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Modeling the User's Satisfaction and Loyalty

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CRM IN JUSTICE SECTOR

MODELING THE USERS' SACTISFACTION AND LOYALTY

by

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“If I have seen further it is by standing on the shoulders of Giants”

Isaac Newton

ABSTRACT

Even though the research on CRM as a strategy to increase users' satisfaction and loyalty in private sector has increased markedly, there is still little research in public sector. Considering the gap on the subject, this case study in the public sector of justice contributed with theoretical and empirical research on the users' satisfaction and loyalty towards the extrajudicial services. An online survey was conducted by Direção-Geral da Política de Justiça (DGJP) in order to measure the temporal evolution of the users' satisfaction with the Alternative Dispute Resolution Means (ADR) means in Portugal. The data collected by DGJP between October 2013 and 25 July 2017 was used in the construction of a Structural Model, Recommendation Maps and Priority Indexes. Results revealed a positive trend for the users' satisfaction with the ADR means in all the years in analysis, contributing to the objective established by the European Commission for the Efficiency of Justice (CEPEJ): increasing the quality in the justice sector. Future work should extend this analysis in the sector of justice to a greater time lapse, by including not only the extrajudicial but also the judicial services.

KEYWORDS

Users; Public Services; Satisfaction; Structural Model

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LIST OF ABBREVIATIONS AND ACRONYMS

ADR	Alternative Dispute Resolution
ACSI	American Customer Satisfaction Index
CEPEJ	European Commission for the Efficiency of Justice
CiRM	Citizen Relationship Management
CRM	Customer Relationship Management
DGPJ	Directorate-General for Justice Policy
GOF	Goodness-of-Fit
PLS	Partial Least Squares
SEM	Structural Equation Modeling

1. INTRODUCTION

There is a general call for the efficiency and quality in the judicial system at the level of the European Member States. The recognition of this need has conducted to the creation of the European Commission for the Efficiency of Justice in order to sustain the European Member States in the development of public policies to achieve effectivity and quality in the judicial system (Boillat & Leyenberger, 2008). In consequence, the CEPEJ's working group on the quality of justice was in charge of developing a methodological handbook entitled by Handbook for Conducting Satisfaction Surveys Aimed at Court Users in Council of Europe's Member States¹, with the aim of guiding the judicial organizations such as the Ministries of Justice in the construction of satisfaction surveys. Accordingly to this working group recommendations, the satisfaction surveys must be in the heart of public policies aiming at increasing the quality in justice sector, since a public-satisfaction culture mirrors a justice more focused on the users than on the internal judicial performance (CEPEJ, 2010). Besides the recommendations made upon the satisfaction surveys, CEPEJ (2014)² highly recommended the resource to the ADR means as an alternative to the traditional judicial courts for the settlement of specific types of disputes. In this framework, Direção-Geral da Política de Justiça (DGPJ) - Ministério da Justiça has been promoting online surveys directed to the users of the ADR means in Portugal since 4 October 2013 until the present in order to construct a database and publishing reports, with basis on the recommendations of the Handbook for Conducting Satisfaction Surveys Aimed at Court Users in Council of Europe's Member States, adopted by CEPEJ.

The case study here suggested for Master Dissertation was based on this larger initiative promoted by DGPJ, with the aim of monitoring and publishing reports³ on the user's satisfaction with the ADR means, in Portugal. Relatively to the research question of this study, it is formulated as "Does the temporal evolution of the users' satisfaction with the ADR means revealed a positive trend, contributing for the CEPEJ's objective of increasing the quality in justice sector?" In order to answer this research question, three main objectives were pre-defined in this study, being sub-divided into one general objective and two specific objectives, both related with the first one. In the one hand, the general objective of this work consist on measure the temporal evolution of the user's satisfaction with the Alternative Dispute Resolution (ADR) means between 4 October 2013 and 25 July 2017. In the other hand, the three specific objectives consist on: 1) Construct a Structural Model, for determining the drivers of loyalty towards the ADR means; 2) Constructing Recommendation Maps to determine the main areas of priority for implementing hypothetic public policies to improve the user's satisfaction with the ADR means; 3) Constructing Priority Indexes to determine the main areas of priority for implementing hypothetic investments to improve the user's satisfaction with the ADR means.

¹ The Handbook for Conducting Satisfaction Surveys Aimed at Court Users in Council of Europe's Member States, was adapted by CEPEJ-GTQUAL with basis on the work of Jean Paul Jean and Hélène Jorry.

² The CEPEJ's recommendations on the ADR means and its categorization can be consulted in the CEPEJ's report on the European Judicial Systems for the efficiency and quality of justice: CEPEJ (2014).

³ The present study was developed with basis on the last report published by DGPJ on the users' satisfaction with the ADR means in Portugal: Direção-Geral da Política de Justiça (2015).

2. JUSTICE ADMINISTRATION

2.1. THE CREATION OF CEPEJ

The sharp rise in cases related to the judicial systems lodged before the European Court of Human Rights, revealed the need for the promotion of reforms at the level of justice administration. Even though each member state has its own judicial system, the kind of cases lodged before the European Court of Human Rights showed to be identical in the various member states. In consequence, the European Council promoted the creation of CEPEJ in 2003, in order to better sustain the European Member States in the development of public policies aiming at effectivity and quality in the judicial public service, by always granting full respect for the European Convention on Humans Rights. With the creation of CEPEJ, the administration and evaluation of the justice as a public service became an obligation for the European Member States, which are now subjected to the promotion of the quality in the justice services delivered to the citizens (Boillat & Leyenberger, 2008).

2.1.1. CEPEJE's recommendation on ADR means

Even though, the judicial courts represent a major source of public justice, it is not the only one. In fact, the judicial courts co-exist with others sources of public justice, such as the ADR means which have also been contributing for the citizen's access to justice. This multilevel judicial system was actually institutionalized by the State in order to provide all the citizens with access to the law, by covering the knowledge, claim and defense of their own rights, independently of the economic, social and cultural status (Gomes, 2007). The resource to the ADR means in order to settle some specific type of disputes has been highly recommended by CEPEJ (2014) ⁴ to the Member States, as an alternative to the traditional judicial courts that allows to reduce the court's work volume and also allows to improve the quality of the justice public services, conducting to the reduction of the costs; reduction of the prejudicial consequences, and also reduction of the contentious cases presented before the court. Besides releasing the courts of law from the appreciation of the less complex legal cases, the ADR means offers additional advantages to the users such as celerity, informality, reduced costs, and also reliability of the involved parties. Even though the benefits of the ADR have been hugely recognized, some critics still accusing it of being prejudicial to the reputation of the judicial system, of allowing the involved parties to test their own reliability before recurring to a court, of being as a dilatory expedient to not reach any consensus, of conducting the involved parties to the acceptance and satisfaction with the provided resolution, independently of the justice made upon it. However, it is actually possible for the third neutral parties to contour the enumerated barriers (Frade, 2012). Even though the ADR means can take multiple forms, the definition proposed by CEPEJ (2014) for the categorization of the ADR means more used in the European Member States, was adopted for this study as follows: Mediation (the mediator is the neutral party with decision non-binding, helping the discussion between the concerned parties in order to reach an agreement between them. This alternative mean is frequently used in criminal, civil and administrative

⁴ The CEPEJE's recommendations on the ADR means and its categorization can be consulted in the CEPEJE's report on the European Judicial Systems for the efficiency and quality of justice: CEPEJ (2014).

disputes); Arbitration (the arbitrator is the neutral party with binding final decision, being selected by the concerned parties. This alternative mean is frequently used in commercial disputes); Conciliation (the conciliator has more influence on the concerned parties, being responsible for offering possibilities for the resolution of a certain dispute, through concessions). Even though the Alternative Dispute Resolution services have been highly recommended by CEPEJ to the Member States, there is still little research on it when compared to the existent literature related to the justice sector, most of which very linked to the law and social sciences scientific fields⁵.

2.1.1.1. CEPEJ's recommendation on satisfaction surveys

Besides the CEPEJ's recommendation made upon the usage of the ADR means, the Commission also recommended the implementation of satisfaction surveys directed to the users of the justice public services in order to obtain information on the hypothetic necessity for the implementation of public policies aiming to increase quality in justice. As previously refereed, accordingly to the CEPEJ's working group on the quality of justice, the satisfaction surveys must be on the basis of the public policies aiming at improve the quality in the justice sector, since a public-satisfaction culture mirrors a justice more focused on the users than on the internal judicial performance. In order to guide the judicial organizations, such as the Ministries of Justice in the construction of user satisfaction surveys, the CEPEJ's working group on the quality of justice was in charge of developing the methodological Handbook for Conducting Satisfaction Surveys Aimed at Court Users in Council of Europe's Member States in order to guide the judicial organizations, such as the Ministries of Justice in the construction of user satisfaction surveys (CEPEJ, 2010)⁶. Indeed, the adoption of the quality as a requirement for the judicial sector performance can lead one to ask whether the approach of the management in private sector has been transposed to the public sector, through the movement of the New Public Management. However, the elaboration of a theory of the quality in justice is not the mission of CEPEJ which defends that the quality of justice covers a complex synthesis of indicators, therefore adopting the global concept of quality in justice, as an approach. For this end, the CEPEJ's working group on the quality of justice was in charge of developing specific instruments to be adapted and used by the Ministries of Justice in the Member States on the analysis of those indicators, in order to publish the results obtained and to get the citizens involved in it (Boillat & Leyenberger, 2008). This is the case of the Handbook for Conducting Satisfaction Surveys Aimed at Court Users in Council of Europe's Member States developed by CEPEJ (2010) and subsequently used by DGPI as instrument to guide both the adaptation and implementation of the satisfaction surveys directed to the users' of the ADR means in Portugal, in which this study was based.

⁵ For the Portuguese speaking reality (more specifically, Portugal and Brasil), some recent works on the filed include Correia (2013, 2015, 2016, 2017), Correia, Moreira, & Garcia (2013), Correia & Joaquim (2013), Branco *et al.* (2014), Correia & Bilhim (2014), Correia & Videira (2015, 2016), Jesus & Correia (2015), Correia & Jesus (2013, 2014, 2016), Correia & Moreira (2016), Guimarães *et al.* (2015), Guimarães *et al.* (2017) or Akutsu *et al.* (2017). Even though all of the enumerated works are related to the justice sector, and even though some of them make use of sophisticated analysis technics, like SEM methodology, none of them covers the topic of the ADR means.

⁶ The Handbook for Conducting Satisfaction Surveys Aimed at Court Users in Council of Europe's Member States was adapted by CEPEJ-GTQUAL with basis on the work of Jean Paul Jean and Hélène Jorry.

3. LITERATURE REVIEW

3.1. THE USERS' SATISFACTION AND LOYALTY

It is hugely accepted that the users in general, desire to be satisfied with the services to which they recur to, independently of recurring to a public or private service. The concept of satisfaction derives from the two Latin terms: *satis* (enough) and *facere* (to make) showing to be essential for the well-being of the users of the services (Oliver, 1997). In order to cover the different areas of study, Oliver (1997) proposed a more formal and general definition for the concept of satisfaction, consisting on the users' achievement of a pleasurable level of fulfillment through the services usage. Therefore, it is necessary to fulfill the users' expectations, in order to avoid their dissatisfaction with the services usage. Anderson and Srinivasan (2003) also proposed a definition for the term satisfaction, corresponding to the users' contentment with respect to the experience delivered by a certain service. For the last authors, the levels of satisfaction with the services consumed seem to be one of the main indicators of how users are likely to act in the future. Comparatively to a satisfied user, a dissatisfied one is more likely to reduce dependency on the service and to search for information on alternative or competitive services (Anderson and Srinivasan, 2003). In the literature, the users' satisfaction has been validated as an essential determinant of loyalty, suggesting the existence of a relationship between these two dimensions (Zhang & Prybutok, 2005). However, loyalty does not derives only from satisfaction, existing other variables influencing it (Appel-Meulenbroek, 2008). Actually, the relationship between satisfaction and loyalty has showed to vary significantly in function of various other variables (Anderson and Srinivasan, 2003). Moreover, the investigation on the relationship between the users' satisfaction and loyalty towards services has revealed that this relationship is not always linear, nor always strongly correlated (Baumann, Elliott & Burton, 2012). The organizations in general try to keep the user satisfied and to develop long-term relationships, in order to achieve the users' loyalty towards the services delivered (Anderson and Srinivasan, 2003). In order to be profitable, it is necessary for the organizations not only to find new users, but also to retain the actual users of a certain service, in order to avoid the unprofitable relationships during the early years with the new users (Anderson and Srinivasan, 2003).

3.1.1. THE CRM AS A STRATEGY TO INCREASE SATISFACTION AND LOYALTY

The CRM has been implemented as a strategy in both private and public organizations in order to increase the levels of the users' satisfaction and loyalty toward the services and to construct long term relationships between the parties (Demo & Pessôa, 2015). Mithas, Krishnan, & Fornell (2005) developed a model to measure the effect of CRM on customer satisfaction and knowledge, concluding that the use of CRM is positively associated with improved customer satisfaction and knowledge. The recognition of the main importance of managing customer relationships and information has gained weight (Mithas, Krishnan, & Fornell, 2005). For this end, the customer information and the creation of databases is indispensable (Schedler & Summermatter, 2007). Moreover, Berger et al., (2002) constructed a model, concluding that the database creation influences the customers' lifetime. Accordingly to King (2007), the CRM first emerged in private

sector as a technological tool, allowing the organizations to achieve customer acquisition, retention and extension. In the case of the emergence of the CRM in public sector, the adoption of the electronic Government enables a customer-oriented public administration (Schedler & Summermatter, 2007). However, the implementation of CRM as a technology for establishing electronic public services has still some limitations which are due to the existent differences between the practices in private and public organizations, as defended Pan, Tan, & Lim (2006). In fact, King (2007) also questioned the suitability of the CRM as a technology in the public sector for achieving citizen-centric services, by proposing a different model of CRM as being more advanced: in this model the citizens are incentivized to collaborate in the production of their own public service, not being thus restricted to customer insights nor operations. Moreover, Thomas (2013) argues that the public manager faces a higher complexity due to the impact that the organizations and public interest in its different roles (citizens, customers, and partners) has on the public management. Accordingly to this author, those roles represent two main defies for the public manager: in the one hand identifying what the public is expecting from them, and in the other hand identifying what to provide and how to interact with the public, in function of their role. Therefore, there is the specific necessity for a public manager of redefining their own vision on the diversified public's needs in function of their roles (Thomas, 2013).

3.1.1.1. FROM CRM TO CIRM IN PUBLIC SECTOR

The term of Citizen Relationship Management emerges as an alternative to the term of Customer Relationship Management in public sector, in order to enhance the differences existent between the private and public management (Demo & Pessôa, 2015). Thus, the treatment of the citizen as a client in the public sector is still criticized by some authors, as can be verified through the arguments presented above, even though some movements such as the New Public Management might suggest the adoption of this perspective in public organizations. In truth, even though the relationship with the public has become a major concern in both private and public sector (Gerzson & Muller, 2009), there is still a long debate on what the role of the public is and how the public should be treated as in public sector. By recognizing the existence of this long debate on what should be the role of the public in the public management, Thomas (2013) adopted as a premise that the public can assume simultaneously the three main roles of Citizen, Customer and Partner, by it on the three respective waves of New Public Administration, New Public Management, and Governance or Coproduction. The public can assume the role of citizen with both responsibility and authority, when is involved on the deliberation over some decision-making, by sharing their own opinions and proposals, by participating on the decision-making, and even by participating on the formulation of contingency plans for preventing and remediating the occurrence of hypothetic issues. In the context of the history of Public Administration, the role of public as citizen was framed in the wave of the New Public Administration, since the revival of the vision of public as citizen has augmented potentially since the reform of the 1960s when the legislators started requiring the involvement of the citizen in the public decision making in order prevent the occurrence of past errors, by giving them responsibility and authority in the public decision-making (Thomas, 2013). Moreover, the public can also assume the role of customer on the occasions in which they are provided with a specific

delivered public service. In the context of the history of Public Administration, the role of public as customer can be framed in the wave of the New Public Management, since the emergence of the vision of public as the government's customers derived from the reform of the 1990s focused on achieving better levels of government performance specially through the competition, in order to provide the public with a better customer service (Thomas, 2013). Last but not least, the public can assume the role of partner if they're requested to support the process for the coproduction of a certain public service, or even for the achievement of a determined objective. In the context of the history of Public Administration, the perspective of public as partners was framed on a more recent school of thought entitled by Governance, being this perspective based on the assumption that the pursuit of public objectives depends on partnerships established between various agents, including the governments, the public, and also the private and nonprofit organizations (Thomas, 2013). Even though identifying these three main roles for the vision of the public from the optic of the public managers, the same author recognized that the most adequate way of treating the public requires the consideration of the three roles simultaneously. This is actually due to the fact that, the public expect to be served as customers, to expose their opinions as citizens, and also to coproduce with the government as partners (Thomas, 2013).

From the literature review presented above, it can be verified that there is no consensus regarding the way in which the users of public services should be faced as ("client" or "citizen"), nor the technique to which the public organizations should recur to manage the relationship with them ("CRM" versus "CiRM"). Considering that the users in general desire to be satisfied independently of recurring to a public or private service, the neutral term of "users" was here adopted for the empirical research on the users' satisfaction and loyalty towards the ADR means, in Portugal. Considering that this study has a quantitative approach, no theoretical positioning was here adopted regarding the waves of Public Administration here reviewed.

4. METHODOLOGY

4.1. THE SAMPLE AND THE ONLINE SURVEYS

This study is mainly quantitative, using the technique of inquiry by questionnaire. The data was collected by DGPI between 4 October 2013 and 25 July 2017 through the implementation of online surveys directed to the users of the ADR means or their representatives. Between the refereed time lapse, the number of valid observations obtained corresponded to 3813 (3248 referent to the users of the Arbitration Centers, 483 referent to the users of the Judges of Peace and 82 referent to the users of the public systems of Mediation). The online surveys were firstly applied by DGPI to the direct users in function of the category of ADR means to which they recurred to, being therefore subdivided into three barometers (Quality Barometer for the Arbitration Centers; Quality Barometer for the Judges of Peace; Quality Barometer for the Mediation). For the prosecution of this study, the data collected via the three barometers was aggregated into a single database with the same initial variables, thus covering the three categories of ADR means in study. Those surveys were composed by 9 questions of characterization and 24 indicators of the satisfaction levels subsequently integrated in 7 dimensions. The indicators' scales varied between 1 and 10, being sub-divided into 4 categories: from 1 to 3 points (very unsatisfied respondents); more than 3 to 5 points (unsatisfied respondents); more than 5 to 8 points (satisfied respondents); and more than 8 to 10 points (very satisfied participants). This study considered only the observations in the respondents answered to be "one of the parts", or answered to "represent one of the parts" involved on the litigation, on the variable "For what reason have you visited the Arbitration Centers, Judges of Peace or Mediation?". This selection was made in order to cover exclusively the observations in which the respondents were the effective users of the ADR means. Relatively to the missing values, this study excluded the variables with more than 30% of missing values on the scale variables, by recurring to the imputation of the means on the missing values of the scale variables of the valid observations.

The SEM methodology was implemented to the data collected, with the aim of constructing firstly a Structural Model and secondly the Recommendation Maps and Priority Indexes with basis on the results obtained via the refereed methodology.

4.1.1. THE ANALYSIS MODEL AND HYPOTHESES

The holistic analysis performed through the SEM methodology can be carried out via one of the following statistical techniques: Covariance analysis (employed in LISREL, EQS and AMOS) and Partial Least Squares (PLS) employed in PLS and PLS-Graph (Gefen, Straub, & Boudreau, 2000). This case study recurred to the SEM analysis in order to validate the analysis model proposed, with basis on the structural equations for the PLS Path Modelling algorithm. This analysis was performed with resource to the package PLSPM of the software R. The resource to the theory of the normality, through the assumption of significance levels for the parameter estimates are not suitable for the

PLS. By contrast it is possible to recur to the resampling procedures such as blindfolding, jackknifing, and bootstrapping⁷ (Sanchez, 2013).

The SEM methodology also known as path analysis, allows to test the hypothetical relationships existent between interdependent variables. A structural equation model covers in the one hand, a measurement model underlying on measurement indicators, and in the other hand a structural model underlying on latent constructs. The PLS technique allows the alignment between the theory and the data analysis, since the measurement indicators compounding each dimension are formulated with basis on the theoretical knowledge, especially in reflective measurement models. Moreover, the PLS technique allows to determine optimized linear links between latent variables (Tenenhaus *et al.*, 2005; Vilares & Coelho, 2011; Correia, 2012; Garcia, 2015).

Contrary to the formative observed variables in the cause of the latent construct (not being assumed as correlated nor unidimensional), the reflective observed variables reflect the latent variable (being assumed as correlated and unidimensional) (Gefen, Straub, & Boudreau, 2000). The Matrix Equations for the regression of the latent variables' (dependent and independent) on the reflective model are presented below, synthetizing the link between the observable variables each of one associated to a specific dimension⁸ (Tenenhaus *et al.*, 2005):

Independent Latent Variable

$$x_i = \Lambda_{xi} \mathbf{o} + \Lambda_{xi} \xi_i + \delta_i, i = 1, \dots, m$$

Dependent Latent Variables

$$y_k = \Lambda_{yk} \mathbf{o} + \Lambda_{yk} \eta_k + \varepsilon_k, K = 1, \dots, o$$

In order to validate a reflexive construct, it is necessary to evaluate the following three aspects, with basis on the indexes obtained through the package PLSPM of the software R⁹ (Sanchez, 2013):

- Verify the unidimensionality of the indicators - The reflective indicators must belong to a single dimension, since the non-observable variable represents the cause of those indicators. Consequently, if there is a variation in the non-observable variable, there will be also a variation on the indicators belonging to that dimension in the same direction. The package¹⁰ PLSPM of the software R presents three main indexes to assess the unidimensionality: the Cronbach's alpha (For the assessment of Cronbach's alpha, it is necessary that the indicators are standardized and positively correlated. It is necessary that the indicators belonging to the same dimension are highly correlated for verifying the unidimensionality, presenting a high average inter-variable correlation. A Cronbach's Alpha greater than 0.7 is considered acceptable); Dillon-Goldstein's rho (The assessment of the Dillon-Goldstein's is a better indicator, since it allows to measure the explicability of the latent variable of its respective

⁷ The work of Sanchez, G. (2013) presents a deeper description on the software R and its package PLSPM.

⁸ The terminology of the Matrix Equations of the latent variables' regression on the reflective model is the following for the SEM analysis: *I* – independent latent variable; *k*- dependent latent variable; Λ –matrix used on the weights estimation of the weights for the observable variables associated to a certain latent variable; X_i and Y_k -vectors of the observable variables each of one associated to a latent variable; δ and ε - vectors of the residuals of the observable variables each of one associated to a latent variable

⁹ The work of Sanchez (2013) presents a deeper description on the software R and its package PLSPM.

¹⁰ The work of Sanchez (2013) presents a deeper description on the software R and its package PLSPM.

indicators, being based on the variance of the sum of the indicators of the respective dimension. A Dillon-Goldstein's rho greater than 0.7 is considered acceptable), and the First and second eigenvalues of the indicators' correlation matrix (the assessment of the eigenvalues-analysis of the correlation matrix, implies that first eigenvalue should be larger than 1 and a second eigenvalue smaller than 1, so that the unidimensionality is verified).

- Verify whether the observable variables are well explained by the respective non-observable variable, through the following indexes: Loadings (The loadings consist on correlations existent between a non-observable variable and its observable variables. The Loadings higher than 0.7 are considered acceptable); Communalities (the Communalities consist on squared correlations, which measure the common variance existent between a non-observable variable and its observable variables. The higher the communalities show to be, the more acceptable they are).
- Determine the degree of difference existent between the different dimensions considered on the analysis, through the Cross-loadings (compares the loadings of a certain observable variable in all the different dimensions, with resource to the super matrix's diagonal. This criteria is acceptable only if the Cross-loadings present in one of the diagonal sections, presents the highest loading (compared to each row correspondent).

By contrast, in the Structural Model, the relationships between the latent/non-observable variables are represented through the Structural Model. The Matrix Equation of the Structural Model synthetizes the existent links between the independent latent variables and dependent latent variables¹¹ (Tenenhaus *et al.*, 2005):

$$\eta = B_0 + B_{\eta} \Gamma \xi + \nu$$

In order to validate and assess the quality of a Structural Model, it is necessary to evaluate the following three indexes, obtained through the package PLSPM of the software R¹² (Sanchez, 2013):

- R-squared determination coefficients- This index reflects in what extent the variance of the dependent latent variable is explained by the respective independent latent variables. The values for the R-squared can be classified in three categories (the higher the index, the better is the structural model): Low: $R < 0.30$ (although some authors consider $R < 0.20$); Moderate: $0.30 < R < 0.60$ (you can also find $0.20 < R < 0.50$); High: $R > 0.60$ (alternatively there's also $R > 0.50$)
- Redundancy index- This index Average Redundancy consist on a percent of the variance in the dependent latent variable explained by the independent latent variable. The higher is the

¹¹ The terminology of the Matrix Equation of the Structural Model is the following for the SEM analysis: m – independent latent variable; o - dependent latent variable; X_i and Y_k - vectors of the dependent and independent latent variables; Γ - matrix of the impact coefficients between the independent latent variables; B - matrix of the impact coefficients between the independent latent variables; ν - vector of the residuals of the dependent latent variables

¹² The work of Sanchez (2013) presents a deeper description on the software R and its package PLSPM.

Average Redundancy, the better is the ability to predict. However this index is only applied in dependent latent variables.

- Goodness-of-Fit (GoF) - Since there is no single index in PLS methodology to determine the model's overall quality, the inferential statistical tests for Goodness of fit cannot be realized. Consequently, only the resource to non-parametrical techniques allows to assessment the quality of the structural model. In this framework, the GoF index is similar to the Goodness of fit measure, allowing to assess the quality of both the measurement and the structural models. The calculation of this index is made upon the mean of the average communality and the average R2 value. A GoF > 0.7 is considered as to be acceptable (Sanchez, 2013).

In the framework of the SEM methodology, in which the researcher is supposed to purpose an Analysis Model to be tested together with the formulation of the hypothesis associated, this sub-chapter presents: in the Table 1 the formulation of the hypothesis inherent to each dimension of the Structural Model proposed, in Table 2 the indicators and its respective dimensions, and finally in the Figure 1 the proposed Structural Model which was firstly advanced in the last report on the users' satisfaction with the ADR means in Portugal, published by DGPJ¹³.

Dimensions	Hypothesis	Validation
General aspects of ADR means	H1: The dimension General aspects of ADR means suffers direct impact of the dimension Access to information on ADR means H2: The dimension General aspects of ADR means suffers direct impact of the of the dimention Installations ADR means H3: The dimension General aspects of ADR means suffers direct impact of the dimention Operation of ADR means H4: The dimension General aspects of ADR means suffers direct impact of the dimention Responsible for the process in ADR means H5: The dimension General aspects of ADR means suffers direct impact of the dimention Resources available for ADR means	
Loyalty towards ADR means	H6: The dimension Loyalty towards ADR means suffers direct impact of the dimention General aspects of ADR means	

Table 1 -Investigation Hypothesis for the users' satisfaction with the ADR means

¹³ The present study was developed with basis on the last report published by DGPJ on the users' satisfaction with the ADR means in Portugal: Direção-Geral da Política de Justiça (2015) and the work of Catarino & Correia (2017).

Dimensions	Indicators
General aspects of ADR means	General functioning of the arbitration centers / judges of peace / mediation Speed of resolution of the dispute Cost of access (excluding attorneys' fees) Trust in the system
Access to information on ADR means	Facility in finding information about the arbitration center / judges of peace / mediation Clarity of the information transmitted about the ADR means
Installations of the ADR means	The installations are easily accessible The installations are well signalized The waiting conditions are adequate The installations are well equipped
Operation of ADR means	Communications / information is clear The time elapsed between the request and the first session was acceptable The sessions started at the appointed time Availability and assistance of the technicians of the arbitration centers / judges of peace / interveners in the mediation process (not considering the mediator) Competence of technicians of arbitration / judges of peace / interveners in the mediation process (not considering the mediator)
Responsible for the process in ADR means	Attitude and courtesy demonstrated Clarity of the language used Impartiality throughout the process Equal opportunities in discussing the issue throughout the process Clarity of agreement / decision The speed with which the agreement is reached or the decision
Resources available for ADR means	After this experience with the arbitration center / judges of peace / mediation considers that the resources available are adequate
Loyalty towards ADR means	If necessary, he would return to this arbitration center / judges of peace / mediation Would you recommend the use of this arbitration center/ judges for peace / mediation

Table 2 - Dimensions and Indicators of the users' satisfaction with the ADR means

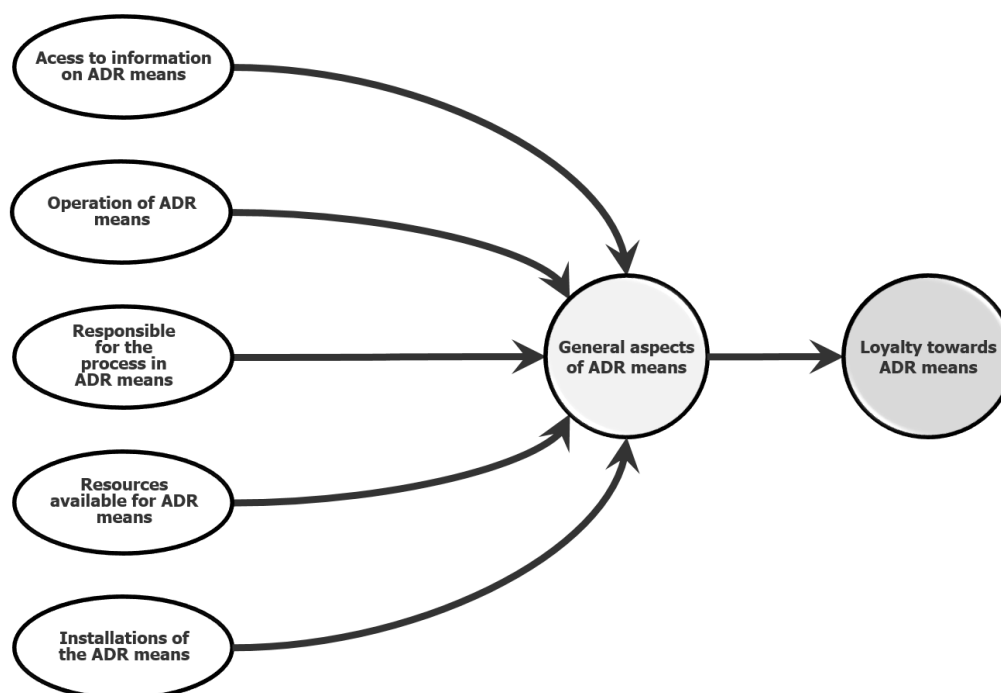


Figure 1- Structural Model proposed for the users' satisfaction with the ADR means

4.1.2. THE ANALYSIS MODEL AND HYPOTHESES

The construction of the Recommendation Maps and Priority Indexes, was also made with basis on the methodology firstly advanced in the last report on the users' satisfaction with the ADR means in Portugal, published by DGPJ¹⁴, therefore extending those results to a longer time lapse. In the one hand, the Recommendation Maps present on the Axis XX (horizontal) the total impacts that the exogenous/independent latent variables have on the average evaluations of the endogenous/dependent latent variable, which were in turn presented on the Axis YY (vertical). Therefore, the Recommendation Maps exhibit the relative performance of each independent latent variable on the explanation of the endogenous/dependent latent variables. The four quadrants into which the maps were divided, vary in function of the impact ("Very High Impact"- Quadrants I; IV and "Moderate Impact"- Quadrants II; III), and also in function of the Average Evaluation ("Main Strengths"- Quadrants I; II and "Priorities of Action"- Quadrants III; IV). The analysis of the Recommendation Maps is made for each dimension in function of its quadrant: First Quadrant (primary "Main Strengths" with a "Very High Impact"- is not a priority of action since the average evaluation is high, even though the impact is high); Second Quadrant (secondary "Main Strengths" with a "Moderate Impact"- is not a priority of action since the average evaluation is high and the impact is moderated); Third Quadrant (secondary "Priorities of Action" with a "Moderate Impact"- is a secondary priority of action due to its moderate impact); Fourth Quadrant (primary "Priorities of Action" with a "Very High Impact"- a primary priority of action due to its very high impact). In the other hand, the Priority Indexes were calculated not only with basis on the average evaluations deviations of each dimension relatively to the total average of all the dimensions as a whole, but also with basis on the impacts of each independent latent variable on the dependent latent variable . Therefore, a certain dimension is considered as a Priority of Action if it has a high Priority Index.

¹⁴ The present study was developed with basis on the last report published by DGPJ on the users' satisfaction with the ADR means in Portugal: Direção-Geral da Política de Justiça (2015).

5. RESULTS AND DISCUSSION

5.1. RESULTS FOR THE MEASUREMENT AND STRUCTURAL MODEL

The resource to this methodology allowed to validate the Measurement Model, through the values of reference proposed by Sanchez (2013) for the indexes obtained via the outputs of the package PLSPM of the software R¹⁵. Hence, the values obtained on the Indexes for the validation of the Measurement Model were acceptable, allowing to:

- Validate the indicators' for the unidimensionality (as exhibited in the Table 3 in green color, in this study the Cronbach's alpha obtained were greater than 0.7 and considered acceptable; the Dillon-Goldstein's rho obtained were greater than 0.7 and considered acceptable; the first and second Eigenvalues corresponded to the enumerated conditions and considered acceptable).
- Verify that the observable variables/indicators are well explained by the respective non-observable variables/dimensions (as exhibited in the Table 4, in this study the Loadings were higher than 0.7 and considered acceptable in green color. There was only one exception, for the Indicator 20 in which the Loadings corresponded to approximately 0.6 in red color; the Communalities showed to be acceptable, as verifiable through the same table in black color).
- Determine the degree of difference existent between the different dimensions considered on the analysis (as exhibited in the Table 5, in this study all the Cross-loadings which belong to one of the diagonal sections in green color, showed to have the highest loading comparatively to the correspondent rows).

¹⁵ The work of Sanchez, G. (2013) presents a deeper description on the software R and its package PLSPM.

	Cronbach's alpha	Dillon-Goldstein's rho	1st Eigenvalues	2nd Eigenvalues
Access to information on ADR means	0,757204806	0,891744376	1,609275615	0,390724385
Operation of ADR means	0,913681553	0,936580678	3,743289327	0,583709755
Responsible for the process in ADR means	0,939520094	0,954054858	4,030692801	0,431325576
Resources available for ADR means	1	1	1	0
Installations of the ADR means	0,928557779	0,949216766	3,295105605	0,335799429
General aspects of ADR means	0,84422369	0,898290354	2,772284537	0,730696211
Loyalty towards ADR means	0,984744605	0,992430044	1,969947671	0,030052329

Table 3- Results for the Validation Indexes of the Measurement Model

Indicators	Dimension	loading	communality
Indicator 1	Access to information on ADR means	0,858483878	0,736994568
Indicator 2	Access to information on ADR means	0,929714581	0,864369202
Indicator 3	Operation of ADR means	0,916180256	0,839386262
Indicator 4	Operation of ADR means	0,8404328	0,706327291
Indicator 5	Operation of ADR means	0,705094217	0,497157854
Indicator 6	Operation of ADR means	0,921981745	0,850050339
Indicator 7	Operation of ADR means	0,921677886	0,849490125
Indicator 8	Responsible for the process in ADR means	0,902562604	0,814619254
Indicator 9	Responsible for the process in ADR means	0,923766584	0,853344702
Indicator 10	Responsible for the process in ADR means	0,912442755	0,832551781
Indicator 11	Responsible for the process in ADR means	0,909411537	0,827029344
Indicator 12	Responsible for the process in ADR means	0,83829255	0,7027344
Indicator 13	Resources available for ADR means	1	1
Indicator 14	Installations of the ADR means	0,878169653	0,77118194
Indicator 15	Installations of the ADR means	0,908055757	0,824565257
Indicator 16	Installations of the ADR means	0,918334106	0,84333753
Indicator 17	Installations of the ADR means	0,92518498	0,855967248
Indicator 18	General aspects of ADR means	0,924236842	0,85421374
Indicator 19	General aspects of ADR means	0,854693489	0,73050096
Indicator 20	General aspects of ADR means	0,585351013	0,342635809
Indicator 21	General aspects of ADR means	0,917628808	0,84204263
Indicator 22	Loyalty towards ADR means	0,992430335	0,98491797
Indicator 23	Loyalty towards ADR means	0,992486574	0,985029599

Table 4- Results for the Validation Indexes of the Measurement Model

Indicators	Dimension	Access to information on ADR means	Operation of ADR means	Responsible for the process in ADR means	Resources available for ADR means	Installations of the ADR means	General aspects of ADR means	Loyalty towards ADR means
Indicator 1	Access to information on ADR means	0,658483879	0,602774164	0,518179385	0,565080823	0,584288575	0,60494326	0,510975144
Indicator 2	Access to information on ADR means	0,929714581	0,854707663	0,780606	0,78763641	0,638272124	0,842399511	0,789594839
Indicator 3	Operation of ADR means	0,832391913	0,916180256	0,768186234	0,802011607	0,688721233	0,841274624	0,792532034
Indicator 4	Operation of ADR means	0,679737116	0,8404328	0,66486041	0,568913255	0,568913255	0,766246053	0,633940056
Indicator 5	Operation of ADR means	0,502021399	0,705094217	0,604009477	0,533734739	0,512754552	0,56866147	0,523533829
Indicator 6	Operation of ADR means	0,766279537	0,921981745	0,724162528	0,7588035	0,651761383	0,799044842	0,736091114
Indicator 7	Operation of ADR means	0,775545678	0,921677886	0,762377732	0,784570651	0,646728247	0,817251206	0,787148882
Indicator 8	Responsible for the process in ADR means	0,742454862	0,789999478	0,902562604	0,766899733	0,598451045	0,76277228	0,777954163
Indicator 9	Responsible for the process in ADR means	0,682349349	0,752138558	0,923766584	0,750981674	0,534203576	0,751917077	0,814450161
Indicator 10	Responsible for the process in ADR means	0,65439938	0,719177444	0,912442755	0,72091779	0,536654851	0,705460978	0,750758568
Indicator 11	Responsible for the process in ADR means	0,632897329	0,693323374	0,908411537	0,709093468	0,459567819	0,702376048	0,747708441
Indicator 12	Responsible for the process in ADR means	0,627176862	0,711415122	0,83829235	0,70925859	0,477136162	0,712333512	0,673619242
Indicator 13	Resources available for ADR means	0,771844084	0,827803996	0,815753931	1	0,684788963	0,83452592	0,846654429
Indicator 14	Installations of the ADR means	0,615207849	0,606189395	0,512205223	0,591693967	0,878169653	0,589836526	0,529328506
Indicator 15	Installations of the ADR means	0,631991017	0,640896096	0,531872572	0,615172534	0,908055757	0,613851042	0,534202074
Indicator 16	Installations of the ADR means	0,622607927	0,680455075	0,541635034	0,638286012	0,918334106	0,639607016	0,563820272
Indicator 17	Installations of the ADR means	0,61443544	0,653671041	0,527231686	0,639650781	0,92518498	0,617095081	0,541862986
Indicator 18	General aspects of ADR means	0,78461502	0,845075892	0,751454416	0,798794134	0,666127035	0,924236842	0,77502723
Indicator 19	General aspects of ADR means	0,6695563	0,760047073	0,691922406	0,680076047	0,510727482	0,854693489	0,655536231
Indicator 20	General aspects of ADR means	0,432828231	0,447031232	0,353908545	0,408924333	0,419651213	0,585351013	0,375650208
Indicator 21	General aspects of ADR means	0,793461281	0,818425269	0,805629829	0,807981599	0,629770735	0,917628808	0,851564266
Indicator 22	Loyalty towards ADR means	0,745032981	0,804019408	0,830204997	0,840606118	0,595117204	0,820545533	0,992430335
Indicator 23	Loyalty towards ADR means	0,739658992	0,805929418	0,837013	0,839933912	0,591334367	0,823599169	0,992486574

Table 5-Results for the Validation Indexes of the Measurement Model

In the other hand, the resource to this methodology allowed to validate and assess the quality of a Structural Model, through the values of reference proposed by Sanchez (2013) for the indexes obtained via the outputs of the package PLSPM of the software R¹⁶. Hence, the values obtained on the Indexes for the validation of the Measurement Model were acceptable, allowing to:

- Evaluate the Goodness-of-Fit (GoF) (as exhibited in the Table 8 in green color, the index obtained for GoF was greater than 0.7 and thereby acceptable for. These results allow to conclude that the structural equation model is globally valid)
- Validate the R-squared (as exhibited in the Table 6 in green color, in this study the values for the R-squared were both superior to 0.60 ($R > 0.60$) for both the variables: “General aspects of ADR means” (0.83) and “Loyalty towards ADR (0.69) means”, thereby corresponding to a high level).
- Validate the Redundancy index (as exhibited in the Table 7 in green color, in this study the variance in the endogenous/dependent latent variable “General aspects of ADR means” explained by the correspondent independent latent variables/exogenous correspond to approximately, 58% of variance; and the variance in the endogenous/dependent latent variable “Loyalty towards ADR means

¹⁶ The work of Sanchez, G. (2013) presents a deeper description on the software R and its package PLSPM.

	Type	R2
Access to information on ADR means	Exogenous	0
Operation of ADR means	Exogenous	0
Responsible for the process in ADR means	Exogenous	0
Resources available for ADR means	Exogenous	0
Installations of the ADR means	Exogenous	0
General aspects of ADR means	Endogenous	0,834567289
Loyalty towards ADR means	Endogenous	0,686117289

Table 6- Results for the Validation Indexes of the Structural Model

	Type	Mean_Redundancy
Access to information on ADR means	Exogenous	0
Operation of ADR means	Exogenous	0
Responsible for the process in ADR means	Exogenous	0
Resources available for ADR means	Exogenous	0
Installations of the ADR means	Exogenous	0
General aspects of ADR means	Endogenous	0,577811231
Loyalty towards ADR means	Endogenous	0,675807543

Table 7- Results for the Validation Indexes of the Structural Model

	ral_pls\$gof
1	0,775663325

Table 8- Results for the Assessment of the Structural Model's Quality

Even though, we've recurred to the SEM methodology in which the modeling is a confirmative process, there was no necessity of re-formulating the hypothesis initially formulated with basis on the Structural Model firstly advanced by DGPI¹⁷, since none was rejected in the first round and the structural equation model was globally validated. Therefore, it was possible to accept all the hypothesis initially formulated and exhibited in the Table 9, after the verification of the values of reference proposed by Sanchez (2013) for the indexes obtained via the outputs of the package PLSPM of the software R¹⁸.

Dimensions	Hypothesis	Validation
General aspects of ADR means	H1: The dimension General aspects of ADR means suffers direct impact of the dimension Access to information on ADR means	Validated
	H2: The dimension General aspects of ADR means suffers direct impact of the of the dimation Installations ADR means	Validated
	H3: The dimension General aspects of ADR means suffers direct impact of the dimation Operation of ADR means	Validated
	H4: The dimension General aspects of ADR means suffers direct impact of the dimation Responsible for the process in ADR means	Validated
	H5: The dimension General aspects of ADR means suffers direct impact of the dimation Resources available for ADR means	Validated
Loyalty towards ADR means	H6: The dimension Loyalty towards ADR means suffers direct impact of the dimation General aspects of ADR means	Validated

Table 9 – Results for the Investigation Hypothesis

Consequently, the structural model initially proposed for analysis was accepted, being its results represented in the Figure 2 and explained as follows: In the one hand, the dimension which most contributed for the users' satisfaction with the General aspects of ADR means, was the dimension Operation of ADR means with 27,84% of the global weight, followed by the dimension Resources Available for ADR means with 22,0% of the global weight, followed by the dimension Responsible for the process in ADR means with 19,59% of the global weight, followed by the dimension Access to information on ADR means with 18,91% of the global weight, and lastly for the dimension Installations of the ADR means with 11,6% of the global weight. In the other hand, the dimension which had a greater impact on the users' satisfaction with the General aspects of ADR means, was the dimension Operation of ADR means with an impact of 0,42 followed by the two dimensions Resources Available for ADR means and Access to information on ADR means with an impact of 0,20; followed by the dimension Responsible for the process in ADR means with an impact of 0,14, and lastly for the dimension Installations of the ADR means with an impact of 0,02%. Moreover, the General Aspects of ADR means is the only dimension with direct impact over the Loyalty towards ADR means, and all the other dimensions have an indirect impact on the dimension Loyalty towards ADR means.

¹⁷ The present study was developed with basis on the last report published by DGPI on the users' satisfaction with the ADR means in Portugal: Direção-Geral da Política de Justiça (2015).

¹⁸ The work of Sanchez, G. (2013) presents a deeper description on the software R and its package PLSPM.

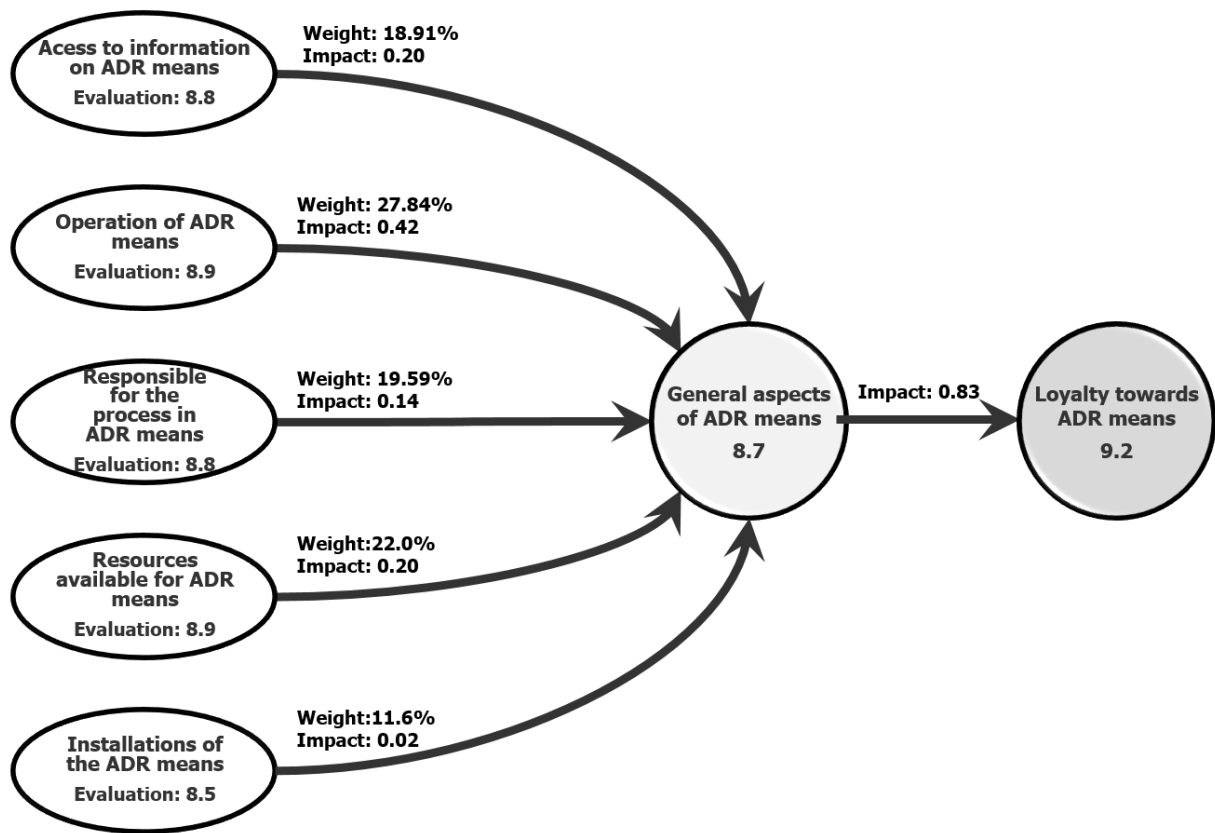


Figure 2- Results for the Structural Model on the users' satisfaction with the ADR means

5.1.1. RESULTS FOR THE RECOMMENDATION MAPS AND PRIORITY INDEXES

The Recommendation Map in the Figure 3, presents in its Axis XX (horizontal) the total impacts that the exogenous/independent latent variables (Access to information on ADR means; Installations of the ADR means; Resources available for ADR means; Operation of ADR means; Responsible for the process in ADR means) have on the average evaluations of the endogenous/dependent latent variable (General aspects of ADR means) being this last presented on the Axis YY (vertically). From the analysis of this Recommendation Map it can be concluded that: In the First Quadrant (the dimensions “Resources available for ADR means” and “Operation of ADR means” represent the primary “Main Strengths”); In the Second Quadrant (the dimensions “Access to information on ADR means” and “Responsible for the process in ADR means” represent the secondary “Main Strengths”); in the Third Quadrant (the dimension “Installations of the ADR means” represent a secondary “Priorities of Action”); in Fourth Quadrant (there are no dimensions on the fourth quadrant and thereby no primary “Priorities of Action” was verified).

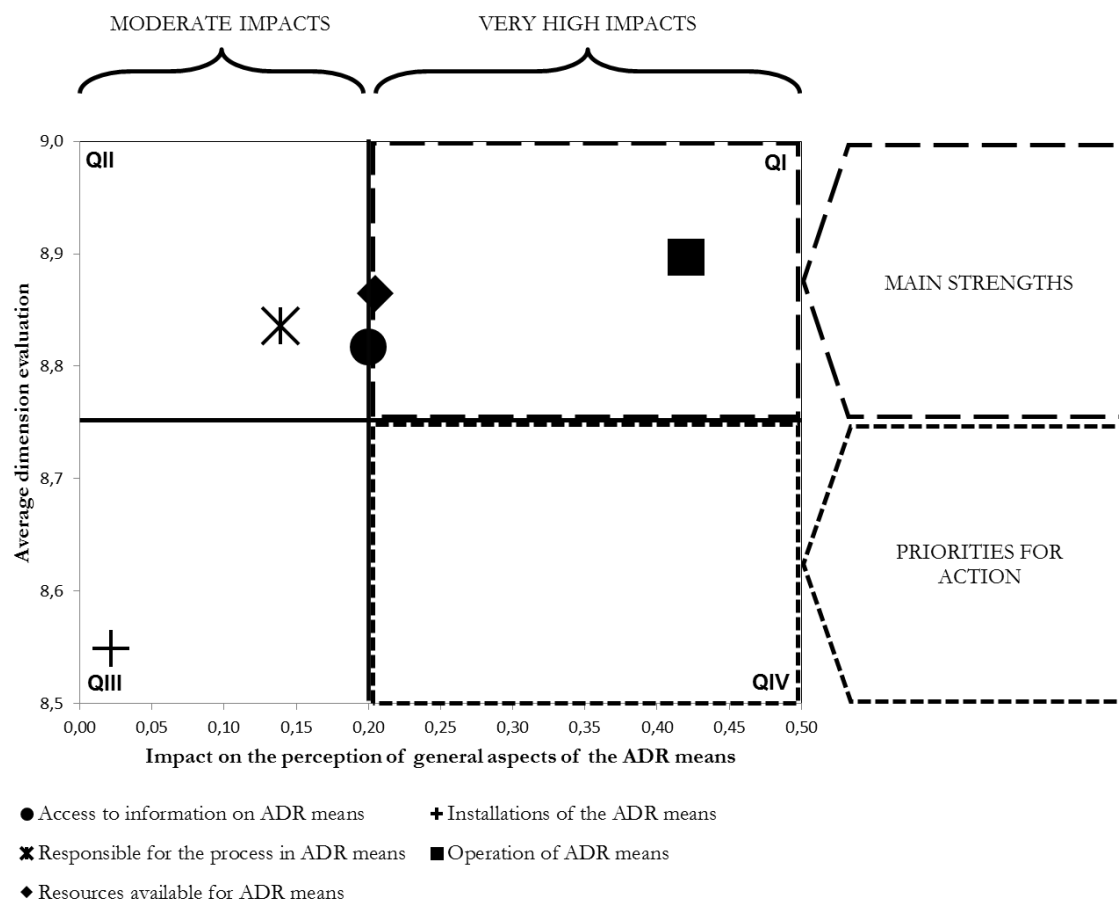


Figure 3 - Results for the dimension “General Aspects of ADR means”

The Recommendation Map in the figure 4 presents in its Axis XX (horizontal) the total impacts that the exogenous/independent latent variables (Access to information on ADR means; Installations of the ADR means; Resources available for ADR means; Operation of ADR means; Responsible for the process in ADR means, General aspects of ADR means) have on the average evaluations of the endogenous/dependent latent variable (Loyalty towards ADR means) being this last presented on the Axis YY (vertically). From the analysis of this Recommendation Map it can be concluded that: in the First Quadrant (the dimensions “Operation of ADR means” represent the primary “Main Strengths”; in the Second Quadrant (the dimensions “Access to information on ADR means”, “Responsible for the process in ADR means” and “Resources available for ADR means” represent the secondary “Main Strengths”); in the Third Quadrant (the dimension “Installations of the ADR means” represent a secondary “Priorities of Action”); in the Fourth Quadrant (the dimension “General aspects of ADR means” represent a primary “Priority of Action”).

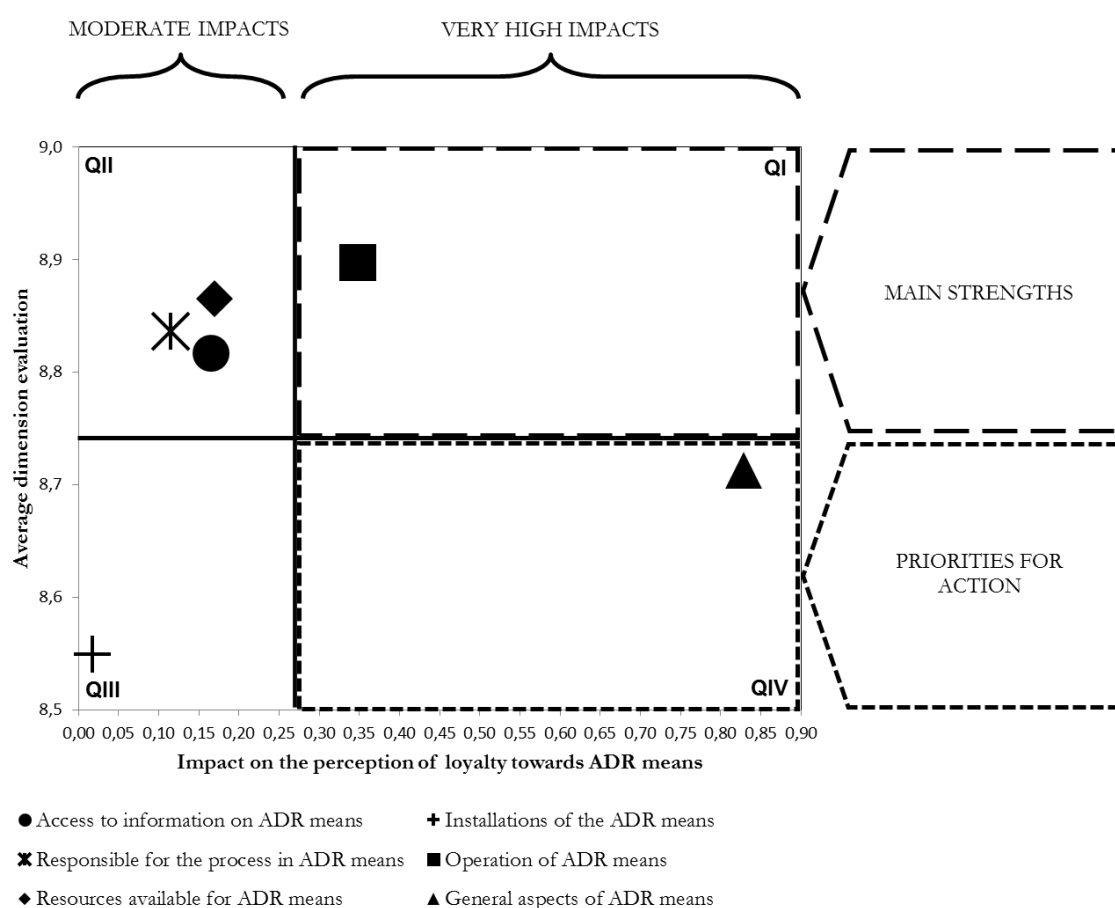


Figure 4 - Results for the dimension “Loyalty towards ADR means”

The Priority Indexes in the Figure 5, presents the results calculated for the “General aspects of ADR means”, being possible to conclude that the priority dimension for an hypothetical investment in terms of public policies, would be the “Operation of ADR means” with a priority index correspondent to 58.7%, being followed by the dimension “Resources available for ADR means” with a priority index correspondent to 19.8%. These two dimensions cover 78.5% of the total index (100%), being therefore perioral for improving the levels of user satisfaction relatively to the general aspects of ADR means. In sequence, those two dimensions are followed by the three dimensions “Responsible for the process in ADR means”, “Installations of the ADR means”, and “Access to information on ADR means” with indexes correspondent respectively to 8.0%, 7.0%, and 6.5%, thus not representing a priority for an hypothetical investment in terms of public policies.

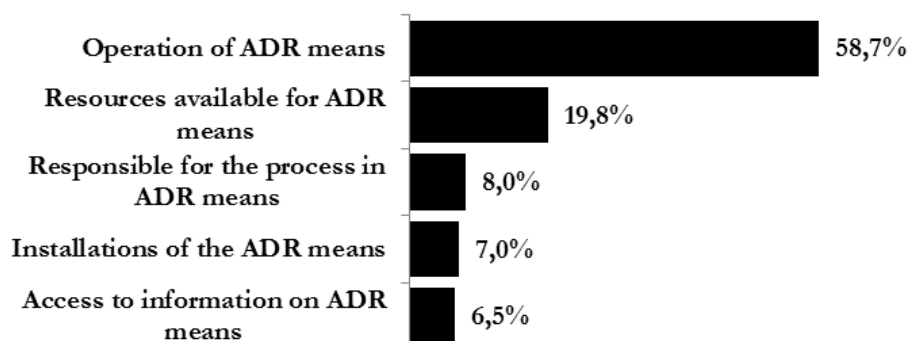


Figure 5 - Results for the dimension “General Aspects of ADR means”

The Priority Indexes in the Figure 6, presents the results calculated for the “Loyalty towards ADR means”, being possible to conclude that the perioral dimension for an hypothetic investment in terms of public policy, would be the “General aspects of ADR means” with a priority index correspondent to 43.3%, being followed by the dimension “Operation of ADR means” with a priority index correspondent to 32.1%. These two dimensions cover 75.4% of the total index (100%), being therefore perioral for improving the levels of user satisfaction relatively to the loyalty towards the ADR means. In sequence, those two dimensions are followed by the three dimensions “Responsible for the process in ADR means”, “Access to information on ADR means”, and “Installations of the ADR means”, with indexes corresponding respectively to 5.1%, 4.9%, and 3.2%, thus not representing a priority for an hypothetic investment in terms of public policies.

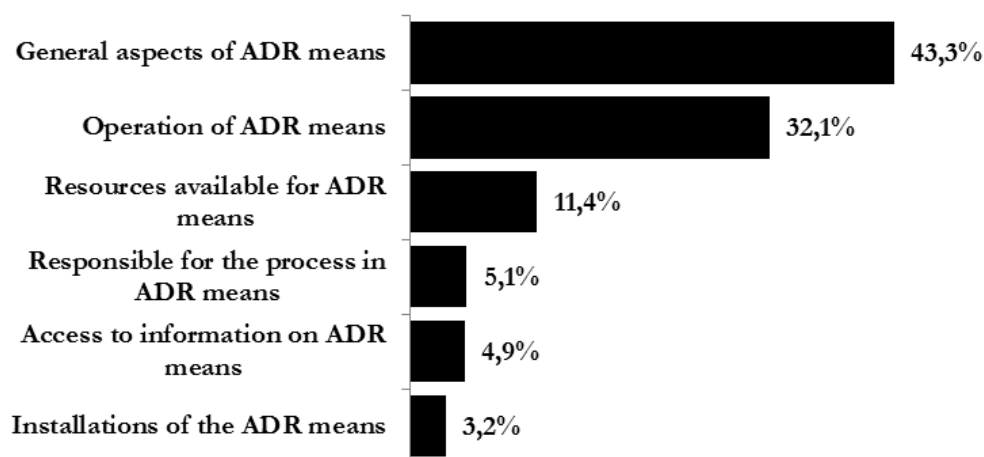


Figure 6 - Results for the dimension “Loyalty towards ADR means”

5.1.1.1. THE RESULTS FOR THE AVERAGES OF THE USERS' SATISFACTION WITH ADR MEANS

The research question of this study “Does the temporal evolution of the users’ satisfaction with the ADR means revealed a positive trend, contributing for the CEPEJ’s objective of increasing the quality in justice sector?” was answered with basis on the general objective of this study, which consist on the measurement of the temporal evolution of the user’s satisfaction with the Alternative Dispute Resolution (ADR) means between 4 October 2013 and 25 July 2017. The total averages for all the 24 indicators contained on the online survey conducted by DGPJ was 9 points approximately, corresponding to users very satisfied with the ADR means in all the years in analysis (from 2013 to 2017): in the exercise of 2013 the total averages for all the 24 indicators corresponded to 8.77 points (approximately 9 points), reflecting users very satisfied with the ADR means during this year of 2013; In the exercise of 2014 the total averages for all the 24 indicators, corresponded to 8.74 points (approximately 9 points), reflecting users very satisfied with the ADR means during this year of 2014; In the exercise of 2015 the total averages for all the 24 indicators, corresponded to 8.73 points (approximately 9 points), reflecting users very satisfied with the ADR means during this year of 2015; In the exercise of 2016 the total averages for all the 24 indicators, corresponded to 8.78 points (approximately 9 points), reflecting users very satisfied with the ADR means during this year of 2016; In the exercise of 2017 the total averages for all the 24 indicators, corresponded to 8.82 points (approximately 9 points), reflecting users very satisfied with the ADR means during this year of 2017. By considering that in the last five years (from 2013 to 2017) the total averages for all the 24 indicators contained in the online survey conducted by DGPJ was 9 points approximately, corresponding to users very satisfied with the ADR means in all the years in analysis. Consequently, it is possible to conclude that users’ satisfaction with the ADR means in Portugal revealed a positive trend during the time lapse in analysis, therefore contributing to the CEPEJ’s objective of increasing the quality in justice sector at the level of the European Member States (as in the case of Portugal). Besides, it is also possible to verify that the total averages for all the 24 indicators have been augmenting in the last three years in analysis (from 2015 till 2017), presenting the best level of total satisfaction (8.82 points) on the last year in analysis.

Year	2013	2014	2015	2016	2017
Total Averages (per year)	8,77	8,74	8,73	8,78	8,82

Table 10- Results for the averages of user’s satisfaction with the ADR means

6. CONCLUSIONS

Considering the gap on the study of CRM as a strategy to increase users' satisfaction and loyalty in public sector, this case study focused on the public sector of justice contributed with theoretical and empirical research on the users' satisfaction and loyalty towards the ADR means.

In terms of theoretical research, it was concluded that the relationship with the public has become a major concern not only in private, but also in public organizations leading to the adoption of CRM techniques (such as the creation of databases) in order to increase the users' satisfaction and loyalty towards the services. However, there is no real consensus regarding the way in which the users of public services should be faced as ("client" or "citizen"), nor the technique to which the public organizations should recur to manage the relationship with them ("CRM" versus "CiRM"). Considering that the users in general desire to be satisfied, independently of recurring to a public or private service, the neutral term of "users" was here adopted for the empirical research on the users' satisfaction and loyalty towards the ADR means, in Portugal. Considering that this study has a quantitative approach, no theoretical positioning was here adopted regarding the waves of Public Administration present in previous chapter of this work. In terms of empirical research, with resource to the data collected by DGPI it was possible to measure the temporal evolution of the user's satisfaction with the ADR means, by extending the previous results obtained through the surveys conducted by DGPI (between 2013 and 2015) to a longer time lapse (between 4 October 2013 and 25 July 2017). The results showed that there was a positive trend for the users' satisfaction with the ADR means in Portugal, contributing to the objective established by CEPEJ: increasing the quality in the justice sector. Moreover, with the construction of a Structural Model on the users' satisfaction and loyalty with ADR means, it was concluded that the satisfaction with the "General aspects of ADR means" was the only dimension with direct impact over the "Loyalty towards ADR means", since the other dimensions only had indirect impact on it (satisfaction with the "Operation of ADR means", "Resources Available for ADR means", "Responsible for the process in ADR means", "Access to information on ADR means", and "Installations of the ADR means"). The average values obtained through the construction of this Structural Model, were also used in the construction of Recommendation Maps and Priority Indexes, to determine the dimensions of priority for the implementation of public policies and investments. By considering that in the last five years the total averages for all the 24 indicators contained in the online survey conducted by DGPI was approximately 9 points (in a scale of 10), corresponding to users "very satisfied" with the ADR means, it can be concluded there is no urgent necessity for the investment on public policies aiming at increasing the levels of satisfaction with the ADR means. However, and even there is no real need, it was possible to identify a single primary priority of action consisting on the "General aspects of ADR means" with a very high impact, in order to ameliorate the satisfaction levels in the dimension "Loyalty towards ADR means". It was also possible to identify a priority index of 58.7% on the dimension "Operation of ADR means", representing a priority for an hypothetical investment on a public policy aiming at improving the satisfaction levels on the dimension "General aspects of ADR means" (this last identified as the only primary priority of action). Besides the conclusions presented above, the prosecution of this study exemplifies how the satisfaction surveys can be used as a strategy to construct databases and measure the levels of satisfaction and loyalty, with the aim of building long term relationships (through "CRM" or "CiRM") with the users of the services (as clients or citizens).

7. LIMITATIONS AND RECOMMENDATIONS FOR FUTURE WORKS

This study was prosecuted with a strictly imposed deadline, restricting the time and length available for the prosecution with the theoretical and empirical research. By considering the enumerated limitations which were latent during the realization of the present study, it could be hypothetically ameliorated in some other future context, not only by extending the literature review with other authors' works on the topic here investigated, but also by recurring to other data analysis techniques (such as clustering for instance) and softwares (with outputs covering validation criteria which are not present on the package PLSPM of the software R used in this study, such as the results for the Lambda Coefficients related to the trust in the indicators, for instance). Even though, Sanchez (2013) does not suggest the usage of the Lambda Coefficient as a validation criteria for the studies on satisfaction (which is the case of this study) and only presents the validation criteria here included, there are other authors which recommend the usage of the refereed coefficient as a validation criteria¹⁹.

In terms of recommendations for future empirical research on this subject, the extension of the sample used in this study to a bigger time lapse is here suggested, through the continuing application of the online surveys directed to the users of ADR means by DGPJ in order to affer the trend for the temporal evolution of the users' satisfaction with the ADR services during a bigger time lapse, by including a superior number of years in the sample. Another proposal for the realization of related studies, relies on the transposition of the methodology here applied in the analysis of the extrajudicial means (category in which the ADR means can be included), to the judicial means by readapting the online surveys to the judicial courts' characteristics. The transposition of this study from the extrajudicial means to the judicial courts would make it possible to realize a compared study on the users' satisfaction and loyalty towards the extrajudicial and judicial means. In terms of recommendations for future theoretical research on this subject, future work should try to understand how the CRM is being implemented as a strategy to growing users' satisfaction and loyalty in public services, not only by cover the creation of databases through the application of surveys, but also by covering other techniques.

¹⁹ See for instance the work of Correia (2012) or Garcia (2015), both of them covering the lambda coefficients as a validation criteria.

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9. APPENDIX

The online surveys directed to the users of ADR means implemented by DGPJ were subdivided into three subtypes in function of the type of ADR which can be found via the links below, accordingly to DGPJ & UL-ISCSP (2015):

- Barometer of Quality for the Arbitration Centers
<https://docs.google.com/forms/d/1euCZErJLYfs80A93S4N3PQ31bBj152Jm1DXzDgTdKs/viewform>)
- Barometer of Quality for the Judges of Peace
<https://docs.google.com/forms/d/1Hb2kSJSb129p8d0kz0SpGNwzuuXyiziYs4axiHt1GTc/viewform>
- Barometer of Quality for the Mediation
<https://docs.google.com/forms/d/1s7GzZEgqZJDFw9cNnlaRqQ64H4sE1NDAPmJCt6NaBI/viewform>

10.ANNEXES (OPTIONAL)

This case study resorted to the SEM analysis via the technique of PLS, with resource to the package PLSPM of the software R²⁰, conducting the tables presented below, in the output of R. All of the tables present in the body of this study, were elaborated and adapted with basis on the tables presented below:

	Mode	MVs	C.alpha	DG.rho	eig.1st	eig.2nd
Acesso	A	2	0,757205	0,891744	1,609276	0,390724
Funcionamento	A	5	0,913682	0,936581	3,743289	0,58371
Responsavel	A	5	0,93952	0,954055	4,030693	0,431326
Recursos	A	1	1	1	1	0
Instalacoes	A	4	0,928558	0,949217	3,295106	0,335799
Gerais	A	4	0,844224	0,89829	2,772285	0,730696
Lealdade	A	2	0,984745	0,99243	1,969948	0,030052

	Estimate	Std. Error	t value	Pr(> t)
Intercept	5,3007E-15	0,009075368	5,84076E-13	1
Gerais	0,828321972	0,009075368	91,27145173	0

²⁰ The work realized by Sanchez (2013) presents a deeper description on the software and its package.

	Type	R2	Block_Community	Mean_Redundancy	AVE
Acesso	Exogenous	0	0,800681885	0	0,800681885
Funcionamento	Exogenous	0	0,748482374	0	0,748482374
Responsavel	Exogenous	0	0,806055896	0	0,806055896
Recursos	Exogenous	0	1	0	1
Instalacoes	Exogenous	0	0,823762994	0	0,823762994
Gerais	Endogenous	0,834567289	0,692348285	0,577811231	0,692348285
Lealdade	Endogenous	0,686117289	0,984973784	0,675807543	0,984973784

	Estimate	Std. Error	t value	Pr(> t)
Intercept	-8,4343E-16	0,006592031	-1,27947E-13	1
Acesso	0,19986838	0,012661053	15,78607879	1,99492E-54
Funcionamento	0,420159298	0,015360515	27,35320366	1,4937E-150
Responsavel	0,138812308	0,0128857	10,77258589	1,12012E-26
Recursos	0,204496461	0,01365666	14,97411967	2,67508E-49
Instalacoes	0,021489833	0,009936716	2,162669595	0,030628673

	Acesso	Funcionan	Responsa	Recursos	Instalacoe	Gerais	Lealdade
Acesso	0	0	0	0	0	0	0
Funcionan	0	0	0	0	0	0	0
Responsa	0	0	0	0	0	0	0
Recursos	0	0	0	0	0	0	0
Instalacoe	0	0	0	0	0	0	0
Gerais	0,199868	0,420159	0,138812	0,204496	0,02149	0	0
Lealdade	0	0	0	0	0	0,828322	0

	name	block	Acesso	Funcionan	Responsa	Recursos	Instalacoe	Gerais	Lealdade
1	ace.q5	Acesso	0,858484	0,602774	0,518179	0,565081	0,584289	0,604943	0,510975
2	ace.q6	Acesso	0,929715	0,854708	0,780606	0,787636	0,638272	0,8424	0,789595
3	fun.q11	Funcionan	0,832392	0,91618	0,768186	0,802012	0,688721	0,841275	0,792532
4	fun.q12	Funcionan	0,679737	0,840433	0,669486	0,666483	0,563913	0,766246	0,633304
5	fun.q13	Funcionan	0,502021	0,705094	0,604009	0,533735	0,512755	0,568661	0,523534
6	fun.q14	Funcionan	0,76628	0,921982	0,724163	0,758804	0,651761	0,799045	0,736091
7	fun.q15	Funcionan	0,775546	0,921678	0,762378	0,784571	0,646728	0,817251	0,787149
8	res.q17	Responsa	0,742455	0,789999	0,902563	0,7669	0,598451	0,762772	0,777954
9	res.q18	Responsa	0,682349	0,752139	0,923767	0,750982	0,534204	0,751917	0,81445
10	res.q19	Responsa	0,654399	0,719177	0,912443	0,720918	0,536655	0,705461	0,750759
11	res.q20	Responsa	0,632897	0,693323	0,909412	0,709093	0,459568	0,702376	0,747709
12	res.q21	Responsa	0,627177	0,711415	0,838293	0,709259	0,477136	0,712334	0,673619
13	rec.q22	Recursos	0,771844	0,827804	0,815754	1	0,684789	0,834526	0,846654
14	ins.q7	Instalacoe	0,615208	0,606189	0,512205	0,591694	0,87817	0,589837	0,529329
15	ins.q8	Instalacoe	0,631991	0,640896	0,531873	0,615173	0,908056	0,613851	0,534202
16	ins.q9	Instalacoe	0,622608	0,680455	0,541635	0,638286	0,918334	0,639607	0,56382
17	ins.q10	Instalacoe	0,614435	0,653671	0,527232	0,639651	0,925185	0,617095	0,541863
18	ger.q1	Gerais	0,784615	0,845076	0,751454	0,798794	0,666127	0,924237	0,775027
19	ger.q2	Gerais	0,669556	0,760047	0,691922	0,680076	0,510727	0,854693	0,655536
20	ger.q3	Gerais	0,432828	0,447031	0,353909	0,408924	0,419651	0,585351	0,37565
21	ger.q4	Gerais	0,793461	0,818425	0,80563	0,807982	0,629771	0,917629	0,851564
22	lea.q23	Lealdade	0,745033	0,804019	0,830205	0,840606	0,595117	0,820546	0,99243
23	lea.q24	Lealdade	0,739659	0,805929	0,837013	0,839934	0,591334	0,823599	0,992487

	name	block	weight	loading	communality	redundancy
1	ace.q5	Acesso	0,464439003	0,858483878	0,736994568	0
2	ace.q6	Acesso	0,646743222	0,929714581	0,864369202	0
3	fun.q11	Funcionamento	0,254496119	0,916180256	0,839386262	0
4	fun.q12	Funcionamento	0,231800159	0,8404328	0,706327291	0
5	fun.q13	Funcionamento	0,172027491	0,705094217	0,497157854	0
6	fun.q14	Funcionamento	0,241721158	0,921981745	0,850050339	0
7	fun.q15	Funcionamento	0,247228607	0,921677886	0,849490125	0
8	res.q17	Responsavel	0,233790332	0,902562604	0,814619254	0
9	res.q18	Responsavel	0,230462969	0,923766584	0,853344702	0
10	res.q19	Responsavel	0,216224379	0,912442755	0,832551781	0
11	res.q20	Responsavel	0,215279074	0,909411537	0,827029344	0
12	res.q21	Responsavel	0,218331844	0,83829255	0,7027344	0
13	rec.q22	Recursos	1	1	1	0
14	ins.q7	Instalacoes	0,264063909	0,878169653	0,77118194	0
15	ins.q8	Instalacoes	0,274815165	0,908055757	0,824565257	0
16	ins.q9	Instalacoes	0,286345797	0,918334106	0,84333753	0
17	ins.q10	Instalacoes	0,276267438	0,92518498	0,855967248	0
18	ger.q1	Gerais	0,344638998	0,924236842	0,85421374	0,712898846
19	ger.q2	Gerais	0,295921845	0,854693489	0,73050096	0,609652206
20	ger.q3	Gerais	0,181824456	0,585351013	0,342635809	0,285952638
21	ger.q4	Gerais	0,351033375	0,917628808	0,84204263	0,702741235
22	lea.q23	Lealdade	0,502863717	0,992430335	0,98491797	0,675769247
23	lea.q24	Lealdade	0,504735083	0,992486574	0,985029599	0,675845838