The Legal System Applicable To Digital Capitals Engineering In The Business Field

النظام القانوني واجب التطبيق على هندسة رؤوس الأموال الرقمية في مجال الأعمال

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Abstract:

This study aims to determine the legal status held by digital capital as an advanced container for new business models and the entrepreneurial environment, which is the "collective intelligence container" that affects both inside and outside organizations. This concerns the suis generis 'digital capital' which has created an innovative and creative entrepreneurial model and diversified the tools of business life, and positioned it within legal entities enshrined in corporate law, competition law, public regulation, and even intellectual property law. This calls for recognition of it as a qualitative financial value that combines the freedom of innovation with the controls of transparency and legal security. Even if a distinction is made between public and private money, this formula of knowledge economy is governed by the tools of the business environment.

Keywords:digital capital - Intangible Heritage –IoT-Connected Objects - Open Data - intellectual property - Big Data.

ملخص:

تهدف هذه الدراسة إلى تحديد المركز القانوني الذي تحتله رؤوس الأموال الرقمية باعتبارها الوعاء المتطور للنماذج الجديدة للأعمال والبيئة المقاولاتية ، وهو "وعاء الذكاء الجماعي" الذي يؤثر داخل المؤسسات وخارجها، حيث يتعلق الأمر بخصوصية 'رأس المال الرقمي' الذي خلق لنا نموذجا من المقاولاتية الابتكارية والخلاّقة ونوَع فاعلي وأدوات حياة الأعمال وتموضع ضمن المؤسسات القانونية التي يكرسها قانون الشركات وقانون المنافسة والضبط العمومي وحتى قانون الملكية الفكرية، مما يدعونا إلى القبول بالاعتراف بها كقيمة مالية نوعية تجمع بين حرية الابتكار وبين ضوابط الشفافية والأمن القانوني، وحتى وإن فُصل بين المال العام والمال الخاص إلا أن هذه الصيغة من اقتصاد المعرفة تُسير بأدوات بيئة الأعمال.

الكلمات المفتاح: رؤوس الأموال الرقمية –التراث غير المادي-انترنيت الأشياء -البيانات المفتوحة-ملكية فكرية-البيانات الضخمة.

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Introduction :

The development of the importance of innovation in the entrepreneurial environment has been linked to the total achieved economic and social dimensions. It is a condition for competitiveness and growth, because it represents the greatest challenges imposed on societies[1]. It makes us understand the approach adopted by the European Community and preceded by USA regarding their expanded approach to innovation as it no longer includes just a dynamic movement of goods and services, but it extends to partnership with new markets. Then, it turns to introducing radical changes to the patterns of conducting and organizing work with its conditions and rehabilitation of workers. A new idea that has come to dominate the economies of all the countries of the world which are racing to make the environment of the enterprise more feasible and appropriate with digital and technological innovation. It represents a very dynamic environment that requires the integration of more flexible interactive approaches and broader mobilization of all actors in the innovation paths including : private sector institutions, researchers in institutes and universities, the public sector and even the consumers' community. Here, the discussion of the relationship of technology with comprehensive development begins, and It is useful in this context to recall what was stated in the main report of the World Bank[2] factor that determines or develops the form of work and the demand for skills. Hence, it is an imperative for governments to prioritize investment in human capital.

It is important to note that the modern business environment witnesses a remarkable movement which is apparent for flexibility and diversity in creating sustainable sources of economic growth. Now, it allows the development of any activity that involves the discovery, exploitation and evaluation of opportunities in order to offer new services or new ways to organize markets, operations or raw materials[3]. This environment came to encourage every initiative and openness towards developing good skills in the main sectors based on technology industry to a degree that outweighs the importance of material resources of varying impacts. It is the case for robots competing for human resources in obtaining job opportunities, besides new modes of operation require innovation in the quality of supply and demand [4].

Perhaps the dominance of the phenomenon of datafication on the business world, the subsequent composition of Big Data technology as the latest pillar of the knowledge economy, and the most effective means of development has changed the nature of the actors in the knowledge society itself. The relationships that arise in its midst is reflected on digital institutions with remarkable financial and commercial success, as evidenced by the revenues of Google or Facebook.They are currently transformed into Meta successful economies. Such as those indicating the existence of the new institutions qualified to attract digital data in its various activities[5]. Its beginning is based on capital, it is digital in nature, and it is managed according to a special approach.

What supports such vision is the discussion of "quality" for Big data as a unique capital. It is legally equal to that of the economic importance of the institutions themselves, Eespecially when faced with the problem of adequate guarantees for customers. This proposition is granted by Gartner Consulting and Research in Advanced Technology when analyzing that the failure of half of the customer relationship management programs in data warehouse projects is due to poor data quality[6].

It is noted that the issue of dealing with digital capital poses many challenges. The most important of which is related to the impact of commercial policy that dominates business life and the running of a technological enterprise instead of Big Data, either in a framework of detente and capitalism or restriction and intervention. It makes it confront the rules of legal protection for innovation, and legislation every time to introduce reforms. The balance always works in favor of the

commercial dimensions. Professor Laure Morino[7]has previously asked a question : Will the law collide with Big data ? Her answer at the time was that the law actually confronts its factors and in all cases that all the legal issues raised are considered important as they are directly related to economic activities. The latter cannot develop in the absence of trust or the appropriate legal framework for it. Also, this framework should ensure a certain degree of balance.

Hassen and De Filippi[8] observed that the digital environment has opened up to a new form of control and regulation, that is assumed by private actors who impose their own values and integrate them into the technological interface. Ultimately, here is the Internet architecture capable of imposing technological means on people's activities.

However, we found that same environment open to the intervention of public moral persons, either for private competition in the economic activity or the exercise of a qualitative control authority in direction and control or for support and assistance. knowing that the practical reality emerges with the public authorities themselves have been late in discovering the new role of big data and industrial-technological approach in the economies of countries and societies. It had not been for the initiation of in-depth strategic thinking on the part of political officials imposed itself with the Open Data revolution. Additionally, it has become a political and economic view resulting from the public administration. Its initiative to impose transparency and a new direction for state intervention in the regulation of data personality. It is the case with the contemporary development that accompanied the adoption of the European General Directive on Data Protection which is another area of study[9].

In light of the aforementioned factors, the framework of the study in the current article is based on the approach of compatibility between the features of the business world in the digital environment. It includes technical peculiarities characterized by a lot of flexibility between the legal rules in force of a specific nature. However, it had not arranged many difficulties in revealing the nature of the legality of digital capital that constitutes the intangible heritage of large companies and institutions. Whether due to the vacuum, heterogeneity or insufficiency in legal systems. It requires necessarily a the method of regulation and control. It means that we will try to analyze the legal ideas related to engineering of digital capital according to what is devoted to the various legal sources that constitute a general and comprehensive corpus.

The framework in which this topic is determined is based on four factors. First, the importance of digital technology in the business world from an economic and commercial point of view has created requirements related to legal security, balance and transparency, which only exist in the legal system provided by various legislations and regulations. Second, the development of a more technical and accurate field, as the world of Big data provides for modern entrepreneurship, developed self-contained economies that need more dynamic legal institutions. Third, The role of the state as a partner rather than as an intervention in regulating the business environment is what has changed institutional mentalities and economic policies. Finally, the stability of the legal system is not the first goal that countries should be keen on solving the problems arising from the creation or management of capital. Examination of the key role posed by a highly intertwined and complex information capital has an emerging and additional value for the performance of development projects.

Hence, this article aims to contribute to answer a doubled-question. First of all, are there elements in legal thought that recognize digital capital, or does entrepreneurial practice remain the dominant framework for its interpretation ? Second, are the laws and regulations in force sufficient for protection ?

In order to answer that, we will have to start from the idea that modern entrepreneurship represents an investment project that necessarily includes digital capital. It is characterized by its

inhomogeneity with other forms of capital. Therefore, it is necessary, first and within the limits of the rules in force, to define precisely the composition that it takes, and to determine its position among the existing legal institutions. Then, it will be discussed later on the singularity of some digital capitals of a public nature or that represent high technology. How they have established their own legal system that is relatively adaptable to major projects. However, their legal system is still developing. Finally, it will be important to examine the level of compatibility between intangible heritage which is formed by the digital capital of entrepreneurial projects and between the legal institution whose free and flexible environment opens up in a controversial way.

1 - Determinants of digital capital

1 – 1 Defining the contents of digital capital engineering

"Digital Capital", Informational Capital, "Digital intangible heritage" are concepts associated with the new economic and social wealth of contemporary institutions[10]. They go beyond the financial character of the idea of "capital", or even the cultural character of the idea of "heritage"[11]. It is important to employ legal logic in determining the nature of Big Data through two important discussions. The first is related to defining the idea of "digital" intangible heritage in the field of Big Data, and its implications in various institutional strategies, while the second problematic distinguishes in between intangible heritage and State-of-the-art digital physical [12].

First of all, it is mentioned that ICT plays a crucial role in embodying real competitiveness for enterprises by creating sui-generis capital, and it is a tool to achieve effectiveness in public administrations and facilities, health, education, and security ... etc. It also contributes to the production and dissemination of cultural funds, especially since it raised all the boundaries that separated for a long time between information communication, and the audiovisual field as well as multimedia through the phenomenon of convergence. This generated a multi-level cross-fertilization of goods and services, such as : Vodafone – France Telecom which guarantees internet services and a distributor for television or music channels. Also, electronic devices manufacturers are producers of audiovisual services by means of information programs such as (Appel), which mediates the sale of programs (Itunes) and (Iworks), competing for (Microsoft Office), while both (Google) and (Facebook) have become A gateway to access the content of wireless devices and various applications. The series of reports on the study of the private technological industries market proves its digital policy, in terms of its maturity, management and participants in the same way as provided by the (Gartner) group with all institutions attached to it periodically (every year or two years), as one of the giants of statistics and analysis in the field of ICT[13].

What is striking is that there are many economic and social studies that have characterized the aforementioned concepts, in the midst of a difference between the Anglo-Saxon approach which defends the idea of "social capital" in its development of the theory[14]. The methodology for rational choice, which is currently being used to justify the phenomenon of "digital inequality and" digital division» And between the French approach that relies on multidimensional social action alongside other capital: cultural, economic, political and others[15], and this allowed the revival of the concept of a very mobile digital capital. In our opinion, this distinction almost disappears in the field of Big Data as long as the "immaterial character" is fulfilled in all cases, and it is difficult to define the characteristic of "change". The modern enterprise in the guise of "ICT contracting" is based on a huge amount of structured information that is managed in databases and relational account papers stored in classified digital supports, and from information that is not classified in specific forms that come from the source of social networks, commercial networks and marketing methods, and results of research and innovation.

Bourdieu is among the professors who preferred to use the term Informational Capital on the occasion of his analysis of the role they play in the field of banking services in order to control

industrial companies. This is due to the ability of banks to collect information necessary to rationalize economic strategies by means of scientific knowledge obtained with organized and rational tools [16]. Despite the traditionalism of this perception, after 24 years the prediction of the control of the information capital resulting from "Big Data" over economic activities, especially the banks, has been achieved. Dan Vesset[17] stated in this regard that :

> *"Digital transformation is a key driver of BDA (Big Data) spending with executive-level initiatives resulting in deep assessments of current business practice and demands for better, faster, and more comprehensive access to data and related analytics and insights (…) Enterprise are rearchitecting to meet these demands and investing in modern technology that enable then to innovate and romaine comptetive. BDA solutions are not at the heart of many of the investments"*

What supports this is the renewed vision that[18] came up with on the occasion of his article in which he defends the use of the term "capital" and is attached to the term "digital"Instead of "informatics". He believes that new capital should be added to the search toolboxin the field of communication related to ICT with social dimensions, especially as it contributesn influencing second and third generations of Digital Divide.[19]

Ragnedda endorsed the approach that Bourdieu brought in 1983and 1984, in an attempt to recognize the concept of digital capital as a form of social capital, but it remains independent in view of the cumulative nature it takes and combines digital competencies with transformable digital technology. Perhaps, what confirms this perception is that many sectors began to expand their horizons through the capabilities provided by digital capital driven by Big Data. Services, especially financial and financial marketing, to an advanced level due to their heavy reliance on customer bigdata management and retargeting technology[20].
In this context, for example, it is found that the IDC Foundation[21] guide on global information industry expectations, and the global business figure resulting from big data solutions is estimated at $ 189.1 billions, with an increase of 12% compared to 2018, and that until 2022 it will witness a growth rate of 13.2%. That is, global revenues estimated at $ 274.3 billions, which is an analysis from a purely technological point of view by categories and groups in 19 sectors as well.

A total of 9 global regions, equivalent to 53 countries, and this view highlights the degree of interaction between digital capital and (5C) on the Bourdieu approach, which Ragnedda[22]enthusiasts for as "positive interaction", and in a digital society, not just an information society. There are valuable opportunities for individuals to convert a momentum of valuable resources and knowledge acquired through the web into a useful social reality to the point of being able to convert digital capital into currency to obtain other resources, which is the most that the ICT revolution can reach[23].

1 – 2 The legal nature of digital capital :

The previous discussions showed that the concept of "digital" or "immaterial" or even "information" on the capital of ICT, which has a liberal orientation by excellence, falls legally within the concept of "intellectual capital". However, the latter raises many Inquiries, given that "capital" is of a rigid nature and its characteristic appeals to accountants and financial assistants, as it is justified to apply it to collecting data, storing it, re-using it, or making customers' data subject to it. It is characterized by much of the dynamism and change necessary for a sustainable enterprise, with specific goals and strategies. It is also sufficient for the accounting situation to determine the wealth of the institution in the presence of signs, huge data that is not related to just registration or identification fees with the competent bodies, as it adds another value to the activity of the institution. On this basis, we have witnessed an exceptional rise of Big Data in the level of intangible assets, which is truly valuable in what is known as the "corporate legacy".

The expert in Pican economic groups[24] raised the issue of Goodwill in the Anglo-Saxon and international manner on the occasion of his analysis of the situation of the French Institute of

Petroleum (IFP) Thales+ and Canal. This intangible money separates between legal problems related to the exploitation of the amount of evidence generated by this money, the management of the risks surrounding it, and the evaluation of face to face events. Just like the one that we witnessed in 1996 with the issue of MultiMedia Thomson's evaluation in the symbolic Franc at the hands of the public authorities. The fact is that their inclusion in the digital world was estimated to grow sufficient for two generations (two generations), which facilitated the entry of the Premier Partners Club to its capital like : Alcatel - Microsoft - NEC - Direct TV[25].

The term "capital" in the companies law is devoted to a narrow concept related to the sum of material funds, or shares and values provided by the partners during the establishment of an institution or during the course of its activity. Then, it takes the characteristic of the financial base that allows the sharing of rights as an important element in the identity of the institution, and there will be no place to acknowledge competency and knowledge sharesor corpus, large evidence, whether formal or informal[26]. However, through "competition law", we find that the Big Data Center was imposed by De Facto's ruling in order to be at the heart of every modern enterprise to the point that the relationship that links it to the market is translated by dynamic competition, smart economy, and balanced development. It is interpreted in two different ways between European competition law based on the primacy of law over economics (German liberalism), and American law based on the primacy of economic discourse emanating from the common law[27].

This makes us support those descriptions that accompany Big Data, as stated in a lecture by Professor Morina[28] as it considers its special nature as "the fuel of the digital economy, internet petroleum or black gold,". In her speech to The European Competition Commission[29],Vestager[30] considered it a new currency like the Internet and a new strategic resource. Perhaps, Big Data is association with the famous trilogy (3 V) (Variety-Volume-Velocity) achieved in its concept of quantitative importance in the activity and objectives of ICT entrepreneurship. A fourth element was added to it represented in (Value) in which he defined more clearly the competitive context in which this evidence is used to from an economic and social point of view.

It is an inevitable consequence of it to become in the last form (4 V), which constituted a qualitative and quantitative technological and organizational change through the development of economic approaches necessary for the market [31]. The four elements taken together are what determines strength, control and effectiveness in the market itself, as we find it in the search engine market, or geolocation, and others. It should be noted that both Grunes and Stucke [32]observed the implications of confronting Competition Policy, including raising incentives to enter the market and standing up to access to essential inputs, explaining it in 6 guises basics :

"First, many online companies have adopted 'Business Models' that rely on personal data as a key input (...), second, companies undertake data driven to obtained and maintain competitive advantages (...), third, the battle over personal data has spread to strategic acquisitions (...), fourth, when data driven businesses incur significant. Cost to obtain, store and analyze data (as well as provide "free" services to called data), they may have strong incentives to limit this competitors access to these datasets, prevent others from sharing the datasets (...), fifth, companies, whose "Business Model" depends on searing a competitive advantage through Big Data, may also device anticompetitive data strategies, (...), sixth, as companies undertake, data driven business strategy, one night expect then to raise data-driven offense's as a defense to justify potentially anticompetitive mergers (...) "

Thus, competition law is the most appropriate field for creating a new model of capital, related to big data, that is based on digital capital - on the assumption that we have legally approved it - but it is more complex with complex : signs, databases, programs, digital platforms, websites, search engines, domain names, ritual languages, designs, organized and unregulated portals ... etc in the framework of analytical knowledge and the pace of (4 V). As long as we live in the era of dantaficertion in its broadest manifestations, and in light of this result, we found it important to

research the extent of legality in the concept of this type of capital, and the first note that we extract, is the absence of legal studies on it, which may mean that any attempt to acknowledge it awaits many challenges. At the same time, we found Big Data Capital in studies of political economy and the law of sustainable development guided by international mechanisms FMI -WB-OCED ... etc.

The culture of exploiting huge evidence in support of sustainable development is currently entrenched by intensifying capital flows generated by it, as it is more effective in light of the slow pace of the "global development community" in benefiting from it and the need to replace steady funds. It has mobilized new capital which we find important in the areas of healthcare, agricultural development, education, disasters and justice[33]. This trend supports the call of economists, informatics and digital experts for the process of capitalizing in big data, at least what we found in their analytical companies' websites, without scrutinizing their concept. For example, Oracle Corporation which represents an American multinational company in computer technologies that emerged since 1977 developed and established auxiliary tools for evidence bases Middleware systems, ERP, HCM, CRM, as well as SCM which encourage the adoption of a policy for increasing Big Data's capital through three principles that guide it: developing investment activities, creating profitable platforms, and creating more and more other data. The automatic language alone is the secret weapon of 'Data - driven competition '.

There is also Forbes, a company specialized in journalism and media, and the development of Big Data related to business, technology investments, leadership and entrepreneurship that have headed in the same direction[34], and Greensill, which defends this concept with a very special approach knwn as ‘'Democratising Capital with Big Data '[35]. We also find a recent model related to Lufthansa, which succeeded in Capitalizing on Big Data in order to renew and update its business model, by collecting customer data and making them partners in creating new business values[36]. Here, we conclude that it had not been for Big Data's privacy as a qualitative capital, the perception of the ambitious goals of ICT companies that any country needs to ensure the growth of its capital, as well as the sustainability of its strategies and the improvement of its performance in economic and social development, would not have developed as the main breakthrough for intellectual capital, as De Santis and Presti[37] had put it.

The capitalist conception of big data is legally consistent with the standards of freedom, informational democracy and flexibility, but it remains complex in terms of content, intertwined in form and difficult to define according to the strategy of each of its companies separately. Rather, its incorporation into the idea of "value" pushed European countries, which advocates the analysis of legal effectiveness in the field of contracting ICT, to invoke a new concept, which is "digital heritage" or "digital intangible heritage" in an attempt to confirm the importance of Big Data, which is still under development of soft law. Its aim is to create a valid legal institution for the outstanding solutions in this domain. Otherwise, Morina [38] would not ask these important questions : What is the legal status of big data ? Who has the right to return to it ? and what prompted the French expert on digital enterprise law Saint-Aubin[39] to propose a legal concept for a digital intangible heritage, and it is the threat of a digital divide that threatens any country, whether developing or developed, and for which France launched a Big Plan Data roadmap in December 2014, that is before his article was issued, by the Ministry of Industry and with the "France Steering Committee". One of the examples of what was embodied in the organization and management of evidence in the field of insurance through the company (Coveta), which heads the MAMF, MMA-, and GMF institutions. This company leads two projects : one of them is related to data about young drivers, as well as fighting fraud, and there is also ‘Orange’ company that established a platform for collecting data from continuous devices, while (GDF Suez) has assigned a mission to accompany both (Alston) and (PME) in the creation of a smart city with the focus of energy data[40]. Saint-Aubin[41], for its part, provided a legal definition of this heritage as' the sum of the assets, rights, and obligations of a natural or legal

person who appears in the status of the custodian of the data. This person is subject and must be subject in the future to certain obligations, especially the obligation to preserve, security, confidentiality of data. On the other hand, it also includes a conditional right on its use, its packaging and its development.

Attention is given to legal experts and informatics professionals as they are the ones who provoked the approach of innovation in concepts, which are natural, because neither Big Marketing or Economic Intelligence can control the problems arising from the use of Big Data or resulting from the digital strategy. Actually, this threatens their rights and freedom, because the "digital intangible heritage has become important. Therefore, it is necessary to shift to" valuing it on the basis of focusing on preservation ", as it is the first and most important stage of achieving protection, and this is evidenced byt he largest digital network called (CIGRAF) in France which embodies "about 130 institutions and organizations in several sectors (banking - insurance – energy- distribution – industry-services ...). The project "Promoting Digital Culture as a Source for Deposit and Progress" is shared, and it is directly related to public bodies, issues reports related to common topics, and undertakes the promotion of scientific research on The Sophia Antipolis Foundation, headed by Professor Bomfour, leads the International Research Program (ISD), and has partnered with Laval University to establish the Chair of Digital Cultures, with the initiative (Gaia-X) German-French in favor of the emergence of trusted Europeen Cloud market in February 2020. What also caught our attention was the anticipation of the CIGREF network through pure scientific work to establish legal acceptance of the idea of "informational heritage", although it only appended the characteristics of "protection" to it, as it was defined as "the strong financial value within the total intangible assets of the institution"[42]. In other words, it is the collection of protected, unprotected, values or historical data and knowledge for a natural or legal person, with which the information must be secured starting from its creation, compilation, transformation, storage or preservation. Thus, it is required to ensure its protection and evaluation. However, the question here is why do we go towards protection and evaluation ? In our view, the network relies on the general European philosophy that is based on the legislative legal tools that provide the protection of information security, archiving, usage charter, security contracts, service contracts with web users, privacy, confidentiality and encryption. Also, the intellectual property system imposed by the fragility of Big Data because using the increasing number of information and communication technologies is easier to steal or leak, as it is the status of a document bank that is vulnerable to burning or waste. In its study[43], CIGREF did not continue its prevailing proposition in 2007, as it was satisfied with the idea of "valuing" information heritage, based on a new approach in the field of Big Data in the era of Cloud Competing. It is a targeted approach to improve decision-making authority on issues that exist even if they are not specified. This is why they are not considered legitimate, then it would be logical to justify the diversity in Big Data structure that accompanies the three types of New Business Models BtoC, BtoB and BtoBtoC. It transformed ICT into a new actor in the informatics system, and the professions and accompanying professions under this approach acquired a new value, such as the profession of actuary[44].

It may be worthwhile to support the term "heritage in Big Data", but on the condition that it is attached to the governence as a basic tool to ensure its sustainability within the ICT enterprise, by which the sustainable development goals are achieved as it is a "revolution that changed the way we live, work and think."[45]. Moreover, the analysis made by Zeebrock[46] regarding the concept of intangible heritage, even if it is linked to its original literature, that is, everything that falls within the jurisdiction of UNESCO, and this cultural heritage gives us the ground to justify our perception about the acceptability of using intangible heritage in Big Data. From this standpoint, everything that is heritage is based on eternal transformation, which is suitable for the term "preservation" instead of "protection" even in the legal context, and the beginning is based on its "evaluation." Also, "heritage

proposition" implies a plurality of collective and individual allocation methods. Public and private methods of its management, which differ from one society to another, are based on a double ethical principle: justice between generations and the uncertainty that is directed to the necessity of activating the principle"Precaution" instead of economic calculations as one of the principles of sustainable development and energy and digital democracy[47]. Therefore, it will be a scientific ambition to search for the basic evidence that supports this new trend in the field of large data, especially since the world is in a stage "ranging from digital to energy towards the Internet since UNESCO presented its forward-looking outlook 8 years ago[48]. This study supports this concept, but the Soft Law rules derived from reports, statements and legal expertise are of special interest.

2 - Problems regulating rules for qualitative digital capital

2 – 1 Connected Objects" and "Open Data" and their relationship to the valuation of public and private digital capital. Is there a specific system ?

If Big Data multiplies the types and sources of ICT entrepreneurship, then it is the only criterion for valuing its heritage, regardless of whether it is specific or not, formal or not, as long as it maintains the direct method of collection and storage. The ability of automatic language processing begins with the category of valuable "personal data" as it is originally derived from our private life (with all our inclinations and desires ...). If it adds an indirect method of storage, the legal protection mechanisms for digital data will move with regard to the three actors : persons, institutions, and the state towards risks affecting its security nationally or internationally, internally or externally, and energetic or developmental respectively [49]. After the datafication stage, which came with a tremendous volume of knowledge generated from evidence, humanity began to witness a stage of explosion and magnitude in the digital data generated according to the (4V) rule [50].

This created a new category that was dominated by a general trend to acquire systems and applications produced by computers, electronic boards, smartphones, and images. This is known as the phenomenon of "Connected Objects" or "IoT" (The Internet of Thnigs), meaning "Internet of things"[51]. It is characterized by the multiplicity of its benefits whenever associated with Big Data, by accelerating the value of Business Models, led by BtoB, supports or reorganizes mediation in (BtoBtoC) relationships, and deepens the trend towards "services" more and more. It raises boundaries between business sectors and, finally, achieves the integration of ecosystems as an added value for enterprises that reduce risks and increase benefits. There are many examples of it, as Uber takes care of consumption (acquisition of purchases) at the expense of major markets in partnership with other Big Data players such as the digital platform GE Amazon, and thanks to cooperation with Amazon in the field of insurance, companies sell cars while carrying out the task of marketing the insurance service based on Big Data customers, as Google handles the marketing of the housing insurance service, Wrthings in the health insurance service, and Trimble is found in agricultural insurance.

In general, things have become linked to the transmission network and the exchange of data with improving it between devices (technology based on three protocols : HTTP – MQTT COAP) With the (4 V) on which Big Data is based. It has become easy to evaluate the qualitative performance of the business, because it has positive economic growth on the occasion of its activists in ICT, and the institutions have come to appreciate the importance of tracking the effects of its users, as it enables them to adapt their products and services according to their identities. This is after enriching their daily lives, although it raises ethics and authenticity problems for users of the produced data. They are associated with intelligent algorithms ready to provide solutions and improve the situation which is embodied in independence that threatens private life and even confidentiality, and it requires the development of technologies with self-immunity against false codes or unauthorized access to the

database. It constitutes a serious challenge to obtain adequate legal protection, especially as it is enhanced by Cloud platforms Computing that provides essential services for loT companies, including : Lora (in the field of managing infrastructure, smart cities, and smart agriculture), Sigfox (digitizing business models), and Zigbee (smart networks at the global level).

Pinto et. al,[52] considers the advent of Data Science to be a systematic development in the field of Big Data of loT, indicating the dynamics of data movement related to vital areas at the heart of sustainable development concerns: retail, transportation, health, agriculture, energy, and environment. It also relies on : Parallel Computing, Cloud-visual analytics, machine learning, data-mining and retrieval of information[53]. Accordingly, it will be important in the following paragraphs to answer a basic question : What is the legal status of this kind of intangible heritage that is developed for more than one level of activities ?

There is another category that forces us to define its content and status from Big Data's heritage, and it relates to Open Data about which the debate has arisen between the public and private sectors, and whether priority is given to the first over the second or vice versa. From a public point of view, it is related to the "movement of information held by the public sector to all Internet users"[54]. This is due to the fact that the rights to communicate with the saved data maybe gradually decided in favor of the public authorities (justice, police, tax administration)[55]. The collective rights are enshrined over public data, especially with regard to their re-use, as stipulated by (2003/98 / EC) European Directive on (The re-use of public sector information)[56]. As it was devoted by Saint-Aubin broad enrichment and nourishment of the data openness movement in the European region" through the commitment of national legislation, as it embodies the strengthening of the principle of "public responsibility"[57]. Governments that allow public visibility of data help citizens to contribute in government sectors andadd new value[58].

Resorting to the creation of open data websites is a widespread practice witnessed by various countries, despite their different goals and objectives, such as the United States of America, which launched the (Govtrack-US) project to open up to the US Congress for Legislative information and statistics, which are organized according to the ethics in government Act of 1978. The affiliation of NASA with the Ministry of Defense created the Watch Data Center in 2013 as an assistant to collect data via the internet, and before that, former President Obama launched the Big Data Research and Development Initiativeto solve the government's problems in a number of sectors. It has the best five superecomputers in the world that facilitate its selection and analysis of data. In addition to the fact that the federal states also have their own Open Data, Britain also knows its use in the health field (Data on prescriptions of drugs), road gritting and meals on wheels. The Canadian government, starting in 2010, established a number of Open Data projects based on the Sebastpol list and it is developed into launching an "Open Government Action Plan" between 2014 to 2018 in four (4) Formulas with the Geogratis and Environment-CA portal, as formally developed in the 2018 Open Data Charter. International organizations have also taken the same approach through official websites and portals (World Bank Open Data - UN Data - EU Open Data Portal). It is noted that OCDE was credited in 2004 with the issuance of the "Open Accords Dissemination of Archive Data" declaration, and in 2007 it is developed into "Principles on Free Access to Publicly Funded Research Sector Data". It is also reported that 8 countries, developing and developed, succeeded in 2011 in holding a multilateral initiative to promote open government, ensure the independence of citizens, combat corruption and exploit new technology for the benefit of governance. This is called the Partnership for Open Government (OGP) that includes 79 members who succeeded in developing 50 related action plans. With 54 participating countries, they embodied 2500 obligations towards 79 participants ; i.e. 1/3 of the world's population. In addition to that, it issued major decisions between 2015 and 2016 regarding the withdrawal of member status from three (3) countries (Turkey- Hangary-Azerbidjan) for lack of interaction or effectiveness. [59].

However, the development of Open Data in light of the democratisation of internet around network technology to a wider range in terms of places and people[60], pushed to change its wheel towards the private sector in light of its competition with governments. In addition to the reproduction, distribution, transfer, or exploitation of the data produced and published with public funding[61]. Also, the production and dissemination of Big Data by enterprises that produce them as a result of their collection from personal or public data, and their processing raises to the interface in the importance of the idea of a common digital intangible heritage. It is based on reproduction more and more by means of the Third Place phenomenon in three forms : (Makespace) –(Hachersperee) - (Fablab) to document self-projects. For any natural or legal person to use the data in all cases, document it, analyze it, redistribute it, modify it and publish it. It gives users or data suppliers the opportunity to adapt to various forms of ODOSOS : Open Data - Open Source - Open Standers as legal and technical restrictions.

At the same time, knowing that freedom is not necessarily free because it may have commercial value, or freedom are both realized. Fisher [62] stated that "ICT's movement of creativity and innovation has set off a speed race to demand knowledge and information with the possibility of privatizing and allocating what might be part of the public sector. This, indeed, means that there is a high probability that it will be difficult to distinguish between what is a state-owned non-material digital heritage, and what is regarding institutions, especially that the legal implications are important. For example, the licensing requirement in the public data system does not allow the administration to resell it even though it can be a commodity or commercial service in the first place for its users later, and the machine that institutions have benefited from by The General Data Protection Regulation (2016/679) which is called “GDPR” (General Data Protection Regulation) was Applied since 25 May 2018 has gaviven the right to be free to invest and allocate data[63].

For this reason, we believe that a return to a culture of democratization by adopting the democratization of big data will provide answers that are in line with the approach of legal economics, informatics law and ICT. At least this will reduce the weight of the legal challenges imposed by competition between business operators as they contribute to the production of data, regardless of its type and in any form, and of studies on which Hyun et. al [64] relied on referring to Diaz et. al and Kiron et. al, as well as reports completed by (McKinsey Quarterly) and (MITS LOAN Managment Review) for their novelty. This confirms the reality of Big Data as a commodity that has been democratized by de facto and information that stems from it. Then another study conducted by Kross et al [65] on “the Democratization of Data Science Education” showed that a sector such as the education sector in the United States of America raises a lot of controversy about the development of the ICT machine in the study and the opening of big data, even if for free, by means of educational decisions. Modern managementis coupled with those that are indoctrinated as commodities in their own right which means that the "rivalry" that Fisher[66] talks about remains relative.

2 – 2 Does the intellectual property rights system withstand the intangible heritage of Big Data?

In light of the phenomenon of "digital transformation", technology and communications tools are provided with the means for the growing and immediate access to an enormous amount of data and digital documents, which is a privilege for it and at the same time generates an apparent equality between three categories of Big Data actors. According to ManovICTh[67]: Data producers, whether by awareness or free by leaving digital traces, those who have the means to receive them, and finally those who have the competence to analyze them. It is more likely that the last category is the weakest in the Big Data pathway because they are usually workers in Big Data contracting entities that remain

privileged to enter Data production, directing and exploitation, which leads us to ask the question : What are the systems that govern these groups ?

We point out that Fischer[68] suggested "the necessity of embodying a legal balance, albeit a thin one between" the owner "and "information users ", considering that this issue constitutes a huge challenge and the subject of a well-defined organization of national and even global legislation. Therefore, we will proceed from an important axiom that The transfer of knowledge and the development of informational content to obtain a multicultural heritage of humanity from Big Data will have multiple effects on the digital environment. So, will the legal balance actually hold up in an environment beset by many transformations and changes ? The challenge arising from this question lies in the emergence of the problem of protecting legitimate interests. Every author and producer has Big Data content facing the need to devote the interests of individuals and allow all to access a "common heritage of humanity" that meets the criteria : accessibility, reuse, distribution and global participation. We have previously concluded that digital intangible heritage does not necessarily constitute a legal corpus as long as it does not form a homogeneous combination of elements, especially qualitative, some of them are subject to the rules established in the intellectual property system. The rest remain scattered among the restrictions on confidentiality (for professionalism, business, etc.), or the protection of personal data, although these two are clearly framed, and the issue of intellectual property is more complicated to the extent that it competes with or interferes with the personal data protection system, which creates risks for institutions.

The knowledge economy that covers ICT enterprises is still mediating the protection of copyright and industrial property law (especially patenting), which results in a hybrid system. We know that the different legal families are not the same, Valo, M, A apply the patent system even for programs and databases, unlike the European Union countries, which subject most ICT items to copyright law, even in the presence of special laws. However, the investor in ICT contracting remains exposed to the risk of assaulting his intangible heritage in all forms of imitation, not obtaining prior licenses from him, or abuse in his situation dominance. It is difficult to recognize the author or owner of rights in the huge information society in light of the multiplicity of corporate actors (service provider, middlemen, producer, operator and data processor).

In a proposition presented by Fischer[69], which defends the legal balance as a framework for the enforcement of copyright law on digital intangible heritage : If we took some principles of copyright law, we would find it embodies research in this balance. The standard of originality specified for the concept of the protected work represents a basic tool for delineating the boundaries between the latter and information or literature belonging to the public sector. Law grants many exceptions to the users of the work in a manner that meets the need for a balance between the private interests of the creators of intellectual values, and the public for whom the right to access information and culture is guaranteed with the dissemination of knowledge. Therefore, if there is a need to consider or review the protection of property, the issue of "knowledge allocation" and the fruitful production of creativity, we need from a legal point of view to incorporate the following consideration: which is that all sectors of social life are subject to knowledge production at the heart of knowledge capital, and that Big Data, as a comprehensive approach, is subject to the rule (4), which creates a sui-generis law in addition to the laws prevailing in the world.

also, an examination of the resilience of the intellectual property system in the field of Big Data appears in this research based on its subordination to a complex approach between Hard law, that is, corpus consecrated national and international law, and Soft Law. That is, reports that are subject to the idea of "conservatism." On the digital intangible heritage and its appreciation, we inferred here to the analysis that Gervais[70] brought when saying that :

« Big Data is the subject of De facto creativity and innovation under the requirements onmachine learning (LM) and deep learning (DL) by the human mind that intervenes inthe level of information. It creates a kind of separation between two innovations : oneresulting from Big Data technology and the other from the intervention of the human mind in the complex market of ICT, and « (...) A Publicly availed corpus, in contrast, must rely on eraga omnes IP protection if it deserves protection to begin with (...) ».

Conclusion :

Through this study, we concluded that the technology industry is the pure development of entrepreneurship and contemporary projects under which unique 'digital capitals' have been formed. It cannot be said that there is no specific framework for it in terms of its establishment or management with its functions and activities. However, it required us to invoke the definition of its content. It is not for the fact that the task was relatively difficult in view of its scattering among several legal systems. Each specialist can come up with the guarantees established in this field with the concept of violation, and failure to do so will result in several problems. The most important of which are related to the difficulty of recovering them when they are lost, or the difficulty of distinguishing between what falls within the public domain and private ownership. As well as the ambiguity of criteria for evaluating partnership shares between innovative institutions for the private sector specialized in the formation of the institutional heritage with its counterparts or with the public sector.

We also found that the legal regulation of digital capital engineering depends on the creation of legal centers for the various institutions of the technological industry. We add that the importance of their position is based on making technological knowledge available to everyone (individuals or institutions). Otherwise, some funds would have been developed in a high-tech context to a degree that created a basic disparity between freedom of innovation and regularity of control in the management of modern institutions.

We can say that the process of valuing the creative nature of digital capital still needs to be modernized within the intellectual property system to enhance its effective protection for the benefit of the holders' right on it. Although, the various national legal systems are trying to adapt it to the new transformations of the business world or to the modernity imposed by the digitization of capital investments of quality of varying levels, qualifications and returns. This is not sufficient in our view, and a key role must be played in carrying out with legal and administrative reforms to improve the quality of protection available if it wants to ensure the sustainability of capital of this type. Thus, the current article is a start to pave the way for other studies on the legal protection that is devoted to it, and the mechanisms qualified to enforce it.

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