

CUSTOMER RELATIONSHIP MANAGEMENT SCALE FOR THE B2C MARKET: A CROSS-CULTURAL COMPARISON



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ABSTRACT

Purpose: The objectives of this study were to validate the Customer Relationship Management Scale (CRMS) in France, and to compare the French model to both Brazilian and American ones.

Originality/gap/relevance/implications: Based on the premise that scientific measurement instruments may be used to reflect customers' perception about the organization actions and effectiveness, it is important to validate a scale within a multidimensional cultural context. Therefore, the applicability of the instrument shall be possible in different contexts, longitudinally, with diverse subjects, thus providing external validity and generalization.

Key methodological aspects: This is a descriptive, instrumental, quantitative, cross-sectional survey where we used the Customer Relationship Management Scale (CRMS). The sampling method was non-probabilistic convenience and the total of answered questionnaires added up to 454. We carried out a quantitative research through Exploratory and Confirmatory Factor Analysis.

Summary of key results: The results obtained in the analyses allow us to conclude that the relation between clients and companies is really two-dimensional and it involves two distinct factors, namely Loyalty and Customer Service. The scale validated in Brazil and in the United States remained stable, in terms of validity (quality of items) and reliability, when validated in a distinct context, that is, France. This makes its application in French organizations possible, improving its external validity and generalization.

Key considerations/conclusions: The main objective of this study was reached and an instrument to assess what aspects French customers rank as relevant regarding CRM was produced showing theoretical consistency, reliability and construct validity as well.

KEYWORDS

Customer Relationship Management (CRM). Cross-cultural Scale Validation. External Validity. Confirmatory Factor Analysis. Structural Equation Modelling.

1. INTRODUCTION

Due to globalization and constant improvement of new technologies, the consumer has a vast and varied range of purchase possibilities in comparison with past times (Demo & Rozzett, 2013). As a result, companies are often searching for alternatives to better prioritize customers and to care for their satisfaction by offering them unique and attractive services and experiences which may result in relationship loyalty (Demo, 2014).

Customer Relationship Management (CRM) is a process focused on using customers' information to create, develop and maintain long-term, profitable relationships through customers' value perception increment that will reflect on maximization of return for shareholders (Payne, 2012). Based on this concept, it would be inadequate to consider CRM as an Information Technology system, as this is not enough to understand and nurture the relationship between customer and company. Instead, CRM connects Information and Communication Technologies (ICTs) with the strategies of Relationship Marketing, through deliverance of maximum value to customers. CRM has become a relevant strategy for organizations, since its application in business may successfully improve focus on customer needs (Zulkifli, & Tahir, 2012).

CRM has a strategic maturity and influences the entire life cycle of a product, not only pre or post sale (Huang, & Xiong; Bysgstad, 2003), and therefore should not be considered as a supportive activity, but a primary strategy – which occurs by means of processes that must be continuously managed – to unify operations and people so that the essence of marketing may be the business-directing philosophy. Additionally, based on the premise that scientific measurement instruments may be used to reflect customers' perception about the organization actions and effectiveness, it is important to validate a scale within a multidimensional cultural context. In the present case, we have chosen France, as no CRM scales had been validated in this country thus far.

Therefore, the applicability of the instrument shall be possible in different contexts, longitudinally, with diverse subjects, thus providing external validity and generalization, which will make it possible to understand to which degree of precision the theory is being demonstrated and validated through the instrument (Pasquali, 2012; Tabachnick, & Fidell, 2013). The Customer Relationship Management Scale (CRMS) was developed and validated by Rozzett and Demo (2010) in Brazil and subsequently in the US (Demo, & Rozzett, 2013). Accordingly, the main objective of this paper was to validate the CRMS in the French context so as to improve its generalization and external validity.

2. THEORETICAL BACKGROUND

Organizations seeking prosperity and optimization of the ability to compete and to recreate themselves should specially consider their relationship with customers and view CRM as a profitable differential since it aims to constantly deliver unique and overwhelming experiences (Demo, 2014).

With its emergence in the 1990s, CRM quickly became a highly relevant proposal. However, its comprehension is yet to be thorough. Several companies do not understand CRM as a synonym of relationship marketing and face it as a technological solution. As a result, they end up confusing Customer Relationship Management with support IT systems used to implement CRM. In relation to this controversy, Bygstad (2003) carried out a longitudinal study for six years in a business that implemented CRM treating it as a marketing principle associated with an information system. The author concluded that CRM projects must be treated as complex challenges, from a managerial perspective, that require stiff control and application of change management techniques, focusing on the marketing processes and on the quality of the information.

According to Payne (2012), CRM is a strategic, holistic approach to manage relationship with customers to create shareholder value. The author believes that CRM provides more opportunities for the use of data and information that allow understanding of customers and implementation of better strategies of relationship marketing, but the concept itself is not limited to an information system or a technological tool. Payne (2012) also emphasizes that the importance of correctly conceptualizing CRM is not a matter of semantic preciousness. It actually causes meaningful impact on the way CRM is understood, implanted and practiced in the organizations. Thus, to



be successful, CRM must be imbued of the company's strategic vision to create values for the shareholders through the development of relationship with the strategic customers. It associates the potential of information technology (IT) to the strategies of relationship marketing, which shall result in profitable relationship in the long run.

Zablah, Bellenger and Johnston (2004) agree that CRM literature is still inconsistent and highly fragmented due to the lack of a common conceptualization, and, as such, they propose CRM as "an ongoing process that involves the development and leveraging of market intelligence for the purpose of building and maintaining a profit-maximizing portfolio of customer relationships." (p.480). This idea is aligned with the customer knowledge competence provided by Campbell (2003) that is composed of four organizational processes: 1. a customer knowledge process; 2. the Marketing-IT (information technology) interface; 3. top management involvement; and 4. the employee evaluation and reward systems.

From Grönroos (1994), Sheth and Parvatiyar (2002) and Payne (2012), relationship marketing presents a change in marketing paradigm. They propose a shift in marketing orientation from customer acquisition to customer retention and loyalty. According to Payne (2012), CRM provides opportunities to use information, to better understand customers, to offer value through customized offers and to develop long term relationships. Accordingly, McKenna (1999) presents a strategic vision of relationship marketing where customer is in first place and a genuine involvement with them replaces the manipulative role of marketing. Therefore the author endorses retention of profitable customers, multiple markets and an approach of multifunctional marketing, in which the responsibility for the development of relationship marketing strategies would not be restricted to the marketing department.

Kumar, Jones, Venkatsan and Leone (2011) researched whether market orientation is, in fact, a source of a sustainable competitive advantage. Their analyses indicated a positive effect of marketing orientation on business performance in both the short and the long run, and suggested a promising potential of CRM as a competitive advantage and as a core competence for organizations nowadays. Empirical research about CRM also present its potential for the development of new products (Ernst, Hoyer, Krafft, & Krieger, 2011), the importance of trust, involvement, team work, innovation, flexibility and focus on results to build up a corporative culture oriented towards CRM (Iglesias, Sauquet, & Montaña, 2011), and also the fundamental role that employees play in the construction of long term relationships with customers in retail (Lourenço & Sette, 2013).



More recent research, for instance, have been analyzing: the effects of CRM and e-CRM (electronic CRM) on banks performance (Refaie, Tahat & Bata, 2014); the effect of communication on sales performance within CRM and customer loyalty (Toedt, 2014); how social media technology usage and customer-centric management systems contribute to a firm-level capability of social CRM (Trainor *et al.*, 2014); and innovative approaches to relationship marketing that affect the process of building relationships with customers (Lendel, & Vamus, 2015).

As far as literature reviews concern, the first article by Ngai (2005) was considered a milestone. Two hundred and five papers were analyzed from different databases, published in 85 academic journals, from 1992 to 2002. He concluded that research on CRM would increase significantly in the future based on past publication rates and the increasing interest in this area. Ngai (2005) highlighted that most of the articles he found were related to Information Technology and Information Systems and that a deeper understanding of data mining and knowledge management in CRM is necessary. The author also pointed a need to research and discuss customer privacy in CRM, emphasizing that companies can capture, analyze and use customer's information, who may not know or may even not be willing to have their information captured. Ngai (2005) suggested CRM researchers could try to study more specific CRM functions including marketing, sales, and services and support.

From then on, at the international level, several reviews have been made and the most recent ones are those by Sojan, Raphy and Thomas (2014), Benouakrim and El Kandoussi (2013), Gupta and Sahu (2012), and Mohammadhossein and Zakaria (2012).

Sojan, Raphy, and Thomas (2014) proposed a model based on the discussion of algorithms used to generate data mining processes to implement decision support systems for CRM. They considered the rapid increase of new data sharing from customers, which has been contributing to the growing strategic relevance of data mining. Benouakrim and El Kandoussi (2013) reviewed relational studies and identified the main mediating variables in relational exchange as commitment, trust, satisfaction and relationship quality. Their consequences on future behavior are seller's performance, loyalty, word-of-mouth communication and cooperation, taking into account the importance given to the context of exchange.

Gupta and Sahu (2012) presented a literature review and classification of Relationship Marketing (RM) research. Papers and research on RM categorized into five broad categories: Relationship Marketing understanding; industry applications; market development; technological concern; firm perfor-



mance, and further sub-categories. The most popular areas were Relationship Marketing understanding and market development. Mohammadhossein and Zakaria (2012) reviewed CRM literature from 2005 to 2012 and found eight benefits of CRM which are important and beneficial for customers: improved customer services; increased personalized service; responsive to customer's needs; customer segmentation; improved customization of marketing; multi-channel integration; time saving; and improved customer knowledge.

Eventually, Demo *et al.* (2015) drew a panorama of the studies about CRM, presenting the results of a bibliometric review, which encompasses a synthesis of the state of the art concerning the construct and also a synthesis of empirical studies published exclusively in high-quality Brazilian journals between 2001 and 2013 to set out the new millennium production. The results obtained point to the strategic relevance CRM studies for organizations, demonstrated by an increasing interest from researchers, considering the creation of research groups about CRM in Brazil and its scientific production indices.

With respect to CRM measures, some scale validation studies were found based mainly on the works of Wilson and Vlosky (1997), Sin, Tse and Yim (2005), Agariya and Singh (2012) and Rozzett and Demo (2010). Wilson and Vlosky (1997) developed a CRM scale for the corporative (business-to-business) market (B2B) and Viana, Cunha Jr and Slongo (2005) adapted it to the industrial sector in Brazil. On the other hand, Sin, Tse, and Yim (2005) validated a scale to measure CRM dimensions practiced by companies from the financial service sector of Hong Kong. Soch and Sandhu (2008) developed a CRM scale applied to manufacture industries of India and Oztaysi, Sezgin and Ozok (2011) proposed an instrument to evaluate CRM internal processes in Turkey.

Recently, Agariya and Singh (2012) developed an indicator of CRM for the banking and insurance sectors and Zulkifli and Tahir (2012) validated a scale of practices of CRM specifically for bank customers. Finally, Rozzett and Demo (2010) carried out studies in Brazil and in the US (Demo, & Rozzett, 2013) to develop and validate a scale specifically for the consumers' market (B2C).

As we have seen, other CRM measures focused on either the corporate market (B2B) (Wilson, & Vlosky, 1997; Viana, Cunha Jr., & Slongo, 2005; and Agariya & Singh, 2012) or on the evaluation of companies internal CRM processes (Sin, Tse, & Yim, 2005; Oztaysi, Sezgin, & Ozok, 2011) and on the assessment of CRM practices for bank clients, but from an organizational perspective (Zulkifli and Tahir, 2012).



Thus, the CRMS (Customer Relationship Management Scale) proposed here presented as a particularity, which translates into its main advantage, the evaluation of CRM in the consumer market (B2C), filling a gap in the literature. In addition, the scale offers the possibility to produce a diagnosis, that would be helpful for managers, from the perspective of the customers of products and services in any market. Therefore, the scale can be customized for different branches and market sectors to assess the perception of customers regarding CRM initiatives implemented by companies.

As examples of customized CRM scales, we might introduce the amusement parks CRMS (Vasconcelos, & Demo, 2012), the sodas and beverages CRMS (Demo & Lopes, 2014), the electronic games CRMS (Demo, Batelli, & Albuquerque, 2015), the luxury market CRMS (Scussel & Demo, 2016) and the public sector CRMS (Demo & Pessôa, 2015), a pioneer scale to assess Citizen Relationship Management (CiRM).

3. METHODS

This is a descriptive, instrumental, quantitative, cross-sectional survey where we used the CRMS, developed and validated by Rozzett and Demo (2010) in Brazil and replicated in the United States (Demo, & Rozzett 2013). Initially the original scale consisted of a pool of 29 items which, after the validation, was reduced to 8 items, distributed in a single factor. The scales present high reliability (*Cronbach's alpha* = 0,92) and 64% of explained variance. The instrument was translated into French by the reverse translation method. Both translators, a native speaker and a French descendent, are professors. The present research tested the 29 original items proposed originally by Rozzett and Demo (2010) in France.

Considering the previous validation of the CRMS in the American continent, we chose to replicate the research in a country of a different continent, in this case, Europe, so as to represent another reality. Also, we did not find a CRM-related scale validated in France. The French version of the CRM scale was not applied in a particular organization or sector, but to customers from several enterprises of varied sectors, from product retailing to services, in both physical or virtual French marketplaces. Consequently, the respondents were asked to choose a company of which they were customers to answer the questionnaire. More than one hundred and sixty different companies were mentioned.

The sampling method was non-probabilistic convenience, based on Cochran (2007) threshold, when he says that if the population of customers



tends numberless, and it is indeed, non-probabilistic sample might be used. For data collection, the questionnaires were uploaded to *Typeform.com* and spread *online* by using the *Crowdfunder* tool between August 2014 and March 2015. The total of answered questionnaires added up to 454. We then used the *Statistical Package for Social Sciences (SPSS)* software for further analysis.

Once data collection was finished, data screening began using *listwise* deletion for the missing values, which resulted in the elimination of 42 questionnaires. Afterwards we checked for *ouliers* using the *Mahalanobis* method (Tabachnick & Fidell, 2013), which caused the elimination of 28 more questionnaires. Therefore, the final sample consisted of 384 participants. The assumptions for multivariate analysis were also checked, following the procedures recommended by Myers (1990), Menard (2002), Tabachnick and Fidell (2013) and Hair *et al.* (2009). We did not find cases of multicollinearity or singularity as tolerance values were above 0.2 (Menard, 2002) and variance inflation factor (VIF) values were less than 5.0 (Myers, 1990). Analyses of normality, linearity and homoscedasticity were run through residuals and normal probability plots and the data met the assumptions. Finally, the analysis of multicollinearity and singularity presented no problems for the sample studied, that is, the tolerance values were above 0.1 and variance inflation factor (VIF) were less than 10.0 (Myers, 1990). The multivariate normality was also assessed trough the Amos software.

Regarding the participants, its great majority consisted of males with the age between 18 and 28 years old, individuals with a higher education degree. The majority of these subjects reported that they were customers of the company they had chosen between one and five years and they are used to purchasing products/services from those businesses on a monthly basis. The most mentioned brands were *Carrefour*, *Orange*, *Leclerc*, *Amazon*, and *Auchan* respectively.

The total sample of 384 valid questionnaires was divided so that the exploratory and the confirmatory factorial analyses were carried out with independent samples. For that reason, 174 questionnaires (first sample) were picked out in a random way to perform the exploratory factor analysis (EFA), and the remaining 210 questionnaires (second sample) were used in the confirmatory factor analysis (CFA). Both samples followed the threshold proposed by Kerlinger and Lee (2008) and Kline (2011) who stated that it is necessary to have at least 5 to 10 respondents for each item of the scale for EFA and 10 to 20 respondents for each item of the scale for CFA.

Then, the data from the first sample were used to select items based on the EFA. To perform the EFA, we analyzed the correlation matrix, the matrix determinant and the results from the Kaiser-Meyer-Olkin (KMO) sampling



adequacy test regarding factorability. For factor extraction, we used Principal Components Analysis (PCA). Once the matrix was deemed factorable, we examined the eigenvalues, percentage of explained variance for each factor, scree plot graphics and the parallel analysis to determine the quantity of factors to be extracted. After defining the quantity of factors, a Principal Axis Factoring (PAF) analysis was run using Promax rotation, as correlation between the factors was expected. Cronbach's alpha was then used to check the reliability or internal consistency of each factor.

Next, CFA was performed using the second sample to examine the factor structure obtained in the EFA and to provide construct validity through convergent and discriminant validity. Two measurement models were tested and compared: a one-factor model and the three-factor model, as Byrne (2013) guidelines. To determine which structure adjusted better to the CRMS, the fit was evaluated using AMOS software through the following indices: NC (normalized chi-square or chi-square value divided by the model's degrees of freedom = $CMIN/DF$), CFI (Comparative Fit Index) and RMSEA (Root Mean Square Error of Approximation), as recommended by Kline (2011). Internal consistency was measured using composite reliability, also known as Dillon-Goldstein's rho or Jöreskog's rho, as proposed by Chin (1998). Dillon-Goldstein's rho is a more adequate reliability measure than Cronbach's alpha for Structural Equation Modeling as it is based on the loadings rather than the correlations found between the observed variables.

Finally, we statistically compared the French model with the Brazilian and the American ones based on the results from both the exploratory and confirmatory factor analyses, and after a cross-cultural comparison we discussed the theory of culture dimensions affecting consumer behaviors.

4. RESULTS

4.1. Exploratory validation

Regarding the matrix factorability, the results showed meaningful correlations between the variables. Another indication of factorability of the matrix was the high levels of communalities. Besides, the KMO index was 0.87, classified as meritory (Kaiser, 1974). To accomplish the EFA, a group of factors must be chosen, searching for a quantity, which would not be sub or super extracted so as to avoid distorting results of posterior analyses (Fava & Velicer, 1996). The criteria used for this decision were four: *eigenvalues* (auto values), the percentage of the explained variance, the *scree plot* and the

parallel analysis. As a whole, these tests pointed out the extraction of 2 or 3 factors as possible solutions.

The first factor analysis returned a solution of three factors. However, there was a strong correlation between two out of the three factors ($r=0.64$), so we grouped them and tested a solution of two factors. In this case the correlation between them was weak, ($r=0.16$ and $p<0,05$) thus indicating that, in fact, two distinct factors are found in the construct “perception of relationship”. The two factors extracted were named “Loyalty” and “Customer Service” as they presented items related to these two theoretical constructs, in accordance with Vavra (1993).

In the next stage we evaluated the psychometric indices of the scale, and tested validity or quality of the items, reliability and the total variance explained of the construct (Hair, Black, Babi, Anderson, & Tatham, 2009). We verified scale validity by analyzing factorial loadings and identifying correlation between item and factor (Field, 2009). According to Comrey and Lee (1992), the items’ loadings were classified as negligible (below 0.31) poor (from 0.32 up to 0.44) reasonable (from 0.45 up to 0.54) good (from 0.55 up to 0.62) very good (from 0.63 up to 0.70) and excellent (above 0.70) Since the exploratory solution were to be confirmed afterwards by the structural equation modeling, we decided to preserve items with loads greater than 0.55 only (Hair *et al.* 2009), that is, classified as good, very good or excellent.

The final version of the French CRMS presented 17 items, where five are excellent, seven are very good, and five are good, revealing the scale high validity (Comrey, & Lee, 1992). Table 1 displays the items of the French CRMS with its respective factorial loadings. The items of CRMS scale are presented in French in Appendix.

(Table 1)
PSYCHOMETRIC INDICES OF THE FRENCH CRMS

Item	Fatorial Loadings		Items quality
	Loyalty	Customer Service	
Q4) My shopping experiences with this company are beyond my expectations.	0,70		Very Good
Q6) This company treats me with respect and attention.	0,74		Excellent
Q2) I recommend this company to my friends and relatives.	0,74		Excellent

(continue)

(Table 1 (Conclusion))**PSYCHOMETRIC INDICES OF THE FRENCH CRMS**

Item	Factorial Loadings		Items quality
	Loyalty	Customer Service	
Q16) This company Ifalls what it promises in their sales.	0,67		Very Good
Q13) This company solves problems quickly.	0,63		Very Good
Q5) I identify myself with this company.	0,61		Good
Q12) I feel like buying other products/services from this company.	0,68		Very Good
Q3) I feel myself as an important client for this company.	0,64		Very Good
Q17) The publicity of this company is in accordance to what it really offers to its clients.	0,69		Very Good
Q14) The products/services of this company have quality.	0,68		Very Good
Q1) I can trust this company.	0,59		Good
Q7) This company offers personalized customer service.	0,62		Good
Q8) The prices of the products/services are fair.	0,57		Good
Q15) This company has a positive image in the market.	0,58		Good
Q23) This company uses different channels of customer service to offer conveniences to its clients.		0,90	Excellent
Q22) This enterprise has different places for sale to serve its clients.		0,85	Excellent
Q27) This company has good facilities and/or websites to serve its clients.		0,82	Excellent
Reliability (Cronbach's alpha)	0,91	0,88	
Total Variance Explained			43%

Source: Elaborated by the authors.

The reliability of the scale was calculated using Cronbach's alpha index, which was 0.91 for the factor "Loyalty" and 0.88 for the factor "Customer Service", which means high reliability or precision (Nunnally & Bersntein, 2006). The total variance explained reached near 50%, so being satisfactory, according to Hair *et al.* (2009).



4.2. Confirmatory Validation

The confirmation of the exploratory model of the French CRMS was made through a Confirmatory Factor Analysis, via structural equation modeling, using the method of maximum likelihood. First of all, with the purpose of checking the scale dimensions, we tested and compared both unifactorial and bifactorial models, according to Byrne's threshold of parsimony (2013). The unifactorial model presented worse indices (NC=4.9; CFI=0.68; RMSEA=0.13) when compared to the bifactorial model (NC=2,13; CFI=0.9; RMSA=0.07). Therefore, we decided to keep the bifactorial solution. As a result of the confirmatory factor analysis, the bifactorial model for the French CRMS presented $\chi^2(115)=245.54$, $p<0,001$ or NC=2.13; CFI=0.91 and RMSEA=0.07, indicating a satisfactory adjustment. Besides, the structure obtained in the exploratory analysis was confirmed, and the 17 items were maintained and distributed between the two factors found on the EFA. Moreover, the factor loadings ranged from 0.45 to 0.94, indicating good quality and validity (Hair *et al.* 2009).

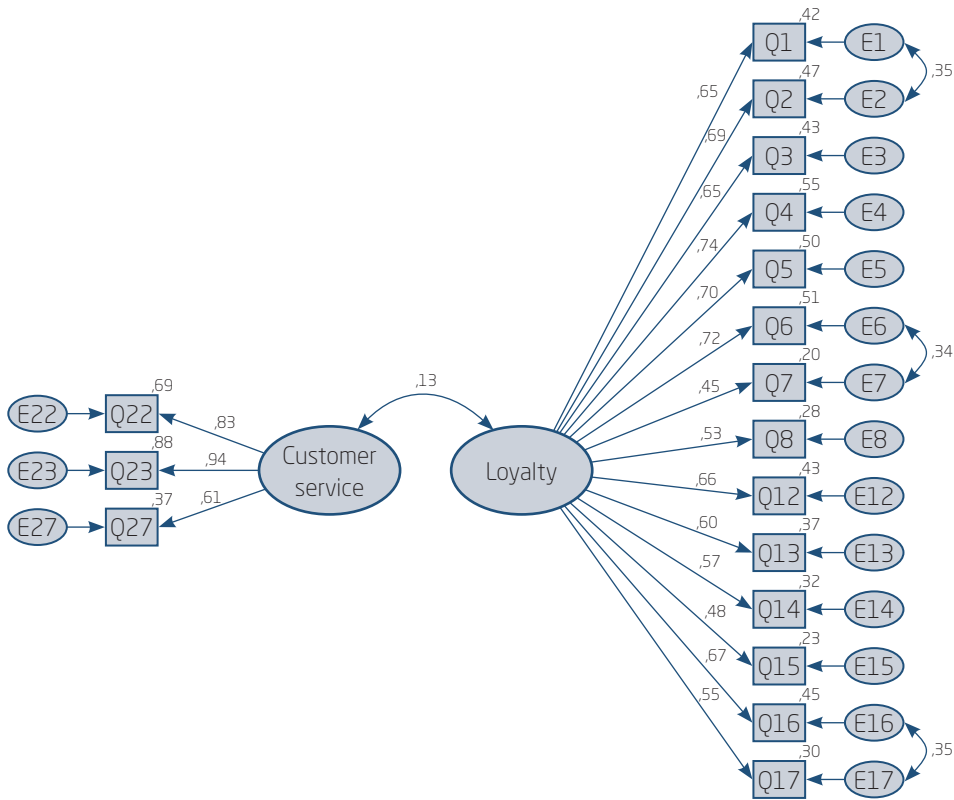
In order to check for fit issues, we analyzed the modifying indices (M.I.) generated by the structural equation modeling. The M.I. between the variables Q16 ("This company fulfils what it promises in their sales.") and Q17 ("The publicity of this company is in accordance to what it really offers to its clients"), Q6 ("This company treats me with respect and attention") and Q7 ("This company offers personalized customer service"), and Q1 ("I can trust this company") and Q2 ("I recommend this company to my friends and relatives") were 24.71, 24.24, and 23.51, respectively. Since there is theoretical support, we added a double arrow between the items to indicate a positive correlation between the variables.

If the company fulfills what it promises in sales, consequently their publicity is in accordance with what is delivered to the customer (Vavra, 1993; Morgan & Hunt 1994). Also, the more the company treats its customers with due respect and attention, the more the customer will trust this enterprise (Sheth & Parvatiyar, 2002). Finally, if the customer trusts the company, they will probably recommend it to their friends and relatives (Reichheld, 1996).

Figure 1 demonstrates the confirmatory factor analysis and its respective indices.



(Figure 1)
CONFIRMATORY FACTOR ANALYSIS



Note: $\chi^2(115)=245.54, p<0.001$ or $NC=2.13$; $CFI=.91$; $RMSEA=.07$.

Source: Elaborated by the authors.

The results obtained in the analyses allow us to conclude that the relation between clients and companies is really two-dimensional and it involves two distinct factors, namely Loyalty and Customer Service, that are theoretically consistent with the model proposed by Vavra (1993) for relationship marketing.

The reliability of those two factors was analysed through *Jöreskog's rho*, as Chin affirms (1998) that *Jöreskog's rho* is a more adequate reliability measure than Cronbach's alpha for Structural Equation Modeling because it is based on the loadings rather than the correlations observed between the variables. The in index (ρ) was 0.90 for factor "Loyalty" and 0.85 for "Cus-

tomers Service”, which is very satisfactory. According to Chin (1998), *Jöreskog’s* rho should be above 0.7.

Next, with the purpose of attesting construct validity of the French CRMS, the factors were examined in relation to its convergent and discriminant validities. As already demonstrated, the reliability of each factor was well above 0.7, which indicates a suitable convergence according to Hair *et al.* (2009). Another convergent validity indicator, according to Hair *et al.* (2009), are loadings greater than 0.5, which was the case on most items. As to the variance extracted for factor “Loyalty” (0.40), it was a bit below, but next to the 0.5 threshold recommended by Hair *et al.* (2009). On the other hand, the variance extracted for the factor “Customer Service” was above the authors’ recommendation (0.65). We may say there is convergent validity for both factors, but there is a need for future improvements by introducing changes in the scale, such as exclusion or addition of new items. Therefore, we expect better results from new validations with different samples.

To check the discriminant validity, we analyzed if the value of the extracted variance estimated of each factor exceeded the square of the correlation between them (0.05), as the criterion proposed by Fornell-Larcker (Hair *et al.*, 2009). The discriminant validity was then confirmed, as indicated in Table 2.

(Table 2)
DISCRIMINANT VALIDITY

Fator Factor	Loyalty	Customer Service
Loyalty	0,40 ^a	-
Customer Service	0,05	0,65 ^a

Note: ^a Variance extracted.

Source: Elaborated by the authors.

Still, according to Brown (2015), the fact that the factors display low correlation corroborates the existence of two genuinely different factors. In short, the results show that the strategies to obtain customer’s loyalty differ conceptually from the strategies of customer service: two different factors that compose the construct “perception of relationship”, whose validity was attested.

Despite the fact that the scales have shown good psychometric indices, it is crucial that the items are theoretically supported. In this study, the 17 items of the French CRMS were supported by scientific literature indeed.

4.3. Comparison among the scales

We compared the scales validated in France, Brazil and the USA by analyzing the fit indices through psychometric analyses. In relation to the exploratory factor analysis, we analyzed the reliability of the scales, as well as the number of items, validity (quality of the items) and the total variance explained for each one, as illustrated in Table 3.

(Table 3)
COMPARISON AMONG BRAZILIAN, AMERICAN
AND FRENCH SCALES BY THE EFA INDICES

Parameters	Brazilian Scale	American Scale	French Scale
Structure	Unidimensional	Unidimensional	Two-dimensional
Reliability	$\alpha = 0,92$	$\alpha = 0,92$	$\alpha = 0,90$ and $\alpha = 0,88$
Number of items	8	14	17 (14+3)
Quality of the items	100% classified as excellent, very good and good	100% classified as excellent, very good and good	100% classified as excellent, very good and good
Total variance explained	64%	50%	43%

Source: Elaborated by the authors.

We observed that the scale validated in Brazil and in the United States remained stable, in terms of validity (quality of items) and reliability, when validated in a distinct context, that is, France. This makes its application in French organizations possible, improving its external validity and generalization, and, still, opening opportunities to future validations on different countries and cultures. Nonetheless, the French CRMS presented a bifactorial structure and, because of that, more items that explained the phenomenon more properly. Pasquali (2012) argued that a construct is precisely explained with about 20 items.

As far as the confirmatory factor analysis is concerned, the scales were compared in terms of NC (X^2/df), RMSEA, CFI, AIC (Akaike Information Criterion), and ECVI (Expected Cross-Validation Index). The two two mentioned adjustment indices were used considering that the statistic of χ^2 affects complex models (multifactorial), as highlighted Marôco (2010), which might have been the case in this study. Still, in accordance with this

author's opinion, the best model is the one which has the least value for AIC and particularly for ECVI. The comparison among the three scales can be seen starting from Table 4.

(Table 4)
**COMPARISON AMONG BRAZILIAN, AMERICAN
AND FRENCH SCALES BY THE CFA INDICES**

Parameters	Brazilian Scale	American Scale	French Scale
NC (χ^2/Df)	6.92	3.32	2.13
RMSEA	0.1	0.07	0.07
CFI	0.96	0.95	0.91
AIC	170.05	312.02	321.54
ECVI	0.29	0.78	1.53

Source: Elaborated by the authors.

Based on this comparison, it is possible to notice that the American scale displays better indices in relation to the others. However, the advantage of the French CRMS is to present the multifactorial structure, which is more in accordance with the theoretical literature (Vavra, 1993) and empirical studies related to the validation of CRM scales in different countries and sectors, which has always revealed multifactorial structures for the construct (Agariya & Singh, 2012; Öztaysi, Sezgin, & Özok, 2011; Soch & Sandhu, 2008; Wilson, & Vlosky, 1997; Zulkifli & Tahir, 2012).

5. DISCUSSION AND CONCLUSION

This research contributed to the improvement of the Customer Relationship Management Scale (CRMS), which was previously developed and validated in Brazilian and American contexts and which now could undergo a greater generalization because it was also validated in France, preserving good psychometric indices and revealing, for the first time, a multifactorial structure for the CRM in the B2C market, which is more properly in accordance with other theoretical and empiric models for CRM in the B2B market, as proposed in the literature.

Regarding the cross-cultural comparison of the measures, we may notice that seven items are present in all the three versions of the CRMS: "I can

trust this company”; “I recommend this company to my friends and relatives”; “My shopping experiences with this company are beyond my expectations”; I identify myself with this company;” This company offers personalized customer service; “The products/services of this company have quality” and; “I feel myself as an important client for this company”. This shows that the Brazilian scale (8 items) was practically confirmed by the American and French studies. The French CRMS has 6 items that were not confirmed neither in the Brazilian scale nor in the American one. These items were related to customer service and sales channel offered by the company, publicity, prices, positive image in the market and fulfillment of what is promised in sales.

In search of possible reasons for the difference regarding dimensionality in the French version of the CRMS comparing to the Brazilian and the American ones, we might argue that we work with more items in order to detail and cover some relevant aspects concerning CRM in the B2C market, which showed up as relevant in the qualitative analyzes carried out in Brazil for the development of the scale. Unfortunately, those items were not saved in the statistical validations both in Brazil and in the US, so we made an effort to include them again and, at this time, the two dimensions appeared indeed, discriminating the “loyalty” and “customer service” factors.

Nevertheless, as it is the first multidimensional version of the CRMS, we highlight the need for further validations confirming or not the two-dimensional structure presented in the French sample.

Likewise, another factor that could have influenced the difference between the scales is the cultural aspect. Regarding business and marketing areas, culture is considered one of the main factors determining consumer behavior (Shavitt, Lee, & Torelli, 2009). The national culture of a particular society can be examined through measuring the cultural dimensions of the country. In his studies, Hofstede (1980; 1991) and Hofstede, Hofstede and Minkov (2010) defined and developed six cultural dimensions of a country, which are individualism/collectivism, masculinity/femininity, uncertainty avoidance, power distance, orientation to the short or long term and indulgence.

Furthermore, Hofstede, Hofstede and Minkov (2010) developed a ranking of 76 countries to classify them according to those six cultural dimensions. Considering Brazil, the US and France, the more individualized is US, followed by France and then Brazil. The US is also more masculine, followed by Brazil and then France. The distance from power is greater in Brazil and the country with more uncertainty avoidance is France. The orientation for



the long term is greater in France and less in the US. Finally, the US are more indulgent, followed by Brazil and then France (Hofstede, Hofstede, & Monkov, 2010).

These evidences demonstrate that the three countries where the CRMS was validated are culturally divergent, which corroborates the external validity and the generalization in different contexts. Such cultural differences may explain the divergent results found in the three versions of the CRMS. It is to be noticed that diverse researches show that the cultural dimension indeed causes impact on the consumers' behavior, due to perceived quality of the service (Kuek & Voo, 2007), intention to buy (Kim & Johnson, 2013), complaint behavior (Wang, 2013), impulse of buying (Pornpitakpan & Han, 2013), mouth to mouth behavior (Lam, Lee, & Mizersk, 2009).

We may conclude, in spite of the limitations pointed, that the main objective of this study was reached and an instrument to assess what aspects French customers rank as relevant regarding CRM was produced showing theoretical consistency, reliability and construct validity as well. Considering the increasing research attention to the new strategic role of CRM in organizations, this study provides an operational measure with external validity and generalization.

The findings are not intended to be conclusive or limiting but offer a useful starting point from which further theoretical and empirical research of customer relationship management in the B2C market can be built throughout different countries and cultures.

As an academic contribution, the validation of the CRMS in the French culture improved both its external validity and generalization. So, this instrument transculturally validated will be suitable to be used in relational studies in both marketing and consumer behavior fields, contributing to the consolidation of the theme in different countries, cultures and contexts. The validation of a scale in diverse contexts also allows its refinement so that the construct behind it, that is, CRM, can become up to date on a continuous basis, from the evolution and improvement of the concepts and management theories concerning the customer relationship management.

In managerial terms, the CRMS improved its internal validity, and it can now be used by different companies in different countries as it can offer a trustworthy diagnosis to help managers take their decisions in order to improve the customer-company relationship in the B2C market, which after all will turn out to produce better organizational results.



6. LIMITATIONS AND FUTURE STUDIES

As for limitations and suggestions for other studies, it is still relevant to further assess the CRMS generalizability to other business environments such as Asian countries, because with more replicative and creative research, a more comprehensive conceptual framework related to the CRM in the B2C market can be developed in the future.

Another limitation is the cross-sectional nature of the data. Even by running the CRMS structure obtained through confirmatory factor analysis, the development of a time-series database and testing of the CRMS structure validated here in a longitudinal framework would provide a refinement of the scale and also an improvement of some of its indices (e.g., the variance extracted for factor “Loyalty”). So, the reapplication of the scale in other samples and contexts, with some possible changes, addition or reduction of items and factors can even lead to a better fit of the scale. In other words, continued validations of the CRMS are recommended based on further research about new CRM trends, perspectives and also contemplating changes in business environments.

Additionally, items representing aspects of CRM mentioned as important in the literature could be included in further validations, such as: encouragement of interaction among customers (e.g., events, Facebook etc); importance of the company being socially and environmentally friendly; presence of competitors that have the same importance to the customers; disclosure of information about the companies’ policies, projects, products/services and new releases, and so forth.

ESCALA DE RELACIONAMENTO COM CLIENTES PARA O MERCADO B2C: UMA COMPARAÇÃO TRANSCULTURAL

RESUMO

Objetivo: O objetivo deste trabalho foi validar a Escala de Relacionamento com Clientes (ERC) na França, e comparar a escala francesa com a brasileira e americana.

Originalidade/lacuna/relevância/implicações: A partir da premissa de que medidas de instrumentos científicos traduzem as percepções de clientes sobre as ações organizacionais e consequentemente a efetividade delas, revela-se a importância de validar uma escala em multifacetários con-



textos culturais. Assim, tornar-se-á possível a replicabilidade do instrumento em diferentes situações no decorrer do tempo e com populações diversas, conferindo-o validade externa e de generalização.

Principais aspectos metodológicos: O presente trabalho pode ser caracterizado como descritivo e instrumental, de corte transversal e natureza quantitativa, sendo utilizado o método *survey* para a coleta de dados. A amostra foi caracterizada como não probabilística por conveniência e, no total, foram obtidos 454 questionários. Realizou-se uma pesquisa de natureza quantitativa, utilizando a Análise Fatorial Exploratória e a Análise Fatorial Confirmatória na escala de ERC.

Síntese dos principais resultados: Os resultados obtidos mostram que a relação entre clientes e empresas na França é bidimensional, envolvendo dois fatores distintos, Fidelização e Atendimento. A estrutura das escalas validadas no Brasil e nos Estados Unidos permaneceram estáveis, em termos de validade e confiabilidade, quando validadas em um contexto distinto, o francês. Isso possibilita a sua aplicação em organizações francesas, incrementando sua validade externa e generalização.

Principais considerações/conclusões: O objetivo do estudo foi alcançado e o instrumento que demonstra quais aspectos relevantes para os consumidores franceses em relação ao CRM foi gerado. O instrumento apresentou consistência teórica, confiabilidade e validade.

PALAVRAS-CHAVE

Marketing de Relacionamento (CRM). Validação Transcultural de Escala. Validade Externa. Análise Fatorial Confirmatória. Modelagem por Equações Estruturais.

ESCALA DE RELACIÓN CON EL CLIENTE PARA EL MERCADO B2C: UNA COMPARACIÓN ENTRE LAS CULTURAS

RESUMEN

Objetivo: El objetivo de este estudio fue evaluar la Escala de Relación con el Cliente (ERC) en Francia, y comparar la escala francesa con el brasileño y estadounidense.

Originalidad/laguna/relevancia/implicaciones: A partir de la premisa de que las medidas de instrumentos científicos se traducen en acciones percepciones de los clientes de la organización y por lo tanto la eficacia de ellos, se revela la importancia de validar una escala contextos culturales multidimensionales. De este modo, será posible replicabilidad del instrumento en diferentes situaciones en el transcurso del tiempo y con diferentes poblaciones, dando a la validez externa y la generalización.

Principales aspectos metodológicos: Este estudio puede ser caracterizado como descriptivo e instrumental, la cruz y de corte cuantitativo, utilizando el método de encuesta para la recogida de datos. La muestra se caracterizó como la conveniencia no probabilística y en total se recogieron 454 cuestionarios. Se realizó una investigación cuantitativa, usando exploratorio análisis factorial y el análisis factorial confirmatorio en la escala de ERC.

Síntesis de los principales resultados: Los resultados muestran que la relación entre clientes y empresas en Francia es de dos dimensiones, que involucra a dos factores distintos, y la lealtad del cliente. La estructura de las escalas validadas en Brasil y los Estados Unidos se mantuvo estable en términos de validez y fiabilidad, cuando validado en un contexto diferente, los franceses. Esto permite su aplicación en las organizaciones francesas, aumentando su validez externa y la generalización.

Principales consideraciones/conclusiones: El objetivo del estudio fue alcanzado y el instrumento que muestra qué se generó aspectos relevantes para los consumidores franceses en relación con CRM. El instrumento presenta consistencia teórica, fiabilidad y validez.

PALABRAS CLAVE

Marketing Relacional (CRM). Validación transcultural de la escala. La validez externa. El análisis factorial confirmatoria. El modelado de ecuaciones estructurales.

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(Appendix)
FRENCH CRMS SCALE

Loyalty	1) Cette entreprise mérite ma confiance.
	2) Je recommande cette entreprise à mes amis et familiais.
	3) Je me sens un client important pour cette entreprise.
	4) Mes expériences dans cette entreprise dépassent mes attentes.
	5) Je m'identifie avec cette entreprise.
	6) Cette entreprise me traite avec respect et attention.
	7) Cette entreprise m'offre un accueil personnalisé.
	8) Les prix des produits / services de cette entreprise sont justes.
	12) Je suis prêt à acheter d'autres produits et services de cette entreprise.
	13) Cette entreprise est rapide pour résoudre les problèmes.
	14) Les produits / services vendus par cette entreprise sont de qualité.
	16) Cette entreprise tient ce qu'elle promet dans ses ventes.
	17) La publicité réalisée par cette entreprise concorde avec ce qu'elle offre réellement.
	24) Cette entreprise possède un service téléphonique efficient.
Customer Service	22) Cette entreprise possède plusieurs points de vente dans différents endroits pour accueillir les clients.
	23) Cette entreprise utilise différents moyens d'accueillir les clients, pour leur plus grande utilité.
	27) Cette entreprise possède de bonnes installations matérielles (magasins) pour accueillir les clients.