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## Evidence from a Survey Experiment

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## **Abstract**

Does providing information improve citizens' perception about government transparency? Does all information matter the same for shaping perceptions about the government? This paper addresses these questions in the context of an online randomized survey experiment conducted in Argentina. Results show that providing information to citizens matters for shaping perceptions about transparency, and the content of the information matters for affecting the evaluation people make about the government. Those who received a “positive” treatment (showing that the government was over-performing on its promises) increased their trust in the government more than those who received a “negative” treatment (showing that the government was under-performing). The evidence highlights that the channel between transparency and trust may be mediated by the performance of the government.<sup>1</sup>

**JEL classifications:** C38, C83, C99, D83, D90, H11, H40

**Keywords:** Survey experiments, Information, Beliefs, Trust

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# 1 Introduction

In the last few decades, trust in governments has been in decline (OECD, 2018). This is particularly true in Latin America, where corruption scandals and poor performance of democracies have eroded public confidence in institutions for years.<sup>2</sup> Interpersonal trust is also very low.<sup>3</sup> Lack of trust has clear negative welfare consequences (Levi and Stoker, 2000; Cahuc and Algan, 2013). Trust is necessary for key economic activities, most notably finance, and for the success of government policies that require and depend on cooperation and compliance of citizens (OECD, 2017). Moreover, if citizens do not believe the government will fulfill its promises, or that their fellow citizens will join them in voting against governments that default on their promises, they will not demand policies that expand the provision of public goods. If citizens do not trust that the government will follow through with those policies that require upfront costs to reap large future benefits, they will not demand long-term investments (Keefer et al., 2018).

Because part of the erosion of trust has been correlated with economic and financial mismanagement, corruption scandals, and growing inequality, increasing transparency in government has usually been touted as part of the solution. Transparency, or “the disclosure of information by an organization that enables external actors to monitor and assess the internal workings and performance” (Grimmelikhuijsen et al., 2013, p.3) has been pushed by international organizations, government, and donors as standard practice.<sup>4</sup> As such, increasing transparency and building trust could go hand in hand (OECD, 2017). Trust is a psychological state involving positive confident expectations about the competence, benevolence, honesty and predictability of another person or organization, and the willingness to act on the basis of these expectations (Welch et al., 2004; Adams, 2005; Ciborra, 2005; Tolbert and Mossberger, 2006; Pina et al., 2007, 2010; Bertot et al., 2010; Grimmelikhuijsen, 2012b; Grimmelikhuijsen et al., 2013; Andrews and de Walle, 2013). More information could provide citizens with evidence on government competence. It could also provide a window from which to evaluate government values. The delivery and the

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<sup>2</sup>For example, historical data collected by Latinobarometer show that average confidence in Congress has stagnated at around 30 percent and confidence in government around 40 percent for the last 20 years. Data from the Americas Barometer Survey conducted by LAPOP in 2016/2017 shows that more than 50 percent of the population had very low trust in the president in Paraguay, Mexico, Venezuela, and Brazil. Keefer et al. (2018) summarizes this evidence.

<sup>3</sup>According to evidence from Latinobarometer, interpersonal trust has been hovering around 20 percent for the last 20 years.

<sup>4</sup>Transparency plays a central role in the Paris Agreement signed in 2016. Organizations such as **Open Government Partnership** or **Transparency International** are good examples: they share goals and aim to secure concrete commitments from governments to promote transparency, empower citizens, fight corruption, and harness new technologies to strengthen governance. There are multiple definitions of transparency.

content of that information may matter too.

There is ample evidence that most people have limited time and do not follow government actions closely because acquiring accurate information or processing publicly available information is costly, and the probability of decisiveness in an election or public matters tends to be negligible. Therefore, most people tend to remain ignorant and do not pursue information, but they react rationally once they receive information about the workings of government (Downs, 1957; Brennan and Lomasky, 1997; Congleton, 2001; Martinelli, 2007; de Leon et al., 2014).<sup>5</sup> As such, while information matters in shaping public perceptions and voting choices, that information cannot sit idle in a website but rather be delivered to citizens (Ferraz and Finan, 2008; Mullainathan et al., 2010; Keefer and Khemani, 2012; Chong et al., 2014; Cruz et al., 2016).

Because trust in institutions depends on competence and values, the information provided to the public should allow citizens to update their beliefs about how reliable, responsive to needs, and efficient the government is. It should also allow citizens to evaluate the government's integrity, openness and fairness (OECD, 2017). Providing factual knowledge about government performance outcomes and about the intentions of the government could be an important way of increasing citizen trust in government (Grimmelikhuijsen, 2012b). Therefore, an important question is whether any type of information matters, if information about results matters, and whether subconscious and affective cues are also important (Grimmelikhuijsen, 2010, 2012b; Grimmelikhuijsen et al., 2013). Evidence is still scant of the strength of the link between the content of the information (performance) and the framing of the information, and the particular conditions under which transparency fosters trust, particularly in the context of developing countries and young democracies. The use of an experimental setting could help to yield more light into the existence of the link and its determinants and generate usable knowledge for practitioners (Levi and Stoker, 2000; Van de Walle and Bouckaert, 2014; Bouwman and Grimmelikhuijsen, 2016; Cucciniello et al., 2017). Performing the experiment in a country where overall levels of trust are very low expands the existing evidence and the understanding of the phenomenon (Cucciniello et al., 2017).

In this paper, we test two hypotheses and two channels through which transparency can affect citizens' perception of the government. First, we evaluate whether the provision/disclosure of information changes individuals' perceptions about gov-

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<sup>5</sup> Gingerich and Scartascini (2018) show that because rationally ignorant individuals do not validate the accuracy of any new information they (passively) receive they are not necessarily able to separate the signal from the noise: their policy preferences are as likely to be driven by bad information as by good. This state of affairs leaves them highly vulnerable to the machinations of political entrepreneurs and other elites. In this perspective, voters act upon their beliefs in more or less a rational way, but those beliefs are formed based on incomplete or biased information.

ernment’s transparency.<sup>6</sup> Second, we evaluate different characteristics of that disclosure that could lead to more trust: i) whether the framing of the information matters,<sup>7</sup> and ii) whether the content of the information matters in terms of performance. For testing these channels, we implemented a survey experiment on a sample of 1,999 individuals living in the City of Buenos Aires, Argentina.<sup>8</sup> First, participants were allocated at random with equal probability to receive information about a series of commitments the government had made to the citizens of Buenos Aires. The commitments are tracked, and results are publicly available on the webpage of the city government. Second, participants were randomly allocated to a vignette that highlighted the government pledge to efficiency and good management or to a vignette that highlighted an empathetic message, where the government pledged making life better for the inhabitants of the city. Additionally, individuals received information showing either that the government was over-performing on its commitments or that the government was under-performing. For evaluating perceptions of transparency and trust we use a multidimensional approach that includes the many components of trust: competence, benevolence, honesty, and confidence ([Grimmelikhuijsen, 2012b](#)).

Results show that providing/disclosing information increases the perception about how transparent the government is by about 8 percentage points, which implies an increase of more than 10 percent. Does the framing or the content matter relatively more for changing citizens perceptions about the government? Results show that there are no relative differences in trust between an “efficiency-based” framing compared to an “empathy-based” framing. However, differences in performance seem to matter. The group that received information where the government was over-performing on its goals increased trust significantly more than those who received information that the government was under-performing on its goals. The difference is equivalent to about 0.10 of a standard deviation.

These results have important implications. First, they highlight once more the importance of actively providing information to citizens as a way to enhance transparency. Second, they highlight that individuals may not care that much about the framing of the message—they trust the government the same if the government

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<sup>6</sup> This could be seen as a tautology. However, the existence of more information and positive citizen perceptions of government transparency do not necessarily go hand in hand ([Grimmelikhuijsen, 2012b,a](#)).

<sup>7</sup> As will be clear later, we take a broad definition of “framing.”

<sup>8</sup> A survey experiment is an intervention in which vignettes randomly vary by subject. Because of random assignment, any variation on measures can be attributed to the vignettes ([Nock and Guterbock, 2010](#)). The methodology has a long tradition in research but has gained popularity recently because of decreasing costs (see [Bouwman and Grimmelikhuijsen \(2016\)](#) for some recent examples.) In our case, we have tried to use a simple design that evaluated an actual policy setting, but we have diversified in terms of the context to provide evidence from a developing country setting following the recommendations in [Bouwman and Grimmelikhuijsen \(2016\)](#).

makes explicit its desire to pursue efficiency or fairness—but they do care about the content of the message, particularly about whether the government complies with its promises or not. This result has important implications. On the one hand, it should provide incentives to governments to exert extra effort to comply with goals, given that it is going to be rewarded by the citizens. On the other, it could generate incentives for politicians to report only good news. This behavior could backfire in the long run as citizens learn about this deception and decide not to trust government-provided information any longer.

The article proceeds as follows. Section 2 provides some background on Buenos Aires and presents the survey experiment design. In Section 3 we describe our sample, discuss our identification strategy, and show results. Section 4 concludes.

## 2 The Survey Experiment

### 2.1 Background

The Autonomous City of Buenos Aires (henceforth CABA), is the capital city of Argentina. CABA is the most populous city in the country with almost 3 million inhabitants in the urban area.<sup>9</sup> Although its first foundation dates to the sixteenth century, only in 1996 were citizens able to elect a chief of government for the first time. Before the constitutional amendment that granted autonomy to the city in 1994, the mayor was directly appointed by the President. Since 2011, the administrative division of the city has consisted of 48 neighborhoods grouped in 15 communes. Each commune works as a territorial administrative and political entity. Electoral sections and sanitary regions, for instance, are aligned with communes' borders. In addition to increasing decentralization and greater citizen participation, the city has also been engaged in a process of increasing transparency.<sup>10</sup> As part of the process, the current Mayor of Buenos Aires issued a series of government commitments with the citizens of Buenos Aires upon taking office. These commitments were clear and measurable goals across many government areas and based on citizens priorities and the Sustainable Development Goals of the United Nations (UN). The city has received several awards because of the initiative. Today, there are more than 50 goals that are explained and tracked on the city government webpage.<sup>11</sup>

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<sup>9</sup> Data from 2010 National Census.

<sup>10</sup> A steady process of administrative capacity-building over the last decade or so has provided the foundations for increasing transparency. The evidence is well-aligned with the framework presented by [Grimmelikhuijsen and Welch \(2012\)](#).

<sup>11</sup> The government commitments can be accessed at <http://www.buenosaires.gob.ar/compromisos>. One example of a commitment is making 100 percent of streetcorners handicapped accessible. Another commitment is installing 10 thousand security cameras around the city and public transportation.



## 2.2 About the Survey

We designed an online questionnaire to elicit information about transparency, and about perceptions of the competence, benevolence, and honesty of the government, along with citizen confidence in the government.<sup>12</sup> The questionnaire additionally included questions for classification purposes. Data collection took place between December 2017 and January 2018. The sample was stratified with quotas by gender, age (18 years or older), socioeconomic status (NSE), and commune. Within strata, individuals were selected at random until the desired sample sizes were achieved. A total of 1,999 complete interviews were carried out by a company that specializes in collecting online survey data.<sup>13</sup>

Participants were assigned to randomized treatments twice during the survey. First, they were randomized between treatment and control. Those in the control group were asked about their perceptions regarding transparency of the city government before they were shown the informational treatments about government commitments. Those in the treatment group also received those questions, but only after they were shown the informational treatments about the government commitments. Then, all participants were assigned at random to three different informational treatments (vignettes) with the same structure. Each vignette describes the policy commitments made by the government, gives specific examples of the commitments, and shows how well the government has been doing in the implementation of the policy according to the benchmarks and objectives it had established at the beginning of the mandate. Vignettes vary in two respects. First, the framing of the message is different. There is a framing that emphasizes the role of the public commitments for improving efficiency and public management (“efficiency” treatment) while the other emphasizes their role for improving lives of citizens in the city (“empathy” treatment). Second, the government’s performance is different. The government could be either under-performing or over-performing relative to the benchmarks the mayor set for the administration. The vignette presents a short and simple message to keep the attention of the participant but at the same time provides enough information for understanding the initiative. Because it would make no sense to combine a message about efficiency with under-performance, instead of working with a 2x2 design we ended up with three different treatments as described in Table 4.<sup>14</sup> The three treatments were the following: T1: empathy and positive results, T2: efficiency and positive results, and T3: empathy and negative results. In the empirical analysis, we evaluate the effect across comparable pairs: T1 and

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<sup>12</sup> We follow the framework of questions and concepts introduced by [Grimmelikhuijsen \(2012b\)](#). Appendix B presents the survey module. The full questionnaire in Spanish is available upon request.

<sup>13</sup> For details about the company, see Appendix C.

<sup>14</sup> See examples of vignettes in Figures 4, 5, and 6 in the Appendix.

T2 (performance is constant), and T1 and T3 (framing is constant).

In the survey, immediately after the module describing the commitments and the assigned vignette, each participant was asked about their perceptions about the government. This module consists of 11 questions designed to elicit information about the components of trust and confidence in the government. Responses to these questions are part of the set of dependent variables (questions are available in Appendix B). The full description of the survey experiment -timeline- is presented in Figure 1.

## 3 Data and Empirical Analysis

### 3.1 Data Description

Table 1 (and Table 5 in the Appendix) present summary statistics of the main variables for the sample of respondents to our survey instrument. The average respondent in our sample is 43 years old, female, employed, has completed high school, and has not heard about the government commitments before. Interestingly, in spite of the existence a dedicated website and public announcement of commitments public, most people remain uninformed of the the government commitments. A third of our sample is between 18 and 35 years old, and almost 35 percent of the participants have a college degree. The lower panel in Table 5 in the Appendix includes the multiple dependent variables we are working with.

We have two sets of dependent variables. First, we evaluate citizens' perceptions about transparency by asking individuals whether they believe the government informs the citizenry about its plans and results, and how much it does. Second, we construct a set of indexes from 11 questions to try to proxy the complexity and multidimensionality of trust. This questions attempt to evaluate the perceptions people have about the competence, benevolence, and honesty of the government, plus the degree of citizens' confidence in the government it. All the questions are included in Appendix B.

All the variables capture different but presumably correlated attributes of the government. Variables capturing competence, benevolence, and honesty range from a minimum of 1 to a maximum of 7. Variables capturing confidence range from a minimum of 1 to a maximum of 5. Table 1 shows evidence of randomization balance on observable characteristics between treatment arms.

### 3.2 Empirical Strategy

The empirical strategy is relatively simple and the general model we estimate is presented in the following equation:

$$Y = \alpha + T\beta + X\lambda + \epsilon \quad (1)$$

where  $T$  is the vector of treatments (the pooled treatments in one case–information– or the individual treatments in the other), and  $X$  a vector of control variables. The set of control variables includes all observable characteristics available from the survey, such as age, gender, education, labor status, socio-economic level, and commune.

Regarding the dependent variables, we work with the individual responses to the questions and summary indices constructed to aggregate the information across related outcomes. The aggregation improves statistical power to detect effects that are consistent across specific outcomes when these specific outcomes also have idiosyncratic variation. Focusing on the indices helps us to reduce the number of statistical tests performed so as to reduce the chance of false positives, although interpretation could be cumbersome. We report evidence from principal component analysis (PCA henceforth) because the first component explains more than 80 percent of the variance regardless of the index, but results remains the same with alternative index definitions (see Table 6 in the Appendix).<sup>15</sup> In addition, we have conducted exercises where we correct p-values with three different methods which rely on different assumptions. Conclusions on statistical inference remains the same with our preferred correction.<sup>16</sup> We construct four intermediate indexes (Competence, Benevolence, Honesty, and Confidence) and one global index that summarizes all questions on perception (Trust in Government).

### 3.3 Empirical Results

The aim of the survey experiment is to study the relationship between the provision of information and citizens perceptions about transparency and trust in the government. First, we evaluate the role of information on perceptions about government transparency, and then we evaluate the relative effect of the different vignettes on indices that approximate the components of trust we try to explain.

Figure 2 provides the first approximation to the results. The Figure shows the distribution of answers for the control and treatment groups. As can be observed,

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<sup>15</sup> Robustness exercises include running the regressions with the individual questions, standardized indices, residuals from a regression, or indices as those proposed by [Kling et al. \(2007\)](#) where specific outcomes are normalized in standardized units to study mean effect sizes of the indices relative to the standard deviation of the control group. In all cases, results remain the same.

<sup>16</sup> We correct p-values with Bonferroni-Holm, Šidák-Holm, and Westfall and Young procedures. See [Hochberg \(1988\)](#); [Šidák \(1967\)](#); [Westfall et al. \(1993\)](#) respectively. We implement [Westfall et al. \(1993\)](#) permutation algorithm to control for the FWER. The algorithm requires no assumptions on the data-generating process to obtain multiple testing procedures. It is a step-down procedure with adjusted p-values directly estimated by permutation. Improvements could be obtained with assumptions; see [Westfall and Tobias \(2007\)](#) for a broad discussion. Results available upon request.

there is a movement of mass to the right for the treatment group. More people in the treatment group than in the control group believe that the government provides information on plans and results. We evaluate distributional differences with a  $\chi^2$  statistic, and we strongly reject the null hypothesis of equality in distributions (p-value smaller than 1%).

Table 2 shows the first set of regression results, which suggests that information increases the perception about government transparency. The dependent variable is a binary variable indicating whether the participant thinks that the government reports what it plans to do. Columns 1 and 2 present the results for the pooled informative treatments without and with controls, respectively. Basically, an individual that is presented with the information about the government commitments is about 8 to 9 percentage points more likely to indicate that he believes that the government reports what it plans to do than an individual in the control group. This is an increase of more than 10 percent. Results are statistically different from zero.

In columns 3 and 4 we look at the effect of each individual informative treatment to evaluate whether the content of the information affects this perception, with and without controls. Results in those columns show that the magnitude and the significance is the same for every informative treatment (we cannot reject the hypotheses that the coefficients are the same). That is, citizens' perceptions about transparency increase regardless of the framing and content of the message.

Does the content of information matter for affecting trust in the government? To answer this question we evaluate the differential effect of the treatments on the standardized version of the indices of government perceptions. Figure 3 provides the first approximation to this question. The Figure shows the average answers for each treatment for the overall index, which has been standardized to have zero mean and unitary standard deviation. The first and last bar are statistically different to each other (we don't compare the second and third because both components are changing). The difference between the "positive" and "negative" treatments is equivalent to 0.10 of a standard deviation. The statistical analysis for the composite index (presented in the Figure) and the component indices are presented in Table 7 in the Appendix.

Table 3 shows the main regression results. Table 3 has 10 columns (2 for each index) and 2 panels. Odds columns present regressions without covariates, and even columns present regressions with covariates. Panel A compares the effect of the vignettes that show differences in performance while holding constant the framing (empathy). Panel B compares the effect of the vignettes holding constant the performance (positive) but changing the framing of the message (empathy versus efficiency).

Results show some very consistent patterns across different attributes that evaluate trust in the government. First, those who were exposed to the treatment where

the government was over-performing on its goals think that the government is more competent, more benevolent, and more honest. Individuals also have more confidence in the government. Second, those who were presented with the empathy framing seem to evaluate the government slightly better than those who received the efficiency one, but the differences are not statistically significant. This is true for every index. Again, the vignette showing a positive performance increases trust in government by about 0.10 of a standard deviation more than the vignette showing negative performance.

Table 8 in the Appendix shows similar results using as dependent variable two count variables indicating what we define as “good” and “bad” perception. In columns 1 and 2, the dependent variable is number of times (out of 11) the participant chooses a score greater than 5 in perception questions.<sup>17</sup> In columns 3 and 4, the dependent variable is number of times (out of 11) the participant chooses a score lower than 3 in perception questions. Columns 1 and 3 show results from Poisson model estimates. Columns 2 and 4 show results from Zero Inflated Poisson (ZIP) model estimates. Vounagis tests suggest ZIP is a better fit than Poisson estimates. The interpretation of Table 8 leads us to the same conclusions as before: differences in performance seem to matter to evaluate the government; this is not the case for differences in the way the government frames the communication.

## 4 Conclusion

Results in this paper from a survey experiment conducted in the City of Buenos Aires show that it may not be enough to have information available on a website. More than 40 percent of respondents had never seen the website or heard about the commitments. In order to improve citizens perceptions about transparency, governments should bring the information to the citizens. Once citizens are shown the information, there is a significant increase in how they evaluate the government’s transparency. Results also indicate that citizens’ trust in the government is affected the same by a message that frames the commitments in terms of efficiency or empathy. However, the content of the information in terms of performance seems to matter more for how much citizens update their priors: showing good performance has a relatively larger effect than showing relative poor performance.

This evidence has important implications for the literature, as it highlights that increasing transparency perceptions is more than providing information on a website and that the channel between transparency and trust is mediated by several factors, including the performance of the government. Future studies may wish to explore this issue. In particular, to evaluate what is the optimal disclosure of information, whether rules would work better than endogenous decisions about disclosure, and

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<sup>17</sup> For Confidence1 and Confidence2, we use 3 as threshold.

the contexts under which performance does and does not matter. The interaction between disclosure and media reporting could be a fruitful area for research.

The evidence also has important implications for policymakers. Again, the results show that in order to increase trust it is not only necessary to provide information, but also to show good performance. Of course, this does not mean that manipulating the information presented to the public is a good idea. In the context of verifiable reports, manipulating information would eventually reduce trust in the government.

## References

- Adams, B. D. (2005). Trust vs. confidence. Technical report, Humansystems Inc Guelph (Ontario, Canada).
- Andrews, R. and S. de Walle (2013). New public management and citizens’ perceptions of local service efficiency, responsiveness, equity and effectiveness. *Public Management Review* 15(5), 762–783.
- Bertot, J. C., P. T. Jaeger, and J. M. Grimes (2010). Using ICTs to create a culture of transparency: E-government and social media as openness and anti-corruption tools for societies. *Government information quarterly* 27(3), 264–271.
- Bouwman, R. and S. Grimmelikhuijsen (2016). Experimental public administration from 1992 to 2014: A systematic literature review and ways forward. *International Journal of Public Sector Management* 29(2), 110–131.
- Brennan, G. and L. Lomasky (1997). *Democracy and decision: The pure theory of electoral preference*. Cambridge University Press.
- Cahuc, P. and Y. Algan (2013). Trust , Growth and Well-being : New Evidence and Policy Implications.
- Chong, A., A. L. De La O, D. Karlan, and L. Wantchekon (2014). Does corruption information inspire the fight or quash the hope? A field experiment in Mexico on voter turnout, choice, and party identification. *The Journal of Politics* 77(1), 55–71.
- Ciborra, C. (2005). Interpreting e-government and development: Efficiency, transparency or governance at a distance? *Information Technology & People* 18(3), 260–279.
- Congleton, R. D. (2001). Rational ignorance, rational voter expectations, and public policy: A discrete informational foundation for fiscal illusion. *Public Choice* 107(1-2), 35–64.
- Cruz, C., P. Keefer, and J. Labonne (2016). Incumbent advantage, voter information and vote buying. Technical report, IDB Working Paper Series.
- Cucciniello, M., G. A. Porumbescu, and S. Grimmelikhuijsen (2017). 25 years of transparency research: Evidence and future directions. *Public Administration Review* 77(1), 32–44.

- de Leon, L., F. Leite, and R. Rizzi (2014). A test for the rational ignorance hypothesis: Evidence from a natural experiment in brazil. *American Economic Journal: Economic Policy* 6(4), 380–98.
- Downs, A. (1957). An economic theory of political action in a democracy. *Journal of political economy* 65(2), 135–150.
- Ferraz, C. and F. Finan (2008). Exposing corrupt politicians: the effects of brazil’s publicly released audits on electoral outcomes. *The Quarterly Journal of Economics* 123(2), 703–745.
- Gingerich, D. W. and C. Scartascini (2018). A Heavy Hand or a Helping Hand? Information Provision and Citizen Preferences for Anti-Crime Policies.
- Grimmelikhuijsen, S. (2012a). A good man but a bad wizard. about the limits and future of transparency of democratic governments. *Information Polity* 17(3, 4), 293–302.
- Grimmelikhuijsen, S. (2012b). Linking transparency, knowledge and citizen trust in government: an experiment. *International Review of Administrative Sciences* 78(1), 50–73.
- Grimmelikhuijsen, S., G. Porumbescu, B. Hong, and T. Im (2013). The effect of transparency on trust in government: A cross-national comparative experiment. *Public Administration Review* 73(4), 575–586.
- Grimmelikhuijsen, S. G. (2010). Transparency of public decision-making: Towards trust in local government? *Policy & Internet* 2(1), 5–35.
- Grimmelikhuijsen, S. G. and E. W. Welch (2012). Developing and testing a theoretical framework for computer-mediated transparency of local governments. *Public administration review* 72(4), 562–571.
- Hochberg, Y. (1988). A sharper Bonferroni procedure for multiple tests of significance. *Biometrika* 75(4), 800–802.
- Keefer, P. and S. Khemani (2012). Do informed citizens receive more... or pay more? The impact of radio on the government distribution of public health benefits. Technical report, World Bank Policy Research Working Paper.
- Keefer, P., C. Scartascini, and R. Vlaicu (2018). Shortchanging the Future: The Short-Term Bias of Politics. In A. Izquierdo and C. Pessino (Eds.), *Better Spending for Better Lives* (1 ed.), Chapter 10. Washington, DC, USA: Inter-American Development Bank.



- Kling, J. R., J. B. Liebman, and L. F. Katz (2007). Experimental analysis of neighborhood effects. *Econometrica* 75(1), 83–119.
- Levi, M. and L. Stoker (2000). Political Trust and Trustworthiness. *American Review of Political Science* 3, 475–507.
- Martinelli, C. (2007). Rational ignorance and voting behavior. *International Journal of Game Theory* 35(3), 315–335.
- Mullainathan, S., E. Washington, and J. R. Azari (2010). The impact of electoral debate on public opinions: an experimental investigation of the 2005 New York City mayoral election,. *Political representation*, Ian Shapiro, Susan C. Stokes, Elisabeth Jean Wood, and Alexander S. Kirshner, eds.(Cambridge University Press, 2010).
- Nock, S. L. and T. M. Guterbock (2010). Survey experiments. *Handbook of survey research* 2, 837–865.
- OECD (2017). *Trust and Public Policy How Better Governance Can Help Rebuild Public Trust* (1 ed.). Paris: OECD Publishing.
- OECD (2018). Trust and its determinants : Evidence from the Trustlab experiment.
- Pina, V., L. Torres, and S. Royo (2007). Are ICTs improving transparency and accountability in the EU regional and local governments? An empirical study. *Public administration* 85(2), 449–472.
- Pina, V., L. Torres, and S. Royo (2010). Is e-government leading to more accountable and transparent local governments? An overall view. *Financial Accountability & Management* 26(1), 3–20.
- Šidák, Z. (1967). Rectangular confidence regions for the means of multivariate normal distributions. *Journal of the American Statistical Association* 62(318), 626–633.
- Tolbert, C. J. and K. Mossberger (2006). The effects of e-government on trust and confidence in government. *Public administration review* 66(3), 354–369.
- Van de Walle, S. and G. Bouckaert (2014). Public service performance and trust in government : the problem of causality. *International Journal of Public Administration* 29(8&9), 891–913.
- Welch, E. W., C. C. Hinnant, and M. J. Moon (2004). Linking citizen satisfaction with e-government and trust in government. *Journal of public administration research and theory* 15(3), 371–391.

- Westfall, P. H. and R. D. Tobias (2007). Multiple testing of general contrasts: Truncated closure and the extended Shaffer–Royen method. *Journal of the American Statistical Association* 102(478), 487–494.
- Westfall, P. H., S. S. Young, and S. P. Wright (1993). On adjusting P-values for multiplicity. *Biometrics* 49(3), 941–945.

Figure 1: Experiment ‘Timeline’

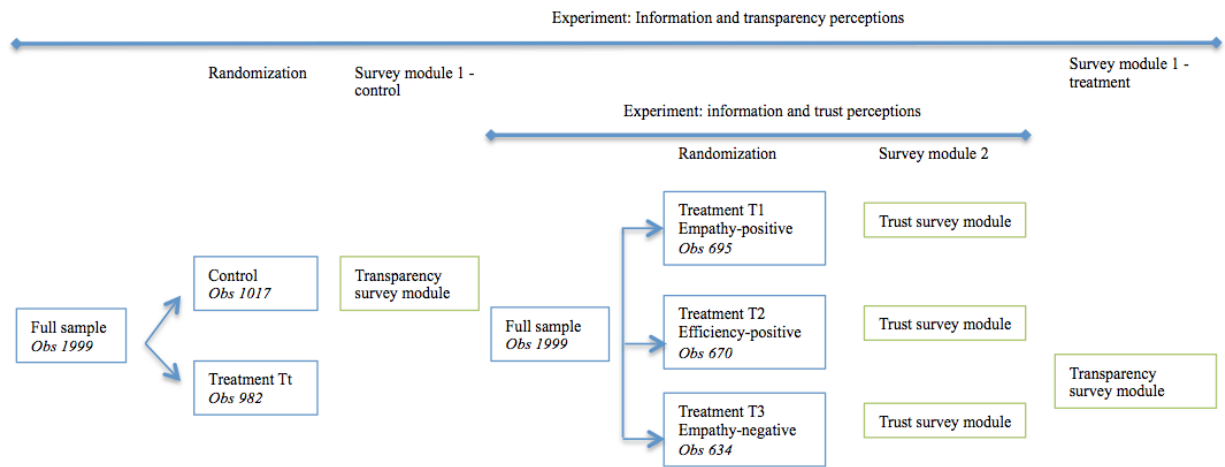
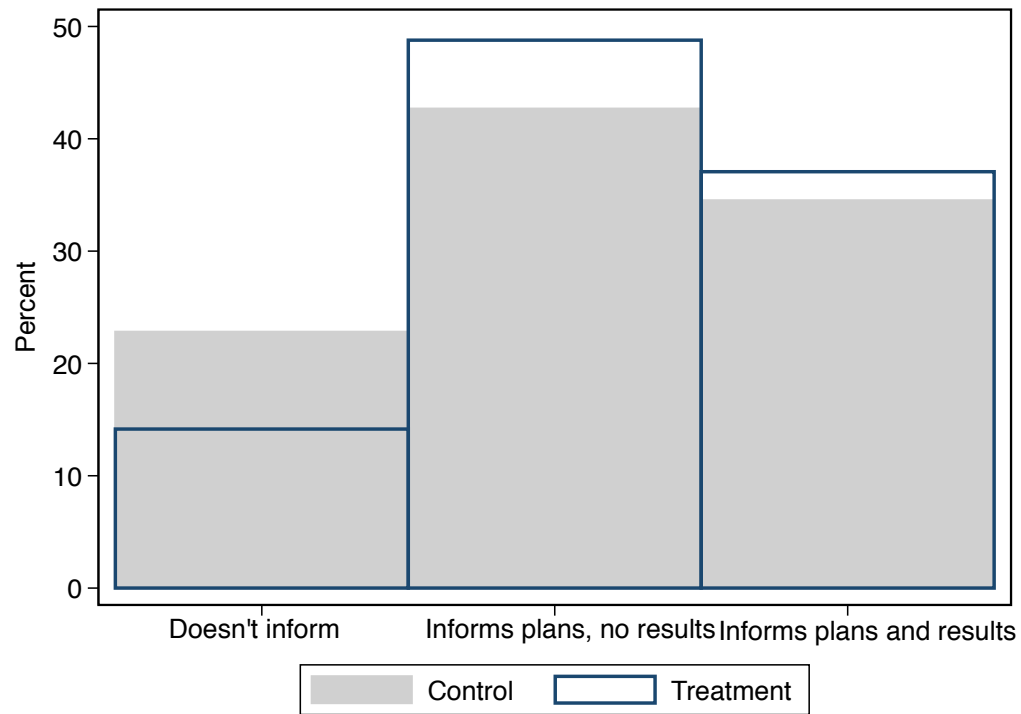
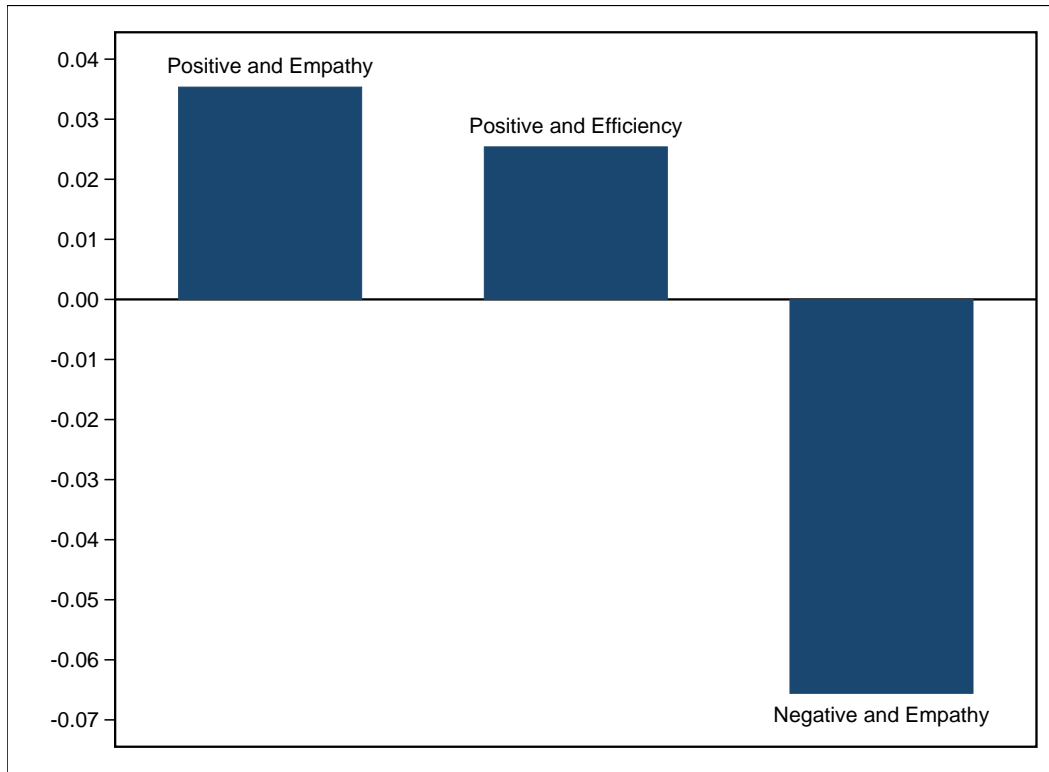


Figure 2: Information and Perceptions about Transparency



*Notes:* The figure shows the distribution of answers for the control and treatment groups. As can be observed in the Figure, there is a movement of mass to the right. More people in the treatment believe that the government provides information on plans and results. The difference in the distribution is statistically significant.

Figure 3: Information and Government Perceptions



*Notes:* The figure shows the average answers for each treatment for the overall index, which has been standardized to zero mean and unitary standard deviation. The first and last bar are statistically different from each other. The difference between the “positive” and “negative” treatments is equivalent to 0.10 of a standard deviation. Regressions results are presented in Table 7, first row.

Table 1: Descriptive and Balance

	Mean	Difference in means (p-value)		
		Information	Empathy Efficiency	Positive Negative
	(1)	(2)	(3)	(4)
Female	0.500 (0.011)	0.070	0.993	0.701
Age	42.90 (0.261)	0.394	0.520	0.985
Employed	0.822 (0.009)	0.805	0.516	0.606
Unemployed	0.078 (0.006)	0.575	0.861	0.244
College degree	0.344 (0.011)	0.541	0.592	0.785
First exposure	0.429 (0.011)	0.013	0.872	0.863
ABC1	0.250 (0.010)	0.969	0.384	0.744
Observations	1,999	1,999	1,365	1,329

Notes: Column 1 shows mean and standard deviation in parentheses. In columns 2 we show p-values from OLS regressions with the covariates as dependent variables and the informative treatment as independent variable, using the full sample. In columns 3 and 4 we show p-values from OLS regressions with the covariates as dependent variables and the “empathy vs efficiency” or “positive vs negative” treatments as independent variables. In column 3, we keep positive performance constant and compare between empathy and efficiency frames. In column 4, we keep empathy framing constant and compare between positive and negative performance.

Table 2: Information and Perceptions about Transparency

	Government Transparency			
	(1)	(2)	(3)	(4)
Informative Treatment	0.087*** (0.0223)	0.080*** (0.0223)		
[T1] Empathy and Positive			0.085*** (0.0229)	0.079*** (0.0226)
[T2] Efficiency and Positive			0.089*** (0.0233)	0.080*** (0.0231)
[T3] Empathy and Negative			0.086*** (0.0239)	0.081*** (0.0239)
Constant	0.772*** (0.0132)	0.800*** (0.0231)	0.772*** (0.0132)	0.800*** (0.0231)
Observations	1,999	1,999	1,999	1,999
Controls	No	Yes	No	Yes
[1] = [2]			0.871	0.965
[1] = [3]			0.975	0.951

Notes: Dependent variable is a binary variable that indicates that the participant thinks that the government reports what it plans to do. Controls include age, gender, education, labor status, socio-economic level, commune, and a factor variable that indicates if the participant knew about the policy before the survey. Robust standard errors in parentheses. For columns 3 and 4, rows labeled [1] = [2] and [1] = [3] show p-values from tests of equality of coefficients. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 3: Effect of Performance and Framing on Governance Perception – Main results

	Government Perception		Competence		Benevolence		Honesty		Confidence	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Panel A: Effect of performance Positive vs Negative (framing constant)										
Positive graphic	0.101*	0.107**	0.096*	0.099*	0.105*	0.112**	0.101*	0.110**	0.101*	0.110**
	(0.0551)	(0.0542)	(0.0551)	(0.0542)	(0.0552)	(0.0545)	(0.0553)	(0.0541)	(0.0553)	(0.0541)
Constant	-0.063	-0.25***	-0.062	-0.233**	-0.065	-0.245**	-0.066	-0.281***	-0.066	-0.281***
	(0.0404)	(0.0980)	(0.0402)	(0.0985)	(0.0407)	(0.0986)	(0.0403)	(0.0983)	(0.0403)	(0.0983)
Observations	1,329	1,329	1,329	1,329	1,329	1,329	1,329	1,329	1,329	1,329
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Panel B: Effect of framing Empathy vs Efficiency (performance constant)										
Empathy message	0.016	0.038	0.012	0.032	0.019	0.040	0.009	0.029	0.009	0.029
	(0.0537)	(0.0535)	(0.0538)	(0.0536)	(0.0534)	(0.0532)	(0.0537)	(0.0536)	(0.0537)	(0.0536)
Constant	0.021	-0.149	0.023	-0.112	0.021	-0.146	0.026	-0.172*	0.026	-0.172*
	(0.0384)	(0.0939)	(0.0384)	(0.0948)	(0.0383)	(0.0936)	(0.0381)	(0.0948)	(0.0381)	(0.0948)
Observations	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365	1,365
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes

Notes: Controls include age, gender, education, labor status, socio-economic level, commune, and a factor variable that indicates if the participant knew about the policy before the survey. The overall sample of 1,999 has zero mean and unitary standard deviation for each index. Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1



## A Appendix: Tables and Figures

Table 4: Vignette composition

	Information		Total
	Control	Treatment	
	1,017	982	1,999
Framing	Performance		Total
	Positive	Negative	
Empathy	695	634	1,329
Efficiency	670	0	670
Total	1,365	634	1,999

Notes: Numbers correspond to observations. First, we show the split between control and treatment group for the information experiment. Second, we show treatment composition between features regarding performance (either positive for over-performance or negative for under-performance), and framing (empathy or efficiency).

Table 5: Summary statistics

Variable	Obs (1)	Mean (2)	Std. Dev. (3)	Min (4)	Max (5)	P25 (6)	P50 (7)	P75 (8)
<b>Characteristics</b>								
Female	1999	0.500	0.500	0	1	0	1	1
Age	1999	42	11	18	65	33	42	53
Young	1999	0.300	0.458	0	1	0	0	1
Employed	1999	0.822	0.383	0	1	1	1	1
Unemployed	1999	0.078	0.268	0	1	0	0	0
College degree	1999	0.344	0.475	0	1	0	0	1
First exposure	1999	0.429	0.495	0	1	0	0	1
ABC1	1999	0.25	0.433	0	1	0	0	1
<b>Transparency</b>								
Transparency	1999	0.814	0.389	0	1	1	1	1
<b>Perceptions</b>								
Competence1	1999	4.426	1.837	1	7	3	5	6
Competence2	1999	4.336	1.837	1	7	3	5	6
Competence3	1999	4.498	1.885	1	7	3	5	6
Competence4	1999	3.765	1.91	1	7	2	4	5
Competence5	1999	4.492	1.984	1	7	3	5	6
Benevolence1	1999	4.189	1.875	1	7	3	4	6
Benevolence2	1999	3.996	1.886	1	7	3	4	5
Honesty1	1999	3.838	1.950	1	7	2	4	5
Honesty2	1999	3.956	1.846	1	7	3	4	5
Confidence1	1999	3.005	1.096	1	5	2	3	4
Confidence2	1999	2.958	1.105	1	5	2	3	4
Good (count)	1999	3.199	3.968	0	11	0	1	6
Bad (count)	1999	2.631	3.936	0	11	0	0	4

Notes: Column 1 present the number of observations. In columns 2 and 3, we show mean and standard deviation. Columns 4 and 5 show minimum and maximum values respectively. Values in columns 6 to 8 represent inter-quartile range, and the median. Female is a binary variable for gender. Age is a variable recording the age of each participant. Young is a binary variable for those who are between 18 and 35 years old. Employed is a binary variable for those who have a full time employment and those who work in their house. Unemployed is a binary variable for those who are looking for a job at the time of the survey. College degree is a binary variable for those who have a college degree. First exposure is a binary variable for those who have not heard about the policy before the survey. ABC1 is a binary variable for those with the highest category for socio-economic level. Transparency is a binary variable and takes the value one if the participant thinks that the government informs what they plan to do (see Appendix B and Figure 2). Perception variables are categorical variables (see Appendix B).

Table 6: PCA

	Eigenvalue (1)	Proportion (2)	Std. Err. (3)	Cumulative (4)	Std. Err. (5)	Bias (6)
<b>Trust in Government</b>						
Comp1	8.99	0.82	0.005	0.818	0.005	0.00104
Comp2	0.55	0.05	0.002	0.867	0.004	0.00104
Comp3	0.36	0.03	0.001	0.900	0.003	0.00055
Comp4	0.27	0.02	0.001	0.924	0.002	-0.00018
Comp5	0.18	0.02	0.001	0.940	0.002	0.00044
Comp6	0.14	0.01	0.001	0.953	0.001	0.00090
Comp7	0.13	0.01	0.001	0.965	0.001	-0.00090
Comp8	0.11	0.01	0.000	0.975	0.001	0.00007
Comp9	0.10	0.01	0.000	0.984	0.001	0.00121
Comp10	0.10	0.01	0.000	0.993	0.000	-0.00329
Comp11	0.08	0.01	0.000	1.000	0.000	-0.00087
<b>Competence</b>						
Comp1	3.39	0.85	0.005	0.847	0.005	0.00033
Comp2	0.28	0.07	0.003	0.917	0.003	0.00046
Comp3	0.22	0.05	0.002	0.972	0.001	-0.00052
Comp4	0.11	0.03	0.001	1.000	0.000	-0.00027
<b>Benevolence</b>						
Comp1	1.88	0.94	0.003	0.940	0.003	0.00006
Comp2	0.12	0.06	0.003	1.000	0.000	-0.00006
<b>Honesty</b>						
Comp1	1.82	0.91	0.004	0.908	0.004	0.00010
Comp2	0.18	0.09	0.004	1.000	0.000	-0.00010
<b>Confidence</b>						
Comp1	1.92	0.96	0.002	0.960	0.002	0.00004
Comp2	0.08	0.04	0.002	1.000	0.000	-0.00004

Notes: Table shows eigenvalues from the principal component analysis (PCA) eigen decomposition (column 1). The underlying eigenvectors are orthonormal (uncorrelated and normalized). First eigenvalue is our index for each category because first component explain more than 80% of the variance in each index (columns 2 and 4). Under PCA assumptions, the first principal component is the best synthetic indicator (in the least square sense) of the range of variability of variables considered. The index can be considered a sort of synthetic index that combines or condenses, in a single variable, the consistent information originally dispersed over different measurements. Heteroskedastic robust bootstrap confidence intervals are computed (columns 3 and 5).

Table 7: Effect of Performance and Framing on Perceptions about the Government – Alternative

<b>Policy outcome</b> <b>Message wording</b>	Positive Empathy	Positive Efficiency	Negative Empathy	[1]=[2]	[1]=[3]
	(1)	(2)	(3)	(4)	(5)
Trust in Government	0.037 (0.990)	0.021 (0.993)	-0.063 (1.017)	0.762	0.068
Competence	0.034 (0.992)	0.023 (0.995)	-0.062 (1.013)	0.830	0.081
Benevolence	0.040 (0.983)	0.021 (0.991)	-0.065 (1.026)	0.727	0.057
Honesty	0.035 (0.997)	0.026 (0.987)	-0.066 (1.014)	0.863	0.067
Confidence	0.035 (0.997)	0.026 (0.987)	-0.066 (1.014)	0.863	0.067
Observations	695	670	634	1,999	1,999

Notes: Columns (1), (2), and (3) show mean and standard deviation for each sub-sample. The overall sample has zero mean and unitary standard deviation for each index. Columns (4) and (5) show p-values from tests of equality of coefficients computed after a regression with each index as dependent variable and a dummy variable for each vignette.

Table 8: Count variables

	Good perception		Bad perception	
	(1)	(2)	(3)	(4)
Efficiency and Positive	-0.0539 (0.0653)	-0.0392 (0.0303)	0.000558 (0.0828)	0.0381 (0.0346)
Empathy and Negative	-0.133** (0.0671)	-0.0481 (0.0314)	0.144* (0.0799)	0.0670** (0.0338)
Constant	1.384*** (0.0635)	1.806*** (0.0296)	0.684*** (0.0856)	1.684*** (0.0351)
Observations	1,999	1,999	1,999	1,999
Controls	Yes	Yes	Yes	Yes
Model	Poisson	ZIP	Poisson	ZIP
Vuong test		26.86		30.44

Notes: In columns (1) and (2), the dependent variable is number of times (out of 11) the participant chooses a score greater than 5 in perception questions. In columns (3) and (4), the dependent variable is number of times (out of 11) the participant chooses a score lower than 3 in perception questions. Controls include age, gender, education, labor status, socio-economic level, commune, and a factor variable that indicates if the participant knew about the policy before the survey. Columns (1) and (3) show results from Poisson model estimates. Columns (2) and (4) show results from Zero Inflated Poisson (ZIP) model estimates. The zero value is inflated by treatment arms and a variable scoring Government Management. Vuong tests suggest ZIP is a better fit than Poisson estimates. Robust standard errors in parentheses. Base category is Empathy and Positive. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Figure 4: Treatment 1 – Empathy message and positive outcome

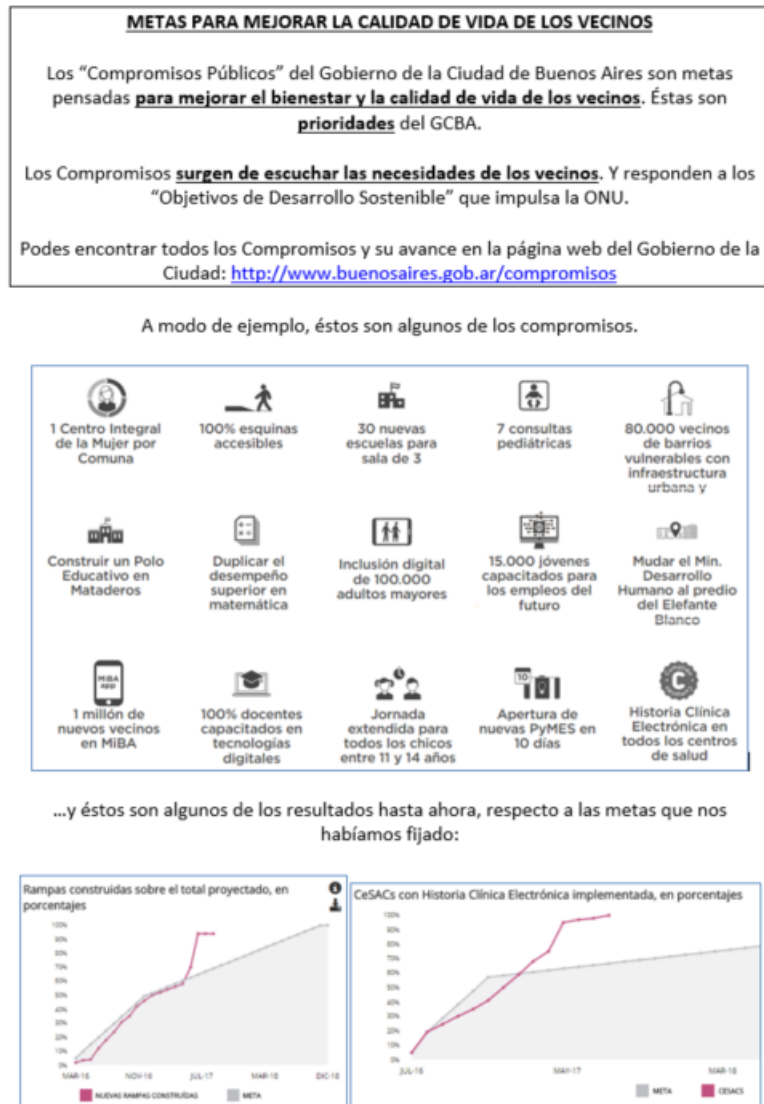


Figure 5: Treatment 2 – Efficiency message and positive outcome



Figure 6: Treatment 3 – Empathy message and negative outcome





## B Appendix: Survey Module

### Transparency

Which of the following statements better represents the city government?

The government of the city of Buenos Aires...

...does not provide information about its plans.

...provides information about its plans but does not provide information about implementation and

...provides information about its plans, implementation and accomplishments.

### Perceptions

Items adapted from [Grimmelikhuijsen \(2012b\)](#).

Using a scale from 1 to 7, where 1 is “Completely disagree,” and 7 is “Completely agree,” please show your level of agreement with the following statements about the Government of the city of Buenos Aires.

The government of the city of Buenos Aires...

#### Competence:

...is capable. (Competence1)

... is professional. (Competence2)

... is innovative. (Competence3)

... spends the available budget appropriately. (Competence4)

... thinks in the long term. (Competence5)

#### Benevolence:

... keeps the interest of the residents in mind. (Benevolence1)

... does everything in its power to help those in need. (Benevolence2)

#### Honesty:

... is sincere. (Honesty1)

... fulfills its promises. (Honesty2)

**Confidence:** Do you trust that the city government...

... to do their best for the city? (Confidence1)

... to do their best for the residents and their families? (Confidence2)

## C Appendix: About the Company

Figure 7: Webpage



**Quiddity integrates research with Big Data to create strategies for Marketing, Political Consultancy and Corporate Responsibility based on data. It is run by Luis Costa.**

Source: See [Quiddity](#) official webpage (April 19, 2018)

Figure 8: Webpage



We evaluate scenarios, test messages and define strategies through public opinion research. We design the best methodology (or combination of methodologies) to answer our clients' questions. We conduct focus groups, surveys and in depth interviews.



We integrate surveys with databases to develop predictive models. Our models help to support decision making, direct contact campaigns and improve the impact of communication campaigns.



We analyze how citizens and voters think, how they build their vision of the world, and how narratives are created and reproduced. We specialize in alternative forms of research and experimentation, finding new ways to influence public opinion.



We work to determine the best way to develop your business's relationship with its key audiences. We carry out research to analyze the link between the citizenry and other audiences of interest and the corporate world. We connect the data produced by our corporate reputation surveys with the broad array of information we have about the political and economic context.

Source: See [Quiddity](#) official webpage (April 19, 2018)