

A Framework for Comparing Centralized Municipal Customer Services – An Analysis of  
Madrid, New York City and Rio de Janeiro

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## **Abstract**

In the last 20 years many municipalities around the world implemented centralized Municipal Customer Services (MCS), aiming to unify the official channels of communications between residents/tourists and the City Hall, increasingly using the approach of citizens as customers or citizens-centered government. However, when analyzing or comparing MCS, the focus generally is only in the contact center. The main question of this project is: what are the basic dimensions to analyze a MCS going further than assessing only the contact center? This paper proposes a broader framework for the analysis and comparison of MCS, considering eight key basic components: Historic; Population, Channels of Communications; Services Offered; Performance Assessment; Transparency; Volume; and Management. The framework consists on questions concerning aspects of each of these components, description of the factor and a metric for analysis. Three case studies of MCS are done using the framework: New York City's 311; Línea Madrid; and Rio de Janeiro's 1746. The analysis considers only official data published on the internet by each municipality. Additionally, a comparative discussion between the three cities is done to apply the framework proposed, in order to validate which components and factors are comparable and how the different cities approach each one. This highlights the differences in the methodologies of each city in terms of management, analysis and publishing of their own data. The conclusion is that the framework is valid as a practical tool for public managers and outside entities to analyze MCS; given that it establishes comparable indicators; contains the basic and most necessary items for a broader sense than just analyzing the contact center. Therefore, it can and should be used by cities that already have a MCS and for cities that are in the process of establishing their own. However, some factors must be analyzed with cautious, because different MCS approach the same issues differently, such as their classification of services, and how they count their contacts and demands.

## **1 – Introduction**

In the last 20 years many municipalities around the world implemented centralized Municipal Customer Services (MCS), aiming to unify the official channels of communications between residents/tourists and the City Hall. From the scope of citizens, this facilitates the request and follow-up of services and information. On the perspective of public management, this establishes a new logic of interaction with the population, requesting new governance approaches and processes redefinition. In the United States, centralized MCS is known as 311, due to the standard telephone number that its cities adopted. Throughout the world it takes other numbers, such as Rio de Janeiro's 1746; Madrid's and Barcelona's 010; Bogotá's 195. However, there are still big cities that do not have a centralized service.

### **1.1 - Objectives**

The questions that drive this research are: what are the basic dimensions to analyze a MCS going further than assessing only the contact center? How can MCS be analyzed through a full integrated model of detecting the needs from the population, managing them, giving a good service back to the citizens and also allowing the civil society to have access to the data generated?

Therefore, the main objective is to define a practical framework for the analysis and comparativeness of big cities' MCS in a broader term than just focusing on the contact center.

### **1.2 - Justification**

The scientific main motivation for this research is to fulfill the gap in the literature of a practical broad framework for assessing MCS.

As a practical justification, this work is related to Rio de Janeiro's Strategic Plan 2017-2020, where its MCS (1746) goal is to be the best in the world among big cities, but lacks how to measure this result and which cities to compare.

Another practical justification is that this framework will possibly allow mayors, policy-makers, investors, researchers and citizens to compare the degree of openness and responsiveness of cities to the interaction with citizens through contact centers.

If the World Economic Forum's (WEF) *Global Competitiveness Report (GCI)*<sup>1</sup> - in which countries are analyzed - could be used to compare cities, the existence and good use of a MCS could leverage a city's competitiveness on some pillars, such as 'Institution' (Transparency of Government Decision Making; Wastefulness of Government Spending) and 'Innovation' (Government procurement of advanced tech products).

Furthermore, using the WEF's report "The Competitiveness of Cities"<sup>2</sup> as guidance for assessing a city's readiness to compete in the global world, MCS help on cities building on the element "Soft Connectivity", by giving more power and voice to the citizens and structuring the municipal administration to respond and even predict the demands of people.

Additionally, advancing the relationship between public service and the society in the cities may improve countries' ranking on the "Doing Business Report", by the World Bank, given that through MCS individuals and enterprises may have easier access to the processes of: starting a business; dealing with construction permits; getting electricity; registering properties; paying taxes; and even resolving insolvency.

In the global age, as cities are competing against each other for resources, it is necessary a framework for analyzing and comparing MCS, as a tool for participation, inclusiveness, management and accountability. Local governments need to enhance its capacity of listening and delivering services to gain support and trust from its inhabitants. Wiseman (2015) affirms that, according to the American Customer Satisfaction Index, government is ranked 42<sup>nd</sup> out of 43 industries analyze and because of that "it's time for government to change that perception by listening to its customers and improving service

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<sup>1</sup> Klaus Schwab and Xavier Sala-i- Martín, "The Global Competitiveness Report 2015-2016", (World Economic Forum, 2015), [http://www3.weforum.org/docs/gcr/2015-2016/Global\\_Competitiveness\\_Report\\_2015-2016.pdf](http://www3.weforum.org/docs/gcr/2015-2016/Global_Competitiveness_Report_2015-2016.pdf)

<sup>2</sup> World Economic Forum (2014), "The Competitiveness of Cities".

delivery”. In her view, 311-like systems and its data are the “ideal platform for systematic customer feedback”.

This research’s scope is limited to MCS 311-like. But there are other ways of civic engagement and feedback, either created/led by the government or by the civil society. All are important to increase public awareness, transparency, engagement and follow-up on public policies.

## **2 - Methodology**

In order to answer the questions proposed in this research, the methodology used is described in this section.

A state-of-the art and literature review was done in order to assess the current state of the scientific field over MCS and citizen-centered government.

The framework proposed was created by the author, based on his professional experience working with MCS at Rio de Janeiro's City Hall, in the Secretary of Government, responsible for Rio's 1746. Additionally, analysis of reports of different cities' MCS and the state-of-art and literature review contributed to the definition and grouping of the framework's components.

The questions, descriptions and metrics that compose each component of the framework were also created by the author, mostly focusing on quantitative and binary indicators, in order to facilitate comparisons among cities. These were created also by analyzing the published reports of the three cities and their websites.

For the purpose of applying the proposed framework to three big cities, a primary research was done, in order to make a selection. It was chosen one in a developing country (Rio de Janeiro, Brazil) and two in developed countries, but in different continents (Madrid, Spain, and New York City, United States). Individual case studies analyses of these cities were conducted, assessing the current state of each one by the lenses of the proposed framework.

Because the author of this paper works at Rio de Janeiro's City Hall, this was the obvious first choice, enabling the possibility to benchmark Rio's 1746 among its similar.

New York was chosen because it is one of the three main global cities of the world (along with London and Paris) and its 311 was the main inspiration for Rio when creating 1746.

Madrid was a clear choice in terms of Europe because Spain is being a leader in innovation on civic engagement and this city's MCS (Línea Madrid 010) was established more than 10 years ago.

In all three cities, the criterion of having data and information available online was crucial in order to be able to apply the framework and answer most of the questions proposed. Otherwise, a framework full of "Non-Available" answers would be the result. This, however, does not prevent from its applications to other cities that do not share so much information online. Contacts with managers of its MCS would be necessary.

All the analysis was done with material available online, mostly the official ones published by each City. There was not made interviews with public officials. However, the privileged access to information concerning Rio's 1746 by the author determined that this city's analysis could go further than the other two cities, especially concerning the section of comparison among them.

Other cities that have centralized MCS were previously analyzed, for instance: Belo Horizonte (Brazil); Bogotá (Colombia); Chicago, Kansas City, Philadelphia and Washington (USA); Santiago (Chile); and Sidney (Australia).

The array of cities with centralized municipal customer services outside the United States is still limited, but efforts are growing around the world. Some cities that were analyzed and still have several telephone numbers and/or websites and/or different channels for different requests, making it harder for citizens to contact them were: Cape Town (South Africa)<sup>3</sup>, London (England)<sup>4</sup>, and São Paulo (Brazil)<sup>5</sup> are some examples.

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<sup>3</sup> "Welcome to the City of Cape Town's E-Services Website." Accessed June 07, 2016.

<https://www.capetown.gov.za/en/eservices/Pages/default.aspx>.

<sup>4</sup> "The Official Site of the Mayor of London and the London Assembly." Contacting City Hall and the Mayor. Accessed June 07, 2016. <https://www.london.gov.uk/about-us/contacting-city-hall-and-mayor>.

<sup>5</sup> "Entre Em Contato Conosco." Fale Conosco. Accessed June 07, 2016.

<http://www.prefeitura.sp.gov.br/portal/portal/contato/index.php?contato=1>.



This, nonetheless, does not mean that the services provided by these cities are better or worse than the cities that have centralized MCS. However, in terms of civic engagement, for this paper, it was chosen to analyze cities that show evidence of merging all or most of their channels into just one integrated interface between the municipal administration and its citizens.

Additionally, a comparative case study between New York City, Rio de Janeiro and Madrid is done to apply the framework proposed, in order to validate which factors are comparable and how the different cities approach each one. This is also used to highlight the differences in the methodologies of each city in terms of analyzing and publishing their own data.

### **3 – State-of-art and Literature Review**

Customer-driven government is not a recent concept, going back to the 1990s, in works such as Osborne & Gaebler (1993) and Guy & Pierre (1998). However, recent evolution in the Information and Communication Technologies (ICT) - such as Big Data, MCS and Social Media - are transforming the way public management is done. In this context, and also with the advent of the new public management (NPM) since the 1990s, many cities have been promoting a new way of doing public policies in what may be called citizen-centered public administration, where inhabitants are treated as customers of the city. Osborne & Gaebler (1993, pp.192) had already claimed that “democratic governments exist to serve their citizens”, advocating that the public administration must focus on “meeting the needs of the customer, not the bureaucracy”. Additionally, Schedler & Summermatter (2007) have discussed how electronic government can help the government to increase its capability to become more citizen-oriented.

As Nam & Pardo (2014) highlighted, “today’s city governments are looking to the consolidation of municipal services as one of the ways to make cities smarter – more efficient, effective, transparent, and accountable”.

Centralized municipal non-emergency customer service emerged in Baltimore, USA, in 1996, although it was being already developed in Chicago (Cardwell, 2002 and Schellong, 2008 *apud* Minkoff, 2016) and Madrid, for instance. This kind of service is here called Municipal Customer Service (MCS), but it also receives other names, such as single non-emergency number contact centers.<sup>6</sup>

These programs have been evolving since then. At first, the main objective was to establish call centers to manage the requests of citizens, facilitating their lives, given that, normally, citizens would have to understand how the municipal administration works to

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<sup>6</sup> Idicheria, Schellong and Fiedler, “A Review of 311 in New York City”.

really find the right place to go or number to call for the service/information he was pursuing. And after requesting there was no protocol number or anything similar for the citizen to track how his request was being processed through the bureaucracy. With the outcome of new technologies and social media, the MCS had to improve and offer other channels. Additionally, as more citizens got used to it, they had to increase the variety and quality of the services provided, both in terms of the interface itself and of the public services (Goldsmith & Crawford, 2014; Wiseman, 2015).

The demands of the society for more openness of governments led to the establishment of laws of access to information and to tools of open data. As MCS holds the main database concerning local public services, their data has been used by the civil society in what is called civic hacking or civic engagement. Peixoto & Fox (2016) conducted a research on how this civic engagement is really changing the way local government relates with its citizens, by analyzing and comparing initiatives in several parts of the world.

A series of articles published by Harvard Kennedy School<sup>7</sup> presents initiatives on how technologies and civic engagement have been changing public policies in the last five years. Goldsmith & Crawford (2014) summarize and discuss on how cities are or should be using data to become more competitive and resilient.

Cohen, Eimicke & Heikkila (2013) touch on the importance of Big Data to performance management in the public sector. Matheus & Ribeiro (2014) analyze the emergence of 1746 and its relation with openness of data, citizens' engagement through digital channels, and the impact on public policies in Rio de Janeiro.

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<sup>7</sup> "Civic Engagement | Data-Smart City Solutions." Data-Smart City Solutions. Accessed April 10, 2016. <http://datasmart.ash.harvard.edu/civic-engagement>.

Minkoff (2016) is an example of the use of MCS data availability to further investigate how the demand of services requests and the quality of its provision vary according to demographics and geographic conditions.

Clark (2014) analyzes the relationship between the use of 311 in San Francisco, California, USA, and the citizens' satisfaction with local government services. The result is that most frequent users are generally more satisfied with their government.

Nam & Pardo (2014) analyzed how New York City and Philadelphia approached the integration of services through 311 systems, and what influences this service integration, in terms of both the front-office and the back-end parts of the process.

Broadly analyzing the websites and published official reports of MCS around the world, there is a wide range of differences between cities on the services provided, the performance indicators, satisfaction surveys methods, the transparency (open-data), and the communication channels provided.

A framework for practical comparison between MCS is required, as more citizens engage in participating on the design of public policies and more cities create MCS. Cities have social, economic and even cultural indicators to compare themselves to others, but a broad framework concerning their official customer service is not yet available. This paper is an effort to promote a common language for cities to benchmark.

For this study, the MCS of Madrid, New York City and Rio de Janeiro were analyzed. These MCS served as inspiration for the definition of the framework presented in the next section.

#### **4 - The framework**

In this session it will be presented the basic components to analyze MCS. They are divided in seven major groups: Historic; Channels of Communications; Services Offered; Performance Assessment; Transparency; Volume; and Management. This aims to be a concise and practical framework for the analysis of an individual MCS or to the comparison/benchmarking between many MCS. Therefore, the most basic factors and questions were summarized in the framework.

Every group is briefly explained and then a table is presented with three fields: a question; a description of the item; and the metric to analyze it.

##### **4.1 – Population**

A first aspect that has to be considered in order to establish the basis for any further analysis and comparison among cities is the absolute population size.

<b>Question</b>	<b>Description</b>	<b>Metric</b>
What is the population of the city?	The most recent data about the population.	Absolute number

##### **4.2 – Historic**

In order to assess the MCS it is necessary to first understand when it was established, given that it naturally evolves over time, in terms of services provided, satisfaction levels, number of contacts, quality of the services, etc. The level of maturity is influenced by the level of experience.

<b>Question</b>	<b>Description</b>	<b>Metric</b>
When was the MCS established?	The month and year when the MCS was established and opened to the public.	Descriptive (month and

		year).
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Table 1 – Historic

### 4.3 - Channels of Communications

The channels of communications are the means through which the citizens can contact the City Hall, asking for information, services and also making complaints, suggestions and compliments.

It is essential to know the customer in order to offer them the appropriate possibilities of channels. This aims to facilitate their contact and also to make them want to contact again. For instance, a city with low levels of internet access should focus primarily on other channels, like telephone and in-person.

Traditionally, the contact was made by phone, but as new technologies evolved other channels are being created, reaching more citizens, given particular preferences for other channels, from in-person to social media.

It is also important for a MCS to be inclusive, creating channels that are fit to people with disabilities.

<b>Question</b>	<b>Description</b>	<b>Metric</b>
Which channels are available?	A list of the channels available to the citizen.	Descriptive.
How many channels are available?	The number of channels available.	Absolute number.
What are the working hours of each channel?	The hours opened to the public for each channel.	Descriptive.
What languages are available in the Telephone Contact	The number of languages available for the citizen to contact the City Hall through the	Absolute number.

Center?	telephone Contact Center.	
How many languages are available in the Telephone Contact Center?	The languages available for the citizen to contact the City Hall through the telephone Contact Center.	Descriptive.

Table 2 – Channels of Communication

#### 4.4 – Services/information offered

This refers to the array of services and subjects of information that the City Hall offers by citizens' request through the customer service.

Some of this services and information may be resolved right on the moment of the contact and/or by the Contact Center. However, most of the services offered are obtained by the Contact Center and passed to the Departments responsible for inspecting and solving the problem/request, when really necessary.

Initially, when implementing the centralized/unified MCS, cities may start with a low number of services and then step by step integrate more services as the agencies and the Contact Center are being adapted to new demands. Ideally, every type of request by the citizens should be registered through the MCS, avoiding back doors and other channels with other systems, that may confuse citizens and difficult the work of the Departments.

Question	Description	Metric
How many services/information are available?	The number of services and information offered.	Absolute number.

Table 3 – Services and Information Offered

#### 4.5 - Performance Assessment

This group is concerning the performance measurements to evaluate the quality and responsiveness of the customer service. It can be analyzed by the citizens' feedback (active or passive) or by system's reports.

Normally, contact centers have standard indicators: number of calls answered in certain amount of time; waiting time by the caller before being attended by a human; rate of calls that were hang out by the citizen; number of transferred calls between inside levels of expertise; transferred calls between operators; time spent on each call; etc. When the contact center is outsourced, these are some of the main indicators used to control the contract between the City Hall and the hired enterprise.

However, this study is more interested on the aspects of the relation between services/information required by the citizens and the capability of City Halls to respond to them. Therefore, other indicators are proposed, more focused on the whole process experience by the citizen.

This component can be subdivided in two: satisfaction surveys; and responsiveness.

#### **4.5.1 - Satisfaction Surveys**

The satisfaction surveys aim to identify how well the MCS is doing by the eyes of the citizens. Currently, each city measures it on its own way. It would be better if they were standardized. Some cities use indicators concerning only the contact center and not the services provided, while other are concerned with both. The two should be measured to obtain a more realistic number and to have the ability to establish action plans. The aim of every City Hall should be a greater level of citizens' and tourists' satisfaction with the city. This enables the attraction of well qualified people, investments, resources and more visitors.

The satisfaction surveys can be subdivided in two: one related to the services/information provided by the city; another concerning the contact center itself. Both can be done in just one or in separate surveys.



#### 4.5.1.1 – Survey concerning the services

Question	Description	Metric
Are there satisfaction surveys concerning the services provided by the City through its MCS?	The existence of satisfaction surveys asking about the services provided by the City through the MCS.	Binary (yes or no)
Is the survey done actively or passively?	Active Satisfaction Survey is done when the MCS contacts the citizen. Passive is when a channel is offered and the citizen actively responds to the survey.	Descriptive (passive or active).
How often is the satisfaction survey over services conducted?	The frequency of the survey related to the services provided by the City through the MCS.	Descriptive (monthly, yearly, etc.).
What is the current satisfaction level with the services?	The most recent result published about the satisfaction level with the service. It can be the most recent month or year publication.	Relative number (satisfied citizens/total citizens surveyed)
How are the classes of satisfaction defined?	Normally, satisfaction surveys ask the citizen to evaluate with a grade. This item states how the city groups satisfied, indifferent and unsatisfied citizens.	Descriptive.

Table 4 – Satisfaction Surveys over the Services/Information

#### 4.5.1.2 – Survey concerning the Contact Center <sup>8</sup>

Question	Description	Metric
Are there satisfaction surveys concerning the channels of communications?	The existence of satisfaction surveys asking about the quality of the Contact Center.	Binary (yes or no)
Is the survey done actively or passively?	Active Satisfaction Survey is done when the MCS contacts the citizen. Passive is when a channel is offered and the citizen actively responds to the survey.	Descriptive (passive or active).
How often is the satisfaction survey over the Contact Center conducted?	The frequency of the survey related to the Contact Center.	Description (monthly, yearly, etc.).
What is the current satisfaction level with the Contact Center?	The most recent result published about the satisfaction level with the Contact Center. It can be the most recent month or year publication.	Relative number (satisfied citizens/total citizens surveyed)
How are the classes of satisfaction defined?	Normally, satisfaction surveys ask the citizen to evaluate with a grade. This item states how the city groups satisfied,	Descriptive.

<sup>8</sup> Other indicators are also used to assess the channels. For instance, abandoned rate of a telephone call; waiting time before talking to a human in the telephone contact center; number of downloads of the app. But most of these are generally answered when the citizen attributes a grade in the satisfaction surveys. Therefore, for simplification purposes, these other indicators are left aside for an easier access to data and comparison between MCS.

	indifferent and unsatisfied citizens.	
What is the grade of the smartphone app?	The grade attributed to the app by users through the feedback mechanism of app stores.	Absolute number.

Table 5 – Satisfaction Surveys over the Contact Center

#### 4.5.2 - Responsiveness

This subgroup is related to measuring the service responsiveness in terms of finalizing the requests according to the Service Level Agreement (SLA) defined for each service. Therefore, it can be automated and/or done by simple systems calculations.

Question	Description	Metric
Is there a defined SLA (time) for each service?	Concerning the existence of a defined time limit for the City to answer to each type of request.	Binary (yes or no).
What is the rate of requests closed on time?	If the requests have a defined period of time for being finalized (whether with solution or not), then this item measures how many requests are finalized on time.	Relative number (number of requests finalized on time / total number of requests)

Table 6 – Responsiveness

#### 4.6 - Volume

The volume of contacts and the services demanded is an indicator of how the population uses the MCS and also can be used in the budget process of the City Hall, according to each Department's demand. Alongside, the ratio of the inhabitants who know the services is a measure of the publicity given by the City Hall to its MCS and to natural publicity made from person to person about the MCS.

Some types of demands are seasonal, which, if properly analyzed, can be helpful for the different departments to plan throughout the year.

Finally, the distribution of requests opened by the different channels of communication provides an initial understanding of the patterns of digital engagement of cities. It also influences on the operation and costs, given that in-person facilities tend to be more expensive to operate, for instance, than digital channels, like smartphone apps.

<b>Question</b>	<b>Description</b>	<b>Metric</b>
How many contacts the MCS receives in a given period of time?	The volume of contacts received by the MCS in a daily, monthly, yearly, etc. basis.	Absolute number.
How many services/information are requested in a given period of time?	The volume of services requests received by the MCS in a daily, monthly, yearly, etc. basis.	Absolute number.
What is the share of contacts for each channel of communication in a given period of time?	The share of each channel over the total number of contacts.	Relative number (each channel's contacts/total contacts)
How many times the	The number of downloads as presented by	Absolute

smartphone app was downloaded?	the app stores (Play Store, Apple Store, etc.).	number.
How many inhabitants know the MCS?	The number of citizens who know the MCS, which can be obtained in periodically surveys.	Relative number (people who knows / total population surveyed).

Table 7 – Volume

#### 4.7 – Transparency

Transparency is related to how the City Hall opens the data, the goals and the results of the MCS. It is important for accountability, civic engagement, business analysis, academic purposes, benchmarking to other cities, etc.

<b>Question</b>	<b>Description</b>	<b>Metric</b>
Are the datasets available in an Open Data website?	The existence of an Open Data Portal with the requests datasets.	Binary (yes or no).
What is the frequency of data sets update?	Concerning the updating period of the datasets.	Binary (yes or no).
Are the results of the satisfaction surveys available online?	The publicity of the results concerning the satisfaction surveys with the services.	Binary (yes or no).
How often is the satisfaction survey updated online?	Concerning the updating period of the satisfaction results.	Descriptive (monthly, yearly, etc.)

Are the results of the contact center and the departments available online?	The publicity of the results concerning the satisfaction surveys with the channels.	Binary (yes or no).
How often are the indicators of the contact center and the departments updated online?	Concerning the updating period of the contact center and the departments indicators.	Descriptive (monthly, yearly, etc.)
Are the goals related to the Contact Center published online?	The publicity of the goals of the Contact Center.	Binary (yes or no).
Are the goals related to the departments published online?	The publicity of the goals of each department concerning the MCS. It can be in terms of responsiveness, satisfaction surveys, etc.	Binary (yes or no).

Table 8 – Transparency

#### 4.8 – Management

MCS is a step-forward in terms of High Performance Management. The establishment of goals, rewards for their accomplishments and accountability tools are essential for the Contact Center and the different Departments that respond to the requests.

In order to analyze the differences between cities, it is also important to know how they operate their contact center, whether by the government or outsourced.

<b>Question</b>	<b>Description</b>	<b>Metric</b>
Are there established goals for the Departments?	If the accountability method establishes goals for each Department.	Binary (yes or no)
Are there established goals	If the accountability method establishes	Binary (yes or

for the Contact Center?	goals for the Contact Center.	no)
Is the Call Center run by the government or is it outsourced?	Whether the Contact Center is run by the government or outsourced.	Descriptive (government or private).

Table 9 – Management

## **5 – Case Analysis**

The case analyses of each city are summarized in a comparative table available in Appendix 1, where the questions of the framework are answered.

### **5.1 – Rio de Janeiro’s 1746**

The municipality of Rio de Janeiro, located in the state of Rio de Janeiro, Brazil has a population of 6.3 million people, according to 2010 Census.<sup>9</sup> In 03/2011, Rio established “1746 – Central de Atendimento ao Cidadão” (Citizen Attendance Central), its Non-Emergency MCS, centralizing all the services and information available to its citizens and tourists into just one telephone number, 1746.

Currently, 1746 is available through 5 channels: telephone; a smartphone app (for Android and IOS); two web portals (1746<sup>10</sup> and Carioca Digital<sup>11</sup>); WhatsApp (only accepts requests concerning irregular expansions of buildings and land property); and one in-person facility. The four digital channels are available 24h a day, while the in-person is opened from 10h to 16h. The call center is prepared to attend in Portuguese, English and Spanish.

There are 2015 services available through 1746.<sup>12</sup>

1746 runs satisfaction surveys monthly, actively interviewing by phone approximately 4500 citizens that contacted the service during the previous month. The survey asks about the service of the Contact Center (mobile, web and telephone) itself and also about the quality/satisfaction with the specific service/information requested by the citizen. A citizen is considered satisfied when attributes a grade of more or equal to 6 out of 10. Separate indicators come from these questions. One is related to the quality of the service/information and 1746 ended 2015 with a demand-weighted average of 70.2%. The most demanded

<sup>9</sup> "Instituto Brasileiro De Geografia E Estatística - IBGE." IBGE. Accessed June 03, 2016. <http://cidades.ibge.gov.br/painel/painel.php?codmun=330455>.

<sup>10</sup> “1746” Prefeitura da Cidade do Rio de Janeiro. Accessed June 10, 2016. [www.1746.rio](http://www.1746.rio)

<sup>11</sup> “Carioca Digital” Prefeitura da Cidade do Rio de Janeiro. Accessed June 10, 2016. [www.carioca.rio](http://www.carioca.rio)

<sup>12</sup> “Sobre 1746” Prefeitura da Cidade do Rio de Janeiro. Accessed June 10, 2016. [www.1746.rio](http://www.1746.rio)



Departments have targets concerning satisfaction levels, thus they require statistical significance. The margin of error varies from 2% to 10% depending on the service and the management level, on each month's survey with a confidence level of 95%. Concerning the Call Center, the score of satisfied citizens was 93% in 2015.

The current (06/2016) grade of the smartphone app in Google Play Store is 3.3/5 and 4+/5 in Apple Store.

The rate of requests closed on time was 93.8% in 2015. This data, however, was achieved only because the author works on 1746. It is not available on any website and must be formally requested.

1746 requests data is available in an Open Data Portal <sup>13</sup>, but not on real time. Furthermore, the datasets are not updated since 03/2014. The results of the satisfaction surveys are available on the web portal, but they are also not updated frequently (last time was in 02/2015) and cannot be downloaded and analyzed. Only the final result of 2014 is published. However, yearly, the satisfaction level is published on the official newspaper of the municipality, for legal reasons. The results and indicators of the contact center are not published online. Neither are the goals of the contact center. The goals of the City's Departments are published in the Strategic Plan, but the specific targets concerning 1746 can be found only in the official newspaper. Its results are also published by this mean.

In terms of volume, 1746 received 4.3 million contacts in 2015. 1746 considers for this number people that: called 1746; or opened a request using the web portals or the app (the official or by chat in WhatsApp); or opened a request in the in-person facilities. The call center registered 2.2 million contacts, the smartphone app 128 thousand, the web portals 1.9 million, and WhatsApp 491. The in-person service was established only in 2016.

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<sup>13</sup> "Data Rio" Prefeitura da Cidade do Rio de Janeiro. Accessed June 10, 2016. data.rio

In the same year, these contacts generated 1.3 million requests for services or information.

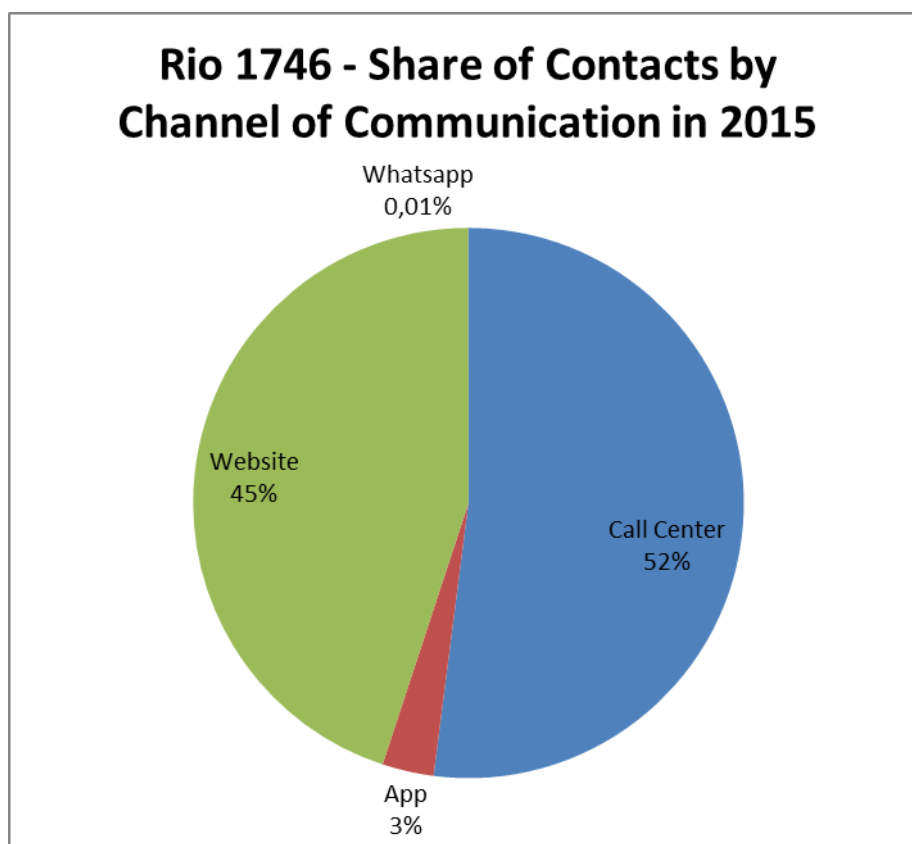


Figure 1 – Share of Contacts by Channel of Communication in 2015 at Rio’s 1746

The smartphone app was downloaded a number between 50000 to 100000 times, according to Google Play Store and there is no data from the Apple Store available.

Concerning goals, the most-demanded Departments have targets to achieve yearly, which are requirements for sectors and individual bonuses. Most of these targets are related to Satisfaction levels, but some with Performance (requests within the SLA time) and Conformity. The latter is taken by field inspections on random requests, done by fiscals to check if the Department really did what it informed the citizen in the system.

The Contact Center is outsourced, but the Administration (Management) is run by the municipal government, under the Secretary of Government, which has goals of increasing the satisfaction level of 1746 and the number of contacts. The 2016 targets are to achieve a

satisfaction level of 71.7% and to receive 6.3 million contacts. These were adjusted according to the results of the recent years. The original targets, as stated in Rio de Janeiro's Strategic Plan 2013-2016 for 2016 were 85% satisfaction level and 3.5 million contacts.<sup>14</sup>

## 5.2 – New York City's 311

New York City (NYC), located in the state of New York, United States of America, had a population of 8.5 million people in 2015.<sup>15</sup> In 03/2003, NYC established "NYC311 – Customer Service Center", its Non-Emergency MCS.

Currently, NYC311 is available through 8 channels: telephone; a smartphone app (for Android and IOS); a web portal<sup>16</sup>; SMS text message; video calls on Skype; Video Relay Service; TTY; and Facebook chat. The 4 digital channels are available 24h a day. The call center is prepared to attend in 170 languages and in 2015, 2.5% of all calls were handled in languages other than English.<sup>17</sup>

There are more than 3800 types of services available through 311.<sup>18</sup>

There are not satisfaction surveys concerning the services provided by the different Departments of NYC City Hall through 311.

The surveys that are conducted are concerning the quality of 311 as an interface between citizens and the City. It is used for the evaluation of the work done by the agency that runs 311 in the Mayor's Management Report (MMR) of NYC. As explained in the first 4-month period of 2016's MMR, the satisfaction survey is "an index of the customers surveyed who were satisfied with the service they received from 311". The survey is conducted and the index is calculated by CFI Group, Inc. for 311 using their patented

<sup>14</sup> Prefeitura da Cidade do Rio de Janeiro, "Plano Estratégico da Prefeitura do Rio de Janeiro 2013-2016", (2013).

<sup>15</sup> "Current and Projected Populations." NYC Population. Accessed June 10, 2016.

<http://www1.nyc.gov/site/planning/data-maps/nyc-population/current-future-populations.page>.

<sup>16</sup> "311 | City of New York." 311 | City of New York. Accessed. June 10, 2016. <http://www1.nyc.gov/311/>.

<sup>17</sup> "Preliminary Mayors Management Report", (2016). Accessed July 10, 2017.

<http://www1.nyc.gov/assets/operations/downloads/pdf/pmmr2016/311.pdf>, pp.122

<sup>18</sup> This information was obtained through an inquiry to NYC 311 online service

American Customer Satisfaction Index (ACSI) methodology. The overall result reported is a comparison and weighted metric that triangulates the customer's view on ideal customer experience, desired customer experience and actual customer experience".<sup>19</sup> This survey is done yearly and actively calling users. In 2015, it interviewed 765 callers and resulted in an 85% satisfaction result, which represents a seven-point increase since 2008. However, it is not clear whether the sample universe is composed only by people that call by telephone or by users of all channels. Additionally, there is a passive satisfaction survey available on the website, which is used for feedback purposes.<sup>20</sup>

The current (06/2016) grade of the smartphone app in Google Play Store is 4.3/5 and 4+/5 in Apple Store.

The rate of requests closed on time is not available.

NYC311 requests data are available in an Open Data Portal<sup>21</sup> not on real time, but it is updated daily. All 311 service requests from 2010 to present are available. Additionally, there is a map application "311 Service Request Map", where citizens can track service requests by location, category, complaint type and date.<sup>22</sup> Finally, there is also the NYC311 Content API (Application Programming Interface)<sup>23</sup> to facilitate the accessibility to data requests, especially for developers, analysts, students and researchers.

The results of the satisfaction surveys are partially available on the website of the MMR, updated twice per year. The results, indicators and targets of the contact center are published online in the MMR. In the most recent Strategic Plan "One NYC", there is a strategic initiative concerning NYC 311: "Enhance the digital capabilities of NYC 311 to

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<sup>19</sup> Ibid., pp.76

<sup>20</sup> "311 Online Customer Satisfaction Survey." NYC 311. Accessed June 10, 2016. <http://www1.nyc.gov/nyc-resources/service/3461/311-online-customer-satisfaction-survey>.

<sup>21</sup> "NYC Open Data." NYC Open Data. Accessed June 10, 2016. <https://nycopendata.socrata.com/>.

<sup>22</sup> "NYC311 Service Request Map." NYC 311. Accessed June 10, 2016. <http://www1.nyc.gov/nyc-resources/service/981/nyc311-service-request-map>.

<sup>23</sup> "NYC311 Content API." NYC 311. Accessed June 10, 2016. <http://www1.nyc.gov/nyc-resources/service/979/nyc311-content-api>.

provide easier connections to government and community services and information”.<sup>24</sup> Yet, there are no quantitative goals for 311 and for the different Departments concerning the services provided through 311.

There is no data about the passive survey that is done through Survey Monkey.

In terms of volume, NYC311 received 30 million contacts in 2015. 311 considers for this number people that: called 311, which were 21 million; or that visited 311’s website, 9 million. In their website and in the reports, there could not be found specific demand data about each of the 8 channels, neither how many services were requested with these contacts.

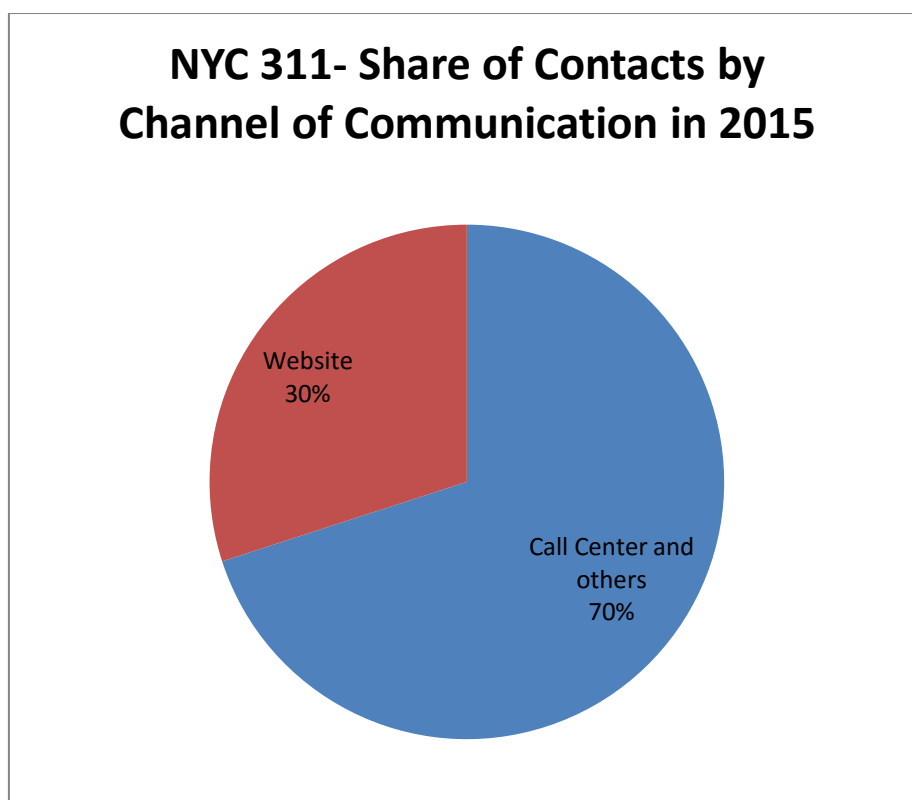


Figure 2 – Share of Contacts by Channel of Communication in 2015 at NYC’s 311

The smartphone app was downloaded from 100000 to 500000 times at Google Play Store. There is no data about the Apple Store available.

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<sup>24</sup> New York City Hall, “One New York: The Plan for a Strong and Just City”. (2015).

The Contact Center is run by a City Agency from the Management sector to the call center operators, which are civil servants or part-time college students. There is also part of the contact center that is contracted as outsourced.

### 5.3 – Madrid’s Línea Madrid 010

Madrid, located in the state of Comunidad Autónoma de Madrid, is the capital of Spain and had a population of 3.1 million people in 2015.<sup>25</sup>

In 01/2005, Madrid officially established its MCS “Atención al Ciudadano”, mainly represented by Línea Madrid 010. However, this number (010) is the official number to contact the City Hall since 1992 and there was an official website since 1996. Nevertheless, a Decree in 2005 regulated the activities, organization, management and evaluation of Madrid’s MCS.

Currently, Línea Madrid is available through 5 channels: telephone; a smartphone app (for Android and IOS); a web portal<sup>26</sup>; Twitter; and in-person (“Oficinas de Atención a la Ciudadanía - OAC”). The 4 digital channels are available 24h a day, while the in-person is opened from 9h to 23h. The call center is prepared to attend in 3 languages: Spanish, English and French. Nonetheless, the two latter in specific hours: Monday to Saturday from 08h to 22h and on Sundays/Holidays from 10h to 21h.

There are 329 types of services available through Línea Madrid.<sup>27</sup>

There is no evidence of satisfaction surveys concerning the services provided by the different Departments of Madrid through Línea Madrid and all its channels.

The surveys that are conducted are concerning the quality of Línea Madrid as an interface between citizens and the City. It is used for the evaluation of the quality of the

<sup>25</sup> "Instituto Nacional De Estadística." Instituto Nacional De Estadística. Accessed July 10, 2016. [http://www.ine.es/inebmenu/mnu\\_padron.htm](http://www.ine.es/inebmenu/mnu_padron.htm)

<sup>26</sup> “Portal Municipal.” Ayuntamiento de Madrid. Accessed July 10, 2016. [www.madrid.es](http://www.madrid.es)

<sup>27</sup> Madrid, Ayuntamiento de., “Mapa Estratégico del Ayuntamiento de Madrid 2011-2015: Evolución de los indicadores estratégicos”. (2015)

service provided by Línea Madrid, in order to understand what improvements can be done to better satisfy the citizen. Yearly, distinct surveys are done to analyze each channel of communication. Therefore, separate indicators are generated for each one. Línea Madrid consolidates all in one indicator in its Strategic Plan map, considering the grade attributed by its citizens. In 2015, the result was 8.65.

In 2015, the survey actively interviewed 4690 users of OACs (in-person facilities) with a 95% confidence level and a 1.46% margin of error. Furthermore, 2006 callers to 010 phone, with a 95% confidence level and a 2.07% margin of error.<sup>28</sup> Finally, 2005 users of the website, also with 95% and 2.2%, respectively. The questionnaires can be checked at MADRID (2016, pp.36). Satisfied citizens are those considered satisfied and very satisfied. In 2015, the results were as follows on table 10:

<b>OAC</b>	<b>010</b>	<b>Madrid.ES</b>
96%	94.9%	86.9%

Table 10 – Satisfaction Level of Línea Madrid’s channels. Source: Madrid (2016-2)

The current (06/2016) grade of the smartphone app in Google Play Store is 3/5 and 4+/5 in Apple Store.

The rate of requests closed on time is not available.

Línea Madrid requests data are available in an Open Data Portal<sup>29</sup> not on real time, but it is monthly updated. All 311 service requests from 2014 to present are available.

The results of the satisfaction surveys are available on the website of Línea Madrid and are updated yearly. Documents and presentations are available, explaining with a lot of details how the surveys are done, the statistical methods, questionnaires and results. Additionally, the plans and methods for improvements are also available. However, the targets to be pursued yearly were not found.

<sup>28</sup> Ayuntamiento de Madrid, “Presentación de Resultados de Los Estudios de Satisfacción 2015”. (2016)

<sup>29</sup> “Datos Abiertos”, Ayuntamiento de Madrid. Accessed July 10, 2016. <http://datos.madrid.es/portal/site/egob>

In terms of volume, Línea Madrid received 22 million contacts in 2015. This number considers: 3.4 million callers to 010; 16.2 million page views in the website; 2.5 million in-person attendances at the OACs; and 20 thousand by Twitter.<sup>30</sup> There is no data about the contacts using the smartphone app in 2015. According to Google Play Store, it has been downloaded from 5000 to 10000 times.

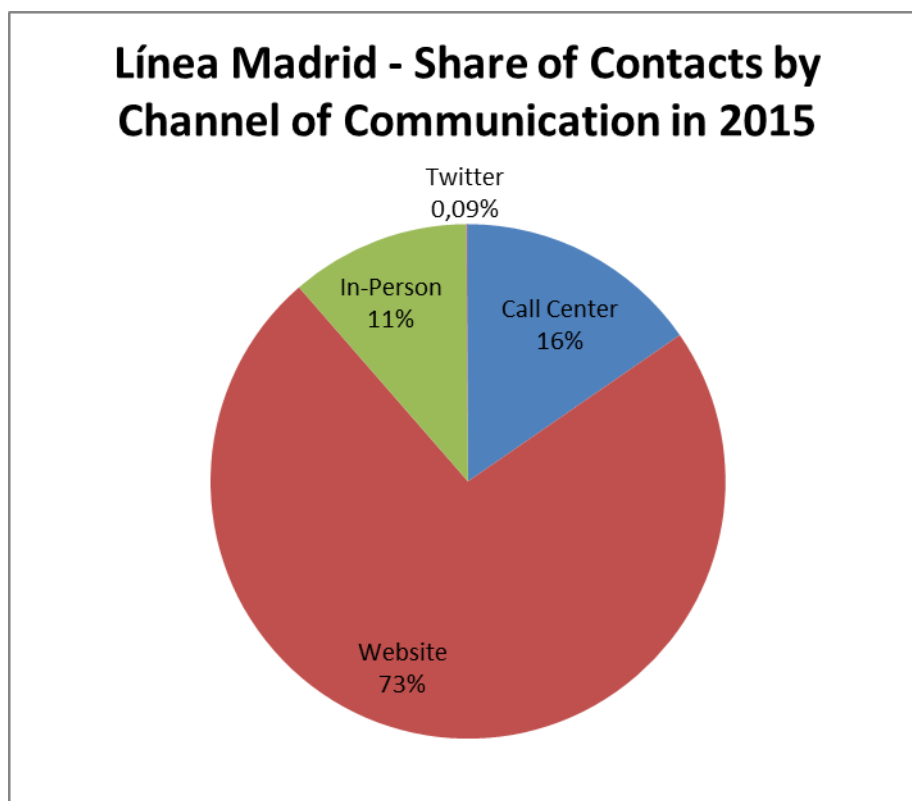


Figure 3 – Share of Contacts by Channel of Communication in 2015 at Línea Madrid

All these contacts generated 9 million requests for services, information, or taxes payment in 2015.<sup>31</sup>

In Madrid's 2011-2015 Strategic Plan there were two strategic goals related to Línea Madrid<sup>32</sup>:

- Consolidate an accessible and proactive relationship with the citizen
- Strengthen the civil society consolidating the participative model of governance

<sup>30</sup> Ayuntamiento de Madrid, "Estadísticas Año 2015: Anuales". (2016)

<sup>31</sup> Ibid.

<sup>32</sup> "Sistema de Gestión Estratégica". Ayuntamiento de Madrid. Accessed July 10, 2016. [http://www-2.munimadrid.es/SBAE\\_262\\_SF\\_SIGE\\_Internet/inicioCL.do](http://www-2.munimadrid.es/SBAE_262_SF_SIGE_Internet/inicioCL.do)



These goals are split into actions and initiatives and are followed in the Strategic Management System. However, there could not be found quantitative objectives concerning Línea Madrid satisfaction levels or number of contacts, although both are used as strategic indicators. Concerning the different departments, there were not find targets related to improve the service provided to the citizens that contacted Línea Madrid. Nonetheless, there are surveys concerning public services that are realized periodically to assess how the citizens evaluate specific services provided by the city. These are monitored in the Strategic Management System and have targets associated to them.<sup>33</sup>

Línea Madrid's Call Center is outsourced by a contract of services which is also responsible for supporting the in-person locations. The enterprise currently hired, since 2011, is Ferrovial Servicios S.A. This contract is valid until 04/2018.

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<sup>33</sup> Ibid.

## **6 – Discussion over the framework and comparison of the MCS of the three cities**

In this section, the cities are compared using the components of the framework. Additionally, each component and its factors are compared and further explained by the results of the case studies and the similarities and differences among the MCS analyzed. For a more straight analysis, the table in the Appendix should be consulted.

### **6.1 – Population**

The population of the three analyzed cities are very different among each other, from Madrid with 3.1 million, Rio with 6.3 and New York with 8.5, besides the metropolitan area of each one and the tourist population always visiting, especially New York.

This element of the framework is useful for assessing especially one other item: Volume. However, the rest of the items are unambiguous of the size of the city (for example, Management and Transparency), or in Performance it should not matter, given that each City Hall should adapt its capacity to attend its citizens.

### **6.2 – Historic**

Traditionally, all these cities used to have a wide range of communication channels for citizens to connect with the City Hall, especially telephone numbers and in-person locations. However, it was not an easy task for citizens to find the proper to the service they were looking for, nor was for the Mayors to control how these services were being provided by its Departments. Throughout the years, they centralized almost all its services/information in just one interface (although through many channels): the MCS. New York did it in 2003. For Madrid this date is more difficult to determine, however, 2005 is the year when a decree established Línea Madrid as a centralized MCS. Rio de Janeiro is the most recent, only established in 2011.

This information is important to compare these MCS because as they evolve, more services are added, more experience is gathered and better they adapt to new technologies and to the wishes of their citizens. This can be seen, for instance, in the next session, concerning channels of communication.

### **6.3 – Channels of Communication**

The cities analyzed do not differ much in this item. However, NYC seems to be better prepared to attend its citizens, counting with more channels. Social Media and SMS are more likely to attract younger population and Video Relay Service allows people with hearing difficulties to better connect to 311. Madrid distinguishes from the other two by having many in-person locations to attend its citizens, what might be more useful for older people who prefer live contact. Rio is implementing these in-person facilities in all 32 geographically distributed Administrative Regions, and NYC does not have yet.

Considering the languages, understanding each city's context is important. New York is along with London, Tokyo and Paris, the main global cities of the world, having inhabitants that speak a wide diversity of languages. Furthermore, according to 2014 data, it is the most visited city among the three, ranking 9<sup>th</sup> in the world, while Madrid is the 41<sup>th</sup> and Rio is the 80<sup>th</sup>.<sup>34</sup> Therefore, it makes sense that NYC 311 is capable of attending in 171 languages, while Rio and Madrid only 3 each. However, as these cities increase tourism, they will probably have to better adapt to new visitors, like Rio's 1746 had to do recently, making their app and website available also in Spanish and English to facilitate to the tourists travelling to Rio 2016 Olympic Games.

### **6.4 – Services/Information Offered**

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<sup>34</sup> Euromonitor. Top 100 Cities Destinations Ranking.

The definition of what is considered a service and a type of information depends on each city's MCS. Thus, the magnitude of the number is just a start for an analysis of this point. In order to deeply compare the array of services provided by each MCS, it is necessary to analyze each service in particular, by specialists of each subject.

However, how these services and information are organized is particularly interesting for the managers of MCS, because even though for the specialized departments/agencies of the City Hall it might be better to specialize each service they provide, it may turn into difficulties for the citizen to make a request, especially when using apps or the web. And it may also turn into problems for the training of the contact center professionals, which, by the nature of MCS, already have to deal with a variety much wider than regular Customer Services of the private sector. In addition, contact centers traditionally have high turnover rates. In the case of Rio and Madrid, where the call center is outsourced, this may lead to an even bigger problem than in NY, where the operators are civil servants and, thus, have greater job stability.

## **6.5 – Performance Assessment**

In terms of Satisfaction, Rio 1746 is the only that makes structured surveys asking its citizens how they evaluate the service or information they required through 1746. It is a monthly active survey and some of the Departments (the most demanded) have yearly goals to achieve concerning satisfaction rates. This is a different approach than the one used by NYC 311 and Línea Madrid, whose evaluations are more focused on the quality of the attendance by its channels, which tends to be higher than the evaluation of the service itself. Therefore, when assessing satisfaction ratings among these cities, comparisons are not valid at this point.

These differences were also perceived by Wiseman (2005), who affirms that “most 311 satisfaction surveys ask whether the city employee was courteous, and whether the

customer received accurate information. Left unasked is whether the original problem was fixed. Today, the ubiquity of customer satisfaction surveys in the private sector makes it surprising that one rarely sees this follow-up step in government”.

Notwithstanding these differences, in terms of satisfaction with the Contact Center itself, all the three cities conduct active surveys, but while Rio does it every month, Madrid and NYC do it only once a year. In terms of management, it may be more useful to have the numbers every month in order to establish action plans and to monitor the effectiveness of eventual changes implemented. Additionally, ideally the survey should be done just after the request was closed (with or without a solution). If it is done too much time after the citizen made the request, his perception may be very different and the person might even forget what was requested or how it was addressed by the public service.

About the apps, in the Apple Store, all the three apps are rated as a 4+. However, in Google Play Store, NYC 311 is better than the other two, graded 4.3 out of 5, while Rio 1746 is 3.3 and Línea Madrid 3. This, along with the feedback of users given directly in these stores, may be helpful for the managers and the developers of these apps to improve user experience.

Concerning responsiveness, these data are not published or were not found while doing this research. However, it is known that in Rio 1746 it is done and the ratio of requests closed within their Service Level Agreement time period is used to measure the work of many city departments, which might have goals for these.

## **6.6 – Transparency**

This item is easier to compare the cities, by the terms of the proposed framework. All the three MCS have an Open Data Portal, but NYC 311 is noteworthy by the data sets it provides, which are updated daily and are also available through APIs. Additionally, 311 data are also displayed in map applications. Línea Madrid comes at second place, given that it

provides the data sets of its requests, but only on a monthly based update. Rio 1746 had an open data initiative, but its data are not being updated since 2014.

Therefore, this component highlights that it is important not only to have an open data portal, but also how the data is available and what is the frequency of updates.

All the three periodically post updates and reports about their satisfaction surveys online, generally in a yearly basis. Madrid presents the most complete reports, explaining its survey and breaking data by all its channels.

However, NYC and Línea Madrid do not publish the results of each Department, only the ones of the Contact Center. Rio does not publish these reports of the Contact Center, but does it for the Departments that have goals, although only in the official newspaper, once a year, as a legal obligation for paying the eventual bonus they might have earned if they achieved their targets. Only NYC publishes the targets of its 311 Contact Center.

Establishing targets and publishing the results is a key-component for the MCS and the Departments of the City Hall to be accountable to its citizens' requests and to promote more transparency on how the inhabitants are evaluating the service of the municipality.

## **6.7 – Volume**

As explained in items 5.1 and 5.3, the number of contacts and requests generated in each MCS is highly dependent on demographics of each city. Therefore, to compare them, a more depth analysis must be done. However, general numbers of demand are useful to understand the challenges they face. The most interesting analysis is to dive into the numbers and see how different people or areas of the city demand differently. Study of this kind was made by Minkoff (2016), for example.

The way these numbers are counted is different in each of the three cities. Rio counts as contact anyone that calls 1746 by telephone, or makes a request using the other channels, or any access to *Carioca Digital*, a portal only for local citizens (national ID is requested) to

demand some services and follow up on others. Nonetheless, NYC and Madrid count every online access to the website as contact, what makes their number higher than Rio's. This makes also difficult to compare the share of demand by each channel of communication.

In terms of the download of apps, it is noteworthy that Madrid is very far from the other two cities.

None of the three cities publish reports on the awareness of the existence of the MCS, but it should be done in order to evaluate how well the MCS is known in the city and also to help focusing on specific areas or demographic groups in order to increase awareness of the service.

## **6.8 – Management**

All the three cities have targets for its MCS, but only Rio seems to have specific goals for the Departments that respond to the requests entered through MCS, concerning the quality of the service.

In Rio and Madrid, the Contact Center is outsourced, while in New York it is run by the government, what is surprisingly because of the high turnover that generally occurs in call centers.

In Madrid and NYC the staff that runs theirs MCS are focused on the interface between citizens and the city. In Rio, the staff also takes cares of setting goals to the Departments and helping them on improving, with Action Plans.

A basic understanding of how the MCS is run is essential for a public official to choose which cities to benchmark. In this sense, depending on the analysis desired, it would be preferable to choose cities that are similar at this point. On the other hand, for a city that is still deciding which model to adopt, it would be interesting to compare cities with different management and outsource (or not) approaches.

## **7 – Conclusions and suggestions**

The public administration needs tools for the analysis of the society and the administration itself. As the number of Centralized Municipal Customer Services is growing, being created in many big cities around the world, the discussion on how to assess and compare MCS must be fostered.

The framework proposed in this paper addressed the most important components to analyze MCS as a tool for citizen-centered government, transparency and accountability. This model covers the whole process, since the channels of communications available, the demands from the citizens, passing through which services and information are available through the centralized service, how the city hall evaluate the quality of its MCS and manages it and finally how they open the data to the society.

It can be used for the analysis and comparison of MCS in order to establish a baseline and a common language for city managers to talk about the management of this type of interface between the City Halls and the population. It also aimed to be a guideline for benchmarking and to help the implementation of new MCS. Moreover, it may serve also as a tool for the society, the academia, non-profit, governmental agencies and other agents to monitor how different cities' MCS are being managed and performing.

It is important to highlight that the framework is focused on MCS, but it is also necessary to look into other data for a better understanding of their situation, for instance: basic social-economic data; demographics; educational level; income; number of tourists; type of government; and civic engagement, among others.

However, the proposed framework – although an initial effort – contains the basic and most necessary items for analyzing MCS in a broader sense than just analyzing the contact center. Therefore, it can and should be used by cities that already have a MCS and for cities that are in the process of establishing their own.



Concerning Rio's strategic goal to become the best MCS in the world in terms of satisfaction levels, the city must change the indicators that are been used. Given that Rio's satisfaction survey is much different from the most of the cities, as pointed in this research and also in Wiseman (2015), this parameter is currently not comparable to other cities. While other municipalities are still concerned too much on the contact center satisfaction, Rio should use only this aspect of its survey in the coming years, otherwise the strategic goal will not have ways to benchmark in a similar manner.

Ideally, cities should survey the citizens that contact the MCS, but also the ones that: did not need to contact (because the problem was solved in advance); do not know about the service; or do not want to contact. Madrid's approach is a good example, by doing yearly active surveys asking a sample of citizens to evaluate a wide range of services provided by the city, where MCS is just one part of the survey. This initiative covers a bigger part of the population and also does not leave unattended the good things that are being done in the city proactively. The best scenario is when people do not need to call MCS anymore, because the city has very good conditions and/or there is trust that the government will solve the problems in a satisfied way, in a short period of time.

The targets of the Departments concerning the MCS should be published online. If they do not have targets, they should have, in order to increase its importance in their daily operations and the long-term planning. Rio is a good example. A good approach is to put satisfaction levels as targets for specific services and departments. This will make the departments work pursuing also quality and not only fast responsiveness.

Another suggestion is the creation of a Global Forum of Municipal Customer Services, for public officials to exchange information and best practices. There are similar forums concerning contact centers and customer services in the private sector, such as the "International Conference and Trade Show on the Customer Service - Communication

and Contact Centre Industry”<sup>35</sup>, the Annual Conference of the Institute of Customer Service of the United Kingdom<sup>36</sup>. International organizations of cities, like C40 and the United Nations Compact of Mayors, could take the lead to organize this forum proposed here. They could also set commons and standards of indicators and quality for cities to pursue in terms of MCS.

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<sup>35</sup> "CCW 2017". International Conference and Trade Show on the Customer Service - Communication and Contact Centre Industry. Accessed August 03, 2016. <http://www.ccw.eu/en.html>

<sup>36</sup>“Annual Conference” Institute of Customer Service. Accessed August 03, 2016. <https://www.instituteofcustomerservice.com/events/annual-conference>

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**Appendix**

Topic	Question	Description	Metric	Rio de Janeiro 1746	NYC 311	Línea Madrid
Population	What is the population of the city?	The most recent data about the population.	Absolute number	6.3 million (2010)	8.5 million (2015)	3.1 million (2015)
Historic	When was the MCS established?	The month and year when the MCS was established and opened to the public.	Descriptive (month and year).	03/2011	03/2003	2005
Channels of Communication	Which channels are available?	A list of the channels available to the citizen.	Descriptive.	Telephone, Website, App, Whatsapp, In-Person	Telephone, SMS, Skype, Video Relay Service, TTY, App, Facebook	Telephone, Website, App, Twitter, In-Person
	How many channels are available?	The number of channels available.	Absolute number.	5	8	5
	What are the working hours of each channel?	The hours opened to the public for each channel.	Descriptive.	Telephone, Website, App, Whatsapp - 24h.	24h	Telephone, Website, App - 24h. Twitter - 9h to 23h
				In-Person - 10h to 16h		In-Person - 08h30 to 17h
	What languages are available in the Telephone Contact Center?	The languages available for the citizen to contact the City Hall through the telephone Contact Center.	Descriptive.	Portuguese, English, Spanish	Several.	Spanish, English, French
How many languages are available in the Telephone Contact Center?	The number of languages available for the citizen to contact the City Hall through the telephone Contact Center.	Absolute number.	3	170	3	

Performance Assessment		Satisfaction with the services					
		Satisfaction Surveys					
Services/ Information offered		How many services/information are available?	The number of services offered.	Absolute number.	2015	3800	329
		Are there satisfaction surveys concerning the services provided by the City?	The existence of satisfaction surveys asking about the services provided by the City through the MCS.	Binary (yes or no)	Yes	No	No
		Is the survey done actively or passively?	Active Satisfaction Survey is done when the MCS contacts the citizen. Passive is when a channel is offered and the citizen actively responds to the survey.	Descriptive (passive or active).	Actively	None	None
		How often is the satisfaction survey over services conducted?	The frequency of the survey related to the services provided by the City through the MCS.	Descriptive (monthly, yearly, etc.).	Monthly	None	None
		What is the current satisfaction level with the services?	The most recent result published about the satisfaction level with the service. It can be the most recent month or year publication.	Relative number (satisfied citizens/total citizens surveyed)	70.2% satisfied citizens (2015)	None	None
		How are the classes of satisfaction defined?	Normally, satisfaction surveys ask the citizen to evaluate with a grade. This item states how the city groups satisfied,	Descriptive.	Satisfied $\geq$ grade 6 (out of 10)	None	None



		indifferent and unsatisfied citizens.				
Satisfaction with the Contact Center	Are there satisfaction surveys concerning the channels of communications?	The existence of satisfaction surveys asking about the quality of the Contact Center.	Binary (yes or no)	Yes	Yes	Yes
	Is the survey done actively or passively?	Active Satisfaction Survey is done when the MCS contacts the citizen. Passive is when a channel is offered and the citizen actively responds to the survey.	Descriptive (passive or active).	Actively	Actively	Actively
	How often is the satisfaction survey over the Contact Center conducted?	The frequency of the survey related to the Contact Center.	Description (monthly, yearly, etc.).	Monthly	Yearly	Yearly
	What is the current satisfaction level with the Contact Center?	The most recent result published about the satisfaction level with the Contact Center. It can be the most recent month or year publication.	Relative number (satisfied citizens/total citizens surveyed)	93% (2015)	85% (2016)	8.65/10 (2015)
	How are the classes of satisfaction defined?	Normally, satisfaction surveys ask the citizen to evaluate with a grade. This item states how the city groups satisfied, indifferent and	Descriptive.	Grade average. No classes.	NA	Grade average.

			unsatisfied citizens.					
			What is the grade of the smartphone app?	The grade attributed to the app by users through the feedback mechanism of app stores.	Absolute number.	Playstore - 3.3. Appstore - 4+ (06/2016)	Playstore - 4.3. Appstore - 4+ (06/2016)	Playstore - 3. Appstore- 4+ (06/2016)
<b>Responsiveness</b>			Is there a defined SLA (time) for each service?	Concerning the existence of a defined time limit for the City to answer to each type of request.	Binary (yes or no).	Yes	Yes	Yes
			What is the rate of requests closed on time?	If the requests have a defined period of time for being finalized (whether with solution or not), then this item measures how many requests are finalized on time.	Relative number (number of requests finalized on time / total number of requests)	93.8% (2015)	NA	NA
<b>Volume</b>			How many contacts the MCS receives in a given period of time?	The volume of contacts received by the MCS in a daily, monthly, yearly, etc. basis.	Absolute number.	4.3 million (2015)	30 million (2015)	22 million (2015)
			How many services/information are requested in a given period of time?	The volume of services requests received by the MCS in a daily, monthly, yearly, etc. basis.	Absolute number.	1.3 million (2015)	2.8 million services, 21.2 million are considered information (2015)	9.1 million (2015)

	What is the share of contacts for each channel of communication in a given period of time?	The share of each channel over the total number of contacts.	Relative number (each channel's contacts/total contacts)	Call Center - 52%. Web - 45%. App - 3% (2015)	Call Center - 70%. Web - 30% (2015)	Web - 73% Call Center - 16% In-Person - 11% (2015)
	How many times the smartphone app was downloaded?	The number of downloads as presented by the app stores (Play Store, Apple Store, etc.).	Absolute number.	Playstore - 50000 to 100000. Appstore - NA (06/2016)	Playstore - 100000 to 500000. Appstore - NA. (06/2016)	Playstore - 5000 to 10000. Appstore - NA. (06/2016)
	How many inhabitants know the MCS?	The number of citizens who know the MCS, which can be obtained in periodically surveys.	Relative number (people who knows / total population surveyed).	NA	NA	NA
<b>Transparency</b>	Are the datasets available in an Open Data website?	The existence of an Open Data Portal with the requests datasets.	Binary (yes or no).	Yes	Yes	Yes
	What is the frequency of data sets update?	Concerning the updating period of the datasets.	Binary (yes or no).	No	No	No
	Are the results of the satisfaction surveys available online?	The publicity of the results concerning the satisfaction surveys with the services.	Binary (yes or no).	Yes	Yes	Yes
	How often is the satisfaction survey updated online?	Concerning the updating period of the satisfaction results.	Descriptive (monthly, yearly, etc.)	Yearly	Yearly	Yearly
	Are the results of the contact center and the departments available online?	The publicity of the results concerning the satisfaction surveys with the channels.	Binary (yes or no).	No	Yes	Yes

	How often are the indicators of the contact center and the departments updated online?	Concerning the updating period of the contact center and the departments indicators.	Descriptive (monthly, yearly, etc.)	Yearly.	Semestrally	Yearly
	Are the goals related to the Contact Center published online?	The publicity of the goals of the Contact Center.	Binary (yes or no).	No	Yes	No.
	Are the goals related to the departments published online?	The publicity of the goals of each department concerning the MCS. It can be in terms of responsiveness , satisfaction surveys, etc.	Binary (yes or no).	No	No	No.
Management	Are there established goals for the Departments concerning the service provided to the MCS?	If the accountability method establishes goals for each Department.	Binary (yes or no)	Yes	No	No
	Are there established goals for the Contact Center?	If the accountability method establishes goals for the Contact Center.	Binary (yes or no)	Yes	Yes	Yes.
	Is the Call Center run by the government or is it outsourced?	Whether the Contact Center is run by the government or outsourced.	Descriptive (government or private).	Outsourced	Government, but part is contracted	Outsourced