Vargo 2006b). To help create a better understanding of this matter, six key factors were developed. These can be found in table 1.

Table 1 - Factors that influence if a service beneficiary is an active participant or coproducer in the offering

| Factors | Description |
| --- | --- |

| Expertise | Actors are more likely to participate in coproduction when they have the requisite expertise. |
|-----------|-----------------------------------------------------------------------------------------------|
| Control | Coproduction is more common when actors want to exercise control over the service's process. |
| Tangible capital | Coproduction is more likely if actors have the requisite tangible capital to perform activities that contribute to the service offering. |
| Risk taking | Coproduction involves tangible, psychological, and/or social risk taking. Thus, a service beneficiary as a coproducer could either increase risk or lower risk depending on the situation. |
| Psychic benefits | Actors primarily engage in coproduction for pure enjoyment or the psychic or experiental benefits. |
| Economic benefits | Actors often recognize the value of their time in alternative uses and find that spending time on coproduction compensates them well. |

Source: Vargo & Lusch (2014)

This previously mentioned notion of *value co-creation* implies an interdependent relationship between the one who offers (*firm*), the offer itself and the beneficiary – the value of the offer is determined by the producer and by the consumer, long after the economic transaction known as *purchase* is over. The offer is only valuable when it is being used, and there is no such thing in S-D logic as "embedding" value on the product. The product does not become automatically valuable just because the producer considers it so – the product has to be tested, used, and has to become valuable *for the consumer*, and this process lasts long after the purchasing moment (Lusch & Vargo, 2014). This notion of *value-in-use* later evolved to *value-in-context* which states that value is uniquely determined by the beneficiary actor in a particular context (Chandler & Vargo, 2014) and is closely tied to consumer experience (Pine & Gilmore 1999; Lusch & Vargo, 2014). Firms can only make value propositions, they never get to actually deliver value to its full potential because it is perceived and determined by the consumer on the basis of *value in use*, opposing the traditional concept of "value in exchange" (Vargo & Lusch, 2004). Thus, the elimination of the producer-consumer distinction is logical, since they both co-

create value, with each party bringing their own unique resource accessibility and integrability to the whole process (Vargo & Lusch, 2008). This elimination of roles is critical as this mindset defends an A2A mindset (actor-to-actor) (Vargo & Lusch, 2016). This trade-off of unique resources between actors can actually be seen as a particular form of customization in a way that customers can choose how to receive their product: some companies engage in a more standardized process (physical goods can be seen as a standardized way to deliver value), while some allow their clients to engage in *self-service* (Vargo & Lusch, 2004b).

## 2.4. Fundamental Premises and their evolution

Service-dominant logic's fundamental propositions were first listed in 2004 by Vargo & Lusch (2004). These first eight FP's (listed in Table 2) contributed to a better understanding of the current subject and underlined the distinction between the service-dominant logic and the goods-dominant one. However, and thanks to all the discussion it generated, over the years some clarifications were made (specially lexicon-related ones) and the initial eight FP's quickly suffered some alterations. A ninth FP was introduced, *co-producer* was considered too production-oriented so FP6 started mentioning *co-creator* instead, and the plural term *services* shifted to *service* (Vargo & Lusch, 2006).

Table 2 - List of the original 8 Fundamental Premises

| FPs | Original fundamental premise |
|-----|------------------------------|
| *FP1* | The application of specialized skills and knowledge is the fundamental unit of exchange |
| *FP2* | Indirect exchange masks the fundamental unit of exchange |
| *FP3* | Goods are distribution mechanisms for service provision |
| *FP4* | Knowledge is the fundamental source of competitive advantage |
| *FP5* | All economies are service economies |
| *FP6* | The customer is always a coproducer |
| *FP7* | The enterprise can only make value propositions |
| *FP8* | A service-centered view is customer oriented and relational |

*Source: (Vargo & Lusch, 2004)*

However the most significant change came later encouraged by the need to make some terms and expressions more clear and less G-D logic related. *Unit of exchange*, *producer* and *consumer* are some of the terms that still recall the goods-dominant logic that centers around tangible goods, so these were replaced by *basis of exchange* and by simply the term *actors* to refer to both the producer and the consumer. The ninth fundamental

premise introduced a couple of years latter (Vargo & Lusch, 2006) was also rewritten, and a tenth proposition was added: *"Value is always uniquely and phenomenologically determined by the beneficiary"* (Vargo & Lusch, 2008b). This proposition was meant to accentuate the experimental and contextual nature of value, that would later become even more clear thanks to the use of the expression *"value in context"* (Chandler & Vargo, 2011) and *"value in social context"* (Edvardsson et al, 2011).

In 2014, the ten Fundamental Propositions were transformed in 4 axioms that captured the true essence of service-dominant logic, from which the remain six FP's could be derived. *Service is the fundamental basis of exchange*, being the first axiom, is based on the idea that, whenever actors engage in an economic transaction, they exchange services rather than goods. Lusch & Vargo (2014: 15) state that *"service is exchanged for service"*, putting service transactions in the center of Economic Science and as the ultimate purpose of the relations created between the diverse economic actors. The second axiom, *The customer is always a cocreator of value*, comes as a direct contradiction to the manufacturing logic, where the only creator of value would be the producer. This axiom goes directly against the idea that value is something that can be "injected" in goods during the production process (as implied in the term *embedded value*), and implies that value creation is interactional and never unilateral. *All social and economic actors are resource integrators* is the third axiom of the service-dominant mindset, and the resources it mentions can either come from private, market or public sources. These resources, that can vary from oneself and one's family to even other actores, when integrated, are the basis of value creation. *Value is always uniquely and phenomenologically determined by the beneficiary,* being the last axiom, is intended to underline the experimental nature of value. This fourth axiom suggests that each actor has a different perception of an offering's marketing proposition, and experiences its value in an unique and singular way.

The latest update on the FP's was meant to allign the A2A perspective that was adopted with the language used in the FP's, and resulted in the alteration of 4 of them (including one axiom) and in the creation of an eleventh proposition (fifth axiom) (Vargo & Lusch, 2016).

FP4 mentions now *strategic benefit* instead of *competitive advantage*, reenhancing the secondary role of competition as the purpose of operant resources, and making their actual function of service provision for another actor more clear.

FP6 now includes *"multiple actors, including the beneficiary"* instead of just mentioning "*the customer*". This axiom was quite controversial when the original list of FP's came out (Achrol & Kotler, 2006; Grönroos, 2006; Gummesson, 2006) because of the word *co-production*, that many readers associated with the customer's actual participation in the design and manufacturing of the offering. The term was later substituted by *co-creation* (Vargo & Lusch 2008), and it stands for, as Vargo & Lusch (2016: 4) state, "...the actions of multiple actors, often unaware of each other, that contribute to each other's wellbeing". The change made in this axiom was meant to underline the multi-actor phenomenon side of value co-creation, which happens thanks to an integration of resources coming from multiple sources (Vargo & Lusch, 2004), and never individually. According to this logic, the only individual experience an actor goes through is how he experiences and assesses a company's market proposition, which is quite explicit in FP9.

In FP7 *"the enterprise"* was replaced by *"actors"*, while their incapability of delivering actual value is still enhanced. This alteration was meant to make the FP more compatible with the A2A orientation.

In FP8 the alteration is made from *"customer"* to *"beneficiary"* to make it more A2A consistent (just like FP7), therefore eliminating the consumer-orientation that was somehow suggested before.

  The new fundamental proposition (and also axiom) came from the need to formalize the essential role of institutions in the process of value cocreation. The term *institutions* is refering not to legal organizations or companies, but to, as Scott (2001: 48) stated, *"humanly devised rules, norms and beliefs that enable and constrain action and make social life predictable and meaningful"*. These institutions and the arrangements they create when interrelated form the basis for understanding not only service ecosystems, but also human ones (Lusch & Vargo 2014). As Vargo & Lusch (2016: 13) stated, this set of practices and routinized activities known as *institutions* *"provide the structural properties we understand as social context"*, therefore create a whole background that influences mutual service provision and value cocreation. Therefore, the 11th FP (and fifth axiom) was *"Value cocreation is coordinated through actor-generated institutions and institutional arrangements"*. Table 3 shows the original and the corrent fundamental premises.

Table 3 - Update of the Fundamental Premises

| Fundamental Premise | 2004 | 2016 |
| --- | --- | --- |
| *FP1/Axiom1* | The application of specialized skills and knowledge is the fundamental unit of exchange. | Service is the fundamental basis of exchange. |
| *FP2* | Indirect exchange masks the fundamental unit of exchange. | Indirect exchange masks the fundamental basis of exchange. |
| *FP3* | Goods are distribution mechanisms for service provision. | (no change) |
| *FP4* | Knowledge is the fundamental source of competitive advantage. | Operant resources are the fundamental source of strategic benefit. |
| *FP5* | All economies are service economies. | (no change) |
| *FP6/Axiom2* | The customer is always the co-producer. | Value is cocreated by multiple actors,always including the beneficiary. |
| *FP7* | The enterprise can only make value propositions. | Actors cannot deliver value but can participate in the creation and offering of value propositions. |
| *FP8* | Service-centered view is customer oriented and relational. | A service-centered view is inherently beneficiary oriented and relational. |
| *FP9/Axiom3* | -- | All social and economic actors are resource integrators. |
| *FP10/Axiom4* | -- | Value is always uniquely and phenomenologically determined by the beneficiary. |
| *FP11/Axiom5* | | Alue cocreation is coordinated through actor-generated institutions and institutional arrangements. |

*Source: (Vargo & Lusch, 2004, 2008, 2015), (Lusch & Vargo, 2014)*

## 2.5. Practical Applications

Service-dominant logic can be associated with diverse concepts from different fields of study, that vary from healthcare (Joiner & Lusch, 2016; McColl-Kennedy et al, 2012) to information technology (Löbler & Lusch, 2014) and even financial services (Auh *et al*, 2007), as a conceptual frame that allows a better understanding of a various number of themes and theoretical concepts. S-D logic can be a major vehicle for explaining and studying some of the hardest theoretical models and allows the researcher to have a broader and more clear view of it (Lusch & Vargo, 2014).

One of S-D logic's contributions in the past years can be found in logistics, more specifically when it comes to Performance-based logistics (PBL). Performance-based logistics, just like S-D logic, has its focus on the final results (or outcomes) of activities, on the collaborative part of transactions and on the the importance of knowledge and intellectual resources within the various relationships actors can engage into (Randall *et al*, 2010). S-D logic's main contribution here is to fulfill "…*a gap between our understanding of how processes spanning multiple trading partners can be effectively aligned by PBL outcomes at the end-user level*" (Randal *et al*, 2010: 36). A similar (although different) set of concepts shared by both S-D logic and PBL are *service* and *performance*. Performance can be defined by *"a network's ability to use goods, services and knowledge, to meet a desired performance requirement"* (Randal *et al*, 2010: 39) which can be extremely useful when aligned with SDL's concept of *service*. This duality represents a source of empirical data to be used on the investigation on PBL's supply chains using S-D logic as a theoretical lens, in order to build a credible theoretical structure for them (Randal *et al*, 2010).

Another field of study where the S-D logic mindset provided a good insight was the tourism sector, which has not yet been able to incorororate S-D logic's insights in its management studies. This is a relevant fact since the whole tourism sector revolves around customer experience (Shaw *et al*, 2009), and could take a lot from SDL's insights (where relationships are central and the concept of value-in-use plays an important role) (Vargo & Lusch, 2008). SDL was seen as a reliable framework to analyze co-creating value experiences among the hotels and their clients, and its importance is clearly stated in FP6 *"The customer is always a co-creator of value"* (Vargo & Lusch, 2006).

As we may be living now in a so-called *Experience Economy* (Pine and Gilmore, 1999), the demand for memorable and unique experiences in the tourism sector is rising, which once again stresses the importance of the whole value co-creation process in this sector (Shaw *et al*, 2011). Authors were focused on a qualitative approach due to the need for in-depth empirical information, and drew a number of case studies to analyze the importance of cocreation (with the customer and along the entire value-chain). The case studies selected were taken from a wide survey, where respondent's position inside the firm varied significantly, and the interviews conducted. S-D logic was proven useful as a framework to understand the nature of the relationship between social network platforms and the customer, who is constantly looking for other client's views and feedback (Wang

& Fesenmaier, 2004). There is an existing need to study more profoundly the influence of these *e-relationships* in the tourism sector (Litvin *et al*, 2008), and S-D logic has proven to be a relevant framework to study such phenomenon (Lusch & Vargo, 2014) due to some inner concepts like *value-in-social-context* (Edvarsson et al, 2011), *co-production* and *co-creation* (Lusch & Vargo, 2006b).

Service-oriented architecture is another field of study that benefits from adapting a service-dominant mindset, and it can be defined as "*...the loose coupling of services, which communicate with eachother. It is an information system framework design for linking computacional resources on deman to achieve the desired results for service consumers*" (Yan *et al*, 2010; 2223). This association is relevant to help firms transition from a G-D logic framework to a service-dominant one (Lusch & Vargo, 2014) with the according changes in service computing and in the way they organize their information. Both business and IT communities are embracing a whole new service orientation, and service computing techniques such as service-oriented architecture are now dealing with an unprecedent opportunity for allignment (Chen, 2008; Zhao, 2007, 2008). The relevance of this allignment is significant, since it was proven that, when alligning the IT strategy with the business strategy, organisations are faced with an improval of their results (Chan, 1997).

A sector where it is especially important to have a visualisation of a firm's offering from a SDL perspective is the equipment-based service one. There is a real need to fulfill an empirical and methodological gap regarding certain concepts surrounding S-D logic in order to help firms transition from the old manufacturing perspective into one that integrates both the product and the service offering in a single value proposition that delivers value-in-use (Ng *et al*, 2012; Baines *et al*, 2007). Having Rolls Royce as an avenue to explore such matters, Ng *et al* (2012) first investigated the actual value of the offering exchange and use by analyzing texts, documents and secondary data to create two perspectives of the offering; a G-DLogic one centered on value-in-exchange and a S-DLogic one focused on value-in-use. The SDL perspective led the creation of  11 so-called *Value-creating activities* that were part of the whole value-creating system (where the customer also performed an important role).

The second stage was based on data collection and analyzis to build a visualization of the firms SDL value proposition. Ng *et al*'s study (2012) played a significant role in the understanding and selection of which firm's resources are the most useful in creating

capabilities, and suggests that the firm's actual value proposition is represented by its contribution to the VCA's. By being able to visualise both the G-D logic and the S-D logic perspective of that same proposition, an actual visualisation of both the actual value proposition and of the alternative one is aimed at helping that decision-making process companies go through. This firm is now able to understand how to adapt and enhance its value proposition, as well as observe how it fits with the customer's mission.

## 2.6. Criticisms

When it comes to critics and discussion on the S-D logic topic, there are very two distinct and different paths that emerged since the first publication on the matter (Vargo & Lusch, 2004; Lusch & Vargo 2006, 2008b, 2011). Before going deeper into the subject, it is relevant to mention that the authors always promoved and encouraged the participation of all scholars and academics in this discussion, which eventually led to the publication of essays by 51 marketing scholars in 2006 in *The Service-Dominant Logic of Marketing: Dialog, Debate and Directions* (Lusch & Vargo, 2006). The authors defend that they do not reclaim ownership on the subject and invite different schools of marketing thought to participate on the discussion and collaborate on the creation of critical viewpoints (Lusch & Vargo, 2006). Since the publication of "Evolving..." (Vargo & Lusch, 2004) both the authors "... *intentionally make an effort to embrace different views in other ways. (...) we do not own S-D logic; we view it as an open-source, and ultimately it will need the active support of a community of scholars co-creating, refining and advancing it, if it is to move forward.*" (Lusch & Vargo 2011, p. 1304).

One of the first critics was published in their 2006 collection of essays written by different scholars about the matter in *Service-Dominant Logic of Marketing: Dialog, Debate and Directions* (Lusch & Vargo, 2006) and it was conducted by Achrol and Kotler. In their essay (Achrol & Kotler, 2006) the authors biggest concern is about the lack of a reality picture contrasting with the big amount of "*trivial statements*" with no profoud conceptual meaning.

One example is their (Vargo & Lusch, 2004) big concern on distinguishing goods and services, which may lead to a simple and merely rhetorical debate (Achrol & Kotler, 2006). To prove their point, the authors substituted the term *goods* for *services* and vice-versa in the guiding points for each dominant logic provided before (Vargo 6 Lusch, 2004), and got to the conclusion that the statements still made sense. This led to the conclusion that neither the service-centered view nor the goods-centered view are based

in a fundamental logic system. In their article (Achrol & Kotler, 2006) explored the ontological and pragmatic aspects of S-D logic in aspects such as the product/service, consumer and consumption and the firm itself. Regarding the product/service, the authors enhanced that saying everything is a service (Vargo & Lusch, 2004) leads to a weak and vague explanation of all the theoretical and pragmatic issues between direct services and goods. Achrol and Kotler conclude that the important variable here is neither product nor service, but satisfaction. However, this factor ultimately brings up concepts like *utilities* and *value* that are criticized by Vargo and Lusch from the start (Vargo & Lusch, 2004).

Regarding the consumer and consumption aspect, the "service for service" model of exchanged is criticized by the authors that believe this type of economy is a "...*romantic fiction we often indulge in pre-industrial society*" (Achrol & Kotler, 2006; p.551). Even the pre-money and barter economies were controlled by physical assets such as land and animals, and those who were not wealthy enough to indulge in such transactions were the ones who ended up trading their services (Achrol & Kotler, 2006). However, the authors do accept the theory that a good or a service only has value when consumed (Achrol & Kotler, 2006) and also disapprove *microspecialization* (Vargo & Lusch, 2004), while acknowledging that it is easier for consumers to stand on the superficial side of consumption without going too deep into the act. A relevant aspect of this critique is the stand the authors take when it comes to the well-aclaimed and over-discussed topic of resources (Vargo and Lusch, 2004): they do not think the distinction between operand and operant resources is neither relevant or productive, and would rather engage on the study of how can companies can make something profitable and productive out of the concept of *knowledge*, instead of just classifying it. In fact, the act of classifying and labelling what is or isn't service-centered is seen by the authors as something that won't bring anything positive to the Marketing discipline.

Another critique came later (O'Shaughnessy, N. and O'Shaughnessy, N. J., 2009), which can be described different than the previous one from Achrol and Kotler in 2006 for a number of various reasons. In their first critique, O'Shaughnessy and O'Shaughnessy start by questioning Vargo and Lusch's definition of services by pointing out its wrong focus on activities performed instead of the actual *function* of the services industries, which they consider to be *"... a real loss, not, as we hope to show, compensated by the connectioon of activities to the author's central concept of operand and operant resources."* (O'Shaughnessy, N. and O'Shaughnessy, N. J., 2009: 785). They also

mention that the service-dominant perspective is not adaptable to the marketing discipline, and underline its indiference and lack of theoretical foundations while focusing mainly on the technological aspect of it. The authors question as well its worldwide academic acception, stating that Vargo and Lusch's article from 2004 didn't have a much relevant impact outside the USA. Also, O'Shaughnessy, J. and O'Shaughnessy, N.J. claim that, by trying to stretch the services definition by including goods in it, Vargo and Lusch are only diluting the service perspective, which actually would make it a regressive theory since "*Broadening a perspective weakens that perspective and blunts the insight it might otherwise offer*" (O'Shaughnessy, N. and O'Shaughnessy, N. J., 2009: 792).

Two years later, Vargo and Lusch's response was published (Lusch and Vargo, 2011) and a number of misconceptions made by O'Shaughnessy, J. and O'Shaughnessy, N.J. in their first article (O'Shaughnessy, N. and O'Shaughnessy, N. J., 2009) were listed:

- The authors only read one article (Vargo & Lusch, 2004) and didn't bother to read the extense body of work that emerged after that first publication. This is an especifically controverse matter since the authors claim that "... *a critique based on a clearly incomplete, if not careless review of the relevant S-D logic literature is unfortunate and misleading, at best; at worse, it could be considered inconsistent with the generally accepted norms of good scholarship.*" (Lusch & Vargo, 2011; 1300)

- Their notion of the little impact the S-D logic paradigm had outside of the USA is not supported by evidence, since the articles quoting Vargo & Lusch (2004) were approximately half outside the US. This argument is also supported by the fact that the journals with more citations were European (Lusch & Vargo, 2011)

- O'Shaughnessy, N. and O'Shaughnessy, N. J. mention that S-D logic only had impact and relevancy due to the recent growth of services economy, which clearly goes against FP6 where Vargo and Lusch argue that *all* economies are service economies. Claiming that there is such a phenomenon described as "the growth of the services economy" is "... *based on the goods-dominant (G-D) logic to which S-D logic runs counter...*" (Lusch & Vargo 2011, p.1301).

The authors also defend their definition of service, arguing that it includes both the means (activities) as well the ends (functions), opposing O'Shaughnessy, N. and O'Shaughnessy, N. J.'s argument that it is a regressive theory focused only in technology. Vargo and Lusch rather see it as an "*inclusive*" theory (Lusch & Vargo

2011, 1303) that should be used as a pre-theoretical basis for the construction of an adequate theory of marketing (Lusch and Vargo, 2011; Vargo 2007).

In their 2011 article (O'Shaughnessy, N. & O'Shaughnessy, N. J., 2011), the authors wrote an extense reply to the mistakes pointed out by Vargo and Lusch (Lusch & Vargo, 2011). Their arguments are summarized in table 4.

Table 4: Arguments in favor and against S-D logic

| Mistakes pointed out in (Lusch & Vargo, 2011) | Comments (O'Shaughnessy, J. & O'Shaughnessy, N.J. 2011) |
|---|---|
| *Based their critique in one article only, ignoring the extense literature that came after* | Vargo and Lusch never mentioned their perspective was a piece of empirical work, so they read the foundational main article which eventually led to the other ones |
| *S-D logic only had a significant impact in the USA* | Vargo and Lusch's article "Evolving..." (Vargo and Lusch 2004) was the lead article in the Journal of Marketing (an US journal) and received the AMA Maynard Award for Theoretical Contributions to Marketing. Thus, it certainly had more impact in the US than in the rest of the world. |
| *S-D logic was based in the recent growth of services economy* | 60% of the GNP are services, and this factor was a major influence in the impact and relevance S-D logic had. O'Shaughnessy, J. and O'Shaughnessy, N.J. are not assuming Vargo and Lusch based their foundational article upon this, but its acceptance was surely affected by it. |

*Source: (O'Shaughnessy, J. & O'Shaughnessy, N.J. 2009, 2011), (Lusch & Vargo 2011)*

O'Shaughnessy, N. and O'Shaughnessy, N. J. continue to stand by their position that S-D logic is regressive and a "backward step", stating that classifying all businesses as *service providers* leads to a major loss in depth regarding all the services category due to its general classification. As the authors state, "*... choosing an elasticated definition of service that can be stretched to cover all businesses, we empty or dilute the concept of service by ignoring real differences in marketing applications that can relate to a particular business category. This is surely regressive*" (O'Shaughnessy, N. & O'Shaughnessy, N. J., 2011: 1312). They also underline Vargo and Lusch's focus on activities rather than functions performed and their continuous mistake of matching *benefit* and *function* of a service or product (Lusch & Vargo, 2011), which they argue it is not the same. Vargo and Lusch's foundational article (Vargo and Lusch, 2004) is also mentioned, which they accuse of being a mere "*...framework that, unlike theory, explains nothing but simply describes what Lusch and Vargo regard as*

*somecompelling theory. A description is not a theoretical explanation.*" (O'Shaughnessy, N. & O'Shaughnessy, N. J., 2011; 1314). As a support for their argument, the authors proceed to evaluate individually each FP listed in Vargo & Lusch's 2008 research paper to show its lack of theory. Their comments can be seen in table 5.

Table 5: Comments regarding the 8 Fundamental Premises

| Fundamental Premise | Comment by O'Shaughnessy, J. & O'Shaughnessy, N.J. |
|---|---|
| FP1 | Operant resources are not actually the key to success. It depends on a series of other factors such as motivation or beliefs. |
| FP2 | The "exchanging services for services" idea is a mask to add some more substance to Vargo and Lusch's thesis, not an actual fact |
| FP3 | Doesn't add anything new |
| FP4 | Anything can be defined as *knowledge* depending on their actual definition of the word |
| FP5 | Doesn't claim anything significant, since it only introduces non-relevant factors into the debate |
| FP6 | Not true or feasible. The customer provides only feedback. |
| FP7 | Making value propositions is already implicit in the definition of a business. |
| FP8 | Ignores personalized execution, which is a key to many services success regarding customers. Service is all about personalized execution, not customization or co-production. |

Source: *(O'Shaughnessy, N. & O'Shaughnessy, N. J., 2011)*

Vargo and Lusch's response to the critique came later (Vargo & Lusch, 2011), in an attempt to close the on-going discussion and to move on to new topics. This was also an opportunity to underline that they do not own neither invented S-D logic. Since the first publication on the matter (Vargo & Lusch, 2004), what the authors tried to do was to identify and elaborate on what they considered "*... a potential convergence in disparate thinking that suggests an evolutionary (rather than revolutionary) shift...*" (Vargo & Lusch, 2011; 1320). This was also a reminder that the roots (implicit and explicit) of service thinking started way before their publication from 2004, with Smith (1776) and Bastiat (1848/1964).

## 2.7. Concluding comments

This chapter aimed to bring a theoretical background to the research while analyzing the most relevant literature. Starting from the main divergences between G-D logic and S-D logic, one of the goals was to study its roots and evolution, namely the evolution of

Fundamental Premises and Axioms throughout the years. Key-concepts such as the importance of resources and value co-creation were also approached, as well as its pratical applications in distinct fields of study. A study on the main criticisms and debates surrounding S-D logic was also conducted.

# CHAPTER 3. METHODOLOGY

This chapter aims at identifying the research questions of this research, the hypotheses that will allow achieving the partial goals as well as the data collecting and data analysis tools.

## 3.1. Research Questions

Research was based upon the previous literature review and has in its core the importance of interaction in S-D Logic's view of marketing (Lusch & Vargo, 2006b). This study aims to understand what is the company's value proposition being delivered and the channels used for its purpose, and what is the set of benefits consumers acknowledge they are provided with *versus* what they want. Based on this the research questions to be answered during this research are as follows:

> *RQ1. Is the firm operating under a Service-dominant Logic?*

> *RQ2. Is the company effectively responding to the consumer's needs?*

These questions are then analyzed under a S-D Logic lens to create a better understanding of the actual resource exchanging process that occurs between these two actors and how can the brand create better resource-integration opportunities for both parties (Lusch & Vargo 2014). As there might be a gap between the two perspectives, the following research question is also pursued:

> *RQ3. What can Mercedes-benz do to change the consumer's perception of its value proposition?*

## 3.2. Hypotheses Definition

Hypothesis in this sub-chapter are based on Chapter II – *Literature Review* and are meant to support the Research Questions described above.

It is important to analyze the overall satisfaction of Mercedes-benz's customers to measure how efficiently its value proposition is being delivered. These factors will be fundamental for the process of outlining an answer to *RQ2*. Having in mind Mercedes-benz's concern regarding providing quality services throughout the whole vehicle's life-cycle and having customer loyalty as one their main objectives, Proposition 1 is stated as follows:

> P1: Mercedes-benz consumers are satisfied with their choice.

Due to the heterogeneity aspect of actors in the value creation process (Lusch & Vargo 2014), each customer's socio-demographic characteristics leads to the existence of customized offers that may influence their decision-making process and overall satisfaction. The analysis of these characteristics and their influence on consumer behavior will allow the validation or not of the existence of consumer trends and patterns among socio-demographic segments.

H1: Mercedes-benz users' generic information influences why costumers choose the brand over others in the market.

The large variety of vehicle ranges inside the Mercedes-benz brand vary in terms of price, individual proposed value proposition and specific target audience associated with each one. These specifications and communication strategy behind each range might be relevant when compared to and analyzed with the socio-demographic characteristics of its end buyers and the actual reason behind their purchase to see if there is any relation between them.

H2: Mercedes-benz user's generic information is associated to the vehicle's range choice inside the Mercedes-benz portfolio.

Mercedes-benz has a specific concern towards providing quality After-Sales Services throughout the vehicle's entire life-cycle, especially when the vehicle is older than 5 years. Publicity and marketing actions are commonly engaged by the brand, as well as technological tools and applications that allow a straight and direct relation between the consumer and the brand. Thus, Hypothesis 4 is stated as below:

H3: Mercedes-benz users' level of satisfaction with the brand is related to the vehicle's age.

Knowing the main reasons that drives a customer to buy a Mercedes-benz over other brands in the market (whether it is safety, comfort or *status)*, it might be relevant to the benefits customers recognize and there might be a relation between these reasons.

H4: There is an association between the reasons that led consumers to choose Mercedes-benz.

The customer's choice of a specific vehicle range inside the whole brand's portfolio is due to a set of reasons that might be (or not) related to the amount of investment he is willing to engage on. To measure if the investment in the vehicle the consumer is willing

to do is related to other layers of benefits be might want to choose (such as After-Sales Services Contract, visits specialized workshops, uses Genuine Parts and how important are After-Sales Services to him), the following hypothesis is defined:

H5: The type of vehicle range owned is associated to the customer's decision to invest more on the vehicle or not.

As the vehicle gets older, it is possible that users tend to invest less money on its repair and maintenance, i.e., recognizes fewer benefits from the company's offering. On the opposite position, users with vehicles with less than 5 years old might tend to invest in it by visiting the brand's specialized workshops and using the brand's Genuine Parts. When the car is significantly older, the company posits that the use of Genuine Parts on repair and maintenance is fundamental to preserve its value. Also, some of the parts are no longer being produced, so Genuine Parts is the only way to assure the vehicle has the exact specific parts it needs. It was found relevant for this research to study the existence of a relation between the vehicle's age and the level of investment the user is willing to engage on.

H6: The vehicle's age is associated to the level of investment engaged on by the customer.

After-Sales Services Contracts are the brands biggest fidelization tool by providing comfort and stability to its users, mainly through assuring all repairs made are made in specialized Mercedes-benz workshops and using the brands Genuine Parts. These factors are the only way to assure quality maintenance of the vehicle, by allowing its value not to decline over time. As so, it was found relevant for this research to study the existence of a relation between the acknowledging of its importance and actually signing an After-Sales Services Contract.

H7: Recognizing the importance of investing in After Sales Services influences signing an After Sales Contract.

## 3.3. Data Collection Tools

The interview script was composed by 22 open-answer questions, and the second one included a guided visit through the actual workshop itself which led to a better understanding of all the variety of services offered by Mercedes.

The stakeholder's interview was aimed to collect qualitative data that, after its analysis, will create a sustainable ground for the research and development of an answer to Research Question 1.

The customer experience questionnaire was divided in 6 parts:

i. Personal information: section meant to gather the consumer's personal data considered relevant for statistical purposes and later analysis about preferences among segments;

ii. Experience with the vehicle as a product: technical aspects of the vehicle (e.g. vehicle's age and range);

iii. Experience with the vehicle's value-in-use: intended to explore the consumer's experience with the vehicle and understand the reasoning behind his choice;

iv. After-sales services and its importance to the customer: part of the questionnaire focused on the importance of After Sales services to the consumer and his previous experience(s) with the brand;

v. Comparison of after-sales services from other brands: section looking to understand how the consumer views Mercedes-benz's After Sales Services in comparison to his previous experience(s) with other brands;

vi. Consumers that did not have a Mercedes-benz vehicle: part of the questionnaire focused only in vehicle owners that did not own a Mercedes-benz vehicle and on the reasoning behind it.

This questionnaire was created having in mind the hypotheses listed previously on this chapter and is aimed to collect fundamental data to test them (Appendix 25).

## 3.4. Data Collection

The interviews were conducted to two employees from Mercedes-benz. The interviews were conducted on the 6th June 2016 and on the 14th July to both Daimler's After-Sales Marketing & Part Sales Manager and After-Sales Manager, on the company's headquarters in Sintra. The first interviewed was Eng.º Tiago Viana, Daimler's AfterSales Marketing & Part Sales Manager, and later was Eng.º Rui Teixeira, After-Sales Manager of Mercedes-benz's own workshop in Sintra. the After Sales Marketing & Part Sales Manager and After Sales Manager from Sintra's workshop, respectively. The respondents were chosen based on the significant contribution their insights could bring to this

research, as they are working directly with After Sales Services and were considered the most relevant on communicating effectively the potential value proposed by the firm.

The questionnaire was online from 06/07/2016 until 20/07/2016 and had a total of 308 answers, from which only 222 were considered valid (a total of 86 were excluded due to incomplete forms and inconclusive answers).

The questionnaire was conducted online due to mainly the fact that information is gathered automatically (which makes the process faster and less time consuming), it is easier to use for participants and data is instantly available and easily transferred into statistical software. The fact that it was online also made possible and easier to spread the questionnaire into specific target groups available on forums and other online platforms.

### 3.5. Data Analysis

Data analysis from the interviews was focused on a qualitative lens, under which the main topics and key subjects mentioned by the respondents were highlighted in order to understand the company's perceived value that is delivered to the customer. After being selected, such topics were analyzed from a S-D Logic lens to align the firm's key value-creating activities with the service-dominant logic's key-terms, premises and axioms.

After defining the hypothesis based on *Chapter II – Literature Review*, quantitative data was analyzed using the most appropriate statistical methods (Maroco, 2011; Laureano, 2011) for each type of data to conclude if such hypothesis should be rejected or not.

### 3.5.1. Hypotheses testing

In order to select the most relevant statistical test for each hypothesis, the first step is to find if the variables follow a normal distribution. The demand for a sample populational distribution to be Normal is one of the requisites to perform parametric tests (Maroco, 2011). Parametric tests require that two assumptions are true: (I) the dependent variable follows a normal distribution, and (II) homogeneity of the variances. Let us assume a level of significance of $\alpha=0.05$ that corresponds to a 95% confidence level. Thus, following Maroco (2011):

(I) To test normality of a given variable, the Kolmogorov-Smirnov (K-S) test can be applied. The null hypothesis is that H0: $X \sim N (\mu, \sigma)$ and it is rejected for *p-value* $\leq \alpha$.

(II) Homogeneity of variance is tested by the Levene's test. Null hypothesis is H0: $\sigma 1^2 = \sigma 2^2 = \ldots = \sigma k^2$, which is rejected for *p-value* $\leq \alpha$.

Parametric tests are more potent than non-parametric ones, since they have a bigger statistical probability to reflect real effects in a population. Thus, the first attempt will always be to proceed with parametric tests. In this research paper the parametric testes used for data analysis are the t-Student one or the simple variance analysis, also known as *one-way* ANOVA (for more than 2 populations). However, once the assumptions are not fulfilled, the Wilcoxon-Mann-Whitney non-parametric test can be applied or the Kruskal-Wallis non-parametric test (for more than 2 populations).

If either *one-way* ANOVA or the Kruskal-Wallis test show the existence of significant differences among pairs of means, *Post-hoc* testes should be conducted to find out in which set of pairs resides the difference. If the number of observations is significantly low, *Post-hoc* can't be performed and the comparison of means will be the method used to find the significantly different set of pairs.

3.5.2. *Pearson* and *Spearman*'s correlation coefficients testing

Correlation is a bivariate analysis applied with the purpose of testing if there is a relation between two variables, and the strengths of association between them.

For the Pearson *r* linear correlation, both variables should be normally distributed. Other assumptions include linearity and homoscedasticity. Linearity assumes a straight relationship between each of the variables in the analysis and homoscedasticity assumes that data is normally distributed about the regression line (Maroco, 2011; Laureano, 2011).

The assumptions of Spearman's *rho* correlation are that data must be at least ordinal and scores on one variable must be monotonically related to the other variable (Maroco, 2011; Laureano, 2011).

# CHAPTER 4. DATA ANALYSIS

This chapter starts with a brief description of the company and aims at describing the results of data analysis. The sample used will be descriptively analyzed below. Later on, this chapter will explore the hypotheses that were suggested in this research and focus on its testing, as well as a qualitative analysis of the interviews.

## 4.1. Mercedes-benz

Mercedes-benz was founded in 1924 and was the outcome of a fusion process between Daimler and Benz & Cia. It is the world's and Germany's oldest automobile company, and its global objective was always to assure maximum quality and reliability in all products. Currently, Mercedes-benz produces from automobiles, trucks and buses to its own engines.

Mercedes-benz's trade representation in Portugal started in 1936 with the firm C. Santos and covered all the different vehicles produced by the brand. In April 1989 C. Santos, the brand's only Portuguese importer, was acquired by Grupo Daimler-Benz, which sets the beginning of all Mercedes-benz activities in Portugal.

In Portugal, there are 54 commercial dealers (Lisbon is the city with the biggest number of dealers, 14) and only 2 brand-owned workshops in Alverca and Sintra. However, to ensure maximum coverage of all territory, Mercedes-benz delegates their After-Sales Services to a total of 48 workshops all over Portugal that are officially licensed and authorized by the brand. Every workshop that applies and gets selected gets a whole training-sessions package in to assure that the specialized Mercedes-benz workforce expands along with every workshop. The company sees their After-Sales Services' quality as a fundamental resource to assure customer loyalty and as a way to communicate with the customer. Customer loyalty is promoted and measured by the brand with After Sales Services Contracts – for a fixed fee per month, the brand assures the customer is constantly exposed to the advantages of using Mercedes' services, and works as the most important fidelization tool. *"The first car is sold by the salesman; all the others are sold by the After Sales services"* is a relevant motto that reflects the company's vision and centrality of its services regarding consumer satisfaction

Mercedes-benz ensures there are specially trained technicians in every workshop who are equipped with a *know-how* about all the brand's technical aspects and most recent

updates, since they're also a way to retaliate against non-authorized workshops that use non-Genuine Parts. The usage of Mercedes-benz's Genuine Parts is extremely important to the brand, since they're its way to ensure maximum quality in all repair and maintenance processes a way to keep customers close to the brands authorized workshops. Its usage can be divided in 3 stages, according to the vehicle's life cycle: 4 years or less, where it is fundamental to use genuine parts for quality and warranty reasons; 5-6 years, the stage where the car usually is sold and changes its owner, leading to a bigger temptation to fall back on non-specialized workshops; 20 or more years, where the car is considered a collectable vehicle, and the usage of genuine brand parts is fundamental in its preservation.

The company is fully aware that is somehow impossible to ensure that all customers visit specialized workshops, but it found a way through Webparts (online Genuine Parts ordering platform) to ensure that their consumers use at least the brand's Genuine Parts. Webparts, which exists for 10 years, is particularly driven to non-authorized workshops and has currently 2.000 to 3.000 registered clients. However, any private client can order a Genuine Part from the platform and either (a) perform their own repair process at home, or (b) take it to a regular workshop and ask the technician to perform the repair with that specific part. These private clients represent around 6% to 7% of the whole Portuguese market of online Genuine Parts sales.

After the buying process of a vehicle is done, the customer is faced with 2 options:

    i.      to sign a Service Contract that includes authorized maintenance and repair services for 2 years;

    ii.     to not sign the Service Contract and resort After-Sales Services whenever he feels is necessary.

These Service Contracts can be acquired long after the vehicle purchase, and are exclusive to Mercedes-benz's authorized workshops. They are the brand's way to ensure that the vehicle's repair and maintenance process matches certain quality standards (e.g. use of Genuine Parts and certified and trained technicians). Service Contracts are also one of the brand's most important fidelization tools, among Mobilo (Mercedes-benz's mobility services), 24h Service and the brand's 2-year warranty without mileage limitations.

Fidelization is measured by the percentage of vehicle's that visit specialized workshops from the global number of Mercedes-benz vehicles that were sold, and is divided in 3 segments per the vehicle's life stage:

    i.       0-4 years old: >90% of the vehicles;

    ii.      5-8 years old: >60% of the vehicles;

    iii.    >8 years old: <30% of the vehicles.

This phenomenon can be explained for the lack of appreciation and care towards the vehicle that occurs when it gets older, either because its owner is thinking about selling it or because he feels he already spent a significant amount of money with the vehicle's maintenance throughout the years (Appendix 1).

## 4.2. Sample characterization

The populational sample will be characterized by its generic information, such as Gender, Age, Marital Status and Educational Level of the respondents, and by other factors relevant to this research such as the possession (or not) of a Mercedes-benz's vehicle, the vehicle's age and respective range. Also, the overall view of the sample regarding vehicle investment will be analyzed, regardless of owning a Mercedes-benz or not.

## 4.2.1. Generic information

The sample distribution by gender is very similar for males and females, 51,4% and 48,6%, respectively.

*Table 1: Gender distribution of the sample*

| | | Frequência | Porcentagem | Porcentagem válida | Porcentagem acumulativa |
|---|---|---|---|---|---|
| Válido | Mulheres | 108 | 48,6 | 48,6 | 48,6 |
| | Homens | 114 | 51,4 | 51,4 | 100,0 |
| | Total | 222 | 100,0 | 100,0 | |

Regarding age, the majority of the population is concentrated in the 18-24 age group. However, the sample population resembles the portuguese population with almost 2/3 of the population being concentrated on the 25-64 group. The results are displayed in Table 2.

*Table 2: Age distribution of the sample*

| | | Frequência | Porcentagem | Porcentagem válida | Porcentagem acumulativa |
|---|---|---|---|---|---|
| Válido | De 18 até 24 | 81 | 36,5 | 36,5 | 36,5 |
| | De 25 até 34 | 41 | 18,5 | 18,5 | 55,0 |
| | De 35 até 44 | 33 | 14,9 | 14,9 | 69,8 |
| | De 45 até 54 | 35 | 15,8 | 15,8 | 85,6 |
| | De 55 até 64 | 30 | 13,5 | 13,5 | 99,1 |
| | 65 ou mais | 2 | ,9 | ,9 | 100,0 |
| | Total | 222 | 100,0 | 100,0 | |

As for marital status, the large majority of the population is single (60,8%), while married and individuals in a non-marital relationship equal 25,7% and 1,8%, respectively. Divorced individuals represent a total of 9,9% of the whole population, while widowed ones are 1,8%. The information is listed on Table 3.

*Table 3: Marital Status distribution of the sample*

| | | Frequência | Porcentagem | Porcentagem válida | Porcentagem acumulativa |
|---|---|---|---|---|---|
| Válido | Solteiro/a | 135 | 60,8 | 60,8 | 60,8 |
| | Casado/a | 57 | 25,7 | 25,7 | 86,5 |
| | Divorciado/a | 22 | 9,9 | 9,9 | 96,4 |
| | Viúvo/a | 4 | 1,8 | 1,8 | 98,2 |
| | União de facto | 4 | 1,8 | 1,8 | 100,0 |
| | Total | 222 | 100,0 | 100,0 | |

Regarding education level, almost half of the respondents have a bachelor degree (46,8%). In this sample, 0,5% of the respondents have only the basic studies (9 years), while 27,5% only finished high school. 21,6% have an MSc degree and 3,6% have a PhD. The full information is on Table 4.

*Table 4: Educational level distribution of the sample*

| | | Frequência | Porcentagem | Porcentagem válida | Porcentagem acumulativa |
|---|---|---|---|---|---|
| Válido | Ensino Básico | 1 | ,5 | ,5 | ,5 |
| | Ensino Secundário | 61 | 27,5 | 27,5 | 27,9 |
| | Licenciatura | 104 | 46,8 | 46,8 | 74,8 |
| | Mestrado | 48 | 21,6 | 21,6 | 96,4 |
| | Doutoramento | 8 | 3,6 | 3,6 | 100,0 |
| | Total | 222 | 100,0 | 100,0 | |

4.2.2 Vehicle information and position regarding vehicle investment

The majority (62,6%) of the sample does not have a Mercedes-benz, leaving 37,4% of the respondents as actual Mercedes-benz customers. This information is displayed on Table 5.

*Table 5: Population distribution regarding having a Mercedes-benz or not*

| | | Frequência | Porcentagem | Porcentagem válida | Porcentagem acumulativa |
|---|---|---|---|---|---|
| Válido | Tem Mercedes | 83 | 37,4 | 37,4 | 37,4 |
| | Não tem Mercedes | 139 | 62,6 | 62,6 | 100,0 |
| | Total | 222 | 100,0 | 100,0 | |

The vehicle ranges are distributed into 4 categories according to its price. Vehicles costing between 35.000€ to 49.999€ are the most preferred ones, attracting 19,4% of the population. The second most chosen range is the cheapest one, from 34.999€ below (8,6%), followed by 4,1% that chose a range from 50.000€ to 65.000€. Only 4,1% of the respondents has a vehicle in the higher range of over 65.000€ (Table 6).

*Table 6:Sample distribution regarding vehicle range*

| | | Frequência | Porcentagem | Porcentagem válida | Porcentagem acumulativa |
|---|---|---|---|---|---|
| Válido | Até 34.999€ | 19 | 8,6 | 22,1 | 22,1 |
| | De 35.000€ a 49.999€ | 43 | 19,4 | 50,0 | 72,1 |
| | De 50.000€ a 65.000€ | 15 | 6,8 | 17,4 | 89,5 |
| | 65.000€ ou mais | 9 | 4,1 | 10,5 | 100,0 |
| | Total | 86 | 38,7 | 100,0 | |
| Ausente | Sistema | 136 | 61,3 | | |
| Total | | 222 | 100,0 | | |

Regarding vehicle's age, the range with the most responses was the one for vehicles with over 8 years (27,5%), while 8,6% of the respondents have a vehicle with 4 years or less and 1,4% have a vehicle between 5 to 8 years old (Table 7).

*Table 7: Sample distribution regarding vehicle's age*

| | | Frequência | Porcentagem | Porcentagem válida | Porcentagem acumulativa |
|---|---|---|---|---|---|
| Válido | 1 a 4 anos | 19 | 8,6 | 22,9 | 22,9 |
| | 5 a 8 anos | 3 | 1,4 | 3,6 | 26,5 |
| | Mais de 8 anos | 61 | 27,5 | 73,5 | 100,0 |
| | Total | 83 | 37,4 | 100,0 | |
| Ausente | Sistema | 139 | 62,6 | | |
| Total | | 222 | 100,0 | | |

While analyzing the sample age according to whether or not having a Mercedes-benz, the most Mercedes-benz owners are concentrated in the age group from 18 to 34 years old, while non-Mercedes-benz owners are significantly older (being 1=owns a Mercedes-benz and 2=doesn't own a Mercedes-benz). The results are listed in Table 8.

*Table 8: Having a Mercedes-benz or not according to age group*

| Idade | Média | N | Desvio Padrão |
|---|---|---|---|
| De 18 até 24 | 1,59 | 81 | ,494 |
| De 25 até 34 | 1,59 | 41 | ,499 |
| De 35 até 44 | 1,61 | 33 | ,496 |
| De 45 até 54 | 1,60 | 35 | ,497 |
| De 55 até 64 | 1,83 | 30 | ,379 |
| 65 ou mais | 1,50 | 2 | ,707 |
| Total | 1,63 | 222 | ,485 |

Focusing on individuals stand on how much they agree with sentences regarding the importance of vehicle investment and After-Sales Services, a Likert Scale was used, being 1=totally disagree and 5=totally agree. This Likert scale was used on both Mercedes-benz users and non-Mercedes-benz users, as shown in Table 9 and Table 10.

*Table 9: Mercedes-benz owners stand on the importance of investment and ASS*

| | N | Mínimo | Máximo | Média | Desvio Padrão |
|---|---|---|---|---|---|
| Acho fundamental investir na qualidade quando se trata da reparação e manutenção do meu veículo | 26 | 1 | 5 | 3,96 | 1,216 |
| Faço questão de levar sempre o meu carro a ofocinas especializadas Mercedes Benz | 33 | 1 | 5 | 2,73 | 1,329 |
| É fundamental para mim a utulização de peças originais na marca | 38 | 1 | 5 | 3,11 | 1,311 |
| Vejo a manutenção e reparação do meu veículo como um investimento e uma maneira de o tornar mais valioso a longo prazo | 42 | 1 | 5 | 3,36 | 1,340 |
| N válido (de lista) | 15 | | | | |

These descriptives are the basis for concluding that non-Mercedes-benz users have a stronger position regarding the importance of After-Sales Services as an important investment in their vehicle than actual Mercedes-benz users.

| | N | Mínimo | Máximo | Média | Desvio Padrão |
|---|---|---|---|---|---|
| Acho fundamental investir na qualidade quando se trata da reparação e manutenção do meu veículo | 67 | 1 | 5 | 4,40 | ,954 |
| Faço questão de levar sempre o meu carro a ofocinas especializadas Mercedes Benz | 59 | 1 | 5 | 2,85 | 1,311 |
| É fundamental para mim a utulização de peças originais na marca | 78 | 1 | 5 | 3,31 | 1,252 |
| Vejo a manutenção e reparação do meu veículo como um investimento e uma maneira de o tornar mais valioso a longo prazo | 104 | 1 | 5 | 3,61 | 1,210 |
| N válido (de lista) | 35 | | | | |

## 4.3. Assessment of the propositions and hypotheses

### 4.3.1. Mercedes-benz consumers' are satisfied with their choice.

Regarding overall consumer satisfaction, 24,3% of the respondents are satisfied with their choice for a Mercedes-benz vehicle, while 2,7% claim they are not satisfied. These figures are listed on Table 11.

*Table 11: Overall consumer satisfaction with Mercedes-benz*

| | | Frequência | Porcentagem | Porcentagem válida | Porcentagem acumulativa |
|---|---|---|---|---|---|
| Válido | Sim | 54 | 24,3 | 90,0 | 90,0 |
| | Não | 6 | 2,7 | 10,0 | 100,0 |
| | Total | 60 | 27,0 | 100,0 | |
| Ausente | Sistema | 162 | 73,0 | | |
| Total | | 222 | 100,0 | | |

### 4.3.2. Mercedes-benz users' generic information influences why costumers choose the brand over others in the market.

#### 4.3.2.1. Marital Status

Regarding the population's marital status and the reason why they chose Mercedes-benz, a normality test was applied and only *Design* and *After-Sales Services* proved to follow a normal distribution and homogeneity of variances (Appendix 2).

Thus, and since the variable Marital Status had more than 2 groups, a *One-way* ANOVA test was performed that led to the conclusion that there are no significant differences between the means of the groups (Table 12). This allows stating that neither Design not After Sales Service are reasons for purchasing a Mercedes-benz that are influenced by the marital status of the respondent.

*Tabela 12: One-way ANOVA: Marital Status and reason behind choosing MB*

| | | Soma dos Quadrados | df | Quadrado Médio | Z | Sig. |
|---|---|---|---|---|---|---|
| Motivo escolha Mercedes_Serviços Após Venda | Entre Grupos | 10,383 | 3 | 3,461 | 1,123 | ,348 |
| | Nos grupos | 172,601 | 56 | 3,082 | | |
| | Total | 182,983 | 59 | | | |
| Motivo escolha Mercedes_Design | Entre Grupos | 3,552 | 3 | 1,184 | ,331 | ,803 |
| | Nos grupos | 200,381 | 56 | 3,578 | | |
| | Total | 203,933 | 59 | | | |

Other variables such as *Safety*, *Comfort*, *Brand loyalty*, *Workmanship quality*, *Price* and *Status* failed the assumptions necessary to perform parametric tests, thus a Kruskal-Wallis test was applied (Table 13).

*Table 13: Kruskal-Wallis test - Marital Status and reason behind choosing MB*

| | Hipótese nula | Teste | Sig. | Decisão |
|---|---|---|---|---|
| 1 | A distribuição de Motivo escolha Mercedes_Segurança é a mesma entre as categorias de Estado Civil. | Teste de Kruskal-Wallis de Amostras Independentes | ,059 | Reter a hipótese nula. |
| 2 | A distribuição de Motivo escolha Mercedes_Conforto é a mesma entre as categorias de Estado Civil. | Teste de Kruskal-Wallis de Amostras Independentes | ,124 | Reter a hipótese nula. |
| 3 | A distribuição de Motivo escolha Mercedes_Fidelidade à marca é a mesma entre as categorias de Estado Civil. | Teste de Kruskal-Wallis de Amostras Independentes | ,813 | Reter a hipótese nula. |
| 4 | A distribuição de Motivo escolha Mercedes_Qualidade dos acabamentos é a mesma entre as categorias de Estado Civil. | Teste de Kruskal-Wallis de Amostras Independentes | ,389 | Reter a hipótese nula. |
| 5 | A distribuição de Motivo escolha Mercedes_Preço é a mesma entre as categorias de Estado Civil. | Teste de Kruskal-Wallis de Amostras Independentes | ,049 | Rejeitar a hipótese nula. |
| 6 | A distribuição de Motivo escolha Mercedes_Status é a mesma entre as categorias de Estado Civil. | Teste de Kruskal-Wallis de Amostras Independentes | ,019 | Rejeitar a hipótese nula. |

Due to the lack of enough observations in order to perform Post-hoc tests, means comparison was applied (Table 14).

Comparing means among the sample allowed the conclusion that single individuals take price more into account as a reason to choose Mercedes-benz, while married, divorced and individuals in a non-marital relationship see *Status* as a deciding factor to choose Mercedes-benz.

*Tabela 14: Means comparison: Marital Status and reason behind choosing MB*

| Estado Civil | | Motivo escolha Mercedes_Preço | Motivo escolha Mercedes_Status |
|---|---|---|---|
| Solteiro/a | Média | 5,56 | 5,23 |
| | N | 39 | 39 |
| | Desvio Padrão | 2,382 | 2,411 |
| Casado/a | Média | 3,69 | 6,46 |
| | N | 13 | 13 |
| | Desvio Padrão | 2,287 | 2,570 |
| Divorciado/a | Média | 5,71 | 7,57 |
| | N | 7 | 7 |
| | Desvio Padrão | 1,254 | ,787 |
| União de facto | Média | 3,00 | 5,00 |
| | N | 1 | 1 |
| | Desvio Padrão | . | . |
| Total | Média | 5,13 | 5,77 |
| | N | 60 | 60 |
| | Desvio Padrão | 2,361 | 2,417 |

*4.3.2.2. Age*

Regarding the population's age and the reason why they chose Mercedes-benz, a normality test was applied and only *Design*, *After-Sales Services* and *Workmanship Quality* proved to follow a normal distribution and to have homogeneity of variances (Appendix 3). Thus, and since the variable Age had more than 2 groups, a *One-way* ANOVA test was performed that led to the conclusion that there are no relevant differences between the means of the groups (Appendix 4). Thus, age is not a significant factor that affects the reason why consumers choose Mercedes-benz.

Regarding the other variables that failed the assumptions for applying parametric tests, a Kruskal-Wallis test was performed that led to the conclusion that the distribution of the

reasons that led to choosing Mercedes-benz is the same across all age categories (Appendix 5).

*4.3.2.3. Gender*
Regarding the population's gender and the reason why they chose Mercedes-benz, a normality test was applied and only *Design* and *Workmanship Quality* proved to follow a normal distribution and to have homogeneity of variances (Appendix 6).

Thus, and since the variable Gender has only 2 groups, a t-Student test was applied that led to the conclusion that there are no relevant differences between the means of the groups between both genders (Table 15).

*Tabela 15: t-Student test: Gender and reason behind choosing MB*

| | | Teste de Levene para igualdade de variâncias | | teste-t para Igualdade de Médias | | | | | 95% Intervalo de Confiança da Diferença | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Z | Sig. | t | df | Sig. (2 extremidades ) | Diferença média | Erro padrão de diferença | Inferior | Superior |
| Motivo escolha Mercedes_Qualidade dos acabamentos | Variâncias iguais assumidas | ,155 | ,695 | ,368 | 58 | ,714 | ,149 | ,403 | -,659 | ,956 |
| | Variâncias iguais não assumidas | | | ,367 | 51,045 | ,715 | ,149 | ,405 | -,665 | ,962 |
| Motivo escolha Mercedes_Design | Variâncias iguais assumidas | 2,682 | ,107 | -,256 | 58 | ,799 | -,126 | ,491 | -1,108 | ,857 |
| | Variâncias iguais não assumidas | | | -,271 | 57,998 | ,787 | -,126 | ,464 | -1,054 | ,802 |

Regarding the other variables that failed the assumptions for applying parametric tests, a Mann-Whitney test was performed that led to the conclusion that the distribution of the reasons that led to choosing Mercedes-benz between genders is not the same regarding *Safety*, *Comfort* and *Status* (Table 16).

Post hoc tests were performed regarding safety reasons (Appendix 7), but not for comfort or status reasons because there were fewer than three groups (Appendix 8). In this case, means comparison was performed (Appendix 9). Both these tests allowed the conclusion that women take Status more into account as a reason to choose Mercedes-benz than men, while men report higher values regarding variables Comfort and Safety.

| | Hipótese nula | Teste | Sig. | Decisão |
|---|---|---|---|---|
| 1 | A distribuição de Motivo escolha Mercedes_Segurança é a mesma entre as categorias de Sexo. | Teste U de Mann-Whitney de amostras independentes | ,019 | Rejeitar a hipótese nula. |
| 2 | A distribuição de Motivo escolha Mercedes_Conforto é a mesma entre as categorias de Sexo. | Teste U de Mann-Whitney de amostras independentes | ,022 | Rejeitar a hipótese nula. |
| 3 | A distribuição de Motivo escolha Mercedes_Fidelidade à marca é a mesma entre as categorias de Sexo. | Teste U de Mann-Whitney de amostras independentes | ,873 | Reter a hipótese nula. |
| 4 | A distribuição de Motivo escolha Mercedes_Preço é a mesma entre as categorias de Sexo. | Teste U de Mann-Whitney de amostras independentes | ,412 | Reter a hipótese nula. |
| 5 | A distribuição de Motivo escolha Mercedes_Status é a mesma entre as categorias de Sexo. | Teste U de Mann-Whitney de amostras independentes | ,044 | Rejeitar a hipótese nula. |
| 6 | A distribuição de Motivo escolha Mercedes_Serviços Após Venda é a mesma entre as categorias de Sexo. | Teste U de Mann-Whitney de amostras independentes | ,103 | Reter a hipótese nula. |

São exibidas significâncias assintóticas. O nível de significância é ,05.

### 4.3.2.4. Education Level

Regarding the population's educational level, a normality test was applied but it failed to test the variable's homogeneity since the reasons proved to be constant throughout all educational level groups (Appendix 10). Thus, variable's normality was not assumed and a non-parametric Kruskal-Wallis test was applied (Table 17). The test proved that there are no relevant differences in the reasons behind choosing Mercedes-benz among the educational level groups.

According to the previous tests, Hypothesis 1 is not rejected.

*Table 17: Kruskal-Wallis test:Educational level and reason behind choosing MB*

| | Hipótese nula | Teste | Sig. | Decisão |
|---|---|---|---|---|
| 1 | A distribuição de Motivo escolha Mercedes_Segurança é a mesma entre as categorias de Grau de escolaridade. | Teste de Kruskal-Wallis de Amostras Independentes | ,631 | Reter a hipótese nula. |
| 2 | A distribuição de Motivo escolha Mercedes_Conforto é a mesma entre as categorias de Grau de escolaridade. | Teste de Kruskal-Wallis de Amostras Independentes | ,822 | Reter a hipótese nula. |
| 3 | A distribuição de Motivo escolha Mercedes_Fidelidade à marca é a mesma entre as categorias de Grau de escolaridade. | Teste de Kruskal-Wallis de Amostras Independentes | ,740 | Reter a hipótese nula. |
| 4 | A distribuição de Motivo escolha Mercedes_Preço é a mesma entre as categorias de Grau de escolaridade. | Teste de Kruskal-Wallis de Amostras Independentes | ,572 | Reter a hipótese nula. |
| 5 | A distribuição de Motivo escolha Mercedes_Status é a mesma entre as categorias de Grau de escolaridade. | Teste de Kruskal-Wallis de Amostras Independentes | ,686 | Reter a hipótese nula. |
| 6 | A distribuição de Motivo escolha Mercedes_Serviços Após Venda é a mesma entre as categorias de Grau de escolaridade. | Teste de Kruskal-Wallis de Amostras Independentes | ,347 | Reter a hipótese nula. |

São exibidas significâncias assintóticas. O nível de significância é ,05.

4.3.3. Mercedes-benz user's generic information is associated to the vehicle's range choice inside the Mercedes-benz portfolio.

Considering the failure of the normality and homogeneity tests (Appendix 10-14), it is chosen to follow a non-parametric Spearman's *rho* test, as seen on Table 18.
There is no statistical evidences to state that Mercedes-benz users' generic information and their vehicle range choice are related. Thus, Hypothesis 2 is rejected.

*Tabela 18: Correlation: Vehicle's range and user's generic information*

| | | | Gama de veículo Mercedes |
|---|---|---|---|
| rô de Spearman | Idade | Coeficiente de Correlação | -,059 |
| | | Sig. (2 extremidades) | ,592 |
| | | N | 86 |
| | Sexo | Coeficiente de Correlação | ,089 |
| | | Sig. (2 extremidades) | ,415 |
| | | N | 86 |
| | Estado Civil | Coeficiente de Correlação | -,027 |
| | | Sig. (2 extremidades) | ,804 |
| | | N | 86 |
| | Grau de escolaridade | Coeficiente de Correlação | ,044 |
| | | Sig. (2 extremidades) | ,684 |
| | | N | 86 |

**. A correlação é significativa no nível 0,01 (2 extremidades).

4.3.4. Mercedes-benz users' level of satisfaction with the brand is related to the vehicle's age.

The variables used to describe the consumer satisfaction according to the vehicle's age failed to match the assumptions needed to follow a normal distribution (Appendix 15).

Thus, the non-parametric Kruskal-Wallis test was applied (Table 19) that rejected the null hypothesis.

*Table 19: Kruskal-Walis - Consumer satisfaction and vehicle's age*

| | Hipótese nula | Teste | Sig. | Decisão |
|---|---|---|---|---|
| 1 | A distribuição de Nº de anos do Mercedes é a mesma entre as categorias de Satifação com escolha Mercedes. | Teste de Kruskal-Wallis de Amostras Independentes | ,028 | Rejeitar a hipótese nula. |

São exibidas significâncias assintóticas. O nível de significância é ,05.

Table 19 shows that the vehicle's age influences the satisfaction the customer has with choosing the brand.

Since the variables lacked a sufficient number of observations to perform Post-hoc tests, comparison of means was performed in order to see where the differences occurred (Table 20). From Table 20, there is evidence to conclude that users with younger vehicles are less satisfied than users with older vehicles.

Being 1=satisfied and 2=not satisfied, there is no statistical evidence to reject Hypothesis 3.

*Table 20: Means comparison: User satisfaction according to vehicle's age*

| N° de anos do Mercedes | Média | N | Desvio Padrão |
|---|---|---|---|
| 1 a 4 anos | 1,33 | 9 | ,500 |
| 5 a 8 anos | 1,00 | 2 | ,000 |
| Mais de 8 anos | 1,06 | 49 | ,242 |
| Total | 1,10 | 60 | ,303 |

4.3.5. There is an association between the reasons that led consumers to choose Mercedes-benz.

The population's reasons why choosing Mercedes-benz are ordinal variables, thus a Pearson's *r* test was applied in order to test the existence of a relation between them (Appendix 16).

For a significance level of 0,05 and 0,01, there is enough statistical evidence to confirm the existence of a relation between motives (specially *Quality of workmanship*, *After-sales services*, *Brand loyalty*, *Comfort* and *Safety* reasons).

Based on the values displayed on the previous table, there are no statistical evidences to rejected Hypothesis 4.

4.3.6. The type of vehicle range owned is associated to the customer's decision to invest more on the vehicle or not.

The variables used to measure the level of investment engaged on by the customer (importance given to after-sale services, signing an After-Sales Contract, use of specialized workshops and use of the brand's Genuine Parts) failed to match the assumptions needed to follow a normal distribution (Appendix 17). Thus, the non-parametric Pearson's *r* test was applied (Appendix 18).

There are no statistical evidences to suggest a relation between the level of investment engaged on by the customer and the vehicle's range owned. Thus, Hypothesis 5 is rejected.

4.3.7. The vehicle's age is associated to the level of investment engaged on by the customer.

The variables used to measure the level of investment engaged on by the customer (importance given to after-sale services, signing an After-Sales Contract, use of specialized workshops and use of the brand's Genuine Parts) failed to match the assumptions needed to follow a normal distribution (Appendix 19). Thus, the non-parametric Pearson's *r* test was applied as seen on Table 21. There are no statistical evidences to suggest a relation between the level of investment engaged on by the

customer and the vehicle's age. The relevant relations found through the Spearman's *rho* test were a direct and moderate one between the use of the brand's Genuine Parts and the visiting specialized workshops at a 0,01 level and an inverse and moderate one at a 0,05 level between the importance given to after-sales services and the use of Genuine Parts. However, Hypothesis 6 is rejected.

*Tabela 21: Correlation between investment level and vehicle's range*

| | | | Importância do Serviço Pós Venda na escola do carro | Tem contrato SPV com a Mercedes | Serviço Pós Venda Mercedes que mais utiliza | Usa oficinas Mercedes | Usa peças Mercedes | Nº de anos do Mercedes |
|---|---|---|---|---|---|---|---|---|
| rô de Spearman | Importância do Serviço Pós Venda na escola do carro | Coeficiente de Correlação | 1,000 | -,147 | -,239 | -,251 | -,287* | ,022 |
| | | Sig. (2 extremidades) | . | ,290 | ,080 | ,065 | ,034 | ,873 |
| | | N | 55 | 54 | 55 | 55 | 55 | 55 |
| | Tem contrato SPV com a Mercedes | Coeficiente de Correlação | -,147 | 1,000 | ,158 | ,225 | ,206 | ,059 |
| | | Sig. (2 extremidades) | ,290 | . | ,253 | ,101 | ,135 | ,670 |
| | | N | 54 | 54 | 54 | 54 | 54 | 54 |
| | Serviço Pós Venda Mercedes que mais utiliza | Coeficiente de Correlação | -,239 | ,158 | 1,000 | ,228 | ,213 | -,031 |
| | | Sig. (2 extremidades) | ,080 | ,253 | . | ,094 | ,118 | ,821 |
| | | N | 55 | 54 | 55 | 55 | 55 | 55 |
| | Usa oficinas Mercedes | Coeficiente de Correlação | -,251 | ,225 | ,228 | 1,000 | ,505** | ,005 |
| | | Sig. (2 extremidades) | ,065 | ,101 | ,094 | . | ,000 | ,970 |
| | | N | 55 | 54 | 55 | 55 | 55 | 55 |
| | Usa peças Mercedes | Coeficiente de Correlação | -,287* | ,206 | ,213 | ,505** | 1,000 | -,232 |
| | | Sig. (2 extremidades) | ,034 | ,135 | ,118 | ,000 | . | ,088 |
| | | N | 55 | 54 | 55 | 55 | 55 | 55 |
| | Nº de anos do Mercedes | Coeficiente de Correlação | ,022 | ,059 | -,031 | ,005 | -,232 | 1,000 |
| | | Sig. (2 extremidades) | ,873 | ,670 | ,821 | ,970 | ,088 | . |
| | | N | 55 | 54 | 55 | 55 | 55 | 83 |

*. A correlação é significativa no nível 0,05 (2 extremidades).

**. A correlação é significativa no nível 0,01 (2 extremidades).

## 4.3.8. Recognizing the importance of investing in After Sales Services influences signing an After Sales Contract.

The consumer's position regarding vehicle investment is measured by a Likert Scale according to how much the consumer agrees or not with 4 sentences regarding vehicle investment, being (1=don't agree at all and 5=totally agree). These variables are qualitative and ordinal, thus the non-parametric Kurskal-Wallis test was applied (Table 22) that rejected the null hypothesis regarding consumer's positioning regarding investment and having an After-Sales Services Contract or not.

There were no sufficient number of observations to perform non-parametric tests, so a report was made that compared the means inside the group which rejected the null hypothesis (Table 23).

| | Hipótese nula | Teste | Sig. | Decisão |
|---|---|---|---|---|
| 1 | A distribuição de Acho fundamental investir na qualidade quando se trata da reparação e manutenção do meu veículo é a mesma entre as categorias de Tem contrato SPV com a Mercedes. | Teste de Kruskal-Wallis de Amostras Independentes | ,018 | Rejeitar a hipótese nula. |
| 2 | A distribuição de Faço questão de levar sempre o meu carro a oficinas especializadas Mercedes Benz é a mesma entre as categorias de Tem contrato SPV com a Mercedes. | Teste de Kruskal-Wallis de Amostras Independentes | ,152 | Reter a hipótese nula. |
| 3 | A distribuição de É fundamental para mim a utilização de peças originais na marca é a mesma entre as categorias de Tem contrato SPV com a Mercedes. | Teste de Kruskal-Wallis de Amostras Independentes | ,150 | Reter a hipótese nula. |
| 4 | A distribuição de Vejo a manutenção e reparação do meu veículo como um investimento e uma maneira de o tornar mais valioso a longo prazo é a mesma entre as categorias de Tem contrato SPV com a Mercedes. | Teste de Kruskal-Wallis de Amostras Independentes | ,344 | Reter a hipótese nula. |

São exibidas significâncias assintóticas. O nível de significância é ,05.

Table 23: Means comparison between user's stand on vehicle's investment and signing an After-Sales Contract

| Tem contrato SPV com a Mercedes | Média | N | Desvio Padrão |
|---|---|---|---|
| Sim | 5,00 | 5 | ,000 |
| Não | 3,70 | 20 | 1,261 |
| Total | 3,96 | 25 | 1,241 |

From the values displayed on Table 23, conclusions can be drawn that users with an After-Sales Contract all agree with the sentence *I consider fundamental to invest in quality repair and maintenance of my vehicle*, while users that didn't sign an After-Sales Contract don't agree on it so much (3,70). Thus, Hypothesis 7 is not rejected.

## 4.4. Content Analysis from the questionnaire

In this subchapter, findings and conclusions from hypothesis testing will be analyzed and matched with qualitative answers from the respondents while filling the questionnaire.

The findings suggest that Mercedes-benz's consumers are generally satisfied with their choice. The majority of the 2,7% that claim they are not satisfied use as justification the After-Sales Services of the brand, the existence of better alternatives, the lack of quality

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and efficiency and the fact that the experience was below their expectations (Appendix 20).

When asked to describe user experience with Mercedes-benz through words, the most mentioned and repeated ones are comfort/quality (21,09%), security (14,06%) and reliability (11,72%). The least mentioned ones are, among others, professionalism and design (both with 0,78%) (Appendix 21).

Regarding consumer's experience and willingness to visit specialized workshops, respondents that mentioned they didn't use specialized workshops for repair and maintenance were asked to elaborate on their answer. The most mentioned factors were lack of trust, lack of quality and the existence of better suppliers (10% each answer). Other factors mentioned were the lack of honesty, an inverse ratio between price and quality (consumers feel they pay too much for the quality of the service they are offered) and auto-repair as a way to learn more about mechanics (Appendix 22).

When non-Mercedes-benz users were asked about the reason behind not having in consideration buying a Mercedes-benz when they bought their vehicle, the majority (67,95%) stated price as the main reason. However, some respondents mentioned that they felt their social *status* didn't match the brand's one (Appendix 23).

Statistical information allowed the conclusion that the reasons why consumers choose Mercedes-benz as the brand of their vehicle is disperse among marital status and gender. Single individuals see price as their main concern when choosing the brand, while married, divorced and people in a non-marital relationship all have *status* as the main reason of their choice. From all marital status groups, divorced people are the ones that give *status* the biggest importance. Married couples and in a non-marital relationship give the least importance to the price factor. *Status* is the category among both genders that was selected as a deciding factor when choosing Mercedes-benz, however women give it more importance than men. Regarding comfort and security reasons, men see it more as a deciding factor than women.

It was possible to conclude that Mercedes-benz users' level of satisfaction is related to the vehicle's age, as the users with vehicles between 5-8 years old are the most satisfied group. Users with younger vehicles are the less satisfied ones. This conclusion can be matched with the fact that users with vehicles between 5-8 years old are the most targeted group by the brand, and the focus of most of their publicity and marketing actions.

In the previous statistical tests, there was evidence to assume a direct relation between the motives that led consumers to choose Mercedes-benz. There was a direct relation between quality of workmanship and comfort reasons, and between after-sale services and brand loyalty reasons. Brand loyalty is also inversely related with quality of workmanship and (-0,282) and comfort (-0,317). There are also statistical evidences to assume a direct relation between safety and comfort reasons (0,608). Safety reasons are inversely related towards price (-0,339), brand loyalty (-0,357), after-sale services (-0,439) and *status* (-0,505). Comfort reasons are inversely related towards after-sales services (-0,532), price (-0,424) and *status* (-0,431), while brand loyalty reasons are inversely related to design reasons (-0,364).

There was no statistical evidence to support the existence of a relation between the vehicle's range and the investment on quality repair and maintenance engaged on by the consumer. The same applies to the vehicle's age and investment. There was, however, a significant relation between the use of Genuine Parts and specialized workshops (which makes sense because all specialized workshops use Genuine Parts in their repair and maintenance processes), and a significant and inverse relation between how important consumers think the after-sales services are and the use of Genuine Parts. This can perhaps be explained by the fact that, by using Genuine Parts, users are convinced they no longer need a particularly quality after-sales service, as they are "protected" by the quality of Genuine Parts.

Regarding consumer's opinion and position regarding investing in quality repair and maintenance and its importance towards the vehicle preservation, all users that consider fundamental investing in their vehicle's repair and maintenance have an After-Sales Service Contract, which confirms that an After-Sales Service Contract is perceived as a quality investment for the vehicle.

## 4.5. Interview Analysis

The conducted interviews were extremely useful in the way they allowed the After Sales Services to be viewed from a company-oriented perspective. The insights gathered from both meetings allowed the After Sales Services to be divided in two main sections, where all the main activities are listed under – Mercedes-benz Genuine Parts and Mercedes-benz Customer Service.

The After-Sales Services are an essential aspect of the whole Mercedes-benz ecosystem, that can be verified by one of the many company's mottos: *"The first car is sold by a salesperson; all the other ones are sold by our After Sales Services"*.

In order to further understand Mercedes-benz's application and integration of S-D Logic's fundamental premises and axioms, it is important to comprehend the core concepts behind its lexicon. This analysis will be organized according to S-D logic's concept of Actors, Operand Resources, Operant Resources and how they work together in order to stimulate value cocreation and collaboration between actors. In the end, an analysis on Mercedes-benz's Value Proposition will be conducted

### 4.5.1. Actors

An actor is an entity able to act purposefully within structures and institutions that somehow might constrain these actions (Lusch and Vargo, 2014). In Mercedes-benz's case, more specifically regarding their After-Sales Services, the three main actors are:

- Mercedes-benz, which provides both a direct and indirect service (through Service and Genuine Parts);
- Specialized workshop, that provides a direct service to the customer;
- The customer, which provides an indirect service to Mercedes-benz through currency or an agreement (Service Contract).

The exchange process between Mercedes-benz, the specialized workshop and the customer is a Generalized Exchange, where at least three actors are implied. Mercedes-benz benefits indirectly by providing the authorized workshop qualified manpower and training that will be applied directly to clients through its After Sales Services, which will be transformed into customer brand loyalty and an increase on profit (Appendix 24). This service when experienced by the customer results in value co-creation.

The identified operand resources are its Genuine Parts (including tires), engines, cars, workshop installations and necessary tools to perform vehicle repair and maintenance (named by the respondents as Mercedes-benz's network), while the identified operant resources are its qualified and trained manpower.

### 4.5.2 Operand Resources

When it comes to Mercedes-benz Genuine Parts, it is fundamental to underline its importance as a representation of the brand's quality, being worth around 35% of the whole car parts market. By specializing in producing extremely reliable vehicle parts, the

firm is able to enhance its abilities and exchange it with other actors (such as clients and specialized workshops). The company is a specialist in designing and producing its own vehicle parts and, even though a lot of companies try to imitate them and sell it for a significantly lower price, the quality is much lower. By applying this specialized knowledge and skills, Mercedes is creating the need for exchange and dependency on other actors in the ecosystem.

By providing tires in specialized workshops as part of the genuine parts available was the brand's way to avoid its customers to feel tempted into going to independent workshops – the brand found that, even though the profit margins are incredibly small, by providing the *full* service in their workshops (vehicle inspection, maintenance, repairs and tire exchange) it is worth it just for the fact that clears the need to visit an independent workshop. By retaining possession of this infrastructure, Mercedes-benz can predict its revenues in a more efficient way, thus managing its resources more effectively (Lusch & Vargo, 2014). This service exists for just 4 years and Mercedes-benz is the only brand in the market to include it in its Workshop Repair and Services.

Mercedes-benz network of specialized workshops is one of the most value-creating resources for the customer due to its extension and quality services offered. All 48 workshops in Portugal are selectively chosen by the brand and must obey to certain quality and training standards, since they are the brand's way to be closer to the final customer.

### 4.5.3. Operant Resources
One of Mercedes-benz exclusive offers in their specialized workshops is their qualified manpower. To be accepted and recognized as one, every workshop has to obey to a certain number of strict quality requirements, that can vary from the number of technicians operating in the workshop to number of total formation and learning hours. These normalizing practices are a way to coordinate actors to function more effectively and efficiently, which naturally eases collaboration and enables interchangeability of parts – no matter what specialized workshop the client is visiting, he knows which quality standards to expect and how to enhance value cocreation.

Mercedes-benz biggest problem is the lack of retention in their workshops as the vehicles get older. To fight against this trend, the brand launched an innovative and exclusive service that only clients from specialized workshops can enjoy – Mercedes WeGo. This

service offers the client a visit wherever they are to perform an analysis on the client's vehicle – the decision whether to visit a specialized workshop or not is ultimately relying on the client, but this is a way to somehow influence it. According to Eng.º Tiago Viana, "*the client doesn't have to bother to schedule a visit to the workshop and doesn't even have to move – the workshop is the one reaching him*". Instead of wasting time going to the workshop, the client can allocate his time doing something else he enjoys – this is a clear benefit for him, which allows value co-creation.

Mercedes-benz allocates most of its resources in publicity and propaganda actions on the second stage of the vehicle's life (5-6 years), because it is the stage where customers tend to invest less. Such actions include street roadshows and publicity stunts in malls, where the customer is forced to confront the quality underlying in the usage of genuine parts and is easily convinced of the benefits of visiting one of the brand's specialized workshops.

One of the most relevant fidelization tools according to both interviewees is Mobilo – Mercedes-benz's mobility service. Mobilo ensures the customer's mobility and assistance as quick as possible in case of any technical problem related with the vehicle. This service's goal is to make sure the customer gets back on the road as soon as possible, in the most practical and efficient way. This covers technical problems with the vehicle, small mishaps and accidents or vandalism. However, for Mercedes, this is also a tool that keeps customers away from independent workshops. Mercedes-benz is the only brand that is totally in charge of their own on-road assistance, while other brands choose to outsource it (mainly because of the high costs associated to it). This feature is free during the first 4 years, and after that it is renewed every time the customer visits one of the specialized workshops for vehicle maintenance. Everything is controlled by the brand during the whole process, and, in case the vehicle needs a deeper repair, this is a way to influence the customer to visit one of their specialized workshops. However, according to both respondents, the most important fidelization tool are Service Contracts.

Service Contracts' main purpose is to co-create value with the customer by providing a personalized contract according to his needs. The customer is able to determine the contract duration and all the features included (full repair and maintenance or a mere warranty extension), so that each contract is somehow customized to every customer's needs. The paid value varies with the vehicle's range, contract period and the vehicle's mileage, providing the customer a sense of financial stability and comfort. This is the company's way to assure the vehicles' repair and maintenance is meeting Mercedes-

benz's standards, since all services are performed by workshop specialists using only Genuine Parts. According to both respondents, the value proposed for the customer relies on:

i. Fixed maintenance cost
ii. Tranquility, comfort and risk control
iii. Customer doesn't have to deal with unpleasant surprises when facing an unexpected repair after the warranty 2-year period (available only with an *Excellence* contract)
iv. Access to specialized technicians and Genuine Parts
v. Vehicle's value appreciation increases every time it leaves a workshop
vi. No penalty associated to the contract's cease
vii. Exclusive Mercedes-benz Client Card

Warranty extension is also a form of Service Contract. Mercedes-benz provides the customer the chance to extend its warranty with its *Advance* contract – a warranty extension that covers any repair needed (except for maintenance nor detrition). The warranty included in every one of its vehicles gives the customer a sense of relief and trust during its first 2 years.

To maintain this close relationship with the customer, the brand launched Mercedes ME in 2016 - a mobile application that allows the company to be closer and more accessible for the customer. This attempt is part of Mercedes-benz strategy to deconstruct its old-fashioned and conservative image, looking for ways to develop value propostions adjusted to this market segment. This mobile application allows the user to know where his car is parked, when is the next car inspection (sending subtle invitations to visit the nearest workshop), at what level is the vehicle's oil and water, and sends suggestions every time the vehicle should do its next maintenance or repair. Mercedes ME is the brand's way to *control* each vehicle it has out in the market and, even though the final decision is always the customer's, to *influence* the owner's decision to visit one of its authorized workshops.

The need for quality vehicle parts (either from specialized workshops or private clients) is addressed with the creation of Webparts and eMBpeças. Mercedes-benz is enabling collaboration throughout the service ecosystem virtually, which increases density (Lusch and Vargo, 2014). Even if the customer chooses not to visit a specialized workshop,

Webparts is the brand's attempt to reach that segment: a platform that allows any workshop or individual customer to buy Genuine Parts online. Mercedes-benz makes sure that all genuine parts ordered until 20h00 are available the next day in any specialized workshop at 08h00. This platform is complemented by eMBpeças, a personalized webportal that promotes its customers with promotions and other benefits according to the amount of Genuine Parts they buy. These two platforms are the brand's way to create a loyal relationship with independent workshops, and complement each other perfectly – while one allows the purchase, the other awards the most loyal customers.

4.5.4. Value Proposition
Mercedes-benz value proposition for its customer can be identified as the *availability* of its network, as the way it is strategically spread around the country and through the various Mercedes-benz applications and services. These services facilitate the connection between the final consumer and the brand, whether it is by making sure the consumer is back on the road as soon as possible after a vehicle breakdown or by allowing any workshop (specialized or not) to order Genuine Parts through eMBpeças, and rewarding the most loyal ones.

The brand is aware of the sensitiveness of After-Sales Services, since it includes a set of services customers only address when obligated to (mostly due to the need of vehicle repair), thus having a negative connotation on consumer's minds. Mercedes-benz's has a stand regarding the matter where it hopes the consumer won't face the need to resort to after-sales services – but, if they do, the brand wants to make sure: (a) they visit one of the brand's specialized workshops; and (b) they have a comfortable and quality experience.

By providing customers with an After-Sales Services Contract, Mercedes-benz assures they have the freedom to not worry about unexpected repairs and costs. The brand is available 24 hours a day, 7 days a week, through almost all Europe with their Service24h, and the customer can also rely on mobility services to assure he makes it to his destination regardless of eventual breakdowns.

Another layer in Mercedes-benz's value proposition is the supposed unparallel *quality* of their services, which is the result of an intensive training process of their workforce. Mercedes-benz proudly states that there is nothing about a customer vehicle that their Specialized Workshops don't know about, and everything they do is based on the fact

they know exactly what each vehicle needs. This way, they propose to the customer a *premium* quality, efficient and quick service.

### 4.5.5. Value proposition through an S-D logic lens

Having in mind the volatility and unpredictability of service ecosystems (Lusch & Vargo, 2014), not forgetting the client after the sale (value-in-exchange) closure is crucial. The loss of one customer due to an unsatisfactory after-sales experience doesn't translate in a mere revenue loss; it may ultimately become a market loss that could spread to other customers. Simple actions like calling the customer 1 day after the vehicle being delivered to ensure their satisfaction with the service (or even a simple email) affects the customer's perception and awareness of the importance of his role in the value creation process.

The firm ought to proactively search for new solutions and business model frameworks to become more competitive (where value co-creation and collaboration processes play a significant role). This proactive approach is a way to surprise the customer, instead of being surprised by it (which can be reflected as a bad review or an actual loss of a customer). There's still a long way to go for Mercedes-benz to solve the not-enough adherence issue regarding Specialized Workshops and Genuine Parts, and this proactive approach suggests a refocus on the actual customers they have now - not only on vehicles from 5 to 8 years old, but specially on younger ones where the satisfaction rate is lower. Instead of encouraging salespeople to search for new Service Contracts subscribers, the firm could consider focusing on the reason behind why actual customers don't renew their contracts, don't extend their warranty besides 2 years or don't come back to Specialized Workshops. A good after-sales service is an efficient marketing strategy since satisfied customers eventually attract others inside the ecosystem (Lusch & Vargo, 2014), which allows the firm to save commercial effort and expenses.

Mercedes-benz's actual value proposition includes a feeling of security and comfort to the customer knowing that its car is being repaired with a *premium* quality, which is constantly promoted and mentioned in their advertising and marketing strategies. The problem seems to be a mismatch of perceived quality offered from the firm's point of view, and the quality perceived by the customer. By discovering the reason behind this gap, Mercedes-benz can charge significantly more for its services and no longer must compete directly with non-specialized workshops. Having such a diverse range of customers, the firm could actually transform its customers in operant resources and use them to test innovations, gather feedback and even refine the final product or service.

Regular customers, who are used to the firm's processes and products are the ones Mercedes-benz ought to seek to collect relevant data for new innovations or different views regarding the already existing ones.

Consumer experiences changed a lot in the past years, especially due to the increase and spread of Web 2.0 technologies (Buhalis & Laws, 2008) that allowed the creation of social networks. These online communities, facilitate the spreading of information through people, create connections and relationships and, in some cases, might be associated with the final decision making. Virtual environments are also an important source of marketing information (Lusch & Vargo, 2014), which Mercedes-benz clearly assimilated by monitoring consumer experience through Mercedes ME. Collaboration is essential to stimulate innovation (Lusch & Vargo, 2014), and the *trial and error* method is an example of it: having customers trying the product or service for the first time and immediately collecting their feedback is a way to test a new innovation, which necessarily involves a close collaborative relationship with the customer in order to perfect the product. By doing it with regular customers and explaining the innovative aspect of the product, the firm is avoiding a potential complaint that could originate from a non-regular customer; plus, regular customers have the necessary user capital and skills for this collaborative value-creation process (Lusch & O'Brien, 2007). Feedback collected from this stage could be transmitted to the supplier to perfect and improve the final product.

In order to integrate customers even more in the whole value-creating process, including them and allowing them to overlook the process is a way to do it. To have customers seated backstage or providing them with a constant information flow regarding the stage of repair their vehicle is in is a way to engage in a more collaborative process, and the feedback gathered could be interesting for the company. It is also a way to detach after-sales services from its negative connotation on users mind, by allowing them to follow the whole process step by step and actually visualize what happens with their vehicle.

Having its own workers to test the services and products is also a way to gather relevant feedback regarding user experience. Using a sample population of workers from various departments with different job functions, Mercedes-benz could gather instant feedback on a new platform or service and early detect technical problems or even details that could enhance user experience.

# CHAPTER 5. CONCLUDING COMMENTS

## 5.1. Main conclusions

The main objective of this thesis was to construct a visualization of the firm's actual value proposition, understand how customers perceive it and their level of engagement in the value creation process and to create a visualization of the same managemental framework through an S-D logic lens. To achieve such goals, an analysis was performed on secondary data gathered in interviews and meetings with two of the firm's stakeholders. A consumer questionnaire was also performed that allowed a clearer understanding of the consumer experience with Mercedes-benz value proposition and the customer roll in value co-creation. The descriptive analysis of statistics gathered from that questionnaire showed that, in general, consumers are satisfied with their Mercedes-benz experience but have mainly *trust*, *price* and *quality* issues related to their After-Sales Services. Even though customers are able to see after-sales services as related with quality and investment, the general appreciation of Mercedes-benz's value proposition is not always positive. This indicates a clear mismatch in the value proposition offered by Mercedes-benz and the value proposition customers perceive.

In terms of value cocreation, Mercedes-benz seems to understand the importance of collaborative processes with the customer. However, further efforts should be engaged on by the firm to improve consumer experience and increase the retention rate.

The present research paper attempts to contribute to the current empirical gap in service-dominant logic's literature by providing a case study research where core concepts and premises are applied to a real situation. For Mercedes-benz, this visualization of the firms After-Sales Services framework through an S-D logic lens could contribute to managerial improvements and the offer of a value proposition more aligned with consumer needs.

## 5.2. Limitations and further research

Post hoc analysis of variables were not able to be performed multiple times due to the lack of sufficient observations. Thus, a bigger populational sample would certainly add much more value to this research, and would reduce the margin of error and uncertainty of the analysis. Time limitations conditioned further data collection.

Respondents demonstrated a high educational level, with almost half of them having a bachelor's degree. This populational characteristic may have induced some bias in the research, thus results concluded may not be applicable to all populational samples. This

case study research was focused on a single department inside Mercedes-benz – after-sales services.

Having in mind these limitations, further research should focus on collecting a bigger and less heterogeneous data sample. Would the results from hypothesis testing be the same with a populational sample with a lower educational background? Data collected showed significant differences between groups regarding marital status and gender; it would be interesting to deepen such differences, and take a closer look at the reasons (sociological or not) that could be affecting them. Also, in order to have a better understanding of the actual value perceived by the customers, a SERVQUAL model (Parasuraman *et al*, 1988) could be applied in further research.

It could also be interesting to study in further researches the application of an S-D logic framework other departments inside the Mercedes-benz company (e.g. sales, HR). Also, Mercedes-benz is quite an unique firm regarding after-sales services positioning and framework. Further research could study other firms' positioning regarding after-sales services, as well as a comparison between both.

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# APPENDIX

**Appendix 1:** Percentage of consumers that visit Mercedes-benz's workshop per vehicle's age

| Vehicle's age | Percentage |
|:---:|:---:|
| **0-4 years** | 75,8% |
| **4-8 years** | 65,11% |
| **8-12 years** | 29,9% |
| **12-20 years** | 15,7% |

*Source: Mercedes-benz workshop in Sintra, April 2015*

**Appendix 2:** Normality and homogeneity tests regarding marital status and reasons for choosing Mercedes-benz

Tests of Normality[b,c,d,e,f,g,i,j,k,l,m,n,o,p,q,r]

| | Estado Civil | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|---|
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| Motivo escolha Mercedes_Status | Solteiro/a | ,164 | 39 | ,010 | ,884 | 39 | ,001 |
| | Casado/a | ,341 | 13 | ,000 | ,640 | 13 | ,000 |
| | Divorciado/a | ,421 | 7 | ,000 | ,646 | 7 | ,001 |
| Motivo escolha Mercedes_Segurança | Solteiro/a | ,236 | 39 | ,000 | ,820 | 39 | ,000 |
| | Casado/a | ,253 | 13 | ,022 | ,802 | 13 | ,007 |
| | Divorciado/a | ,504 | 7 | ,000 | ,453 | 7 | ,000 |
| Motivo escolha Mercedes_Conforto | Solteiro/a | ,224 | 39 | ,000 | ,838 | 39 | ,000 |
| | Casado/a | ,201 | 13 | ,154 | ,920 | 13 | ,249 |
| | Divorciado/a | ,357 | 7 | ,007 | ,777 | 7 | ,024 |
| Motivo escolha Mercedes_Fidelidade à marca | Solteiro/a | ,208 | 39 | ,000 | ,884 | 39 | ,001 |
| | Casado/a | ,226 | 13 | ,069 | ,923 | 13 | ,279 |
| | Divorciado/a | ,222 | 7 | ,200[*] | ,936 | 7 | ,603 |
| Motivo escolha Mercedes_Qualidade dos acabamentos | Solteiro/a | ,205 | 39 | ,000 | ,942 | 39 | ,046 |
| | Casado/a | ,196 | 13 | ,181 | ,959 | 13 | ,736 |
| | Divorciado/a | ,311 | 7 | ,039 | ,720 | 7 | ,006 |
| Motivo escolha Mercedes_Serviços Após Venda | Solteiro/a | ,142 | 39 | ,046 | ,938 | 39 | ,032 |
| | Casado/a | ,199 | 13 | ,164 | ,929 | 13 | ,329 |
| | Divorciado/a | ,296 | 7 | ,063 | ,840 | 7 | ,099 |
| Motivo escolha Mercedes_Design | Solteiro/a | ,151 | 39 | ,025 | ,942 | 39 | ,043 |
| | Casado/a | ,170 | 13 | ,200[*] | ,930 | 13 | ,336 |
| | Divorciado/a | ,373 | 7 | ,004 | ,820 | 7 | ,064 |
| Motivo escolha Mercedes_Preço | Solteiro/a | ,188 | 39 | ,001 | ,858 | 39 | ,000 |
| | Casado/a | ,157 | 13 | ,200[*] | ,883 | 13 | ,077 |
| | Divorciado/a | ,430 | 7 | ,000 | ,650 | 7 | ,001 |

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

b. There are no valid cases for Motivo escolha Mercedes_Status when Estado Civil = 4,000. Statistics cannot be computed for this level.

c. Motivo escolha Mercedes_Status is constant when Estado Civil = União de facto. It has been omitted.

d. There are no valid cases for Motivo escolha Mercedes_Segurança when Estado Civil = 4,000. Statistics cannot be computed for this level.

e. Motivo escolha Mercedes_Segurança is constant when Estado Civil = União de facto. It has been omitted.

f. There are no valid cases for Motivo escolha Mercedes_Conforto when Estado Civil = 4,000. Statistics cannot be computed for this level.

g. Motivo escolha Mercedes_Conforto is constant when Estado Civil = União de facto. It has been omitted.

i. There are no valid cases for Motivo escolha Mercedes_Fidelidade à marca when Estado Civil = 4,000. Statistics cannot be computed for this level.

j. Motivo escolha Mercedes_Fidelidade à marca is constant when Estado Civil = União de facto. It has been omitted.

k. There are no valid cases for Motivo escolha Mercedes_Qualidade dos acabamentos when Estado Civil = 4,000. Statistics cannot be computed for this level.

l. Motivo escolha Mercedes_Qualidade dos acabamentos is constant when Estado Civil = União de facto. It has been omitted.

m. There are no valid cases for Motivo escolha Mercedes_Serviços Após Venda when Estado Civil = 4,000. Statistics cannot be computed for this level.

n. Motivo escolha Mercedes_Serviços Após Venda is constant when Estado Civil = União de facto. It has been omitted.

o. There are no valid cases for Motivo escolha Mercedes_Design when Estado Civil = 4,000. Statistics cannot be computed for this level.

p. Motivo escolha Mercedes_Design is constant when Estado Civil = União de facto. It has been omitted.

q. There are no valid cases for Motivo escolha Mercedes_Preço when Estado Civil = 4,000. Statistics cannot be computed for this level.

r. Motivo escolha Mercedes_Preço is constant when Estado Civil = União de facto. It has been omitted.

## Test of Homogeneity of Variance[a,b]

| | | Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|---|---|
| Motivo escolha Mercedes_Design | Based on Mean | ,699 | 2 | 56 | ,501 |
| | Based on Median | 1,216 | 2 | 56 | ,304 |
| | Based on Median and with adjusted df | 1,216 | 2 | 53,213 | ,304 |
| | Based on trimmed mean | ,679 | 2 | 56 | ,511 |

a. There are no valid cases for Motivo escolha Mercedes_Design when Estado Civil = 4,000. Statistics cannot be computed for this level.

b. Motivo escolha Mercedes_Design is constant when Estado Civil = União de facto. It has been omitted.

## Test of Homogeneity of Variance[a,b]

| | | Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|---|---|
| Motivo escolha Mercedes_Serviços Após Venda | Based on Mean | 2,831 | 2 | 56 | ,067 |
| | Based on Median | 2,510 | 2 | 56 | ,090 |
| | Based on Median and with adjusted df | 2,510 | 2 | 51,543 | ,091 |
| | Based on trimmed mean | 2,799 | 2 | 56 | ,069 |

a. There are no valid cases for Motivo escolha Mercedes_Serviços Após Venda when Estado Civil = 4,000. Statistics cannot be computed for this level.

b. Motivo escolha Mercedes_Serviços Após Venda is constant when Estado Civil = União de facto. It has been omitted.

**Appendix 3:** Normality and homogeneity tests regarding age and reasons for choosing Mercedes-benz

**Tests of Normality**[b,d,e,f,g,h,i,j]

| | Idade | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|---|
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| Motivo escolha Mercedes_Segurança | De 18 até 24 | ,210 | 19 | ,027 | ,837 | 19 | ,004 |
| | De 25 até 34 | ,262 | 16 | ,005 | ,802 | 16 | ,003 |
| | De 35 até 44 | ,416 | 8 | ,000 | ,519 | 8 | ,000 |
| | De 45 até 54 | ,263 | 11 | ,032 | ,819 | 11 | ,017 |
| | De 55 até 64 | ,355 | 5 | ,039 | ,774 | 5 | ,048 |
| Motivo escolha Mercedes_Conforto | De 18 até 24 | ,216 | 19 | ,020 | ,853 | 19 | ,007 |
| | De 25 até 34 | ,210 | 16 | ,058 | ,871 | 16 | ,029 |
| | De 35 até 44 | ,325 | 8 | ,013 | ,665 | 8 | ,001 |
| | De 45 até 54 | ,238 | 11 | ,083 | ,832 | 11 | ,024 |
| | De 55 até 64 | ,261 | 5 | ,200[*] | ,862 | 5 | ,236 |
| Motivo escolha Mercedes_Fidelidade à marca | De 18 até 24 | ,240 | 19 | ,005 | ,886 | 19 | ,027 |
| | De 25 até 34 | ,331 | 16 | ,000 | ,757 | 16 | ,001 |
| | De 35 até 44 | ,195 | 8 | ,200[*] | ,910 | 8 | ,351 |
| | De 45 até 54 | ,187 | 11 | ,200[*] | ,950 | 11 | ,649 |
| | De 55 até 64 | ,198 | 5 | ,200[*] | ,957 | 5 | ,787 |
| Motivo escolha Mercedes_Qualidade dos acabamentos | De 18 até 24 | ,209 | 19 | ,029 | ,954 | 19 | ,461 |
| | De 25 até 34 | ,193 | 16 | ,112 | ,874 | 16 | ,032 |
| | De 35 até 44 | ,321 | 8 | ,015 | ,827 | 8 | ,055 |
| | De 45 até 54 | ,269 | 11 | ,025 | ,914 | 11 | ,272 |
| | De 55 até 64 | ,221 | 5 | ,200[*] | ,902 | 5 | ,421 |
| Motivo escolha Mercedes_Serviços Após Venda | De 18 até 24 | ,185 | 19 | ,085 | ,891 | 19 | ,033 |
| | De 25 até 34 | ,159 | 16 | ,200[*] | ,937 | 16 | ,311 |
| | De 35 até 44 | ,331 | 8 | ,010 | ,844 | 8 | ,082 |
| | De 45 até 54 | ,171 | 11 | ,200[*] | ,940 | 11 | ,518 |
| | De 55 até 64 | ,273 | 5 | ,200[*] | ,852 | 5 | ,201 |
| Motivo escolha Mercedes_Design | De 18 até 24 | ,193 | 19 | ,061 | ,932 | 19 | ,188 |
| | De 25 até 34 | ,198 | 16 | ,093 | ,912 | 16 | ,124 |
| | De 35 até 44 | ,195 | 8 | ,200[*] | ,910 | 8 | ,351 |
| | De 45 até 54 | ,248 | 11 | ,057 | ,902 | 11 | ,198 |
| | De 55 até 64 | ,273 | 5 | ,200[*] | ,852 | 5 | ,201 |
| Motivo escolha Mercedes_Preço | De 18 até 24 | ,179 | 19 | ,110 | ,857 | 19 | ,009 |
| | De 25 até 34 | ,140 | 16 | ,200[*] | ,923 | 16 | ,189 |
| | De 35 até 44 | ,189 | 8 | ,200[*] | ,948 | 8 | ,691 |
| | De 45 até 54 | ,218 | 11 | ,150 | ,888 | 11 | ,131 |
| | De 55 até 64 | ,407 | 5 | ,007 | ,688 | 5 | ,007 |
| Motivo escolha Mercedes_Status | De 18 até 24 | ,201 | 19 | ,042 | ,894 | 19 | ,037 |
| | De 25 até 34 | ,179 | 16 | ,180 | ,874 | 16 | ,032 |
| | De 35 até 44 | ,321 | 8 | ,015 | ,613 | 8 | ,000 |
| | De 45 até 54 | ,320 | 11 | ,002 | ,754 | 11 | ,002 |
| | De 55 até 64 | ,241 | 5 | ,200[*] | ,821 | 5 | ,119 |

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

b. Motivo escolha Mercedes_Segurança is constant when Idade = 65 ou mais. It has been omitted.

d. Motivo escolha Mercedes_Conforto is constant when Idade = 65 ou mais. It has been omitted.

e. Motivo escolha Mercedes_Fidelidade à marca is constant when Idade = 65 ou mais. It has been omitted.

f. Motivo escolha Mercedes_Qualidade dos acabamentos is constant when Idade = 65 ou mais. It has been omitted.

g. Motivo escolha Mercedes_Serviços Após Venda is constant when Idade = 65 ou mais. It has been omitted.

h. Motivo escolha Mercedes_Design is constant when Idade = 65 ou mais. It has been omitted.

i. Motivo escolha Mercedes_Preço is constant when Idade = 65 ou mais. It has been omitted.

j. Motivo escolha Mercedes_Status is constant when Idade = 65 ou mais. It has been omitted.

**Test of Homogeneity of Variance**[a,b,c]

| | | Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|---|---|
| Motivo escolha Mercedes_Design | Based on Mean | ,310 | 4 | 54 | ,870 |
| | Based on Median | ,219 | 4 | 54 | ,927 |
| | Based on Median and with adjusted df | ,219 | 4 | 51,435 | ,927 |
| | Based on trimmed mean | ,368 | 4 | 54 | ,830 |
| Motivo escolha Mercedes_Serviços Após Venda | Based on Mean | 2,204 | 4 | 54 | ,081 |
| | Based on Median | 1,746 | 4 | 54 | ,153 |
| | Based on Median and with adjusted df | 1,746 | 4 | 45,123 | ,157 |
| | Based on trimmed mean | 2,124 | 4 | 54 | ,090 |
| Motivo escolha Mercedes_Qualidade dos acabamentos | Based on Mean | 1,138 | 4 | 54 | ,348 |
| | Based on Median | ,684 | 4 | 54 | ,606 |
| | Based on Median and with adjusted df | ,684 | 4 | 38,171 | ,608 |
| | Based on trimmed mean | 1,150 | 4 | 54 | ,343 |

a. Motivo escolha Mercedes_Design is constant when Idade = 65 ou mais. It has been omitted.

b. Motivo escolha Mercedes_Serviços Após Venda is constant when Idade = 65 ou mais. It has been omitted.

c. Motivo escolha Mercedes_Qualidade dos acabamentos is constant when Idade = 65 ou mais. It has been omitted.

**Appendix 4**: One-way ANOVA - Age and reason behind choosing MB

**ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Motivo escolha Mercedes_Design | Between Groups | 13,416 | 5 | 2,683 | ,761 | ,582 |
| | Within Groups | 190,517 | 54 | 3,528 | | |
| | Total | 203,933 | 59 | | | |
| Motivo escolha Mercedes_Serviços Após Venda | Between Groups | 12,868 | 5 | 2,574 | ,817 | ,543 |
| | Within Groups | 170,115 | 54 | 3,150 | | |
| | Total | 182,983 | 59 | | | |
| Motivo escolha Mercedes_Qualidade dos acabamentos | Between Groups | 5,207 | 5 | 1,041 | ,424 | ,830 |
| | Within Groups | 132,726 | 54 | 2,458 | | |
| | Total | 137,933 | 59 | | | |

**Appendix 5:** Kruskal-Walis - Age and reason behind choosing MB

**Hypothesis Test Summary**

| | Null Hypothesis | Test | Sig. | Decision |
|---|---|---|---|---|
| 1 | The distribution of Motivo escolha Mercedes_Segurança is the same across categories of Idade. | Independent-Samples Kruskal-Wallis Test | ,401 | Retain the null hypothesis. |
| 2 | The distribution of Motivo escolha Mercedes_Conforto is the same across categories of Idade. | Independent-Samples Kruskal-Wallis Test | ,843 | Retain the null hypothesis. |
| 3 | The distribution of Motivo escolha Mercedes_Fidelidade à marca is the same across categories of Idade. | Independent-Samples Kruskal-Wallis Test | ,332 | Retain the null hypothesis. |
| 4 | The distribution of Motivo escolha Mercedes_Preço is the same across categories of Idade. | Independent-Samples Kruskal-Wallis Test | ,715 | Retain the null hypothesis. |
| 5 | The distribution of Motivo escolha Mercedes_Status is the same across categories of Idade. | Independent-Samples Kruskal-Wallis Test | ,236 | Retain the null hypothesis. |

Asymptotic significances are displayed. The significance level is ,05.

**Appendix 6:** Normality and Homogeneity tests regarding gender and reasons for choosing Mercedes-benz

**Tests of Normality**

| | Sexo | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|---|
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| Motivo escolha Mercedes_Status | Mulheres | ,254 | 25 | ,000 | ,761 | 25 | ,000 |
| | Homens | ,192 | 35 | ,002 | ,856 | 35 | ,000 |
| Motivo escolha Mercedes_Segurança | Mulheres | ,320 | 25 | ,000 | ,647 | 25 | ,000 |
| | Homens | ,224 | 35 | ,000 | ,839 | 35 | ,000 |
| Motivo escolha Mercedes_Conforto | Mulheres | ,277 | 25 | ,000 | ,755 | 25 | ,000 |
| | Homens | ,183 | 35 | ,005 | ,878 | 35 | ,001 |
| Motivo escolha Mercedes_Fidelidade à marca | Mulheres | ,163 | 25 | ,085 | ,918 | 25 | ,046 |
| | Homens | ,192 | 35 | ,002 | ,894 | 35 | ,003 |
| Motivo escolha Mercedes_Qualidade dos acabamentos | Mulheres | ,251 | 25 | ,000 | ,921 | 25 | ,055 |
| | Homens | ,195 | 35 | ,002 | ,941 | 35 | ,061 |
| Motivo escolha Mercedes_Serviços Após Venda | Mulheres | ,299 | 25 | ,000 | ,841 | 25 | ,001 |
| | Homens | ,165 | 35 | ,017 | ,945 | 35 | ,078 |
| Motivo escolha Mercedes_Design | Mulheres | ,181 | 25 | ,034 | ,942 | 25 | ,167 |
| | Homens | ,145 | 35 | ,061 | ,940 | 35 | ,058 |
| Motivo escolha Mercedes_Preço | Mulheres | ,206 | 25 | ,008 | ,905 | 25 | ,024 |
| | Homens | ,165 | 35 | ,017 | ,875 | 35 | ,001 |

a. Lilliefors Significance Correction

**Test of Homogeneity of Variance**

| | | Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|---|---|
| Motivo escolha Mercedes_Qualidade dos acabamentos | Based on Mean | ,155 | 1 | 58 | ,695 |
| | Based on Median | ,333 | 1 | 58 | ,566 |
| | Based on Median and with adjusted df | ,333 | 1 | 54,803 | ,566 |
| | Based on trimmed mean | ,163 | 1 | 58 | ,688 |
| Motivo escolha Mercedes_Design | Based on Mean | 2,682 | 1 | 58 | ,107 |
| | Based on Median | 2,395 | 1 | 58 | ,127 |
| | Based on Median and with adjusted df | 2,395 | 1 | 52,205 | ,128 |
| | Based on trimmed mean | 2,500 | 1 | 58 | ,119 |

**Appendix 7:** Post hoc test regarding gender and safety reasons

**Multiple Comparisons**

Dependent Variable: Sexo
Tukey HSD

| (I) Motivo escolha Mercedes_Segurança | (J) Motivo escolha Mercedes_Segurança | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| Mínimo Importância | 2 | -,177 | ,183 | ,977 | -,75 | ,40 |
| | 3 | -,327 | ,264 | ,916 | -1,16 | ,51 |
| | 4 | -,077 | ,360 | 1,000 | -1,21 | 1,06 |
| | 5 | -,177 | ,240 | ,995 | -,93 | ,58 |
| | 6 | -,577 | ,299 | ,539 | -1,52 | ,37 |
| | 7 | -,577 | ,264 | ,375 | -1,41 | ,26 |
| | Máximo de importância | -,244 | ,222 | ,955 | -,95 | ,46 |
| 2 | Mínimo Importância | ,177 | ,183 | ,977 | -,40 | ,75 |
| | 3 | -,150 | ,290 | 1,000 | -1,07 | ,77 |
| | 4 | ,100 | ,380 | 1,000 | -1,10 | 1,30 |
| | 5 | ,000 | ,269 | 1,000 | -,85 | ,85 |
| | 6 | -,400 | ,323 | ,917 | -1,42 | ,62 |
| | 7 | -,400 | ,290 | ,863 | -1,32 | ,52 |
| | Máximo de importância | -,067 | ,253 | 1,000 | -,87 | ,73 |
| 3 | Mínimo Importância | ,327 | ,264 | ,916 | -,51 | 1,16 |
| | 2 | ,150 | ,290 | 1,000 | -,77 | 1,07 |
| | 4 | ,250 | ,425 | ,999 | -1,09 | 1,59 |
| | 5 | ,150 | ,329 | 1,000 | -,89 | 1,19 |
| | 6 | -,250 | ,375 | ,998 | -1,43 | ,93 |
| | 7 | -,250 | ,347 | ,996 | -1,35 | ,85 |
| | Máximo de importância | ,083 | ,317 | 1,000 | -,92 | 1,08 |
| 4 | Mínimo Importância | ,077 | ,360 | 1,000 | -1,06 | 1,21 |
| | 2 | -,100 | ,380 | 1,000 | -1,30 | 1,10 |
| | 3 | -,250 | ,425 | ,999 | -1,59 | 1,09 |
| | 5 | -,100 | ,411 | 1,000 | -1,40 | 1,20 |
| | 6 | -,500 | ,448 | ,950 | -1,91 | ,91 |
| | 7 | -,500 | ,425 | ,935 | -1,84 | ,84 |
| | Máximo de importância | -,167 | ,401 | 1,000 | -1,43 | 1,10 |
| 5 | Mínimo Importância | ,177 | ,240 | ,995 | -,58 | ,93 |
| | 2 | ,000 | ,269 | 1,000 | -,85 | ,85 |
| | 3 | -,150 | ,329 | 1,000 | -1,19 | ,89 |
| | 4 | ,100 | ,411 | 1,000 | -1,20 | 1,40 |
| | 6 | -,400 | ,358 | ,950 | -1,53 | ,73 |
| | 7 | -,400 | ,329 | ,924 | -1,44 | ,64 |
| | Máximo de importância | -,067 | ,297 | 1,000 | -1,01 | ,87 |
| 6 | Mínimo Importância | ,577 | ,299 | ,539 | -,37 | 1,52 |
| | 2 | ,400 | ,323 | ,917 | -,62 | 1,42 |
| | 3 | ,250 | ,375 | ,998 | -,93 | 1,43 |
| | 4 | ,500 | ,448 | ,950 | -,91 | 1,91 |
| | 5 | ,400 | ,358 | ,950 | -,73 | 1,53 |
| | 7 | ,000 | ,375 | 1,000 | -1,18 | 1,18 |
| | Máximo de importância | ,333 | ,347 | ,978 | -,76 | 1,43 |
| 7 | Mínimo Importância | ,577 | ,264 | ,375 | -,26 | 1,41 |
| | 2 | ,400 | ,290 | ,863 | -,52 | 1,32 |
| | 3 | ,250 | ,347 | ,996 | -,85 | 1,35 |
| | 4 | ,500 | ,425 | ,935 | -,84 | 1,84 |
| | 5 | ,400 | ,329 | ,924 | -,64 | 1,44 |
| | 6 | ,000 | ,375 | 1,000 | -1,18 | 1,18 |
| | Máximo de importância | ,333 | ,317 | ,964 | -,67 | 1,33 |
| Máximo de importância | Mínimo Importância | ,244 | ,222 | ,955 | -,46 | ,95 |
| | 2 | ,067 | ,253 | 1,000 | -,73 | ,87 |
| | 3 | -,083 | ,317 | 1,000 | -1,08 | ,92 |
| | 4 | ,167 | ,401 | 1,000 | -1,10 | 1,43 |
| | 5 | ,067 | ,297 | 1,000 | -,87 | 1,01 |
| | 6 | -,333 | ,347 | ,978 | -1,43 | ,76 |
| | 7 | -,333 | ,317 | ,964 | -1,33 | ,67 |

**Appendix 8**: Post hoc test warnings and means comparison regarding gender and comfort and status reasons.

**Warnings**

Post hoc tests are not performed for Motivo escolha Mercedes_Conforto because there are fewer than three groups.
Post hoc tests are not performed for Motivo escolha Mercedes_Status because there are fewer than three groups.

**Appendix 9:** Means comparison between gender and comfort and status reasons

| Sexo | | Motivo escolha Mercedes_Conforto | Motivo escolha Mercedes_Status |
|---|---|---|---|
| Mulheres | Mean | 2,72 | 6,56 |
| | N | 25 | 25 |
| | Std. Deviation | 1,568 | 1,917 |
| Homens | Mean | 3,97 | 5,20 |
| | N | 35 | 35 |
| | Std. Deviation | 2,229 | 2,599 |
| Total | Mean | 3,45 | 5,77 |
| | N | 60 | 60 |
| | Std. Deviation | 2,062 | 2,417 |

**Appendix 10:** Normality and homogeneity tests' warnings regarding educational level and reasons for choosing Mercedes-benz

Tests of Normality[a,c,d,f,g,h,i,j]

| | Grau de escolaridade | Kolmogorov-Smirnov[b] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|---|
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| Motivo escolha Mercedes_Segurança | Ensino Secundário | ,283 | 15 | ,002 | ,751 | 15 | ,001 |
| | Licenciatura | ,288 | 24 | ,000 | ,768 | 24 | ,000 |
| | Mestrado | ,299 | 18 | ,000 | ,789 | 18 | ,001 |
| | Doutoramento | ,260 | 2 | . | | | |
| Motivo escolha Mercedes_Conforto | Ensino Secundário | ,265 | 15 | ,006 | ,822 | 15 | ,007 |
| | Licenciatura | ,254 | 24 | ,000 | ,836 | 24 | ,001 |
| | Mestrado | ,236 | 18 | ,009 | ,821 | 18 | ,003 |
| | Doutoramento | ,260 | 2 | . | | | |
| Motivo escolha Mercedes_Fidelidade à marca | Ensino Secundário | ,175 | 15 | ,200[*] | ,915 | 15 | ,160 |
| | Licenciatura | ,181 | 24 | ,041 | ,915 | 24 | ,045 |
| | Mestrado | ,211 | 18 | ,034 | ,857 | 18 | ,011 |
| | Doutoramento | ,260 | 2 | . | | | |
| Motivo escolha Mercedes_Qualidade dos acabamentos | Ensino Secundário | ,202 | 15 | ,101 | ,923 | 15 | ,212 |
| | Licenciatura | ,208 | 24 | ,008 | ,944 | 24 | ,205 |
| | Mestrado | ,284 | 18 | ,000 | ,901 | 18 | ,061 |
| | Doutoramento | ,260 | 2 | . | | | |
| Motivo escolha Mercedes_Serviços Após Venda | Ensino Secundário | ,216 | 15 | ,058 | ,903 | 15 | ,106 |
| | Licenciatura | ,241 | 24 | ,001 | ,887 | 24 | ,012 |
| | Mestrado | ,195 | 18 | ,070 | ,916 | 18 | ,110 |
| | Doutoramento | ,260 | 2 | . | | | |
| Motivo escolha Mercedes_Design | Ensino Secundário | ,148 | 15 | ,200[*] | ,925 | 15 | ,230 |
| | Licenciatura | ,158 | 24 | ,124 | ,948 | 24 | ,249 |
| | Mestrado | ,216 | 18 | ,026 | ,915 | 18 | ,105 |
| | Doutoramento | ,260 | 2 | . | | | |
| Motivo escolha Mercedes_Preço | Ensino Secundário | ,164 | 15 | ,200[*] | ,876 | 15 | ,042 |
| | Licenciatura | ,159 | 24 | ,119 | ,908 | 24 | ,032 |
| | Mestrado | ,221 | 18 | ,020 | ,884 | 18 | ,030 |
| | Doutoramento | ,260 | 2 | . | | | |
| Motivo escolha Mercedes_Status | Ensino Secundário | ,204 | 15 | ,093 | ,801 | 15 | ,004 |
| | Licenciatura | ,205 | 24 | ,010 | ,837 | 24 | ,001 |
| | Mestrado | ,187 | 18 | ,096 | ,863 | 18 | ,014 |
| | Doutoramento | ,260 | 2 | . | | | |

*. This is a lower bound of the true significance.

a. Motivo escolha Mercedes_Segurança is constant when Grau de escolaridade = Ensino Básico. It has been omitted.

b. Lilliefors Significance Correction

c. Motivo escolha Mercedes_Conforto is constant when Grau de escolaridade = Ensino Básico. It has been omitted.

d. Motivo escolha Mercedes_Fidelidade à marca is constant when Grau de escolaridade = Ensino Básico. It has been omitted.

f. Motivo escolha Mercedes_Qualidade dos acabamentos is constant when Grau de escolaridade = Ensino Básico. It has been omitted.

g. Motivo escolha Mercedes_Serviços Após Venda is constant when Grau de escolaridade = Ensino Básico. It has been omitted.

h. Motivo escolha Mercedes_Design is constant when Grau de escolaridade = Ensino Básico. It has been omitted.

i. Motivo escolha Mercedes_Preço is constant when Grau de escolaridade = Ensino Básico. It has been omitted.

j. Motivo escolha Mercedes_Status is constant when Grau de escolaridade = Ensino Básico. It has been omitted.

**Warnings**

Motivo escolha Mercedes_Segurança is constant when Grau de escolaridade = Ensino Básico. It will be included in any boxplots produced but other output will be omitted.

A spread vs. level plot is not provided because the median and/ or interquartile range is not defined, using the HAVERAGE method, for Motivo escolha Mercedes_Segurança when Grau de escolaridade = Doutoramento.

Motivo escolha Mercedes_Conforto is constant when Grau de escolaridade = Ensino Básico. It will be included in any boxplots produced but other output will be omitted.

A spread vs. level plot is not provided because the median and/ or interquartile range is not defined, using the HAVERAGE method, for Motivo escolha Mercedes_Conforto when Grau de escolaridade = Doutoramento.

Motivo escolha Mercedes_Fidelidade à marca is constant when Grau de escolaridade = Ensino Básico. It will be included in any boxplots produced but other output will be omitted.

A spread vs. level plot is not provided because the median and/ or interquartile range is not defined, using the HAVERAGE method, for Motivo escolha Mercedes_Fidelidade à marca when Grau de escolaridade = Doutoramento.

Motivo escolha Mercedes_Qualidade dos acabamentos is constant when Grau de escolaridade = Ensino Básico. It will be included in any boxplots produced but other output will be omitted.

A spread vs. level plot is not provided because the median and/ or interquartile range is not defined, using the HAVERAGE method, for Motivo escolha Mercedes_Qualidade dos acabamentos when Grau de escolaridade = Doutoramento.

Motivo escolha Mercedes_Serviços Após Venda is constant when Grau de escolaridade = Ensino Básico. It will be included in any boxplots produced but other output will be omitted.

A spread vs. level plot is not provided because the median and/ or interquartile range is not defined, using the HAVERAGE method, for Motivo escolha Mercedes_Serviços Após Venda when Grau de escolaridade = Doutoramento.

Motivo escolha Mercedes_Design is constant when Grau de escolaridade = Ensino Básico. It will be included in any boxplots produced but other output will be omitted.

A spread vs. level plot is not provided because the median and/ or interquartile range is not defined, using the HAVERAGE method, for Motivo escolha Mercedes_Design when Grau de escolaridade = Doutoramento.

Motivo escolha Mercedes_Preço is constant when Grau de escolaridade = Ensino Básico. It will be included in any boxplots produced but other output will be omitted.

A spread vs. level plot is not provided because the median and/ or interquartile range is not defined, using the HAVERAGE method, for Motivo escolha Mercedes_Preço when Grau de escolaridade = Doutoramento.

Motivo escolha Mercedes_Status is constant when Grau de escolaridade = Ensino Básico. It will be included in any boxplots produced but other output will be omitted.

A spread vs. level plot is not provided because the median and/ or interquartile range is not defined, using the HAVERAGE method, for Motivo escolha Mercedes_Status when Grau de escolaridade = Doutoramento.

**Appendix 11:** Normality test regarding marital status and vehicle's range

**Tests of Normality[b,c]**

| | Estado Civil | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|---|
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| Gama de veículo Mercedes | Solteiro/a | ,302 | 58 | ,000 | ,839 | 58 | ,000 |
| | Casado/a | ,265 | 19 | ,001 | ,855 | 19 | ,008 |
| | Divorciado/a | ,250 | 8 | ,150 | ,849 | 8 | ,093 |

a. Lilliefors Significance Correction

b. There are no valid cases for Gama de veículo Mercedes when Estado Civil = 4,000. Statistics cannot be computed for this level.

c. Gama de veículo Mercedes is constant when Estado Civil = União de facto. It has been omitted.

**Appendix 12:** Normality test regarding age and vehicle's range

**Tests of Normality[b]**

| | Idade | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|---|
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| Gama de veículo Mercedes | De 18 até 24 | ,263 | 33 | ,000 | ,861 | 33 | ,001 |
| | De 25 até 34 | ,292 | 19 | ,000 | ,848 | 19 | ,006 |
| | De 35 até 44 | ,375 | 12 | ,000 | ,770 | 12 | ,004 |
| | De 45 até 54 | ,286 | 14 | ,003 | ,847 | 14 | ,020 |
| | De 55 até 64 | ,296 | 7 | ,063 | ,840 | 7 | ,099 |

a. Lilliefors Significance Correction

b. Gama de veículo Mercedes is constant when Idade = 65 ou mais. It has been omitted.

**Appendix 13**: Normality test regarding gender and vehicle's range

**Tests of Normality**

| | Sexo | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|---|
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| Gama de veículo Mercedes | Mulheres | ,375 | 32 | ,000 | ,741 | 32 | ,000 |
| | Homens | ,241 | 54 | ,000 | ,868 | 54 | ,000 |

a. Lilliefors Significance Correction

**Appendix 14**: Normality test regarding educational level and vehicle's range

**Tests of Normality[a]**

| | Grau de escolaridade | Kolmogorov-Smirnov[b] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|---|
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| Gama de veículo Mercedes | Ensino Secundário | ,260 | 26 | ,000 | ,863 | 26 | ,003 |
| | Licenciatura | ,250 | 34 | ,000 | ,850 | 34 | ,000 |
| | Mestrado | ,383 | 23 | ,000 | ,754 | 23 | ,000 |
| | Doutoramento | ,260 | 2 | . | | | |

a. Gama de veículo Mercedes is constant when Grau de escolaridade = Ensino Básico. It has been omitted.

b. Lilliefors Significance Correction

**Tests of Normality[b]**

| | N° de anos do Mercedes | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|---|
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| Satifação com escolha Mercedes | 1 a 4 anos | ,414 | 9 | ,000 | ,617 | 9 | ,000 |
| | Mais de 8 anos | ,539 | 49 | ,000 | ,258 | 49 | ,000 |

a. Lilliefors Significance Correction

b. Satifação com escolha Mercedes is constant when N° de anos do Mercedes = 5 a 8 anos. It has been omitted.

**Appendix 16:** Correlation between reasons why consumers chose MB

**Correlations**

| | | | Motivo escolha Mercedes_Segurança | Motivo escolha Mercedes_Conforto | Motivo escolha Mercedes_Fidelidade à marca | Motivo escolha Mercedes_Serviços Após Venda | Motivo escolha Mercedes_Preço | Motivo escolha Mercedes_Status | Motivo escolha Mercedes_Qualidade dos acabamentos | Motivo escolha Mercedes_Design |
|---|---|---|---|---|---|---|---|---|---|---|
| Spearman's rho | Motivo escolha Mercedes_Segurança | Correlation Coefficient | 1,000 | ,608** | -,357** | -,439** | -,339** | -,505** | ,211 | -,079 |
| | | Sig. (2-tailed) | . | ,000 | ,005 | ,000 | ,008 | ,000 | ,106 | ,548 |
| | | N | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| | Motivo escolha Mercedes_Conforto | Correlation Coefficient | ,608** | 1,000 | -,317* | -,532** | -,424** | -,431** | ,277* | -,081 |
| | | Sig. (2-tailed) | ,000 | . | ,014 | ,000 | ,001 | ,001 | ,032 | ,536 |
| | | N | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| | Motivo escolha Mercedes_Fidelidade à marca | Correlation Coefficient | -,357** | -,317* | 1,000 | ,314* | ,015 | -,047 | -,282* | -,364** |
| | | Sig. (2-tailed) | ,005 | ,014 | . | ,015 | ,907 | ,724 | ,029 | ,004 |
| | | N | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| | Motivo escolha Mercedes_Serviços Após Venda | Correlation Coefficient | -,439** | -,532** | ,314* | 1,000 | ,138 | ,038 | -,072 | -,127 |
| | | Sig. (2-tailed) | ,000 | ,000 | ,015 | . | ,295 | ,774 | ,587 | ,334 |
| | | N | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| | Motivo escolha Mercedes_Preço | Correlation Coefficient | -,339** | -,424** | ,015 | ,138 | 1,000 | ,059 | -,432** | -,237 |
| | | Sig. (2-tailed) | ,008 | ,001 | ,907 | ,295 | . | ,653 | ,001 | ,069 |
| | | N | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| | Motivo escolha Mercedes_Status | Correlation Coefficient | -,505** | -,431** | -,047 | ,038 | ,059 | 1,000 | -,187 | ,058 |
| | | Sig. (2-tailed) | ,000 | ,001 | ,724 | ,774 | ,653 | . | ,152 | ,662 |
| | | N | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| | Motivo escolha Mercedes_Qualidade dos acabamentos | Correlation Coefficient | ,211 | ,277* | -,282* | -,072 | -,432** | -,187 | 1,000 | -,140 |
| | | Sig. (2-tailed) | ,106 | ,032 | ,029 | ,587 | ,001 | ,152 | . | ,286 |
| | | N | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| | Motivo escolha Mercedes_Design | Correlation Coefficient | -,079 | -,081 | -,364** | -,127 | -,237 | ,058 | -,140 | 1,000 |
| | | Sig. (2-tailed) | ,548 | ,536 | ,004 | ,334 | ,069 | ,662 | ,286 | . |
| | | N | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

**Appendix 17:** Normality test regarding variables related with vehicle investment and the vehicle's range

**Tests of Normality**

| | Gama de veículo Mercedes | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|---|
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| Tem contrato SPV com a Mercedes | Até 34.999€ | ,492 | 11 | ,000 | ,486 | 11 | ,000 |
| | De 35.000€ a 49.999€ | ,474 | 26 | ,000 | ,524 | 26 | ,000 |
| | De 50.000€ a 65.000€ | ,519 | 9 | ,000 | ,390 | 9 | ,000 |
| | 65.000€ ou mais | ,435 | 7 | ,000 | ,600 | 7 | ,000 |
| Usa oficinas Mercedes | Até 34.999€ | ,353 | 11 | ,000 | ,649 | 11 | ,000 |
| | De 35.000€ a 49.999€ | ,416 | 26 | ,000 | ,604 | 26 | ,000 |
| | De 50.000€ a 65.000€ | ,414 | 9 | ,000 | ,617 | 9 | ,000 |
| | 65.000€ ou mais | ,435 | 7 | ,000 | ,600 | 7 | ,000 |
| Usa peças Mercedes | Até 34.999€ | ,448 | 11 | ,000 | ,572 | 11 | ,000 |
| | De 35.000€ a 49.999€ | ,539 | 26 | ,000 | ,198 | 26 | ,000 |
| | De 50.000€ a 65.000€ | ,471 | 9 | ,000 | ,536 | 9 | ,000 |
| | 65.000€ ou mais | ,504 | 7 | ,000 | ,453 | 7 | ,000 |
| Importância do Serviço Pós Venda na escola do carro | Até 34.999€ | ,291 | 11 | ,010 | ,734 | 11 | ,001 |
| | De 35.000€ a 49.999€ | ,285 | 26 | ,000 | ,840 | 26 | ,001 |
| | De 50.000€ a 65.000€ | ,383 | 9 | ,000 | ,786 | 9 | ,014 |
| | 65.000€ ou mais | ,324 | 7 | ,025 | ,744 | 7 | ,011 |

a. Lilliefors Significance Correction

**Appendix 18:** Correlation between investment level and vehicle's range

**Correlations**

| | | | Gama de veículo Mercedes | Importância do Serviço Pós Venda na escola do carro | Tem contrato SPV com a Mercedes | Usa oficinas Mercedes | Usa peças Mercedes |
|---|---|---|---|---|---|---|---|
| Spearman's rho | Gama de veículo Mercedes | Correlation Coefficient | 1,000 | -,074 | -,013 | -,169 | -,053 |
| | | Sig. (2-tailed) | . | ,595 | ,926 | ,223 | ,703 |
| | | N | 86 | 54 | 53 | 54 | 54 |
| | Importância do Serviço Pós Venda na escola do carro | Correlation Coefficient | -,074 | 1,000 | -,147 | -,251 | -,287[*] |
| | | Sig. (2-tailed) | ,595 | . | ,290 | ,065 | ,034 |
| | | N | 54 | 55 | 54 | 55 | 55 |
| | Tem contrato SPV com a Mercedes | Correlation Coefficient | -,013 | -,147 | 1,000 | ,225 | ,206 |
| | | Sig. (2-tailed) | ,926 | ,290 | . | ,101 | ,135 |
| | | N | 53 | 54 | 54 | 54 | 54 |
| | Usa oficinas Mercedes | Correlation Coefficient | -,169 | -,251 | ,225 | 1,000 | ,505[**] |
| | | Sig. (2-tailed) | ,223 | ,065 | ,101 | . | ,000 |
| | | N | 54 | 55 | 54 | 55 | 55 |
| | Usa peças Mercedes | Correlation Coefficient | -,053 | -,287[*] | ,206 | ,505[**] | 1,000 |
| | | Sig. (2-tailed) | ,703 | ,034 | ,135 | ,000 | . |
| | | N | 54 | 55 | 54 | 55 | 55 |

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

**Appendix 19:** Normality test regarding variables related with vehicle investment and the vehicle's age

**Tests of Normality[b,c]**

| | N° de anos do Mercedes | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|---|
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| Tem contrato SPV com a Mercedes | 1 a 4 anos | ,513 | 8 | ,000 | ,418 | 8 | ,000 |
| | Mais de 8 anos | ,487 | 44 | ,000 | ,496 | 44 | ,000 |
| Usa oficinas Mercedes | 1 a 4 anos | ,391 | 8 | ,001 | ,641 | 8 | ,000 |
| | 5 a 8 anos | ,260 | 2 | . | | | |
| | Mais de 8 anos | ,409 | 44 | ,000 | ,609 | 44 | ,000 |
| Usa peças Mercedes | 1 a 4 anos | ,391 | 8 | ,001 | ,641 | 8 | ,000 |
| | Mais de 8 anos | ,532 | 44 | ,000 | ,326 | 44 | ,000 |
| Importância do Serviço Pós Venda na escola do carro | 1 a 4 anos | ,375 | 8 | ,001 | ,757 | 8 | ,010 |
| | 5 a 8 anos | ,260 | 2 | . | | | |
| | Mais de 8 anos | ,289 | 44 | ,000 | ,805 | 44 | ,000 |

a. Lilliefors Significance Correction

b. Tem contrato SPV com a Mercedes is constant when N° de anos do Mercedes = 5 a 8 anos. It has been omitted.

c. Usa peças Mercedes is constant when N° de anos do Mercedes = 5 a 8 anos. It has been omitted.

**Appendix 20**: Main keywords regarding why customers aren't satisfied with Mercedes-benz

"Are you satisfied with your choice? If no − why?"

| Keywords | Percentage |
|---|---|
| Post-sale service | 42,9% |
| Better alternatives | 33,3(3)% |
| Quality/Eficiency | 33,3(3)% |
| Below expectations | 20% |

*Source: Consumer questionnaire*

**Appendix 21**: Main keywords regarding the whole Mercedes-benz experience

"Which 3 words would you choose to describe your experience with Mercedes-benz?"

| Keywords | Percentage |
|---|---|
| Security | 14,06% |
| Reliability | 11,72% |
| Confort/Quality | 21,09% |
| Eficiency/Performance | 9,38% |
| Singularity/Uniqueness | 3,13% |
| Design | 0,78% |
| Durability/Resistence | 3,91% |
| Honesty | 0,78% |
| Seriousness | 0,78% |
| Expensive | 2,34% |
| Prestige/Elegance/Class | 7,81% |
| Negative experience | 3,91% |
| Profissionalism | 0,78% |
| Lack of capacity | 0,78% |
| Simplicity/Relaxation | 1,56% |
| Satisfaction | 2,34% |
| Fun/Enthusiasm | 2,34% |
| Adequate | 0,78% |
| Urge to repeat | 0,78% |

*Source: Consumer questionnaire*

**Appendix 22:** Main keywords regarding reasons why consumers won't visit Specialized Workshops

"When in need to repair your car, do you use Mercedes-benz specialized workshops? If no – why?"

| Keywords | Percentage |
|---|---|
| Other suppliers | 10% |
| Auto-repair | 5% |
| Lack of trust | 10% |
| Will to learn more about the subject | 5% |
| Lack of quality | 10% |
| Lack of honesty | 5% |
| Quality-price negative relation | 5% |
| Expensive | 25% |
| Never needed it | 20% |
| Lack of infrastructures to get there | 5% |

*Source: Consumer questionnaire*

**Appendix 23:** Main keywords regarding why users didn't consider Mercedes-benz as a viable brand when choosing their vehicle

"Did you consider Mercedes-benz as a viable option when choosing your car? If no – why?"

| Keywords | Percentage |
|---|---|
| *Price (general)* | 67,95% |
| *Workshop Repair and Services' price* | 5,13% |
| *Polluter* | 1,28% |
| *Other brands* | 3,85% |
| *Design* | 3,85% |
| *Don't own a car* | 5,13% |
| *Quality* | 1,28% |
| *Status* | 6,41% |
| *Previous experience* | 1,28% |
| *Not interested at all* | 2,56% |
| *Brand values* | 1,28% |

*Source: Consumer questionnaire*

**Appendix 24**: Generalized exchange between actors
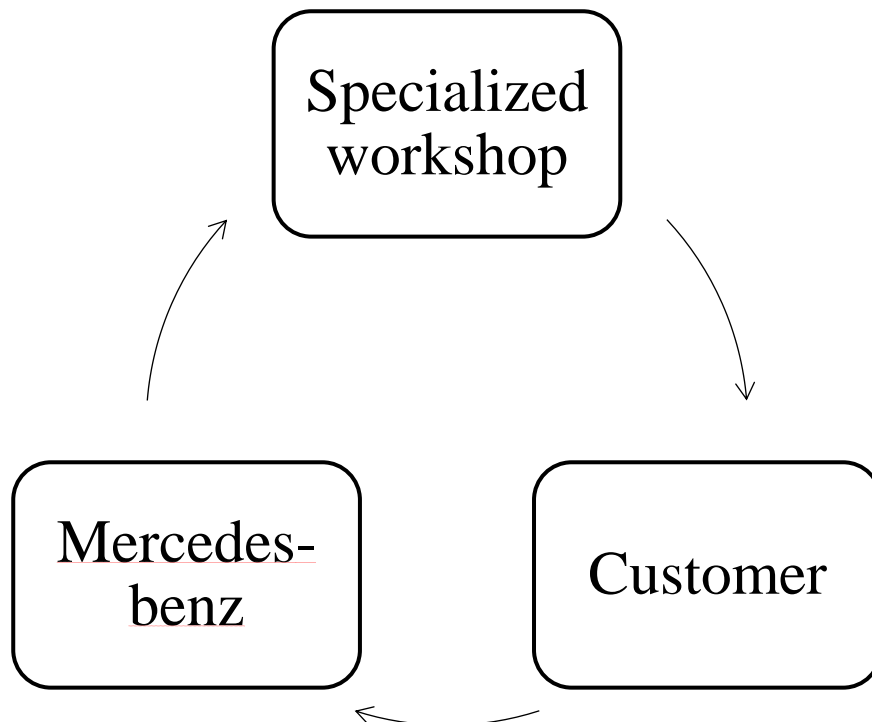
**Appendix 25:** Consumer questionnaire

## Questionário à experiência do consumidor com a marca Mercedes-benz

### Informações pessoais

* 1. Idade

| | DD | | MM | | AAAA |
Por favor indique a sua
data de nascimento ☐ / ☐ / ☐

* 2. Sexo

○ Masculino

○ Feminino

○ Outro (especifique)

☐

* 3. Estado civil

○ Solteiro(a)

○ Casado(a)

○ Viúvo(a)

○ Divorciado(a)

○ Outro (especifique)

☐

* 4. Grau de escolaridade

○ Ensino básico

○ Ensino secundário

○ Licenciatura

○ Mestrado

○ Doutoramento

Experiência com o carro como produto

* 5. Tem um veículo Mercedes-benz? (se a resposta for NÃO, não responda ao resto da página)

○ Sim

○ Não

6. Há quanto tempo?

○ 1-4 anos

○ 5-8 anos

○ Mais de 8 anos

7. Qual a gama do seu veículo?

○ Classe A (Limousine)

○ Classe B (Sports Tourer)

○ Classe C (Limousine)

○ Classe C (Station)

○ Classe C (Coupé)

○ Classe CLA (Coupé)

○ Classe CLS (Coupé)

○ Classe CLS (Shooting Brake)

○ Classe E (Limousine)

○ Classe E (Cabrio)

○ Classe GL (Todo-o-Terreno)

○ Classe GLA (Todo-o-Terreno)

○ Classe S (Limousine)

○ Classe SL (Roadster)

○ Classe SLK (Roadster)

○ Classe V (Monovolume)

8. O que o levou a escolher a gama do seu veículo?

- [ ] Segurança
- [ ] Design
- [ ] Espaço
- [ ] Preço
- [ ] Acabamentos
- [ ] Tecnologia
- [ ] Performance

Carro como serviço

* 9. Quais as principais razões pelas quais escolheu a Mercedes-benz? (colocar por ordem de importância)

⋮⋮ | ⬍ | Segurança

⋮⋮ | ⬍ | Conforto

⋮⋮ | ⬍ | Fidelidade à marca

⋮⋮ | ⬍ | Qualidade dos acabamentos

⋮⋮ | ⬍ | Serviços pós-venda

⋮⋮ | ⬍ | Design

⋮⋮ | ⬍ | Preço

⋮⋮ | ⬍ | Status

* 10. Está satisfeito com a sua escolha?

◯ Sim

◯ Não (Porquê?)

11. Que outras marcas ponderou na escolha do seu veículo?

- [ ] Opel
- [ ] Toyota
- [ ] Peugeot
- [ ] Volvo
- [ ] Honda
- [ ] Ford
- [ ] Alfa Romeu
- [ ] Audi
- [ ] Renault
- [ ] Volkswagen
- [ ] BMW

* 12. Que 3 palavras utilizaria para descrever a sua experiência com o carro e serviços prestados pela Mercedes-benz?

Serviços Pós-Venda

* 13. Quão importantes são para si os Serviços Pós-Venda no processo de escolha de um carro?

| Nada importante | Pouco importante | Indiferente | Muito importante | Essencial |
|:---:|:---:|:---:|:---:|:---:|
| ◯ | ◯ | ◯ | ◯ | ◯ |

14. Tem um contrato de serviço Mercedes-benz?

◯ Sim

◯ Não

* 15. Quais dos serviços Pós-Venda Mercedes-benz já utilizou?

◯ Assistência 24h

◯ Serviços de Mobilidade

◯ Express Service

◯ Small Repair

◯ Check-up automóvel gratuito

◯ Descontos/promoções em hóteis, restaurantes...

◯ Serviços de reparação e manutenção

◯ i. Nenhum

◯ Outro (especifique)

> [                                        ]

* 16. Utiliza as oficinas especializadas Mercedes-benz?

◯ Sim

◯ Não (porquê?)

> [                                        ]

* 17. Utiliza peças originais Mercedes-benz na reparação do seu veículo?

○ Sim

○ Não (porquê?)

[                                        ]

18. Quão importante é para si a utilização de peças originais Mercedes-benz na reparação do seu veículo?

| Nada importante | Pouco importante | Indiferente | Muito importante | Essencial |
|:---:|:---:|:---:|:---:|:---:|
| ○ | ○ | ○ | ○ | ○ |

19. Do-it-Yourself: Já reparou o seu veículo autonomamente, sem recorrer a uma oficina?

○ Sim

○ Não

20. Se SIM, recorreu ao serviço Webparts (plataforma de encomenda online de peças originais Mercedes-benz)?

○ Sim

○ Não

21. Numa escala 1-5, quanto concorda com estas afirmações?

| | Não concordo totalmente | Não concordo parcialmente | Indiferente | Concordo parcialmente | Concordo totalmente |
|---|:---:|:---:|:---:|:---:|:---:|
| Acho fundamental investir na qualidade quando se trata da reparação e manutenção do meu veículo | ○ | ○ | ○ | ○ | ○ |
| Faço questão de levar sempre o meu carro a oficinas especializadas Mercedes-benz. | ○ | ○ | ○ | ○ | ○ |
| É fundamental para mim a utilização de peças originais da marca. | ○ | ○ | ○ | ○ | ○ |
| Vejo a manutenção e reparação do meu veículo como um investimento e uma maneira de o tornar mais valioso a longo prazo. | ○ | ○ | ○ | ○ | ○ |

Comparação de serviços Pós-Vendas

22. Que serviços pós-venda já usufruiu de outras marcas?

☐ Assistência 24h

☐ Serviços de Mobilidade

☐ Express Service

☐ Small Repair

☐ Check-up automóvel gratuito

☐ Descontos/promoções em hóteis, restaurantes...

☐ Serviços de reparação e manutenção

☐ Nenhum

☐ Outro (especifique)

_____

23. De que marcas?

◯ Opel

◯ Toyota

◯ Peugeot

◯ Volvo

◯ Honda

◯ Ford

◯ Alfa Romeu

◯ Audi

◯ Renault

◯ Volkswagen

◯ BMW

◯ Outro (especifique)

_____

* 24. Com qual das marcas ficou mais satisfeito?

◯ Mercedes-benz

◯ Outra (especificar qual)

[                                        ]

* 24. Com qual das marcas ficou mais satisfeito?

◯ Mercedes-benz

◯ Outra (especificar qual)

Inquiridos que NÃO possuem um automóvel Mercedes-benz

**Pede-se a todos os inquiridos que, possuindo um automóvel Mercedes-benz, responderam ao inquérito até aqui para pararem e não responderem a esta secção.**

25. Chegou a considerar a Mercedes-benz no processo de escolha do seu automóvel?

◯ Sim

◯ Não (especificar porquê)

[                                        ]

26. Se SIM, o que o levou a escolher a outra marca?

☐ Segurança

☐ Conforto

☐ Fidelidade à marca

☐ Qualidade dos acabamentos

☐ Serviços Pós-Venda

☐ Design

☐ Preço

☐ Status

☐ Outro (especifique)

[                                        ]

27. Quais dos serviços Pós-Venda da marca do seu actual do seu automóvel já utilizou?

○ Assistência 24h

○ Serviços de Mobilidade

○ Express Service

○ Small Repair

○ Check-up automóvel gratuito

○ Descontos/promoções em hóteis, restaurantes...

○ Serviços de reparação e manutenção

○ i. Nenhum

○ Outro (especifique)

[                                        ]

28. Quão satisfeito ficou?

| Nada satisfeito | Pouco satisfeito | Indiferente | Muito satisfeito | Extremamente satisfeito |
|:---:|:---:|:---:|:---:|:---:|
| ○ | ○ | ○ | ○ | ○ |

29. Já teve contacto anterior com os serviços Pós-Venda da Mercedes-benz?

○ Sim

○ Não

30. Se SIM, quão satisfeito ficou?

| Nada satisfeito | Pouco satisfeito | Indiferente | Muito satisfeito | Extremamente satisfeito |
|:---:|:---:|:---:|:---:|:---:|
| ○ | ○ | ○ | ○ | ○ |

31. Quão importante é para si a utilização de peças originais da marca na reparação do seu veículo?

| Nada importante | Pouco importante | Indiferente | Muito importante | Essencial |
|:---:|:---:|:---:|:---:|:---:|
| ○ | ○ | ○ | ○ | ○ |

32. Numa escala 1-5, quanto concorda com estas afirmações?

| | Não concordo totalmente | Não concordo parcialmente | Indiferente | Concordo parcialmente | Concordo totalmente |
|---|---|---|---|---|---|
| Acho fundamental investir na qualidade quando se trata da reparação e manutenção do meu veículo | ○ | ○ | ○ | ○ | ○ |
| Faço questão de levar sempre o meu carro a oficinas especializadas da marca do meu veículo. | ○ | ○ | ○ | ○ | ○ |
| É fundamental para mim a utilização de peças originais da marca. | ○ | ○ | ○ | ○ | ○ |
| Vejo a manutenção e reparação do meu veículo como um investimento e uma maneira de o tornar mais valioso a longo prazo. | ○ | ○ | ○ | ○ | ○ |