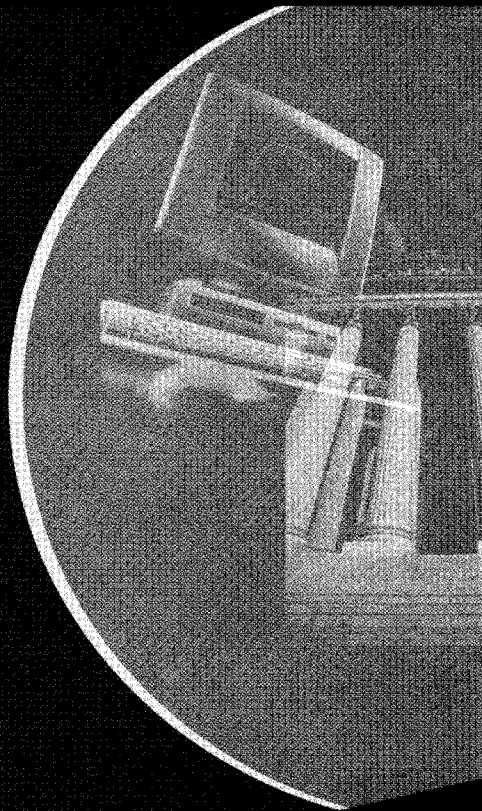


**Techno-Legal Aspects of Information Society and New Economy
an Overview**



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AN OVERVIEW

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The impact of the Computer Legislation in the audit of Information Technology

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Keywords: Computer right / legislation, Security, Audit of Information Technology, Protection mechanisms, Technological infrastructure, Institutions, Legal Frame.

Summary. The aspects presented in this chapter have the objective of show the current situation of the computer right or computer legislation in Mexico and in other countries, as well as their importance in the security function and of audit of information technology.

For many nations, at the moment the security function of Information Technologies is critical, including the protection of the sovereignty, because the effects of manifested risks can be translated in lamentable considerable human and/or economic losses. That is why high budgets are dedicated for the installation of mechanisms of protection of technological infrastructure and mainly to the information, considered like actives of the institutions. The interaction of the computer security with the audit function may be ratable to increase, control and to detect weaknesses in the levels of protection of these assets, reason why is convenient to give him a focus of prevention, more than of correction.

The paper that plays the legislation in the audit processes is fundamental, function that verifies the execution of laws, norms, standard, political, etc. In computer matter in Mexico, the legal frame still turns out to be insufficient, taking into account the current technological reality.

A critical factor of success to achieve the before exposed, is without a doubt the human, As in the computer environment like in the juridical is necessary of interaction efforts and mainly of " vision conciliation ", if in some way it can be defined. It is therefore important the preparation offered to technological specialists and the lawyers, that is already a reality in some countries or, in others exists hopeful advances, with the impels of the computer legislation and of the computer science right.

Introduction

The computer audit, in to mostly preventive focus that corrective, must be a ratable function for the institutions, whichever mission or operation, whenever they have information technologies with direct relation in the execution of their missions and objectives. The feedback between the security function and computer audit, it should be considered to control and to contribute improvements at the levels of protection of the computer assets (people, information, hardware and software).

The job of those who dictate, emits and procure the observation of laws, needs an appropriate focus to the reality, oriented to the recognition and filling of juridical "holes" in computer matter that although today in Mexico the advances are going on, these are still insufficient in comparison with technological and legislative realities of other countries.

1. Computer right [1]

1.1. Definition. "It is the group of laws, norms and applicable principles to the facts and derivative acts of the computer science" [2]. It is important to differentiate the computer right of the concept "Law computer science", which has been defined like "the group of studies and derivative instruments of the application of the Computer science to the Right, or stricter, to the creation processes, application and knowledge of the Right" [3].

1.2. Current situation in Mexico. Among the aspects, in computer matter, recognized by the Mexican Laws, as much to Federal level as to state level, this is applicable to the country in general or in some states in particular respectively, they are the following, same that are protected by government institutions or legally established organisms by the national judiciary power [4]:

Federal level:

- Copyright.
- Industrial property.
- Telecommunications (Nets, satellites and radio electrical spectrum).
- National services of Statistic and Geographical Information.
- Penalizes the revelation of secrets and illicit access to systems and computer equipment.
- Recognition of the acceptance of terms in Internet.
- Recognition like proofs in civil procedures, of generated information or communicated that it consists in electronic, optic means or another technology.
- Protection to the consumer for actual transactions made in Internet.
- Evidentiary effect of electronic documents for loan companies.

State level:

- In Mexico City the infantile pornography is penalized.
- It penalizes the revelation of information for people different to the source (Baja California).
- It penalizes the robbery or material seizure of documents that contain data in computers, or the use of this data, without right and without the person's consent that legally can use these information. (Nuevo León).

Today some proposals of Law exist, presented by some senators, among them:

- Federal law of protection of personal data.
- In matter of computer crimes.
- In matter of e-commerce.

1.3. Current situation in other countries. In matter of computer legislation, the aspects contemplated in the juridical systems of some countries are the following ones:

- Damage of computation equipment and illegal use of computation equipment (Japan)
- Abuse fraudulent in information processing (Austria, Japan)
- Lucre using databases improperly (Japan, New Zealand)
- Sabotage to other people's business (Japan)
- Piracy and illegal acquisition of programs (France, Germany, Japan, Scotland, Great Britain, Mexico, among other).
- Fraud or sensitive information robbery and programs (France, Great Britain, Austria, Switzerland, Japan, and United States).
- Alteration of programs (Japan, Great Britain).

A country with advances and remarkable contributions to the unification of juridical approaches in the European Union is Spain. Among the computer legislation that has developed, it highlights the project of law about electronic signs that has been approved by the European Union; for that, a way of identity will be created to navigate with high safety levels in Internet, and it will provide the same legal effectiveness that a hand written signature on paper and it will be an acceptable proof for lawful procedures, through any legal way admitted, this electronic signature will have the size and the approximate price of a credit card and it will work with a special modem, of cut rate price. Also in the academic field, Spain has specialized studies at computer legal like masters. France is another case located in this tendency.

In the case of America, United States is without a doubt a country with important contributions in the consolidation of a computer legal frame, although it is necessary to point out the advances in Latin America,

one notable is the Argentinean case, country that counts with specific educational infrastructures for the computer right. It is important to continue with exchange activities and cooperation among countries with considerable advances in this matter.

1.4. International cases. Diverse situations that have been questioned the adaptation of the computer juridical frame or of the security technology of some countries, for example the case of the annulment of a federal law that forced to use filters for Internet, in United States, once the judges concluded that the filters are not obligatory for the public libraries, since these can also block the access to places that contain material aided by the freedom of speech, like it is the case of information of health with respect to the topic of mamma cancer or homosexuality, which can be confused with pornographic material for the filtrate programs, and therefore to be automatically blocked. [5]

Another case happened in Argentina whose judges concluded that the alteration of pages of Internet (hacking) it was not a crime, because this is not contemplated in the Argentinean penal code [6].

1.5. Tendencies. One of the tendencies at international level of computer legislation is the called "Cyber tribunals" or the already employee term "Virtual Right", which is more an image that a reality, the objective is the criteria reconciling between nations or regions in e-commerce matter, computer crimes and the protection of personal data, to mention a case, is known the opposing opinions for the process of computer crimes between United States and the European Union, the first one with a freer posture that the second [7].

Mexico needs to consider the upgrade and/or creation of educational programs for lawyers, offering them specializations in computer science and for computer specialist that can be specialized in legal computer matter, and mainly to promote the exchange between the artificial vision and the technician-administrative one of the computer science.

2. Computer audit

The audit function arises like a necessity in the organizations to verify the execution of objectives and the destination of the resources (financial and materials mainly), supporting mainly to the control phase in the administrative process. The Audit can be differentiated in its type, according to the following criteria [8]:

2.1 for people that carry out it: Considering people who are practicing the audits, one can speak of two types: internal and external.

2.1.1 Internal: An auditor or auditors' group makes revisions, which are part of the audited organization. The activities of the auditors are only limited to those related with audit and they don't have anything to do with the operation of the areas.

2.1.2 External: An auditor or auditors' group makes the revisions, which are not part of the organization. The auditors are totally independent and just hired for that function.

2.2 For their reach: Based on the reach, it means that in the aspects that it will focus the revision, it may be integral or specific audit.

2.2.1 integral: it is carried out with the objective of revising entirely the execution of the objectives in an organization. This kind of audit can be carried out so much for external auditors, as internal. However, due to their familiarity with the organization, the internal auditors possess more elements to make this work in efficient form.

2.2.2 specific: It is carried out with the objective of verify one of the objectives that are pursued in an organization. Like integral audit, it can be carried out by external or internal auditors. Inside this type of audits we have a great variety of types, depending the objective in particular that it is pursued, like

financial, operative, administrative, Information Technology, or in a concrete way, security of information technologies.

2.3. Audit of Information Technology. It the function whose purpose is to evaluate methodologically the function of the technology of the information and its contribution to the execution of the organizational objectives, with the purpose of guarantee the integrity of the information and the continuity of the organization [9].

2.4. The computer auditor's function. In some cases, one doesn't have clearly defined the function of computer science's auditor. The function of this it is usually confused with a traditional auditor or accountant assisted by a computer or with the computer internal checkup. It is important to keep in mind that audit like function, whatever kind, has its basis in legislation, norms, political, objectives, etc. of the organizations, and its purpose is showing the reality of the audit object, attaching to the normative frame before referred and to recommend the actions of effectiveness, efficiency and economy to complete the mission of the organization.

By the before written, it is necessary for an auditor in computer science to have the following tools to fulfill his mission:

- Technical knowledge of the function that is checking up (planning, Systems of information, databases, nets, security, etc.).
- Knowledge and administrative abilities (according to the paper that carries out in the audit area and to the organization that is checking up: planning, leadership, control, vision, etc.).
- Knowledge of the applicable normative frame to the function that is checking up (Legislation, political, standards, etc.).
- Knowledge and attachment to the normative frame and ethical codes applicables to their function.
- Continuous upgrade in audit, security and computer legislation.

Among the politicians of the auditors' diligence, besides observing the respective ethics codes, in general the following principles should be fulfilled:

- To act with the maximum effectiveness and efficiency in the in charge works.
- To observe *mental independence* in the revised aspects, it means that some conflict of interest should not exist with the client, that could guides different approaches or criteria to those contemplated in the corresponding norms and that it may affects the audit results.
- *Confidentiality and professional integrity* in the use of the received information and generated in the audit process, same that should reflect the reality of the audit object.
- Treat respectfully, politely, with impartiality and rightness to people related in the commended work, including subordinates or superior hierarchicals.
- *Enough and competent evidences*, it will reflect the professionalism and dependability of the audit.

3. Computer security

The security computer function arises like a necessity to face vulnerabilities or inherent risks to the computer systems, as well as physical infrastructure also logic, reason why is necessary of both security schemes.

To achieve the implementation of security schemes (logical and physical) it requires of controls or mechanisms that allow to minimize the effects of the presented risks, these controls may be: to prevent, to detect and to correct, whose effectiveness depends the safety level that can be considered for example: low, middle or high security, this with methods and measuring outlines.

The administration of the function of security computer is a key factor for its utility, which should consider human elements, materials (technicians), technological (methods) and budget according to the mission and priorities of protection of the institution or company, in a very particular way.

3.1. Definition. Security is defined as the "certainty of the realization of something", something is safe when it is free or exempt of all damage or risk" [10]. In the concrete case of computer security, it can be defined as the trust in the elements of Technology of Information, if their software behaves like one waits that this makes it, and if the information stored stays entire and available along the time its owner wishes or needs.

It is well known that a 100% insurance computer system is something utopian, but it is also well-known that exist mechanisms that allow levels of tolerance to flaws, for that should be considered standard or international limits like ISO, IEEE, the Orange Book, etc., or even proven and approved proprietary political or norms.

3.1.1 physical security: it is the trust in the tangible elements (physical) of infrastructure of information (buildings, installations, devices and controls), in such a way that these behave and are conserved under good conditions.

3.1.2 logical security: it is the trust in the intangible elements (software and applications) of the infrastructure of information, in such a way that these cooperate to have entire, opportune and confidential information according to the established approaches.

The audit function in computer security, in general consists in verifying the execution or implementation grade of standard or internal politicians about security, same that can include:

- Existence and upgrade of back-up plans and contingencies (Recovery Plan).
- Execution of safe-deposit politics in computer systems.
- Attachment verification to requirements settled down by organisms regulators (ISO, IEEE or another).

4. Importance of the juridical frame in the audit function in computer security

The audit function in computer security, attached to general principles of audit (Mental independence, evidences, etc.), should have a preferably preventive focus, independently of the internal politicians of the institutions and companies. As audit results or of the inherent functions to the computer security, in the event of detecting computer crimes (intrusions, sabotage, robbery, elimination, fraud or any unacceptable use of the data), nonfulfillment or weaknesses in procedures and norms applicable to the institutions, definitively the juridical frame is fundamental for the effects and measures against the authors of this facts.

5. Conclusion

In Mexico like in diverse countries computer aspects recognized by their laws exist, or have been promoted to be included in the same ones, they are still some aspects not contemplated at the moment, such it is the case of the computer crimes, for that which the reconciliation of technician-juridical visions is a critical factor for its realization. The above-mentioned to facilitate the installation of outlines security computer science, getting importance for the protection of human lives, privileged information, financial resources and materials.

The audit function, based on an appropriate juridical frame to the technological reality and under a mainly preventive outline, it would allow the continuous improvement of the outlines security computer science.

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