

PRIVATE SECTOR USE OF OPEN GOVERNMENT DATA

RESULTS FROM THE OPEN DATA 100 MEXICO INITIATIVE



Report by the Federal Government of Mexico
and the Open Data 100 Mexico Project Team

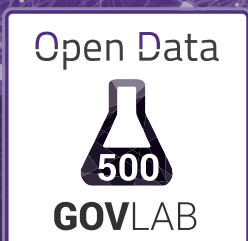




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INTRODUCTION

The Open Data 100 Mexico is part of the Federal Government of Mexico's Open Data initiative, and is the first comprehensive study of Mexican companies and NGOs that use open government data to generate new business, develop new products and services, or create social value.

Open data is free, public data that can be used, reused, and redistributed to launch commercial and nonprofit ventures, do research, make data-driven decisions, and solve complex problems.

The objectives of the Open Data 100 Mexico study are to:

- ▶ Provide a basis for assessing the economic and social value of government open data.
- ▶ Encourage the development of new open data companies and NGOs.
- ▶ Foster a dialogue between government and the private sector on how government data can be made more useful.

Publishing public government data as “open data” is a gradual process. Therefore, this study includes small, medium, and large companies/organizations from various sectors that are for-profit and non-profit and that use publicly available government data as a key business or operational resource. This refers to any information or statistics from government agencies. While most Open Data 100 Mexico companies and NGOs will work with federal data, we are also interested in those that use city or state data in a way that can scale regionally or nationally.

The Open Data 100 Mexico study (www.OpenData500.com/mx) is an active study that The GovLab and the Government of Mexico will maintain and update on an ongoing basis. It is designed to be inclusive and it is not a rating, ranking or competition, but an attempt to give a broad, comprehensive view of the field. The study also does not provide a random sample for definitive statistical analysis

We welcome inquiries, input, and comments on any aspect of our work. Please write to us at OpenData500@thegovlab.org or tweet to us @OpenData500 with #OD100MX. Our website also enables public comments on individual organizations or the site as a whole.



ELIGIBILITY

To qualify for the Open Data 100 Mexico, a company or an NGO must:

- ▶ Be Mexico-based (or have a significant portion of operations in Mexico);
- ▶ Earn revenue from its products and services (NGOs or nonprofit organizations may qualify if they have a sustainable revenue stream); and
- ▶ Use publicly available government data as a key business or operational resource (This includes any information or statistics from government agencies).

METHODOLOGY

The Open Data 100 Mexico Study followed the methodology of the Open Data 500 United States Study, which consisted of four phases. The key steps and goals are outlined below.

PHASE 1: PRE-WORK & SCOPING

The team that conducted the Open Data 100 Mexico study evaluated the open data landscape in Mexico; determined the study's goals, operational and technical needs and capacity; and devised a timeline and initial media and outreach strategy. During this stage, we designed the website and survey and connected with open data influencers in Mexico.

PHASE 2: DATA COLLECTION & ANALYSIS

During phase two, we set a company identification strategy and began researching company candidates. Next, our team launched an outreach effort and followed up with non-responsive companies. Our goal was to achieve the highest possible level of company participation based on the study's criteria.



PHASE 3: REPORT & FINDINGS

This phase began with the official launch of the Open Data 100 Mexico, which coincided with International Open Day. We promoted the open data companies listed in the study and continued to promote the study to gain additional participation. A visualization that depicts the links between open data companies and Mexican federal agencies appeared on the study's home page.

PHASE 4: ROUNDTABLES & NEXT STEPS

During phase four, our team continues ongoing outreach and site maintenance. We identified next steps including the opportunity to host Roundtables, which would connect the organizations that use open data with the data providers within government agencies.

BENEFITS

The Open Data 100 Mexico serves as a platform for studying the use and impact of open data by Mexican companies and NGOs. It has identified the innovators using open data to create new business and NGO opportunities, conduct research, make data-based decisions and solve economic and social problems. The study will facilitate and improve open data in Mexico.

BASIC STATISTICS

Company and NGO Categories

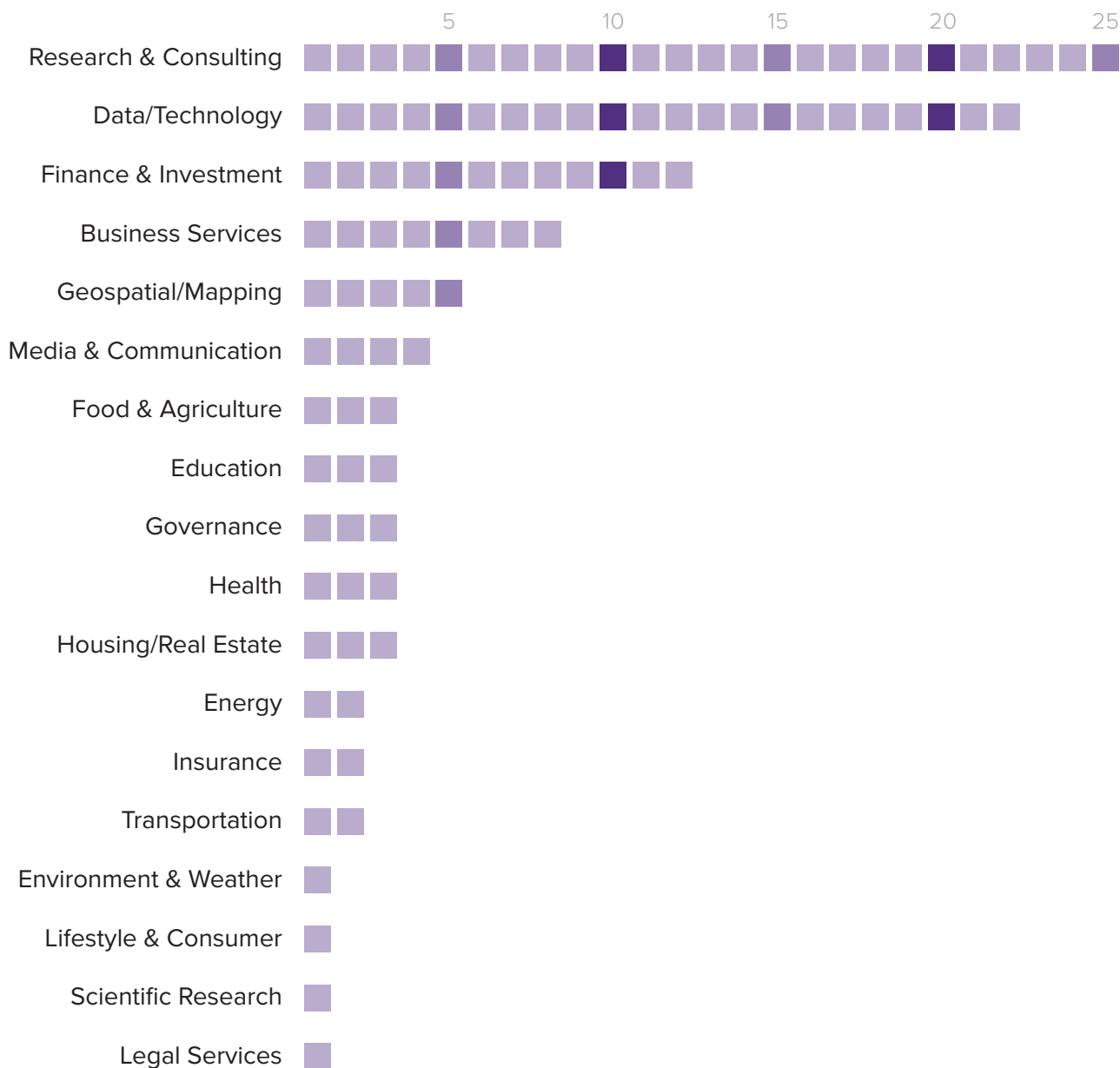
The companies and NGOs studied fall into the following 18 broad sectoral categories:

- ▶ **Business Services:** Business intelligence, regulatory compliance services, business management services.
- ▶ **Legal Services:** Systems for judicial and legal records.
- ▶ **Data/Technology:** Data management services for government agencies, mobile platforms, data visualization tools.
- ▶ **Education:** Job training, capacity building for educators, financial aid assistance.
- ▶ **Energy:** Analysis of electricity generation and consumption, business development of the oil service industry.
- ▶ **Environment & Weather:** Weather data and environmental issues.
- ▶ **Finance & Investment:** Analysis for investors, personal finance guidance, credit-related and lending services, services for required filings of financial information.
- ▶ **Food & Agriculture:** Farming-related data and analysis, advancing technology to improve food production in marginalized/rural communities.
- ▶ **Geospatial/Mapping:** Location-based data and analysis, visualization of geospatial data.
- ▶ **Governance:** Software and platforms for government transparency, fostering civic participation.
- ▶ **Health:** Personalized health data, disease prevention, circulation of health materials.
- ▶ **Housing/Real Estate:** Marketplace for residential and commercial properties, research for urban and real estate development, city planning.
- ▶ **Insurance:** Consumer and business insurance, risk analysis.
- ▶ **Lifestyle & Consumer:** Consumer guides, tourism.
- ▶ **Media and Communications:** Internet services, data journalism.
- ▶ **Research & Consulting:** Data analytics and consulting on business, finance, healthcare, workforce, and other areas
- ▶ **Scientific Research:** Data and systems for sustainable development research.
- ▶ **Transportation:** Car sharing services, transportation solutions that reduce greenhouse gas emissions.



The bar graph below shows the distribution of companies and NGOs among the categories.

COMPANY AND NGO CATEGORIES





GOVERNMENT DATA SOURCES

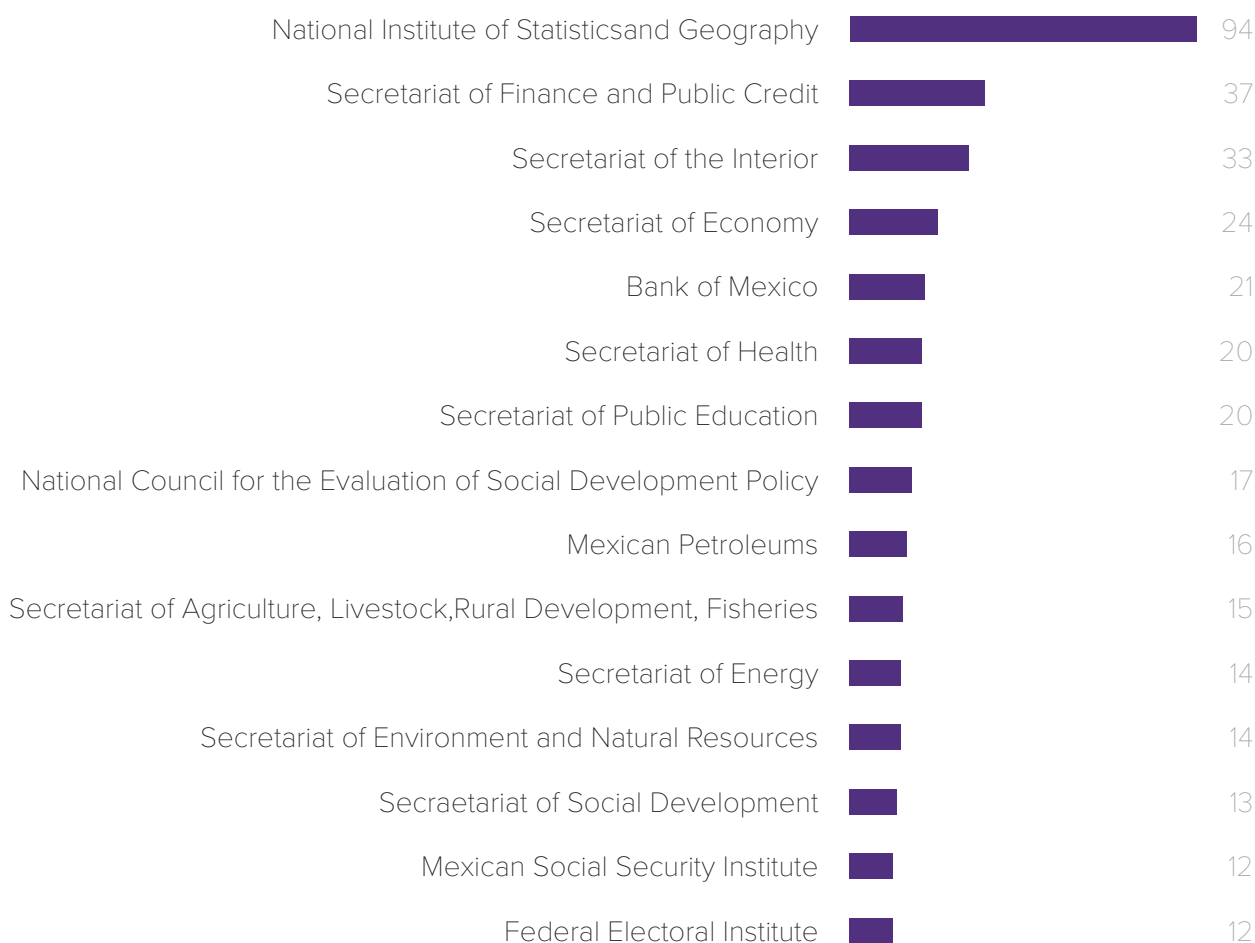
Through a combination of survey results and research by the Open Data 100 Mexico, we identified dozens of secretariats and offices that provide the open government data used by the 100 companies and NGOs we studied.

Specifically, we have identified the Government's open data portal, datos.gob.mx, as an important opportunity to continue identifying and using open government data as an input for the creation of economic and social value in Mexico.

The bar graph below shows the number of organizations that use their data. (Note: The chart only includes data from companies and NGOs that reported usage of a specific agency's open data.)

NUMBER OF COMPANIES AND NGOS USING VARIOUS GOVERNMENT DATA

15 most used





CASE STUDIES

- ▶ Throughout the development of the study, we identified key case studies that show the real impact that open data is having in Mexico at the present moment.
- ▶ The following section describes seven of such stories each of which is related to the creation of value from diverse actors across sectors:

FUNDACIÓN INVICTUS

OPEN DATA FOR ELECTRIC INTELLIGENCE

In Mexico, improving public decision-making around the generation, production, and consumption of electricity is a priority. To this end, Fundación Invictus has seized an opportunity to grow in the context of the new Energy Reform, especially through its emphasis on transparency in the energy sector.

Although relevant public data exists for analyzing consumption and proposing strategies for intelligent savings and consumption, in reality, this data is not used in a way that is practical and useful for the consumer. As a result, small consumers have not been able to make the most of a structured energy market. Furthermore, businesses lack tools that allow them to propose better, more competitive projects, offerings, and business models.

For Fundación Invictus, the opening of open data in the energy sector generates a value chain that ranges from optimizing consumption and monetary savings in Mexican homes, to determining fair prices for consumers.

A free, online platform allows clients to understand and control their energy consumption. This platform uses open data from the Ministry of Energy, such as actual capacity, gross production, users by pricing sector, and sales by sector. These are linked to historic climatic, demographic, socio-economic, economic, and geo-referenced data in order to produce maps and statistics that allow all users to understand their energy consumption. This analysis allows users to design energy-saving strategies and recommends tools and technologies to positively impact their electric energy expenditure.

The availability of open data on the energy market is essential for creating a society of informed consumers and for generating efficiency in electric energy sales.



DATA4

OPEN DATA FOR JOURNALISM

According to the creators of Data4, stories are better told with data. Using numbers, correlations, and accessible information, we can dispel myths and better understand the true character of those phenomena that most greatly impact Mexico.

Data4 transforms raw data into useful information that aims to clarify contemporary problems, support hypotheses with facts, create quantifiable measures and pose new investigative questions.

The company has consulted innumerable data, including statistics on Mexicans abroad published by the Foreign Ministry; data from the Prosper program from the Ministry of Development; the Poverty Index from the National Advisory for the Evaluation of Social Development Policy; and public health data from the Ministry of Health, which it analyzes and transforms into a variety of information products such as visualizations, blogs, reports, and even interactive platforms.

According to Data4, open data publication should grow alongside increased demand for democratic access to information in Mexico: “as the public seeks better information and greater accountability from our leaders, the demand for open data will increase exponentially.”

The company adds that data represents a common good that can be enjoyed by all, especially through data journalism: “We believe that information is a resource that should be shared to improve day-to-day decision-making, and that is the impact that the work of our clients should have.”

Even though today there are few Mexican companies dedicated to journalism, for Data4, the opportunity to leverage open data as a source of innovation and development will increase, particularly alongside the continued call for an official and secure source of open government data.

DVVIMSS

OPEN DATA TO IMPROVE HEALTHCARE SERVICES AND BUILD CITIZENSHIP

Pedro*, like many Mexican patients with HIV, has experienced shortages of certain medicines that are necessary for his daily antiretroviral treatments.

Beneficiaries Living with HIV IMSS (DVVIMSS) is an NGO whose goal is to improve health services for Mexicans living with this virus. The organization maintains a database with information that it receives from the Mexican Institute of Social Security (IMSS) along with information collected through its online portal, social media, and other channels. This data is used to monitor the supply chain of HIV medications and to report shortcomings in the service. Thanks to this support, today, Pedro – and



thousands of HIV patients – have the information resources necessary to claim their healthcare rights.

IMSS's Central Supply Department data helps DVVIMSS understand the supply of medicine that is stored, transported, supplied by pharmacies and consumed on an average monthly basis. This makes it possible to monitor the supply chain of HIV medication, from purchase to delivery and distribution.

Furthermore, the organization uses data on the number of hospital patients, treatment plans, and basic laboratory study results to measure the efficacy of CD4 and CV** therapies, which are critical for people with HIV, to monitor the quality of medical attention received by patients in the clinics and hospitals that serve them.

For DVVIMSS, the opening of healthcare data will generate positive impacts and greater efficiency in public health services. In the future, with existing efforts to publish open data, DVVIMSS hopes to see greater opportunities for collaboration and interaction between citizens and government in order to continue benefitting 36,000 HIV patients directly, and 70,000 indirectly, in the country.

**Name changed to protect identity*

***CD4 cells direct the body's immunological response against infection. The Viral Load measures the virus' replication in the body. For individuals with HIV, monitoring CD4 and Viral Load levels is necessary to be able to adjust the levels of other medications that the patient uses to control his/her disease.*

UNIPAGOS

OPEN DATA AS A BUSINESS STRATEGY

Eleuterio Sabino is a shop owner who must compete to attract clients who prefer other convenience stores that, in addition to offering the same products as Eleuterio, also provide other services like credit refills for cell phones and bill payment. Eleuterio's shop, like other small and medium enterprises (SME's) which today make up 99% of Mexico's businesses, seeks to become more competitive by offering services that can give his customers a comparative advantage. To this end, including these businesses in the market for digital products and services is a fundamental step toward strengthening a sector that generates 52% of GDP and 78% of employment in the country.¹

Unipagos is an online payment platform that offers electronic transaction services in Mexico. This system allows many shop owners, like Eleuterio, the ability to offer additional services to attract more clients and increase revenue. For this model, open data has been 'decisive' for Unipagos in terms of targeting a business strategy toward their clients for, "finding them, understanding their needs, and bringing them better opportunities."

¹ "PyMEs, vital link for growth in Mexico," ProMéxico (2014). Available at <http://www.promexico.gob.mx/negocios-internacionales/pymes-eslabon-fundamental-para-el-crecimiento-en-mexico.html>



Open data has been used to define priorities and service adoption strategies. For example, through the National Statistical Directory of Business Units' open data from the National Institute for Statistics and Geography, a company can find information pertaining to business locations, competition, and clients' needs in a specific area in order to identify opportunities for new business opportunities and/or expansion efforts. Another example of their data use is for geographically locating opportunities for official product launches. Basic Municipal Statistics data from the State of Mexico's Institute of Geographic, Statistical, and Cadastral Information and Research has given them the necessary elements for evaluating and choosing urban zones with the ideal blend of commercial activity and socio-economic diversity.

Similarly, Unipagos uses data from the Notices published by the Bank of Mexico to establish maximum transactional limits. It also uses Social Program Monitoring Reports from the Department of Social Development to plan services in alignment with the objectives of government social programs that at the same time can address the commercial needs of clients like Eleuterio Sabino by providing the financial tools they need to continue operating in competitive conditions and participate more regularly in secure and efficient transactions through their platform.

UBÍCALAS.COM

OPEN DATA TO ORIENT YOURSELF

Open data can offer a better understanding of daily life in Mexico by offering solutions to common problems quickly and efficiently with new technologies.

Imagine that you are away from your home and begin feeling ill. Immediately, from your smartphone, sites like Ubícalas.com can help you to find a variety of pharmacies nearby, allowing users to solve problems simply and economically while at the same time consulting the greatest number of product and service providers.

This is possible thanks to the type of data provided by the Directory of National Statistics of Economic Units of the National Institute of Geography and Statistics, which has data on the identification, location, economic activity, and size of all of the active businesses in Mexico. With this data, it is possible to address the needs of consumer – and of businesses – in any corner of the country, putting the supply of goods and services in the palm of the hand of any user, from a foreign tourist to a local businessman.

Each day, Ubícalas.com receives 5,000 visitors viewing 25,000 pages, in which they search for everything from convenience stores to shoe repair shops.

According to the company, open data is key for the future of digital technology-based business. This data benefits users as much as the businesses it features: the first see direct benefits to their daily



lives through greater information and better decision-making; and the latter, by generating higher revenues due to an increased flow of customers.

GOOGLE

OPEN DATA FOR SAFETY AND SECURITY

To talk about Google Inc. is to talk about data. Today, the multinational company, whose mission is to “organize all of the world’s information and make it universally accessible and useful,” processes thousands of petabytes (1,000 terabytes) each day. Additionally, some of the most popular products and services that the company offers to its Mexican users and clients already exploit open data.

For example, one of its most well-known products in Mexico is Google Maps, which offers a foundation created upon various geographic data and on which information layers can be constructed, including Points of Interest, Natural Resources, and Transportation Routes, among many others. Recently, the tool “Transit” has begun to offer transportation options using public transportation data from the Department of Mobility of Mexico City.

Of great importance to the company has been the creation of a public Open Data Policy by the Government of Mexico, which removes barriers to accessing reliable data from officially authorized sources. The company explains that since the adoption of this policy, any user who seeks to use open data only has to accept the terms and conditions of use established in each case, reducing the need for additional agreements that impede, slow, or bureaucratize the access and use of public information, which is crucial for business’ different initiatives. For example, two projects that have benefitted from the project are the GDELT Project, an open platform that monitors world news, and Google Public Data Explorer, a global directory of public data that also includes Mexican demographic data.

Directly and indirectly, the company has allowed the use of open data in Mexico to positively impact the daily experience of its end users. Using as an example the theme of security, Public Alerts and Crisis Maps are Google tools that use data from the National Meteorological Service and the National Water Commission – among other government datasets – to identify zones at risk for natural disasters, geographically locate institutional response and recovery infrastructure available in affected areas, and offer timely information about emergency notifications in the relevant time and place.

Thanks to this, people who could be affected by natural phenomena such as heavy rains or cyclones can be notified in advance, count on adequate information to effectively react to an emergency situation, and save their lives. Furthermore, this open data allows them to send notifications to users with relevant information that allows them to access safe zones, such as shelters, passable roads, or meeting points.

Likewise, as Google Maps contemplates using open data to build additional informational layers on its platform, it will be possible to affect information-based social change in the country. For example, facilitating the geolocation of voting booths will enable anyone with Internet access to easily find their voting place.

According to Google, Google's Public Alerts represents one concrete example, among many success stories, that reflects a national trend toward technological innovation with open data and demonstrates the potential that exists for other industrial sectors. "Innovation is generated upon reliable, available and easily accessible information, which allows for the improvement of processes and the creation of efficiency in the chains of production. Mexico has a great opportunity to be on the cutting-edge for making databases held by government entities available to the public on such diverse themes as economic advancement, budget transparency (exercise of public expenditure), meteorological phenomena, public health, among others; such that they can be used to solve concrete problems for the benefit of society."

ATLANTIA SEARCH

OPEN DATA FOR SPECIALIZED, ON-DEMAND INFORMATION

Open data is a comparative advantage for business. According to different studies, open data is worth between \$3-\$5 billion USD each year globally in sectors like transportation, energy, electricity, and financial services, among others.²

For "infomediaries" – those intermediary companies that transform raw data, converting them into information products and services that can be used by third parties – open data has a strategic value: it allows them to generate results quickly, efficiently, and at low cost. This means that for their clients, informational tools are increasingly within reach, resulting in a "cascade effect" in their productivity.

Atlantia Search is one of these infomediaries. It offers a platform in which it crosses open data with information collected from different online sources to emit specialized and reliable reports to give their clients a competitive advantage. Through a combination of technology and information "cloud-sourcing," the company uses between 50 and 100 sets of government open data to generate business intelligence on any theme and of any size, investigating, validating, and compiling information.

One example of this is the report "School Dropouts", in which public government data was consulted to demonstrate a full picture of dropout rates and demography according to sex, geography, economic

2 James Manyika et al, "Open Data: Unlocking innovation and performance with liquid information," McKinsey & Company, 2013. Available at http://www.mckinsey.com/insights/business_technology/open_data_unlocking_innovation_and_performance_with_liquid_information



status, and other social factors. For this study, data from the National Educational Institute, Censi from the National Institute of Statistics and Geography, and population estimates from the National Population Advisory all featured prominently in the report. This data was then complemented by reports and surveys emitted by the same official sources and academic investigations to present a coherent report comprised of different perspectives and studies.

According to Atlantia Search, open data access is important for increasing the capacity and quality of its services. Complementing its research with information from official sources means that its reports are trustworthy, generating benefits for its clients in sales, strategic decisions and results.

By way of example, the company has succeeded in standing out amongst its competitors by producing on-demand reports on any subject at 30 percent of the cost of traditional market research studies and at three times the speed. Likewise, working with open data offers more important benefits. When data is free and re-useable by anyone, it allows businesses to reduce their high costs of primary and secondary studies, facilitating access to specialized and exhaustive data access for their clients.

Atlantia Search believes that in the future, it will be important to address important challenges in terms of access and quality to open data, which are productive resources for innovation and economic growth in Mexico, so that they become more reliable and accessible and allow intermediary businesses to provide a range of better-quality services. With increasingly fewer barriers to accessing public information, such as through the datos.gob.mx portal, Atlantia's team is sure that new and better products and services will be generated with data.



RECOMMENDATIONS

Key insights coming out from the study and can help the Mexican government to increase the impact of open data for the creation of economic and social value.

Our key insights for the Open Data 100 Mexico research include:

- ▶ **Continue with the company identification and outreach strategy.** Build momentum by promoting success stories of data use by innovative companies and Non Governmental Organizations (NGOs). Partner with media, academics, and business associations to promote the study.
- ▶ **Support open data for evidence-based policymaking and strengthen the use of open data to generate economic and social value.** Understand the importance of demand-driven open data. Ensure that this mindset is applied to future open data policies and planning. Set priorities for business collaborations to achieve high Return On Investment (ROI).
- ▶ **Host open data Roundtables.** Identify stakeholders, key data users and data providers to attend Roundtables that create a forum for productive discussions on open data solutions. Similarly to the Pareto Principle, assume that 20% of the datasets hold 80% of the value. Request feedback to identify key datasets for release and improvement. Ensure that datasets with high demand are as relevant, accessible, and actionable as possible.