

THE PROTECTION OF MEXICAN LEGISLATION IN A HYBRID WORK CONTEXT

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SUMMARY: I. *The Arrival of the Internet in Mexico*. II. *Regulations Regarding Internet and Data Security*. III. *The Federal Institute of Telecommunications and the Regulatory Framework that Affects the Scope of its Action*. IV. *Conclusion*. V. *Bibliography*.

I. THE ARRIVAL OF THE INTERNET IN MEXICO

As has happened throughout history, when a technological change is approaching, its acceptance causes doubts and resistance, this case was no exception, since the idea of implementing a computer network was not the main priority at that time, due, on the one hand, to ignorance of the subject in general and, on the other hand, to the reluctance of funders, who were skeptical about the benefits that could be obtained beyond the academic sector. However, time would do its work, showing performance not only in the academic sector but also in practically all areas worldwide.

This is how the Internet was introduced in Mexico, through what is now known as RedUNAM, whose history has been detailed by Gloria Koenigsberger, a prominent Mexican astronomer belonging to the academic staff of National Autonomous University of Mexico (UNAM by its acronym in Spanish) and precursor of the first Internet connection in Mexico, who describes in one of his works¹ how it was possible for technology to

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¹ Koenigsberger, Gloria, *Los inicios de Internet en México*, México, UNAM, 2014, p. 255, available at: https://www.fis.unam.mx/~gloria/g.koenigsberger_inicios_internet_libro.pdf.

reach our country in 1989 and how many of the events derived from his activity in astronomical research influenced this achievement of the insertion of the Internet in Mexico, becoming an essential tool for the development of almost all human activities. Her work opens a window for us to learn about this part of history, but it also offers us the possibility of immersing ourselves, even a little, in the wonderful world of astronomy, thanks to the exquisite narrations through which he details his daily life in those times of stellar observation that gave rise to the incursion of Mexico in the networks.

Koenigsberger² narrates step by step how telecommunications took ever greater leaps, from the primitive smoke signals and drumbeats, through the telegraph, the telephone and television to the creation of computers that, although not they were not created for telecommunications but to process data, over time they became remote terminals that allowed information to be transferred from one place to another without having to leave home.

Thus, through the experiences of those who were at the forefront of the struggle to achieve Internet connection, we know that the impediments stemmed mainly from the legislation that in most South American countries prohibited the transmission of digital signals through their means of communication. communication, that is, the transmission of data was not permissible.

Mexico, by its own, also had a law, whose text explicitly prevented the transmission of encrypted data through its telephone lines, which further complicated the environment. Although it was very understandable, since said regulation had been issued during the Second World War, a moment in which espionage was sought to be prevented at all costs, thus prohibiting the sending of any message, because its process implied prior encryption. Therefore, there was the impossibility of using Mexican satellites for cross-border communications, which increasingly encouraged the exchange of data between institutions of various nations.

However, the obstacles were overcome little by little and the work carried out by the *Instituto de Investigaciones en Matemáticas Aplicadas y Sistemas* (Institute of Research in Applied Mathematics and Systems (IIMAS by its acronym in Spanish) of UNAM in the 1980s was a great impetus for the implementation of a local network. within its facilities, whose computer (Foonly brand) was used as a node to which several computers and micro-

² *Ibidem*, p. 97.

computers were connected, becoming a “network”. Later, with the support of one of the collaborating researchers of this project, Dr. Max Díaz, who contributed a series of programs used through serial ports, remote access and information transfer between the devices that formed this network was achieved. These computers also shared data with those installed at Stanford University, which in turn were connected to DARPAnet (Defense Advanced Research Projects Agency Net), an interstate network created by the United States Department of Defense in the 1960s, considered the origin of the internet and whose fundamental requirements were the following:

- The network had to be protected in case a natural disaster or a war, especially a nuclear attack, affected the country, so as not to weaken the entire network, even if a part was damaged.
- The network, just as it should not be damaged by the elimination of a part, should allow the incorporation of new elements with ease.
- It had to use a language (computer codes), a protocol, that could be understood by any computer, regardless of the system used.³

And it had been created with the purpose of overcoming the technological lag experienced in the United States with respect to the accelerated advance of the Soviet Union, in this way, it sought to re-establish leadership in the areas of science and technology with military applications.⁴

This is how the efforts made by the researchers in charge of the project at IIMAS brought great success, motivating them to suggest the development of a network within UNAM, in order to share information between dependencies and, over time, between institutions of other countries.

This idea was received with great expectations, achieving the contribution of funds by the Organization of American States, which planned to develop a project called the Red Latinoamericana de Computadoras (Latin American Computer Network, REDLAC by its acronym in Spanish), which would never see the light of day.

Later, between 1982 and 1983, the National Laboratory of Advanced Computing was established in the city of Xalapa, Veracruz, Mexico, made up of researchers who had participated in the project developed at the IIMAS and who had extensive experience.

³ Cuadra, Elena de la, “Internet: conceptos básicos”, *Cuadernos de Documentación Multimedia*, Madrid, vol. 5, 1996, p. 35, available at: <https://revistas.ucm.es/index.php/CDMU/article/view/59279/4564456546674>.

⁴ Koenigsberger, Gloria, *op. cit.*, p. 97.

Two years later, with the arrival of Jorge Carpizo to the rectory of the UNAM, the *Consejo Asesor de Cómputo* (Computing Advisory Council) was created, chaired by one of the IIMAS researchers, Felipe Bracho, who implemented the policies for the development of the computing area in the University, perfecting the computer equipment through the modernization of the existing infrastructure. To make this project a reality, UNAM entered into a contract with one of the largest companies in the telecommunications industry, IBM, which made an important donation with the sole objective of installing the University Network, which would see the light between 1986 and 1988, creating in 1987 the Coordination of the University Computing Network.⁵

From now on, the signing of agreements with NASA (a key element for the first connections in Mexico) and other entities would be the beginning for different universities and companies to join in the development that the Internet would have in our country, not only with the United States but also with countries from other latitudes. In 1989, an antenna was installed at UNAM that, due to its size, had to be divided into three parts to achieve its placement. Through this antenna, the link between NSFNet⁶ (National Science Foundation's Network) and RedUNAM was achieved.

⁵ *Ibidem*, pp. 130-138.

⁶ The National Science Foundation's Network was a network created by the United States in the 1980s, whose objective was to maintain the transfer of information on research and education, available at: <https://www.nsf.gov/about/glance.jsp>. Later it was replaced by the ARPANET network which, as noted above, was a network created by the United States Department of Defense to maintain communication between various state institutions.

IMAGE 1. ANTENNA OF 3.7 METERS INSTALED AT UNAM



SOURCE: Image by Gloria Koenigsberger.⁷

In 1994, the National Technological Network (RTN) was formed, made up of MEXnet and CONACYT, achieving that educational and research institutions were linked to the Internet, and later, in that same year, connectivity was opened to the commercial sphere, presenting an increase important in the number of registered domains.⁸

II. REGULATIONS REGARDING INTERNET AND DATA SECURITY

As has already been seen, the Internet is a relatively new tool that has not stopped evolving, therefore, it is difficult to define a legal framework that covers all aspects, however, in Mexico it has not been necessary to create

⁷ Antenna installed on April 25, 1989. See: Saldaña, Steve, “La historia cómo México se conectó por primera vez a internet: una carrera de tropiezos y maravillas entre la UNAM y el ITESM”, *Xataka*, 2020, disponible en: <https://www.xataka.com.mx/historia-de-la-tecnologia/historia-mexico-su-primera-conexion-a-internet-odisea-unam-itesm-satelites-viajes-camion>.

⁸ Trejo García, Elma del Carmen, *Regulación jurídica de internet*, México, Cámara de Diputados, LX Legislatura, Centro de Documentación, Información y Análisis, 2006, p. 64, disponible en: <https://www.diputados.gob.mx/sedia/sia/spe/SPE-ISS-12-06.pdf>.

specific laws to regulate the Internet, since it has legislation that allows it to regulate most of the operations carried out on the Internet. In addition, the effort that various sectors involved in these issues make on a daily basis to overcome the vulnerabilities faced by both users and digital service providers is notorious.

In this way, part of the regulations referring to the use of the internet is as follows: *Constitución Política de los Estados Unidos Mexicanos* (Political Constitution of the United Mexican States), in whose text of its article 6⁹ it is established that the internet is a right guaranteed by this supreme law and through it is they enhance other fundamental rights such as the right to information, privacy, access to information and communication technologies, and broadcasting and telecommunications rights. The term *personal data* was introduced in this article by constitutional reform of July 20, 2007.

The constitutional precept that guarantees the right to Internet is in the article 6 and it says:

...

The State shall guarantee the right of access to information and communication technologies, as well as broadcasting and telecommunications services, including broadband and Internet. For such purposes, the State shall establish conditions of effective competition in the provision of said services.

...

B. Regarding broadcasting and telecommunications:

I. The State will guarantee the population its integration into the information and knowledge society, through a policy of universal digital inclusion with annual and six-year goals.

II. Telecommunications are public services of general interest, for which the State will guarantee that they are provided under conditions of competition, quality, plurality, universal coverage, interconnection, convergence, continuity, free access and without arbitrary interference.

III. Broadcasting is a public service of general interest, for which the State will guarantee that it is provided in conditions of competition and quality and that it provides the benefits of culture to the entire population, preserving the plurality and truthfulness of information, as well as the promotion of the values of national identity, contributing to the purposes established in article 3 of this Constitution.

⁹ Constitución Política de los Estados Unidos Mexicanos, artículos 6o. y 7o. availables at: <http://www.ordenjuridico.gob.mx/Constitucion/articulos/6.pdf>.

*Ley General de Protección de Datos Personales en Posesión de Sujetos Obligados*¹⁰ (General Law on the Protection of Personal Data in Possession of Obligated Subjects, LGPDPPSO by its acronym in Spanish), issued on January 26, 2017, regulating article 6 of the Constitution, whose objective “is to establish the bases, principles and procedures to guarantee the right you have every person to have their personal data protected when they are in the possession of regulated entities”;¹¹ that is, held by any “authority, entity, body and agency of the three powers of the Union, as well as autonomous bodies, political parties, trusts and public funds”;¹² at any of the federal, state and municipal levels.

It is important to point out that the regulated entities have the duty to integrate a Transparency Committee, whose function is to protect and safeguard the information, for which they access the personal data in order to determine its classification; always in accordance with the regulations previously established by the obligated subjects, that is, the security and protection protocols, as well as what is established in the *Ley General de Transparencia y Acceso a la Información Pública*¹³ (Law of Transparency and Access to Public Information, LGTAIP by its acronym in Spanish).

The LGTAIP, published on May 4, 2015, regulating article 6 of the Constitution and whose purpose is to

...establish the principles, general bases and procedures to guarantee the right of access to information in the possession of any authority, entity, body and agency of the Legislative, Executive and Judicial powers, autonomous bodies, political parties, trusts and public funds, as well as any individual, legal entity or union that receives and exercises public resources or carry out acts of authority of the Federation, the Federal Entities and the municipalities.

On its own, the *la Ley Federal de Protección de Datos Personales en Posesión de los Particulares*¹⁴ (Federal Law on Protection of Personal Data Held by Individuals, LFPDPPP by its acronym in Spanish), published on July 5, 2010, was issued with the aim of protecting:

Article 1. Personal data held by individuals, in order to regulate their legitimate, controlled and informed treatment, in order to guarantee privacy and the right to informational self-determination of people.

¹⁰ Available at: <https://www.diputados.gob.mx/LeyesBiblio/pdf/LGPDPPSO.pdf>.

¹¹ LGPDPPSO, article 1.

¹² *Idem*.

¹³ Available at: https://www.diputados.gob.mx/LeyesBiblio/pdf/LGTAIP_200521.pdf.

¹⁴ Disponible en: <https://www.diputados.gob.mx/LeyesBiblio/pdf/LFPDPPP.pdf>.

Article 2. The subjects regulated by this Law are individuals, whether natural or legal persons who carry out the processing of personal data, with the exception of:

I. Credit information companies in the cases of the Law to Regulate Credit Information Companies and other applicable provisions, and

II. The people who carry out the collection and storage of personal data, which is for exclusively personal use, and without the purpose of disclosure or commercial use.

The office which guarantees the right of access to information and protection of personal data is the *Instituto Nacional de Transparencia y Acceso a la Información y Protección de Datos Personales* (National Institute of Transparency and Access to Information and Protection of Personal Data (INAI by its acronym in Spanish, formerly IFAI),¹⁵ whose constitutional reform in 2014¹⁶ gives it constitutional autonomy, with the aim of creating a coordination system between the federation and the states.

In this same context, the *Asociación Mexicana de Internet* (Mexican Internet Association, AMIPCI by its acronym in Spanish) emerged in 1999 and is made up of companies that influence the development of this industry in Mexico, with the aim of promoting the Internet economy in the country. This Association represents companies to guide their interests towards the free, responsible and safe development of the Internet, generating a positive impact on society.¹⁷

III. THE FEDERAL INSTITUTE OF TELECOMMUNICATIONS AND THE REGULATORY FRAMEWORK THAT AFFECTS THE SCOPE OF ITS ACTION

The Instituto Federal de Telecomunicaciones (*Federal Institute of Telecommunications*, IFT by its acronym in Spanish)¹⁸ is one of the autonomous constitutional bodies that exist in Mexico, it was created in 2013¹⁹ and, since then, it has

¹⁵ In 2015, the Federal Institute for Access to Public Information (IFAI) was transformed into what is now known as INAI.

¹⁶ Reformed on February 7, 2014.

¹⁷ Asociación Mexicana de Internet available at: <https://www.asociaciondeinternet.mx>.

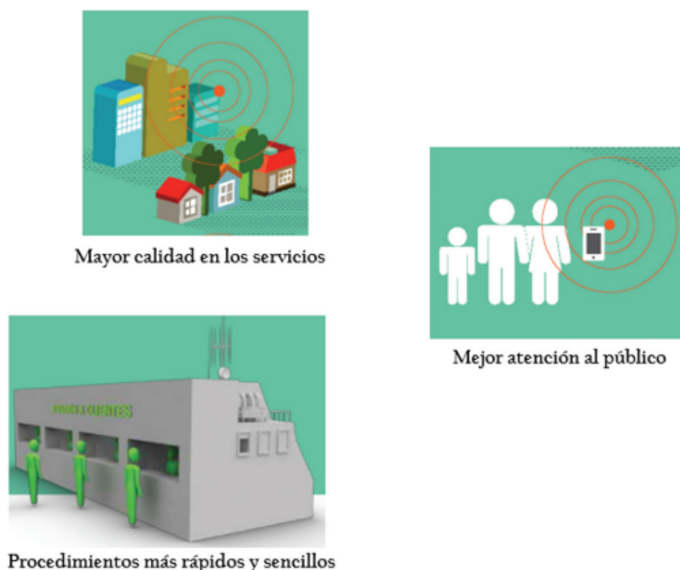
¹⁸ Available at: <https://www.ift.org.mx>

¹⁹ Decreto por el que se reforman y adicionan diversas disposiciones de los artículos 6o., 7o., 27, 28, 73, 78, 94 y 105 de la Constitución Política de los Estados Unidos Mexicanos, en materia de telecomunicaciones, available at: https://www.dof.gob.mx/nota_detalle.php?codigo=5301941&fecha=11/06/2013#gsc.tab=0.

been gaining prestige. In 2019 alone, it dealt with 21,914 user complaints (by telephone, online, in writing or in person), reflecting the anomalies presented in the services offered by providers, detecting mobile telephony as the main reasons for nonconformity (58 %) and internet services (15%).²⁰

This office is in charge of regulating, promoting and supervising services related to broadcasting and telecommunications in Mexico; that is, everything related to fixed, mobile and public telephony, television, etc. In addition, it monitors the provision of adequate services and promotes healthy competition between the companies that provide said services (image 2).

IMAGE 2. BENEFITS GENERATED BY THE FEDERAL INSTITUTE OF TELECOMMUNICATIONS



SOURCE: self made.

For its operation, it has a broad regulatory framework²¹ that affects the scope of its action. The legal basis, as we have already seen, is the Mexican Constitution; secondly, it has more than 60 laws, among which are: *Ley de*

²⁰ Instituto Federal de Telecomunicaciones, *Primer Informe de Actividades 2019*, disponible en: <http://www.ift.org.mx/sites/default/files/contenidogeneral/transparencia/ita12019.pdf>.

²¹ “Marco jurídico nacional que incide en el ámbito de actuación del Instituto Federal de Telecomunicaciones”, última actualización del 18 de abril de 2022, available at: https://www.ift.org.mx/sites/default/files/marco_juridico_18_abril_2022.pdf.

Amparo (Amparo Law), *Ley de Asociaciones Público Privadas* (Public-Private Associations Law); *Ley de Asociaciones Religiosas y Culto Público* (Religious Associations and Public Worship Law), *Ley de Inversión Extranjera* (Foreign Investment Law); *Ley de la Propiedad Industrial* (Industrial Property Law); *Ley de Obras Públicas y Servicios Relacionados* (Public Works and Related Services Law); *Ley del Sistema Público de Radiodifusión del Estado Mexicano* (Law of the Public Broadcasting System of the Mexican State); *Ley Orgánica de la Administración Pública Federal* (Organic Law of the Federal Public Administration), *Ley Federal de Telecomunicaciones* (Federal Telecommunications Law), among others. The latter recognizes the IFT as an autonomous public office, with independence in its decisions and operation, as well as the authority in terms of technical guidelines related to infrastructure and equipment that connect to telecommunications networks.

It is also based on the precepts established in the following Codes: *Código Civil Federal* (Federal Civil Code); *Código de Comercio* (Commercial Code); *Código Federal de Procedimientos Civiles* (Federal Code of Civil Procedures); *Código Fiscal de la Federación* (Federation Fiscal Code); *Código Nacional de Procedimientos Penales* (National Code of Criminal Procedures), *Código Penal Federal* (Federal Criminal Code).

The IFT has an Organic Statute, reformed for the last time in March 2022,²² in which it is described that for its proper functioning it will have: a Plenary, a President, a Technical Secretariat of the Plenary; an Executive Coordination, 8 units referring to: Regulatory Policy, Radioelectric Spectrum, Concessions and Services, Media and Audiovisual Content, Compliance, Economic Competition, Legal Affairs and Administration. It is also made up of an investigative authority, a Study Center, 6 general coordinators in charge of: International Affairs, User Policy, Strategic Planning, Regulatory Improvement, Institutional Linkage and Social Communication. It also has 29 General Directorates and 8 attached General Directorates.

On the other hand, within the regulatory framework that affects the operation of the IFT are the Satellite Communication Regulations; the Regulation to Install and Operate Radio Electric Stations of the Amateur Service, and the Regulation for the Commercialization of Long Distance and International Long Distance Telecommunications Services.

In this same sense, the IFT has issued its own provisions for the regulation of the telecommunications and broadcasting sectors for each specific matter, among which are: 26 provisions on Regulation of the Radio electric Spectrum and Orbital Resources; 53 provisions on Concessions and

²² Available at: <https://www.ift.org.mx/conocenos/estatuto-organico>.

Authorizations; 21 provisions on Regulation of Economic Competition in Telecommunications; 6 provisions on Regulation applicable only to the Preponderant Economic Agents in the Telecommunications and Broadcasting Sectors/with Substantial Power (4 referring to Telecommunications, 2 referring to Broadcasting), 7 provisions on Regulation for the Accreditation of Experts in the Matter of Telecommunications and Broadcasting; 17 provisions on Interconnection; 12 provisions on Numbering, Signaling and Number Portability, 7 provisions on the Regulation of Digital Terrestrial Television, 64 provisions on Internal Regulation of the IFT, 36 provisions issued by an authority other than the IFT, which affect the sector of Telecommunications and Broadcasting,

In addition, it is important to note that, during the time in which the COVID-19 pandemic has developed, the Plenary of the IFT has issued 9 agreements due to the health emergency.

IV. CONCLUSION

Due to the above during the years after the arrival of the internet in our country, a significant number of laws have been developed that, although not all of them are recently created, the existing ones have been constantly modified to frame their texts to the needs of protection of personal data, the provision of adequate services and the prevention of crimes. This last item, Mexican legislators and specialists are working on the creation of legislation that regulates computer crimes, meanwhile, some crimes of this type are provided for in the following laws: *Ley de Instituciones de Crédito* (Law of Credit Institutions); *Ley de Instituciones de Seguros y Finanzas* (Insurance and Finance Institutions Law); *Ley del Mercado de Valores* (Law of the Market of Values); *Ley General de Títulos y Operaciones de Crédito* (General Law of Titles and Credit Operations), as well as in the *Ley Federal de Protección de Datos Personales en Posesión de los Particulares* (Federal Law of Protection of Personal Data Held by Individuals).

Likewise, there is the *Código Penal Federal*²³ (Federal Criminal Code) to regulate the crimes of revealing secrets; illicit access to computer systems and equipment; against indemnity of privacy of sexual information; affection of a computer program or software; pornography, among others that are typified in some State Codes, as is the case of the *Código Penal de Veracruz*²⁴

²³ Available at: https://www.diputados.gob.mx/LeyesBiblio/pdf_mov/Codigo_Penal_Federal.pdf.

²⁴ Available at: <https://www.legisver.gob.mx/leyes/LeyesPDF/PENAL270115.pdf>.

(Criminal Code of Veracruz), whose text contemplates the crime of telephone deception, or the *Código Penal del Estado de Coahuila*²⁵ (Criminal Code of the State of Coahuila), which indicates the crime of sexual harassment through computer media, as well as the crime of violation of sexual privacy.

Due to the foregoing, today there is a robust and constantly evolving Mexican regulatory framework, whose text is perfectible, as are the laws of the countries that are more advanced in the regulation of these issues.

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²⁵ Available at: https://www.congresocoahuila.gob.mx/transparencia/03/Leyes_Coahuila/coa08_Nuevo_Codigo.pdf.