

Evaluation of the Legal Certainty in the IT Projects: Key Aspects in Viability

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Abstract: Considering the relevance that acquires a suitable legal protection of software in financial and commercial terms, it begins to be essential, of a side a detailed and systematic analysis of the instruments and legal measures of protection available that would be of application for this area, and of another one a method that transfers to numerical magnitudes the protection that presents a project, calculated on the basis of the instruments and applied measures.

This work firstly presents a classification of the different aspects that would have to be considered to obtain a suitable legal protection of the software that is going away to develop and secondly a model that allows to evaluate this protection.

Key words: Software engineering, Projects management, Legal certainty, Legal Protection of Software, Intellectual Property.

1 INTRODUCTION

In the present enterprise environments the capacity to develop knowledge and its commercialization it is an important element differential between the companies. This factor is strategic for the companies whose social object consists of the development of software or the benefit of services related to the same one, because this activity goes essentially to the creation of intangible assets or intellectual property.

A suitable protection of these assets appears like key element of the enterprise management, therefore, is essential, to make a systematic analysis of the necessary measures for the protection, management and fulfilment of the generated rights, in order to obtain the best commercial results possible thanks to its ownership. The strategic management of the intellectual property will essentially generate and optimize opportunities of business in terms of:

1. Commercialization in internal and external markets. The deficiency of a suitable protection of the intangible assets, will cause a reduction or non-existence, of the commercial life of developed products, since if this one is successful, foreseeable will even appear in the market identical products, to substantially inferior prices since they will not need to incorporate development costs.
2. Financing. A suitable protection of the Intellectual Property provides to the company a powerful financial instrument that will be able to be managed: like guarantee for the obtaining of debt, to catch capital, and to even accede to the governments programs of grant-in-aid, endorsement, subsidies, soft credits, or tax exemption, for companies in the area of the high technology.

This way the transformation of the innovating activity of the company in profitable assets is direct function of the implemented protection. A double analysis is necessary, in descriptive terms - by means of the examination of the measures available for an optimal protection -, and

in quantitative terms - by means of the measurement of the protection that provides such measures -.

2 EVALUATION OF LEGAL CERTAINLY OF PROJECTS IT: ANALISIS OF PROTECTION MEASURES

The description of the instruments or measures available to protect the rights on software is made, in order to an easier systematization, from an analytical perspective according to the phases of the life of any product in this area:

2.1 Phase of development

2.1.1. Personnel

a) Staff Workers.

The measures in this stage depend directly of the domestic law of each country. The ownership of the rights on software created by staff workers will belong generally to the company if it is developed as a result of:

1. The perform of the own task
2. The manager's guideline.

In this case the suitable measures are:

1. To define clearly that the task of the worker consists of the development of software, avoiding the development by personnel contracted for other tasks.
2. To write up concrete instructions directed to the developer relative to the project at issue.
3. To safeguard the development in confidentiality terms

b) External Workers

The development will normally agree to, by means of contract prevailing the principle of the autonomy of the contracting parties, it means, the ownership on the rights of the developed product will be specified in the contractual clause. This way, independently the development is contracted to one or several natural person -self-employed person- or to a legal person - company developer -, the allocation of the rights and the measures of protection will settle down in contractual clauses, where it is essential:

1. To establish the type of contract exactly, and the applicable legal system.
2. Clear and specific allocation of the copyright on the developed product.
3. To establish preventive's measures in order to confer effectiveness to the contract: Penalty and voluntary arbitration clauses.
4. To agree to the confidentiality in two areas: in the developed product and respect to the acquired knowledge about the enterprise during the development process.
5. To establish the future copyrights of the modifications or evolutions of the product

2.1.2. Products

During the development is recommendable to introduce in the software certain elements that must be enter into notary's protocol, in order to prove the property of the rights against possible illegal copies. Two techniques:

1. By means of the introductions of an innocuous, unnecessary and improbable code
2. By means of Fingerprinting or Watermarking introducing a small file of data - of hereditary, imperceptible and authentic character -, in a digital image or even in a text.

2.1.3. Aim of the development

Prepared the product for its commercialization, previously, it is precise, in order to obtain a conclusive proof of its ownership, to execute the following legal measures:

1. To entry the rights in the local or national Registry (Copyright office, Patents and Trade Marks Office...) according to the national regulation, through patents and trade marks, copyrights or royalties.
2. To Deposit in notary the software, including the contents of the project, the graphical design, the source code, or any element that allows its identification.

2.2. Activity of delivery

In this stage the legal measures to adopt must be directed to a triple target: To make public and evident who is the holder of the rights on the product, to avoid the its infringement of content, and dissuade possible infringements.

a). To publicity and promotion. Insertion of the symbol copyright:
"Copyright ©____2004. Name of country".

b). Distribution and sale:

1. Pre-contractual phase: To engross an undertaking under non-disclosure agreement and in the case of providing demo to register it according to already exposed
2. Contractual phase: for the legal protection the contract will have to include following the clauses:
 - a. To obligation of collaboration between the contracting parties.
 - b. Prohibition of sub-lease, cession and/or any type of transmission.
 - c. Property: To specify the contracting parties, property of the rights and its legal system.
 - d. Confidentiality
 - e. Penalty Clause by infraction of the rights
3. Contract escrow: The owners of the rights and the client or user agree to deposit in the notary or third-party of the source code in forecast of possible infringements of the rights.
4. Deposit in notary of the project contents, the graphical design, the source code, or any well as any element that allows its identification, when they make available of the users an innovating content or periodic form.

3. EVALUATION OF LEGAL CERTAINLY OF IT PROJECTS: MEASUREMENT OF THE SECURITY

With the purpose of obtaining a numerical quantification of the level of legal protection that presents/displays a software product, the following model of evaluation has been developed:

$$lsr = \frac{d_{ls} + de_{ls}}{2},$$

Where *lsr* measures the percentage of legal protection of the software product and will oscillate between a 0 and a 100%; *dls* measures the percentage of legal protection of software in the aspects of the workers who will carry out the development, and of the characteristics of the product, both aspects are described in section 2.1; *dels* measures the percentage of legal

protection of software related to the delivery of the product the final client, this measurement is obtained considering the nine aspects gathered in section 2.2.

dls and *dels* are obtained from the equations:

$$d_{ls} = \left(\frac{d_{pls} + d_{prls}}{2} \right) \cdot 100$$

$$de_{is} = \frac{\sum_{i=1}^n w_i def_i}{n}$$

where *dpls* measures the percentage of legal security of the product due to factors related to the personnel who develops it and *dprls* measures the percentage of legal security of the product due to the cover of aspects related to the own product. But down the equations are exposed that allow to obtain both values; *defi* is the value factor *i* of the delivery and *wi* the weight associated to this factor from the point of view of the legal security of software. The weights must verify the following relation:

$$n = \sum_{i=1}^m w_{ii}$$

on the other hand, *n* would be equal to 9 according to the exposed thing in section 2.2

$$d_{pls} = \frac{\sum_{i=1}^m w_i dpf_i}{m}$$

where *dpfi* is the value of factor *i* of the development personnel, *m* would be equal to 5 if the product is developed by external personnel to organization and 3 if the personnel is internal

$$d_{prls} = \frac{\sum_{i=1}^k w_i dprf_i}{k}$$

where *dprfi* is the value of factor *i* of the developing product, *k* would be equal to 2 according to the section 2.1.2.

m and *k* must verify an analogous equation to the equation verified by *n*

To use these equations the following criterion must be followed:

Verified Aspect. Value 1

No verified Aspect. Value 0

4. CONCLUSIONS

A suitable legal protection is a management enterprise aspect that cannot be ignored by the organizations that develop software or rend services about it, for important reasons essentially of financial and commercial kind.

This circumstance advises, firstly a detailed and systematic analysis of the instruments and applicable legal measures of protection in this area, and secondly a method that transfers to numerical magnitudes the protection that presents a project, based on the used instruments and measures.

The results presented in this work give answer to both points and provide a classification of the different aspects that would have to be considered to obtain a suitable legal protection of the software that will be develop and a model that allows to evaluate this protection.

In future works we try to perfect the model, sharpening the mathematical formulation of the equations and the variables or aspects introduced in the same ones.

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