



# Quality culture in the Brazilian car dealerships

## *Cultura da qualidade nas concessionárias automotivas brasileiras*

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**How to cite:** Diógenes, J. R. F., Queiroz, F. C. B. P., Queiroz, J. V., Furukava, M., Lima, N. C., & Souza, G. H. S. (2019). Quality culture in the Brazilian car dealerships. *Gestão & Produção*, 26(2), e2046. <https://doi.org/10.1590/0104-530X2046-19>

**Abstract:** This article identifies the adoption level of quality management practices (QMP) and verifies the existence of a quality culture (QC) in the Brazilian car dealerships, motivated by the following research question: Is there an organizational culture in these dealerships that leads a high application of QMP? To address this question, diagnostic tools were applied to identify the cultural profile and QMP adoption levels with quality managers of 80 car dealerships with one of ISO 9000 family of quality management systems implemented. The results stressed that the dealerships implement QMP in a satisfactory level, however, the QC is not developed enough to implement these practices properly. This is a worrying scenario to the Brazilian car dealerships, once they work in a competitive market and deals with a rigorous customer.

**Keywords:** Quality management; Organizational culture; Quality culture.

**Resumo:** *Este estudo teve como objetivo identificar o nível de adoção de práticas da gestão da qualidade (PGQ) e verificar se a cultura organizacional (CO) das concessionárias automotivas brasileiras são orientadas para a qualidade, com base no seguinte problema: existe uma CO nessas organizações que propicie a aplicação excelente das PGQ? Para tanto, foi aplicado um questionário contendo ferramentas de diagnóstico do perfil cultural e dos níveis de aplicação das PGQ aos gerentes de qualidade de 80 concessionárias certificadas com sistemas da família ISO 9000. Com uma taxa de resposta de 40%, verificou-se que as concessionárias adotam PGQ em níveis satisfatórios, porém a CO constatada não está suficientemente desenvolvida para absorver essas práticas em níveis excelentes. Depreende-se que esse cenário se constitui crítico, visto que organizações dessa natureza lidam com um perfil de cliente altamente exigente e rigoroso.*

**Palavras-chave:** *Gestão da qualidade; Cultura organizacional; Cultura da qualidade.*

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Received Feb. 10, 2017 - Accepted Jan. 14, 2018

Financial support: None.

## 1 Introduction

To implement a management model as Quality Management (QM), it is important acknowledge how individuals behaves in their work environment. The aspects that guides and motivates the employees behaviour within the organizations are connected to the individual value structure (Gouveia et al., 2009), which corresponds to the organizational culture (OC) (Oliveira & Gomide, 2009).

The OC is a value system developed and consolidated from the influences of the market (external environment), personal beliefs and company management profile (internal environment), which guide the employee's behaviour in the organizations (Alcadipani & Crubellate, 2003; Pires & Macêdo, 2006). Thus, the OC interferes in the execution of work activities, including actions oriented by QM systems (Green, 2002; Gimenez-Espin et al., 2013).

In this way, it is understood that the cultural dimensions are the basis to the quality management practices (QMP), denoting the relevance to verifying which factors regulate the individual behaviour, so that the organizations have proper conditions to create solid ambiances seeking to achieve the maximum productivity and competitiveness related to QMP. Chapman et al. (1991) & Gallear and Ghobadian (2004) confirm that the success of QM systems depends on the existence of an appropriate OC to carry out the proposed activities. In addition, Reeves & Bednar (1994) affirm that OC influences individuals' behaviour and attitude, enabling changes in actions related to all work aspects, including the quality.

Therefore, it is important to encourage a culture open to the implementation of QMP, building a quality culture (QC). According to Irani et al. (2004) and Andrade et al. (2014), the organization takes an important step towards QC when engages its employees in daily activities, allowing them to integrate decision-making processes, and in the same time, developing their leadership skills.

Within this context, organizations that are included in highly competitive sectors, such as automotive, need to guide their activities based on QMP. Brazilian automotive sector is the fourth largest in the world (Valor Econômico, 2013), behind only China, the United States and Japan. This position is result of a growth of 145% (between 2002 and 2011), due to the 109% expansion in production at the same period (Anfavea, 2012). For the future, Fenabreve (2012, p. 12) estimates that Brazil "can consume 6 million vehicles per year in medium and long term".

Currently, despite the current economic crisis, which lead to a reduction of 17% in sales in the first half of 2015 (for light and heavy vehicles), the production and launch of new models continue to

increase, believing in the growth forecasts indicated by Fenabreve (2012). With optimism, the world automotive industry keeps investing in Brazil, hoping that by 2017 the internal consumption normalizes, returning to have expressive numbers (Calmon, 2015).

For Fraser et al. (2013), car dealerships are potential dependents of a QC, since the competition – that surrounds them – demands optimal operational performance. Therefore, this study aims to identify the level of adoption for QMP and verify whether the OC in the Brazilian car dealerships is quality-oriented, based on the following problem: Exists an OC in these organizations that provides a full application of QMP? In other words, do these companies have an OC that favours the full coverage of the procedural improvements which the QMP offers?

## 2 Theoretical Background

### 2.1 Quality Management Practices (QMP)

QMP refers to work guidelines that, in their implementation, lead to the materialization of quality concepts, making possible organizational performance improvements (Nair, 2006). In simple words, QMP correspond to activities that the organizations must execute to implement QM systems successfully (Talib, 2013).

According to Saraph et al. (1989), the QMP are eight:

- (i) Management leadership, which aims to establish the support to quality management, promoting, for example, evaluation activities and strategic plan elaboration;
- (ii) Role of the quality department, which intends to offer autonomy to conduct the quality management, acting as mediator of quality activities in the other departments;
- (iii) Training, which seeks to empower employees in order to efficiently implementation of routine activities to control and improvement the quality;
- (iv) Employee relations, which suggests permanently involving employees with quality management, to sensitize their participation in the identification and resolution of problems;
- (v) Quality data and reporting, which intends to establish the measurement, the use, and the sharing of quality data, enabling employees to perform actions for quality;

- (vi) Supplier quality management, which seeks to identify reliability, reduce dependency, and stimulate integration among suppliers involved in production processes;
- (vii) Products/services design, which allows the participation of all departments in the creation processes, mobilizing the knowledge of all employees to generate products/services with higher quality;
- (viii) Process management, which stimulates the clarity of process rules, decreases dependence on inspections, uses procedural statistical control, uses selective automation, performs preventive maintenance, promotes self-inspection by the employee, and enables automated testing.

In addition, Chart 1 brings QMP identified in seven studies on the evaluation of quality practices in organizations, published between 1994 and 2010, based on descriptions of the eight QMP from Saraph et al. (1989). About the use of this basis, Sarathy (2013, p. 2051) affirms that Saraph's model is "the most striking attempt to develop an instrument for measuring the critical factors of quality management".

Considering these eight QMP, based on the results of eighteen articles published between 1995 and 2001, Kaynak (2003) proposed to investigate the relationships among the QMP and to identify the direct and indirect QMP effects in the organizational performance. The author verified that "supplier quality management", "products/services design" and "process management" have a direct effect on the operational performance, due their existing intrinsic relationship with "management leadership", "training", "employee relations" and "quality data and reporting".

Moreover, considering those QMP that directly affect organizational performance, Kaynak (2003) proposed an instrument to measure QMP adoption levels in organizations. The following instrument is based on four cores of QMP: (i) quality data and reporting; (ii) supplier quality management; (iii) products/services design; (iv) process management.

Recently this measurement method was used by Baird et al. (2011) to analyse QMP adoption levels in 364 Australian companies. The 17 questions that compose the Instrument is presented in the Appendix A.

According to Bragg (2013), it is important to emphasize that the establishment of the QMP provides several benefits to the organizations, comprising five central aspects of QM: (i) quality

in products/services, which corresponds to the conformity, reliability, performance, durability and other technical factors related to products/services; (ii) quality in relationships, which corresponds to the achievement of solid and lasting relationships with stakeholders; (iii) quality in processes, which corresponds to performance, flexibility and procedural innovation; (iv) quality in finances, which corresponds to the growth in sales and higher returns on investments; and (v) quality in business, which corresponds to the benefits that promote customer satisfaction, enabling the achievement of goals, generating competitive advantages, consolidating market share, and accomplishing management strategies.

In the context of the quality in business, Sousa & Voss (2002) and Nair (2006) confirm that the benefits generated by QMP possess fundamental relevance to the Firms' survival and competitiveness. Thus, Viada-Stenger et al. (2010) and Andrade et al. (2014) highlight that to achieve permanent competitive advantages, establish QMP is crucial. However, such practices are intrinsically connected to the OC, requiring a complementary body of knowledge to support the adoption of these practices.

## 2.2 Organizational Culture (OC)

Structurally, organizations are social units where people or groups have functionally, productively, and economically relationship to accomplish something (Schein, 1992; Martin, 1994). The internal settings that govern the behavioural pattern of these social units, shared by their components, for Schein (1992), are elements (space, customs, procedures, etc.) that form an OC.

Hofstede (1994) denotes a singularity character of OC, conceptualizing it under a psychosocial bias of collective standard which distinguishes the individuals of an organization from the individuals of another organization. This means that each organization is idiosyncratic by its own culture. Hofstede (1994, p. 180) justifies that the individual is a result of the socialization inherent in his environment; so, it is not possibly made intelligible the human dynamics in organizations, without knowing the culture and society inherent.

OC represents a system of behaviours, norms and social values accepted and shared by all the members of an organization (Smircich, 1983; Kotter & Heskett, 1992; Hartmann, 2006; Fleury, 2007).

## 2.3 Cultural evaluation

Several methods are available in the scientific literature to perform cultural profile diagnosis in companies. Ashkanasy et al. (2000) analysed eighteen

Chart 1. Studies on the evaluation of QMP implementation in organizations.

Studies	Quality Management Practices (Saraph et al., 1989)							
	Management Leadership	Role of the Quality Dpt.	Training	Employee Relations	Quality Data and Reporting	Supplier Quality Management	Product/Service Design	Process Management
Flynn et al. (1994)	Top management support; Leadership towards quality; Awards for quality improvements			Workforce Management; People selection; Teamwork.	Quality information; Process control; Feedback.	Suppliers integration.	Product design; New product quality; Cross-functional design process.	Process management; Customer engagement;
Black & Porter (1996)	Quality corporate culture; Strategic quality management.		Employee training.	People/Customer management; Teamwork.	Quality improvement; Measuring systems.	Suppliers partnerships.	External management interface.	Operational plan; Customer focus; Information sharing.
Criteria for Performance Excellence (2002)	Leadership; Strategic planning.		Focus on human resource management.	Focus on human resource management.	Information and analysis.		Process management.	Process management; Customer/Market focus.
Prajogo (2005)	Leadership; Strategic planning.		Human resource management.	Human resource management.	Information and analysis.		Process management; Product quality.	Process management; Customer focus.
Fotopoulos & Psomas (2009)	Leadership; Strategic quality planning.		Human resource management and engagement.	Human resource management and engagement.	Information and analysis; Knowledge and education.	Supplier management.	Process management; Quality techniques and tools.	Process management; Customer orientation; Continuous improvement.
Talib et al. (2010)	Top management commitment; Strategic planning; Quality culture.		Training and education.	Human resource management and Employee encouragement; Teamwork; Communication;	Information and analysis.	Supplier management.	Continuous improvement and innovation; Product and service design.	Continuous improvement and innovation; Customer orientation; Process management; Quality systems.
Sarathy (2013)	Top management commitment;		Training and education.	Employee engagement; Recognition and awards.	Benchmarking.	Supplier quality management.	Continuous improvement; Product quality and innovation.	Customer focus; Continuous improvement.

Source: Authors.

methods of cultural evaluation proposed between 1975 and 1992, which are a representative sample of these methods. The authors verified that only two instruments provided validity and reliability in their evaluations, highlighting the Organizational Culture Profile (OCP) proposed by O'Reilly et al. (1991).

Cable and Judge (1997), Howard (1998), Agle and Caldwell (1999) confirmed that the OCP method as the most used among academics, still remaining in evidence, as can be observed in recent researches about the subject (Densten & Sarros, 2012; Marchand et al., 2013; O'Reilly et al., 2014).

The OCP method is composed by twenty-five questions, organized in six cultural dimensions: (i) orientation to results; (ii) attention to detail; (iii) stability; (iv) teamwork; (v) innovation; (vi) aggressiveness. The dimension of "orientation to results" refers to how well the organization defines actions to address goals, performance and competitiveness. The dimension of "attention to detail" is defined to how much the organization promotes accuracy and reliability in its internal processes. The dimension of "stability" refers to the organization's ability to provide solidity in the execution of the planning and permanence of the work team. The dimension of "teamwork" is perceived to how the organization promotes integration, equality and respect for employees. The dimension of "innovation" refers to how receptive and willing the organization is to implement changes. The dimension of "aggressiveness" refers to how the organization faces conflicting and controversial situations, whether or not these events are aggressive and predictable (O'Reilly et al., 1991).

Relating the OC with the QM, Talib et al. (2012) confirm that a culture oriented to quality is a key to reach continuous improvement. However, conducting this orientation requires profound cultural changes. Regarding this matter, Fleury (1993) explains that organizations are resistant to solving managerial problems, especially when involves cultural changes. In addition, Ehlers (2009) emphasizes that this change is a complex and long-lasting process, demanding long-term efforts.

To begin the cultural change, Smith (2010) states that the first action should be given by the top management, since its own greater influence on the company OC. In this process, Senge (2008) states that the top manager is the central driver in the cultural change process.

## 2.4 Quality Culture (QC)

QC is a flexible OC oriented to the process continuous improvement (Hildebrandt et al., 1991; Shortell et al., 1995; Welikala & Sohal, 2008).

QC stimulates teamwork, through a simple and flexible structure, and is fully committed to establish customer satisfaction (Smith, 1999; Claver et al., 2001; Vanagas, 2005).

QC must be developed considering intangible elements, such as commitment, value, rituals, symbols, and tangible elements, such as QM tools and instruments (Ehlers, 2009). Implement this culture it is a prerequisite to reach excellent results on the adoption of QM systems (Woods, 1996; Buch & Rivers, 2001; Claver et al., 2001; Vanagas, 2005; Welikala & Sohal, 2008; Gimenez-Espin et al., 2013).

Therefore, Woods (1996) describes six values, which consolidated among the employees, enables the QC establishment: (i) we're all in this together: company, suppliers, customers; (ii) no subordinates or superiors allowed; (iii) open, honest communication is vital; (iv) everyone has access to all information on all operations; (v) focus on processes; (vi) there are no successes or failures, just learning experiences.

It is important acknowledge that the QC permeates among the employees a 'natural willingness to make it happen', stimulating them to implement quality principles in their daily work activities. This willingness emerges by the employees understanding, through QC interference, that your professional evolution depends of the organization rise.

## 2.5 Brazilian car dealerships

According the Automotive Vehicles Distribution National Federation (Fenabrave), exists in Brazil about 7,200 automotive dealerships, representing 48 car companies, creating 391,000 job positions with R\$ 237.8 billion of annual revenue. This revenue reached in the period, was responsible for 5.7% of the Brazilian gross domestic product in 2011 (Fenabrave, 2012).

These dealerships are authorized sellers from one brand and belongs to certain franchise network (Fiat, Volkswagen, Ford, Chevrolet etc.), providing namely four core services: (i) New car selling; (ii) Used car selling; (iii) Parts and accessories selling; (iv) Maintenance and repair services. (Crispim et al., 2007; Lima, 2009; Diógenes et al., 2013).

According Diógenes et al. (2013), the Brazilian automotive market recognizes a customer more rigorous, due its increasing buy-capacity, mainly those from the socioeconomic class c.

Despite the currently Brazilian economic crisis, which brought in a first moment selling reductions to the dealerships, the socioeconomic classes a and b keep buying cars, especially the used ones, reaching a selling rise of 10.9% between July and August 2015 (ViaEPTV, 2015). Even recognizing this selling reduction as one of the worsts faced by

the Brazilian automotive industry, the automotive companies has maintained their investment efforts in the country due to the powerful domestic market.

Following the investment trend, Gadelha (2015) noticed that the General Motors will spend R\$ 6.5 billion in a new production line, as well as Hyundai, Chery, Volkswagen, Peugeot, Citroën e Iveco, totalizing investments of R\$ 9 billion only in 2015.

Additionally, was confirmed that until 2016 brands as Audi, BMW, Honda, Hyundai, Jaguar Land Rover, Jeep, Mercedes-Benz e Nissan, will establish nine new production lines in the country, as result of investments of R\$ 14 billion (Deliberato, 2014).

Due to the intensive investment observed in the Brazilian automotive industry, Crispim et al. (2007) highlight that this competitive environment brought up the necessity to improve the automotive services, which is highly demanded by the customers and car companies. Thus, Silva et al. (2012) ensured that the improvements not only mean to increase the quality on the relationship between customers and companies, but really to establish a QM oriented to accomplish the stakeholders needs.

## 2.6 QM in the Brazilian Car Dealerships

80 from 7.200 Brazilian car dealerships have one of family ISO 9000 certification as QM system (Fenabreve, 2012; ABNT/CB-25, 2014). However, the ABNT/CB-25 (ABNT, 2014) clarifies that this number should be higher, once the certifiers an entity fails to share updated information with the Brazilian Association of Technical Standards (ABNT). Moreover, some car companies have its own QM systems, implemented internally among their dealerships, as occurs in the Volkswagen Brazil with the application of the Total Customer Attention (TCA) program (Silva et al., 2012). Thus, there is not a reliable public database informing the right number of car companies and dealerships with QM systems under implementation.

Fundamentally, the companies seeking to satisfy the customer needs and implement quality practices. Nonetheless, few sought institutionalize the quality with the support of QM systems (Biazzo & Bernardi, 2003; Valls, 2004; Herrmann & Copello, 2014; Silva et al., 2014; Vieira et al., 2014).

For Fraser et al. (2013), these scenarios occur due to the lack of balance in the establishment of QM systems by the global automotive industry. In fact, exists in the car company side, a strong commitment to develop and implement QM systems, but the same not happen in the car dealership side (Kristianto et al., 2012).

In addition, Senge (2008) affirm that quality improvement programs must be continuous, taking into consideration the constant market changes. Therefore, Fabiano (2014, p. 1) ratifies that “the certification of automotive services it is an evolutive and constant process. This means that never ends, once the good for today turns obsolete tomorrow”.

The continuous necessity in promoting efforts towards quality in the car dealerships make this task is high complex. Edvardsson et al. (2010) ensure that even the automotive companies acknowledge the importance of quality practices and commit to developing them, lack clear efforts to achieve quality goals.

According Fraser et al. (2013), this low commitment is result of organizations of this nature, in their majority, being small-medium sized, and possessing idiosyncratic managerial styles, usually resistant to innovative decisions. In addition, Fotopoulos & Psomas (2010) stress that the small businesses exhibit low level of QM implementation when compared with the large-sized companies. Thus, the current challenge to spread QM systems in the Brazilian car dealerships may be overcome if: (i) top managers show up committed in provide satisfaction to the customer; (ii) commitment in engage employees to achieve the QM goals; (iii) solidly establish a process management quality-oriented (Diógenes et al., 2013; Silva et al., 2014; Vieira et al., 2014).

## 3 Method

### 3.1 Research type

This study is applied, exploratory and delineated in a qualitative approach. Based on technical procedures from a bibliographic research, this study was complemented with a survey to address the proposed goals (Malhotra, 2011).

The survey research is characterized by the utilization of data collection instruments, directly applied to the research participants, in order to map elements – economic, social, behavioural, among others – which characterize a specific sample or population (Forza, 2002).

### 3.2 Sample and data collection

To establish the research sample, were considered the Brazilian car dealerships with QM certifications, once these systems are a direct evidence of the QMP applications. Through access of the database from the Brazilian Quality Committee (ABNT/CB-25), the most reliable and complete database with information regarding the Brazilian companies with QM certifications, were identified 80 dealerships with QM certifications, all from ISO 9000 family

(Table 1). This committee operates since 1992 working on the development of standards to QM systems, quality assurance, conformity assessment and related techniques. In the field of QM, the committee develops ISO 9000 standards, which are implemented in organizations through 1023 associated certifiers (ABNT/CB-25, 2014).

Once identified the target-population, were sent e-mails, including a questionnaire link, to each quality manager from the selected 80 dealerships. 32 managers fulfilled the questionnaire, representing

a response rate of 40%. In comparison with other studies with similar sample size, the response rate reached was considered satisfactory (Terziovski et al., 1997; Choi & Eboch, 1998; Samson & Terziovski, 1999; Terziovski & Samson, 1999; Das et al., 2000; Kaynak, 2003).

The answers collected were mostly from Southeast dealerships (46.88%), as can be observed in the Table 2. It is important highlight that the companies and managers anonymity was preserved during all the research stages.

**Table 1.** Brazilian Car Dealerships certified with ISO 9000.

Region	State	Quantity	Dealership group and foundation year	
Central-West (9 dealerships)	DF	1 (1.25%)	Saga (1972)	
	GO	5 (6.25%)	Govesa (1942), Sudoeste (1965) e Maudi (2001)	
	MT	1 (1.25%)	Carolina (-)	
	MS	2 (2.5%)	Discautol (1968) e Autobel (1997)	
Northeast (10 dealerships)	BA	4 (5%)	Bremen/Parvi (1980) e Baviera (2003)	
	CE	2 (2.5%)	Novo Norte (1998) e Smaff (1998)	
	PB	1 (1.25%)	Mais (1990)	
	PE	1 (1.25%)	Bremen/Parvi (1980)	
	PI	1 (1.25%)	Alemanha (2003)	
	RN	1 (1.25%)	Socel (2007)	
	AC	1 (1.25%)	Recol (1984)	
North (8 dealerships)	AM	1 (1.25%)	Rezende (2008)	
	PA	3 (3.75%)	Rodobens (1949) e Grande Belém/GNC (-)	
	RO	1 (1.25%)	Cometa (1984)	
	RR	1 (1.25%)	Perin (2006)	
	TO	1 (1.25%)	Formaq (1988)	
	Southeast (38 dealerships)	MG	5 (6.25%)	Distrive (1959), Carbel/Bonsucesso (1969), Saga (1972), Ouro Minas (1986) e Gamma (-)
		RJ	3 (3.75%)	Eurokraft (1961) e Rodac (1962)
SP		30 (37.5%)	Caltabiano (1923), Vigorito (1925), Santa Emília (1926), Brasilwagen/HBW (1955), Comasa (1964), Sorana (1968), Germânica (1972), Faria (1974), Veleiro Litoral (1974), Maggi (1976), Dokar (1982), Original/JSL (1984), Ápia (1989), Tempo Veículos (1997), Comeri/Grupo JK (1998), Green Automóveis (2000) e Amazon (2008)	
South (15 dealerships)	PR	13 (16.25%)	Servopa (1955), Paranomotor (1961), Auto Braz (1964), Corujão (1967), Autorama (-), Pirâmide (-) e Luson (-)	
	RS	2 (2.5%)	Guibacar/Sinosserra (1964) e ANP (1966)	

Source: Elaborated with research data.

**Table 2.** Answers per region.

Region	Certified dealerships	Participants	Participants in relation with the total of certified dealerships (%)	Participants in relation with dealerships per region (%)
Southeast	38	15	46.88	39.47
South	15	5	15.63	33.33
Northeast	10	5	15.63	50.00
North	8	5	15.63	62.50
Central-West	9	2	6.25	22.22
Total	80	32	100	-

Source: Elaborated with research data.

### 3.3 Instruments

The questionnaire applied in this research was developed in two parts. The first part allowed the identification of the QMP adoption levels, based on the Four Core TQM Practices evaluation method proposed by Kaynak (2003). The second part promoted the OC diagnosis, according the Organizational Culture Profile (OCP) analysis method developed by O’Reilly et al (1991). The questions were structured in a self-reporting questionnaire, based on 5-point Likert scale, ranging from 1 (very low) to 5 (very high).

### 3.4 Analytical procedures

With the IBM SPSS software, the data was analysed by descriptive statistics, providing percentage frequency (PF) and standard level (SL) at 95% confidence interval. To interpret the results, descriptive statistics was used to indicate the necessary median to the data percentage description and standard level calculation, having as analytical foundation the empirical inductive evidence (Hair et al., 2005; Malhotra, 2011).

The SL was used to summarize in one value (between -10 and 10) the QMP adoption levels for each factor and the level of cultural predominance for each dimension, enabling a general interpretation of the collected data. To interpretative reasons, the SL was defined between -10 and -7 as ‘very low’, between -6 e -2 as ‘low’, between -1 e 2 as ‘median’, between 3 and 6 as ‘high’ and between 7 and 10 as ‘very high’. Regarding the QMP adoption, the levels ‘very low’, ‘low’, and ‘median’, were considered as ‘unsatisfactory’, the level ‘high’ was considered as ‘satisfactory’ and the level ‘very high’ as ‘ideal’. Concerning the cultural predominance in each dimension, the levels ‘very low’, ‘low’, and ‘median’, were considered as ‘weak’, the level ‘high’ was considered as ‘strong’ and the level ‘very high’ as ‘robust’.

The SL calculation was performed through the following Equation 1:

$$SL = \frac{[(N1 \times -10) + (N2 \times -5) + (N3 \times 0) + (N4 \times 5) + (N5 \times 10)]}{N(\text{Number of observations})} \quad (1)$$

Wherein: N1, N2, N3, N4 e N5 corresponds to the number of dealerships with level of adoption/predominance, respectively, in ‘very low’, ‘low’, ‘medium’, ‘high’ and ‘very high’ in the factor/dimension evaluated.

As reference to state the existence or not of an QC in the dealerships – the research goal – was used the minimal qualification of ‘strong’ or ‘robust’ at least in one of four cultural dimensions verified by Baird et al. (2011) suitable to QMP adoption, as follows: outcome orientation, attention to detail, teamwork/respect for people and innovation.

## 4 Results

### 4.1 Total Quality Practices (TQM)

In a general overview, according to the SL, three of four QMP factors evaluated, ‘quality data and reporting’, ‘product/service design’ and ‘process management’, showed adoption level 6, which corresponds to a high level of QMP adoption. Only the factor ‘supplier quality management’ observed level 2, which means a median level of QMP adoption (Table 3).

Considering the average result, it is important highlight that establish the ‘supplier quality management’, ensuring the supplier interaction on the product/service development process, it is fundamental importance to achieve quality. This integration allows cost and waste reductions, which consequently lead to the improvement of organizational performance (Krajewski & Ritzman, 2001; Mokhtar & Yussof, 2010).

### 4.2 Quality Culture (QC)

In a broad perception, considering the calculated SL, two of six cultural dimensions evaluated possess a very high SL (between 7 and 10) in the dealerships cultural profile, which are: ‘outcome orientation’ (SL 7) e ‘attention to detail’ (NP 7). The others: ‘stability’, ‘teamwork’, ‘innovation’ e ‘aggressiveness’ predominates at high level SL (between 5 e 6), as can be seen in the Table 4.

Table 3. QMP Levels.

Factors	Levels					SL
	N1	N2	N3	N4	N5	
1. Quality data and reporting	0 (0%)	0 (0%)	0 (0%)	24 (75%)	8 (25%)	6
2. Supplier quality management	0 (0%)	3 (9.38%)	13 (40.63%)	14 (43.75%)	2 (6.25)	2
3. Product/service design	0 (0%)	1 (3.13%)	3 (9.38%)	15 (46.88%)	13 (40.63%)	6
4. Process management	0 (3.13%)	0 (0%)	4 (12.50%)	15 (46.88%)	13 (40.63%)	6
					Average	5

Source: Elaborated with research data.



**Table 4.** Cultural dimension levels.

Cultural dimensions	Levels					SL
	N1	N2	N3	N4	N5	
1. Outcome orientation	1 (3.13%)	0 (0%)	2 (6.25%)	10 (31.25%)	19 (59.38%)	7
2. Attention to detail	0 (0%)	1 (3.13%)	1 (3.13%)	13 (40.63%)	17 (53.13%)	7
3. Stability	1 (3.13%)	3 (9.38%)	1 (3.13%)	12 (37.50%)	15 (46.88%)	6
4. Teamwork	0 (0%)	2 (6.25%)	5 (15.63%)	15 (46.88%)	10 (31.25%)	5
5. Innovation	0 (0%)	3 (9.38%)	4 (12.50%)	15 (46.88%)	10 (31.25%)	5
6. Aggressiveness	2 (6.25%)	0 (0%)	6 (18.75%)	15 (46.88%)	9 (28.13%)	5
					Average	5.8

Source: Elaborated with research data.

Studying the critical factors to implement QM systems, Hietschold et al. (2014) identified that the teamwork, recognition, human resource management and innovation are positioned among the most cited in the literature. Thus, the presented results possess a significant space to improvement, once they indicated SL 5. Moreover, the high SL linked to 'stability' and 'aggressiveness', may interfere in the development of the other four factors once Das et al. (2000) and Kumar et al. (2011) ensuring that the outcome orientation towards innovative process are stimulated in a teamwork environment. These results usually are dependent on changes in current patterns and employee's collaborative participation in the decision-making processes (Claver et al., 2001; Valmohammadi, 2011).

To perform these changes implies in contest completely the values behind the 'aggressiveness' and partially of 'stability' factors suggested by O'Reilly et al. (1991) in their cultural profile framework.

## 5 Discussions

### 5.1 Quality Management Practices (QMP)

Regarding the QMP 'quality data and reporting', satisfactorily implemented in the majority of the dealerships evaluated, Hietschold et al. (2014) state that the following practice as QM structural point, once the organizations may not properly evaluate the quality of their products and services if their process lacking records and evaluations before and after the improvement actions applied (Jayaram et al., 2010). Moreover, the information included in this evaluation reports are fundamental to perform assertive decisions, either in the supplier integration activities, in the development of new products and services or in the process management (Lakhali et al., 2006). Taking into account these considerations, if the final inspection and periodic review process of each car sold do not registered and evaluated, how

will be possible identify nonconformity situations that only can be observed during the driving? In this case, as fast these problems are detected and recall campaigns are opened, lower will be the costs generated by the non-quality evidenced. To have an idea about how huge it is this problem, the Consumer Protection Foundation from the São Paulo state (PROCON-SP), between January and July 2018, identified 70 recall campaigns, taking 1.847.524 cars back to the dealerships to correct technical failures, being in majority critical issues related to the driver safety as electronic injection and airbags (G1, 2015). Thus, it is important ratify that nonconformity situations may be mitigated through an efficient QM system based on reliable data source, with updated information, from the manufacturer (assembling and test processes), from the supplier (components fabrication), from the customer (product use) and mainly from the dealership (inspection process).

Concerning the QMP 'Supplier quality management', unsatisfactorily implemented in most of the dealerships analysed, according Zhang et al. (2000), this practice it is essential to QM due the fact that in several times the input provided may be the cause of nonconformity. Therefore, seeking to ensure inputs with quality, it is necessary that the enterprises develops long-term and stable corporative relationships with their suppliers, choosing patterns based on several criteria's, beyond the costs, as reliability and speed of delivery, communication agility, and technical support (Vanalle & Salles, 2011). In this context, one problematic case observed in the dealerships, which an efficient supplier management can work as solution, it is the parts replacement. The lack of auto parts show up among the top complaints (Rezende, 2013), leaving the customers without their cars for several weeks (Estadão, 2011). As consequence, to demand the warranty fulfilment, sometimes the customer prosecute the dealership, requiring the reimbursement of spending's with transports, car

rentals and other material losses caused by the absence of their main work instrument, the car. Lawsuits as these described, generates non-quality costs, besides denigrating the dealership reputation.

Regarding the QMP 'Product/service design', satisfactorily addressed in the majority of dealerships, Handfield et al. (1999) explains that the main function of this practice on QM is insert quality to the products and services. This inclusion takes place through multifunctional teams, which are capable of simplifying manufacturing processes, reducing and standardizing constructive components of this activity (Chase et al., 2001). In the dealership work environment, a process that must be planned and effectively executed is the final inspection right before the sale. Sometimes, either in the manufacture process or in the delivery, the cars arrive at the dealership presenting defective items. In this case, the dealership needs to ensure the final product conformity, executing a meticulous inspection in synchrony with the sale deadline promised to the customer. As example of the following problem, Triginelli & Monegato (2011) reported a selling case that the customer identified twelve defects after drove a brand-new car in the first two days. It is important highlight that cases of this nature, when takes time to be solved, may lead the customer link the car, the brand and the dealership to product and services of poor quality. In addition, it is crucial warn that the increasing popularity of social networks, bad customer feedbacks quickly reach great public coverage, boosting these negative effects.

Concerning the QMP 'Process management', satisfactorily implemented in the most of dealerships, Zhang et al. (2000) ratifies that organizations, seeking to establish better quality in their products and services, must evaluate and improve continuously their process. It is important to highlight that dealerships when manages their process must always pretend to reach customer satisfaction. According Das et al. (2000), the capacity in provide this satisfaction relates to the organization ability in quickly respond to the changing customer needs. In the current automotive context, Brodbeck (2014) mentions that the Brazilian customer needs is oriented to cars with more items and features, making the basic versions losing popularity preference. Thus, new cars equipped with more features as electric steering, air conditioner, sound system, GPS and parking assistant, makes the manufacturing processes be more complex. This complexity reaches the dealerships, requiring quick process adaptation to the 'new inspection process' necessary to sell these 'new cars'.

## 5.2 Quality Culture (QC)

The OC evaluated in the majority of dealerships has demonstrated a profile primarily oriented to 'outcome orientation' and 'attention to details'.

Firstly, the factor 'Outcome orientation', Welikala & Sohal (2008) indicate that when the top management encourages its employees to address goals, stimulating proactivity, reaches preponderance on the QM application. Thus, it is important that the top management team recognize that structural actions as the development and implementation of QM systems, even when is suggested by the employees and/or the manufacturer, must be guided by them, once they have the business control.

Regarding the 'Attention to details', an OC based on this factor shows particular relevance, understanding that the dexterity needed to execute operational and managerial activities possess fundamental importance to consolidate a successful QM implementation. In addition, when the dealerships require that its employees be accurate while execute their activities, being accuracy the conceptual basis of the introduced cultural factor, reduce the chance, for example, of one seller not properly communicating to the assembly division which accessory kit must be installed on the car sold, of a mechanical inspector fail in the identification and repairment of some security component. In this context, 'Attention to details' aiming reduces human failure, bringing satisfaction and mainly safety to the customer.

Among the others cultural factors evaluated in this study, considering the previous two factors already discussed, 'teamwork' and 'innovation' are considered favourable, and 'stability' and 'aggressiveness' are acknowledged as unfavourable to the adoption of QM systems (Baird et al., 2011).

About 'Teamwork', Vouzas and Psychogios (2007) and Welikala and Sohal (2008) highlight that when employees work in teams, sharing information and creating mutual trust, they turn able to solve problems quickly. In addition, Zhang et al. (2000) ratify that the formation of these teams only is achieved when the organization promotes equality to their employees. For instance, in a case of customer claim about some malfunction recurrence right after the inspection, how it is possible the dealership consultant quickly addresses this customer solicitation opening a new inspection if the scheduling system not allows prompt appointments? For this case the solution is in the teamwork accomplishment, allowing the consultant immediately to contact the repair technician, seeking to verify free times in its agenda. Highlights that sometimes the information systems are imprecise in predict the real time necessary to perform an

activity of this nature due to the use particularities that each car can acquire during the utilization.

Concerning 'innovation', Das et al. (2000) ratify that this QC factor it is a relevant agent in the conduction of changing process inherent to operational performance. For example, if the dealership needs to improve its inventory management, enabling immediate supply to the repair division, how to think if not through innovation, in new methods to optimize the inventory aiming to speed the item request to the supplier? In these situations, the dealership must be willing to implement innovative processes, requiring for that the collaboration of all partners.

Regarding the 'stability', the QC factor unfavourable to QM implementation, discusses: during the innovation process, a process of procedures and work routines changes, how away a stable standard in the way of managing may interfere the action success? For example, it is indisputable that the dealership be flexible to change its customer relationship channels, seeking to address their new preferences. However, is questioned: would not be needed show stability to consolidate these new procedures? Moreover, is questioned: the dealership stimulates teamwork while retain and develop its employees? Analysing these questions, it's sure that the following factor cannot support the QM?

According the 'aggressiveness', the other QC factor unfavourable to QM implementation, it is clear that when the organizations are predictable in their decision-making processes, they are interfering in the collaborative way that the fundamental points of QM, as teamwork and innovation, should be based (Rahman & Bullock, 2005). For instance, a dealership that cannot open dialogue with their employees about work motivation, how will be possible stimulate the achievement of new goals promoted during the QM implementation? It is important ratify that the quality goals are demanded by the manufacturers as prerequisite to selling their cars.

## 6 Final considerations

This study identified the QMP adoption levels and verified if the dealerships OC are quality-oriented. Thus, the results evidenced that the dealerships analysed possess satisfactory levels of QMP, as well as an OC partly quality-oriented.

The results contribute to strengthen the scientific literature, once the average SLs of QMP and the OC predominance showed proximity. Thus, ratifies that, how more the OC it is quality-oriented, better can be the QMP adoption levels.

Considering as basis the diagnosed OC, seeking to improve the QMP adoption in the dealerships, especially regarding the 'supplier quality management', it is urgently necessary that the cultural characteristic 'aggressiveness' be mitigated, allowing the promotion of collaborative work and the establishment of innovative processes.

In addition, it is important stress that the cultural factors 'teamwork' and 'innovation' have a wide improvement margin, being fundamental to achieve the QM goals. The others cultural factors favourable to the quality, as the case of 'outcome orientation' and 'attention to details', despite has presented very high predominance, still finds in the first qualification level, having a significant space to improvement.

These improvement recommendations are essential to the Brazilian car dealerships which operate in highly competitive market, given the strong customer bargain power and continuous production expansion in the country.

As mentioned, this expansion is result of the car manufacturers' optimism, which keeps investing in the country, believing in a quick market recovering. However, it is questioned: if the market does not recover positively? For sure we will have huge car stocks, reduced prices and a customer bargain even stronger. In this scenario, the costumers will choice the car brand/dealership that provides products and services with better differentials.

Therefore, is there a product/service differential better than quality? Believing no, dealerships must be prepared to face, in short term the crisis, and in a medium-long term re-establish the sales prosperity.

## Acknowledgements

Authors gratefully appreciate the financial support provided by Coordenadoria de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) through the REUNI program. In addition, we thank the reviewers for helpful discussions, suggestions and comments.

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## Appendix A. Questionnaire

Please rate your level of agreement with the questions below. Adopt the scale from 1 to 5, where 1 is the most negative rating, and 5 is the most positive.

### I – QMP Adoption (Four core TQM Practices)

#### QM Data and Reports

»The generated quality management reports shows/details the errors, defects and failures found in the products/services?

- »Are quality management reports reasonable?
- »Are quality management reports accurate and reliable?
- »Are quality reports used to manage quality at the dealership?

#### Supplier Quality Management

- »The relationship between the dealership and its suppliers takes place in a permanent way?
- »After the implementation of the quality system, was observed a reduction in the number of suppliers?
- »During the suppliers selecting phase, the quality of its products/services is evaluated with the same importance that other factors, such as price and delivery speed?
- »The dealership cautiously selects, evaluates and classifies the suppliers?
- »The suppliers participate in the developing process of new products/services?

#### Product/Service design

- »The dealership inspect/evaluate the products/services before they are sold?
- »The sectors involved in product inspection/evaluation and service planning/improvement are coordinated by the top management?
- »The products/services quality depend on the production costs or the programmed goals?
- »The ease of producing new products implementing new services are considered when planned?

#### Process Management

- »The product inspection and the services monitoring provided to the customers are carried out in an automated/computerized way?
- »The schedule of the service execution and the activities distribution to the employees are stable? (that is, they are hardly modified)
- »The service provided have automated/computerized control?
- »The work processes are designed to minimize the occurrence of errors/failures?

### II – Organizational Culture (*OCP Instrument – Organizational Culture Profile*)

#### Outcome orientation

- »The dealership stimulates competitiveness among the employees, leading them to produce more than the competitors?
- »The dealership always seeks to achieve the goals?
- »The dealership encourages the employees to analyse situations before perform decisions?
- »The dealership conveys to everyone a high expectation to reach goals/objectives with significant results?
- »The dealership always supports the employees to meet their goals/results?
- »The dealership encourages employee proactivity?

#### Attention to detail

- »The dealership demands from its employees to have attention to details while performing their activities?
- »The dealership requires from its employees to be precise while performing their activities?
- »The dealership guides its employees through clear and objective rules?

#### Stability

- »The dealership demonstrates a standard (stability) in the planning/development of its actions?
- »The dealership transmits safety/trust to its employees regarding the maintenance of their jobs?

### Teamwork

- » The dealership promotes equality, honesty and justice in the planning/development of its actions?
- » The dealership respects the individual rights of its employees?
- » The dealership is tolerant/patient in situations of failures/errors/misconceptions of its employees?
- » The dealership seeks to be socially responsible with its employees?
- » The dealership seeks to be people-oriented, promoting employee development/satisfaction?
- » The dealership encourages teamwork among its employees?
- » The dealership encourages cooperation in the work environment?

### Innovation

- » The dealership is open to innovation, being receptive to capturing and applying new work processes?
- » The dealership avoids embarrassing/intimidating/restricting employee actions by applying excessive rules?
  - » The dealership seeks to be quick to recognize and incorporate advantages provided by opportunities (of various natures) that have the capacity to improve its processes?
  - » The dealership always seeks to incorporate innovations in its work processes?
  - » The dealership understand/assume/face the risks in the innovation processes?

### Aggressiveness

- » The dealership is aggressive/imposing when perform decisions?
- » The dealership is predictable when perform decisions?