

## **Legal concerns about ICT protection in entrepreneurship**

**By**

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### **Abstract**

This study aims to clarify the legal concerns that are generated by ICT entrepreneurship in the form of challenges and risks facing modern business environment which emerges as a result of the transformation of knowledge society into an environment for mobility, exchange and creativity. Then, the imposition of the activity of institutions on digital and virtual mobile pattern implies an urgent need to attract human-made expertise and skills rather than natural raw resources. All this can be realized within the framework of expanding the interdependence between the magnitude of big data solutions which are capable of opening and producing operations within the global ranks and multi-scale relationships with stakeholders. An environment emerged for the knowledge engineering that represented a new strategy for different countries, regardless of their position (advanced or developing), as they affected the competitive advantage of their markets, and it made sustainable development goals subject to its criteria. Hence, it became important in this study to use the means of research to examine the key role that is represented by a very nested and complex information capital. It involves acquiring, storing, processing and transferring big data to others in a fast and qualitative manner, but with an added value to the performance of development projects. Under a hypothetical world dominated by ambiguity and lack of objectivity determining the law's intervention to confront the dangers surrounding it. The study will suffice with basic concerns in this field according to a legal approach that combines hard law sources. It means the legislative, regulatory or judicial jurisprudence with the principles and philosophy of values extracted from Soft Law. Its practice appears to be necessary in the field of entrepreneurship. Thus, this study is conducted with the use of two tools of analysis and comparison which explained that legislation faces challenges in implementing principles formulated in software law (language or topic). As long as the 'Code is Law' rule is based on a very strict logic that does not allow adaptation of the external environment for ICT business activities. Accordingly, the study was structured by answering the following questions: What is the legal model that should be formulated in a sui generis knowledge economy? Based on a rich and difficult digital capital, but it is very necessary to embody the sustainable development goals, as they converge in the idea of not recognizing the boundaries between the fields and sectors of business life. We also tackled the importance of devoting a legal institution to 'virtual intangible heritage', and the extent of the resilience of the intellectual property of the legal system with a dynamic and broad environment in which ICT business exists. It is affected by the requirements of the balance between interests in the field of obtaining information from the public sector, to the extent that the growth of the idea of digital assets has become associated with many risks related to new payment technologies. It requires improving the efficiency of their systems as well as Maintaining financial stability and monetary policy for the investor, protecting it and combating illegal activities. Then, we investigated the opportunities that have been realized and need to be fixed, against others that have not been realized and which require defense regarding creating a legal environment for ICT companies. It depends on the necessary tools of legal governance for positive law to coexist with the law of big data. Its first manifestations lie in opening a way for partnership between the public and private sectors by intensifying participation specialized competencies: analysts, statisticians, and legal experts in the field of

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data, infrastructure and modern technologies, and the transition to a system of law that values and maintains innovation in the service of sustainable business objectives. At the end, the results related to the balance between *lex lata* and *lex ferenda* to assess the status of innovative and creative entrepreneurship. It needs to be recognized as a multi-behavioral legal institution: it integrates freedom of creativity, transparency controls and legal security. It based on law driven by business ethics, open to collective intelligence and enriched with a culture of qualitative performance of social and economic entrepreneurship.

**Keywords:**The legal system for ICT contracting- Intangible heritage valuation - Intellectual property- Digital assets- Sustainable development law

### ***JEL Classification***

K29- O39 –O34- E59 –Q01

## **Introduction**

Roztocki, *et al* (2019) explained the content of development as involving a path of change and development in the economic and social conditions which concern individuals, groups and organizations. The Internet and ICT technologies have a positive impact on them through four basic factors: economic productivity, social welfare, political well-being, environmental safety, (Qureshi, 2015). Another development was adopted and it is related to the entry of foreign direct investments in countries that need to embody that path. It is a proposition that is only suitable for developing countries that seek to advance their development, but it couldn't happen without the progress made with big data which caused a revolution in the world to a degree which led developed countries to join modern development ranks (Veltmeyer *et al*, 2015) It requires sustainability in resources and goals to minimize the negative effects of ICT as envisioned by Borda-Rodriguez and Lanfrancco (2015); And Qureshi (2019b). It is no longer possible to separate them in preoccupations, because the culture of development has changed completely due to the constant need to renew The Knowledge engineering (which is beneficial to states and people alike). (Roztocki *et al*, 2019, Veltmeyer *et al*, 2015).

Perhaps the rise of ICT technology to the forefront of the knowledge of economy pillars as a vehicle for development, to a degree that outweighs the importance of material resources, has created contradictory challenges (Borda-Rodriguez and Lanfrancco, 2015). On the other hand, robots are competing with less efficient human elements to replace and strip them of their job opportunities. On the other, the world has witnessed new patterns of employment and jobs that required a change in the quality of supply and demand (World Bank Report, 2019). The World Bank played a pioneering role in assisting it to support this transformation, after it had previously relied on the approach of knowledge transfer projects for a participatory approach to its production. The reason is that modern business world is moving in flexibility and diversity to create sustainable sources for economic growth. It is now allowing the development of any activity that includes discovery, exploitation or evaluation of opportunities in order to offer new services or modern methods of organizing markets, operations or raw materials (ILO / OIE Report, 2019). This cannot be achieved except in light of sustainable technological innovation as one of the global trends in corporate governance. The enterprise has become a new environment for everything that is an initiative and openness towards developing good skills, especially in the main sectors of ICT engineering (World Bank Report, 2019). The issue of discussing the importance of big data has returned for the development which swept through various corners of our daily life, and with it artificial intelligence tools became the source of

solutions for various social and economic fields. The machine has also interfered with systems for combating epidemics, poverty, food, security and illiteracy. The technical concept of big data includes a group of diverse and complex data that feed algorithms which create solutions to the problems for their creation (Ali *et al.*, 2016). Qureshi (2020c) adds in the same context that since the recognition of it as a method for social change; Data for Development (D4D) emerged as a framework for research and practice. It covers many areas with different sources of data and analysis. Its method is to narrow the gaps of time and knowledge, but in return it raises many opposite results: a digital disparity between areas of population suffering from deterioration, artificial intelligence-based technology areas, and overlapping analysis of data that results from research on how the population is treated in both the public and private sectors, for using its assets for the benefit of public institutions that resort to it for monitoring and surveillance. Qureshi (2020c) provided an example of the Chinese government that uses surveillance cameras in the streets, machine learning, or airport devices. They are transformed by companies into an infrastructure of processed Big data which the authorities use later to identify people who are against it. In addition to their public policy that justify the return of the discussion about big data discrimination and data justice which were analyzed by Qureshi (2020). Moreover, it showed the strengths and weaknesses of the virtual world and created new markets. Hence, it marginalized classic groups or classes of society and expanded prospects for sustainable development, and narrowed the opportunities for digital equality. To the point that contemporary theories have come to adopt the idea that technological knowledge and technical tools developed in the West should be used for poor economies in an orderly framework. Since the latter is linked to political, organizational, structural, and social transformations.

Former United Nations Secretary-General Ban Ki-Moon defended ICT as a sophisticated factor which plays a fundamental role in advancing global challenges, to drive economic growth, social development and sustainable development. However, he was also addressed modern threats that a hyper-connected global community poses.

In light of the aforementioned reasons, what helped us to define the framework of the study are two questions: the first is related to the World Bank's 2009 report. It emphasized the problematic elements of modern business environment despite the variation in business culture and approaches including the need to establish legal and regulatory forces in this field. In addition to tax regulations, patriotism, the abolition of regulatory restrictions, liberalization of fixed lines and wireless communications, as well as the trend towards free markets. The second is related to those studies conducted by specialists in ICT, informatics law and big data when Qureshi, (2015a, 2019b) and Walsham (2017) suggested the importance of disclosing perceptions and applications about the challenges affecting society and democracy in the world of big data, threatening the principles of fairness, and respect for human independence. This justifies the obligation of states to fill in the deficiencies in their legislations and regulations.

### ***I- Protecting the valuable digital intangible heritage of ICT entrepreneurship in the field of intellectual property***

#### ***1- The resistance of traditional systems in confronting ICT Entrepreneurship***

Since big data is an inherently strange phenomenon, it multiplies the types and sources of ICT businesses. So, when we connect it to the intellectual property system, we have to ask how? Not only focusing on the traditional legal literature like, 'What is it? and "why? .

We selected a group of recent researches that was devoted to examining what is involved in the question "How?

The Distribution of intellectual property rights between developed countries that adhere to strengthening the demand for the protection of their owners, among developing countries which are characterized by a low demand for protection by intellectuals and consumers of culture (Chen *et al*, 2020). For further clarification, we focused on Gervais (2019) suggestion of many applications of intellectual property rights for Big Data companies (copyright, patent, sui generis database right, data exclusivity and trade secret). It also facilitates this on Big Data when it is in the stages of collecting, storing or analyzing them. However, it is difficult to protect the company in question. It is in its formula treated with the concept of productions that came in the Bern Convention of 1886 or its amended version. In contrast to the TRIPS Agreement of 1994, it was the first text to develop the issue of indexing and re-indexing data. That's why we consider whether IA tools are protected by originality? Gervais (2019) replied that it is difficult to approve it.

The protection is in terms of form and not ideas, just as there is no copyright of Big Data based argument on how governments deal with conditions for public access to data sources coming from works of new innovation. This was explained earlier in the framework of the concept of 'Open Data,' adding that it is related to the solutions available in the protocols for the Internet, such as: The sort of misappropriation applicable to "hot news" in US law, or the protection against parasitic behavior available in a number of European systems.

The issue of digital money, which we will discuss later, is a fertile field for these protocols, in addition to the exacerbation of the phenomenon of copyright infringement from Peer to peer's software. The innovative industries of big data would have required the opening of cooperation with Internet Service Providers (ISPs) so that the latter can provide information about subscribers on address IP to prevent abuse and breaches. However, the organization suggested using the 'three strikes and you're out' rules. Countries would adopt 'Graduated Response approach' to enhance intellectual property protection for ICT, such as France which issued 'HADOPI Law' in 2009, and the UK, which approved 'Digital Economy Act' in 2010. There is room for devoting a sui Generis data base right, which is the result of companies' investment of data through an independent work in which they collect, verify, display and then exercise the right to prevent others from extracting or re-extracting them with the acknowledgment. Here, let us give an example of China, which is characterized by a system of reforms that combine contradictions.

Thus, placing them in a convergence between political closure versus economic openness based on directing innovations and technology, moving forward to the basis of the state's economy and a culture, and facing globalization and global economies. Chen, *et al* (2020) considered that the legal system of intellectual property was established as a tool to achieve specific political goals on the condition of the public interest. Since its adoption of the Plan of 'Made in China 2025' has become distinguished with a plurality of regulations. In 2016 it adopted in the patent field administrative measures to determine the category of 'high and new technology enterprises' benefiting from tax and economic privilege. According to Chen's analysis, it has long been criticized by the trade war and its dispute with it in front of WTO / OMC with its in-depth issues related to the exploitation of laws for the forced transfer of technology from abroad to the interior. This resulted in the violation of economic security, and the involvement in piracy and technological espionage (such as the case of Huawei). In addition, to the copyright law, which relies on a supervisory advantage on the part of public authorities in regards to the lack of identity and local culture as it is reinforced by investment and trade laws. The ICAEW report (Institute of Chartered Accountants on 'Big Data in Chinese business: international perspectives' for the year 2017 that the existence of legal corpus is under development. The digital infrastructure for enterprises is based on the presence of the following

elements: the existence of an industrial strategy for big data, and significant opportunities in new business models, organizational resources are based on the principles of governance, and finally the digital financial system. All of which are subject to the legal corpus of IP that mediates between the digital shutdown from the world, and the imposition of a competitive digital force.

## **2- *Conditions for developing intellectual property rules to protect digital intangible heritage of ICT entrepreneurship***

In the report issued by INPI (2015) in the topic on intellectual property and data, experts raised multiple problems of a technical nature, as Courtier suggested the need to develop a law for database makers in order to adapt it to the growth of big data, whether when it is created, managed or marketed especially since Laws against unfair competition and intrusive practice play an important role in their coverage. For their part, Schuler and Znaty (INPI, 2015) proposed the development of a legal system for Algorithms. Virginie Brunot supported them that LOT represents a tool for protection and replaces it at the same time. Therefore, it was necessary to devote rules for as his features began with the European Law on 'Business Confidentiality' of 2016. Although his study was a precedent for its promulgation, Lebkiri (INPI, 2015) considered that the volume of innovations in the digital world in the field of mobile phone applications, the development of the WAP network, and social networking sites have become important requirements. They are imposed to acknowledge the priority of applying patent law rather than applying it in a complementary manner with copyright law. As for GELLES and POIDEVI (INPI, 2015), they propose to seriously research the concept of an enterprise's digital workbook. It mainly combines the characteristics of a multimedia workbook, a computer program, a work-managed workbook, and a collective fair. This situation encourages a comprehensive reform process of laws, and it ensures the sustainability of work for the technical rules of protection.

On the other hand, we recall that the digital intangible heritage was traditionally included in its simple form (knowledge) within the intangible elements of the commercial store. However, its novelty involved a global de facto proposition that transformed the previous discussion into a legal concept under development. Thus, it was linked to the rules of business life (especially secrecy and privacy) which gives the data-producing institution a substantial and specific interest over its economic competitors. As evidenced by that the obligation to obtain a license from the competent authority grants it the right to stop and transfer the rights to retrieve and reuse the data contained in a database protected by public authorities. provided that the principle of balance between its massive use and the protection of life is respected as Saint Aubin (2014) adds that the obligation to declare before these agencies the processing of the data that results in the recognition of a real property right (including the right to use, use and dispose of). Thus, exceeding the personal character under the penalty of the institutions for obtaining the consent of internet users to collect and process their information. As for 'business secrets', they are subject to special legislation regarding illegal and unauthorized acquisition, but when it is related to ICT and the complex process of Big Data, it is a competitive asset in the concept of intellectual property law. When Google, for example, kept the secret of the search algorithm in its engine, was able to maintain its competitive position and created its branches. This led us to ask: Are all forms and types of data subject to patentability? Knowing that some countries subject them to copyright law? Is all data of commercial interest? And if a discrepancy appears between its value as a commercial fraction and its value as a patent, will its problems be resolved according to each law regulating them or depends on the entrepreneurial strategy in the field of intellectual property? The answer is related to an unshared position between countries. As we mention in this context that the Anglo-Saxon regimes

recognized trade secrets, the first of which was established by the Cohen Act in 1996 regarding the protection of all information of an economic nature and then replaced by a unified law called Defend Trade Secret Act (DTSA). It was released in 2016 and it was very advanced and expanded for the Economic Espionage Act of 1996 by defining its forms (formula, structure, procedure or program technology) by stipulating its association with a business targeted for economic benefits unfamiliar to the competing party. The recognition of each owner of trade secrets has the right to judicial follow-up, and in return we found that the European system implicitly recognizes an in-kind right to trade secrets that enables its owner to object in the others. The approach of European countries individually took a certain peculiarity, such as France, which was characterized by caution in dealing with it in light of Pluralism in several laws. Proposals were submitted on the subject between 2004 to 2014 which was influenced by the US law of 1996, while Britain issued the Trade Secrets (Enforcement, etc) regulation on June 9, 2018 in complementation and uniformity with the provisions of Common Law in force. They neither define it nor link the subject matter of protection to a specific form or variety, but rather it is based on what the judiciary has revealed regarding its acquisition, disclosure and illegal use.

We have been lured by a legal practice of American origin and little application at the European level, which contributes to strengthening the system for protecting the digital intangible heritage of institutions and secrecy of business by workers and adopting a corporate governance approach. As it relates to devoting protection to the whistle blowing (which means setting the whistle) (Jean-Philippe, 2014). They are a group of workers who report violations related to security, environment or health in the activity of the institution. So, they must be protected from dismissal for this reason of the financial scandals of many institutions. An important text was issued in 2002 that had an impact on the European continent and is related to (SOX) American Sarbanes-Oxley Act. According to which, it imposes an obligation on the managers of American or foreign companies with special interests to submit documented accounts before the Security and Exchange Commission (SEC). It is the most integrated mechanism in the field of protecting digital assets, and monitors its implementation of Public Company Accounting Oversight Board (PCAOB). As for Europe, Britain is one of the countries that adopted its own rules in terms of 'transparency' through the Public Disclosure Act of 1998, while France adopted the condemnation approach in its system. It was more clear but more dispersed through labor, health, and financial laws, and supported it in 2003 with the Financial Security Law (FSL), and the oversight of the Supreme Council of Accountants (Foegle, 2014). It is also supplemented by the provisions of (N93-122) Sapin Law which is promulgated in 1993 and is related to the prevention of corruption and transparency in economic life and public measures. However, European institutions have shown reluctance to establish a clear and independent system in this field. Its guide is that the Council of Europe is the first initiator to issue recommendation N ° 1916 in 2010, and quickly took back the reins of the European Union:

Directive (EU) 2016/943 of the European Parliament and of the Council of 8 June 2016 on the protection of undisclosed know-how and business information (trade secrets) against their unlawful acquisition, use and disclosure

The European Union defined the areas of protection, its conditions and the persons covered, and also showed selectivity in criminalizing illegal behavior. It sometimes transformed 'business secrecy' into an illegal act that sparked controversy around it. Following the Lux Leaks, Panama Papers and Football Leaks cases, and the two bodies on 19 April 2019 proposed a directive project on the protection of persons reporting on breaches of union law. As a result, the Snowden case and espionage cyber practices by the NSA are reported to have

frozen the path of the Euro-American negotiation over TTIP (Transatlantic Trade and Investment Partnership) that began in 2013. It brought the topic of 'business secrecy' technology and knowledge secrets back to the forefront debate over vulnerabilities and limitations as a matter of European protection. In addition to the presence of China at the forefront of those accused by its American competitor of stealing business secrets through the policy of 'forced transfer of technology'. In general, we see that the incorporation of these special systems to protect institutional heritage represents in itself an appreciation for it, even if its development is confined to a specific geographical area. Various countries need to adopt their models, especially since at the present time there are no contracting activities that are not subject to the rules and standards of 'institutional governance'. At least, if the humble beginning is to embody charters of codes and ethics for organizing internal and subjective accounting methods, then business secrecy and so on. Part of it is applied in the field of intellectual property, just like in France where CNIL is granted the authority to introduce licenses to adopt related blogs.

What supports our vision was stated in the 1994 Agreement on Trade-Related Aspects of Intellectual Property Rights: TRIPS. In which standards and rules for intellectual property of importance to trade and foreign investment have been established. They are about how to protect undisclosed information and combat practices against legitimate competition in contractual licenses in accordance with Article 40 paragraphs 2, It should be noted that Article 27, paragraph 1, which proceeded it allows obtaining patents for any products or processes in the fields of technology. This opens the way for recording big data processed by the institution with a certain technology, shape, or a specific algorithmic language. The issue of protection was determined in Article 39, paragraph 2, and we usually find its application in the field of technology transfer contracts in order to produce goods and services acceptable as a pro-competitive model. The intellectual property is shared for the purposes of economic growth and the welfare of consumers. For example, the European Union is subject to two legal texts that specify the conditions and scope of resorting to it namely: Commission Regulation (EC) N ° 772/2004 on the Application of Article 81 (3) of the Treaty to categories of technology transfer agreements of and Guidelines n ° 2004-C 101-02 of April 27, 2004.

Supporting the idea of the 'informational heritage of institutions' that was previously explained, investigating the condition of the economic value and the interest that must be protected under rules of intellectual property. It is what CIGREF (2007) defended on the occasion of issuing its white book on 'informational heritage' and its suggestion that 'confidentiality' is an essential characteristic of a method that covers the concept of secrecy and the limited publication of a certain number of persons. It was allowed to be defined as a collection of protected or unprotected data in and for itself, just like historical values pertaining to a natural or legal person. It also draws attention to the fact that in the framework of Franchise operations the parties to the contractual relationship put 'Franchise' Operations Manual, Network Charter, or Knowledge Book ' are used as a directive material support. In our view, achieves legal importance in the field of business confidentiality and competition to establish the limits of intellectual property that must be shared. Thus, replacing the 'information secrets' protection system Patent whenever there are complex situations.

It is important to talk about the practice of creating another useful legal tool to enhance the role of the intellectual property system in the field of ICT entrepreneurship, and it is related to accountability and empowerment. It gives Big Data an additional regulatory framework that combines property rights with the rules of confidentiality and privacy in the technological field. The most important of their criteria is dereferencing right in order to cancel those results of the search engine by using the identity of its users without removing the information from the

source of the site. As the original content remains available and unalterable, and it was established by CJUE in 2014 through the right of every person to claim the companies' owners search engines to cancel the results related to their identity and with certain conditions, especially the public interest in obtaining information. In its right, the following was issued The General Data Protection Regulation, which entered into force on May 25, 2018.

Then CJUE returned again to issue two important decisions on September 24, 2019 on the occasion of the Google LLC case against CNIL and others (Info Curia Jurisprudence, nd) related to the scope and controls of practicing dereferencing right. It is specifically about the nature of the content of the pages and whether they contain information sensitive to the person's fame or job (religious issues, political opinion or criminal conviction), his age (a minor or adult), the circumstances and time of putting the information online (for journalistic purposes or under penalty of legal or general-use obligations). Finally, the implications of the content on the person (social reintegration, opportunities to search for work or security reasons). Then, this right formed a framework for a balance between protecting the private life of the applicant of cancellation and the freedom of Internet users to obtain information, and preserve sensitive data. It devotes a special legal system to data protection, while CJUE restricted it to the European domain. In other words, it does not approximate World rereferencing right (Bastian, 2020). It is noted that Cukier and Mayer-Schönberger (2013) had previously proposed the use of such a system, by committing enterprises to assume responsibility for the re-use of personal data, whether extensively or secondary. As it is the right of the owner to use and exploit, which imposes with it the following duties: Granting the right of access and modification to its users, monitoring the ports of this data by programming special applications to exclude certain types of services compared to the data they provide, and finally allowing to adjust the period of data retention. This approach is considered liberal, as few companies decided to define and collect data or criteria for restricting it compared to Facebook that determine the retention period for 'likes' or some startups that use customer relationship information to determine ability to borrow. As Guillaut (2013a) suggested that both the field of work and human resources be one of the important applications of the process of collecting, using and reusing algorithmic information in light of the development of 'Labor force science' (such as using Kindle or Fitbit as a product with end-user technology or Facebook's resorting to selling or directing the habits and identities of its users without their knowledge to other companies for marketing and customer acquisition). Guillaut has drawn on Burks, *et al* detailed study of three sectors (transportation, call centers, and information programs) to understand the phenomenon of the increasing resort of companies to reference employment whose services are provided by institutions specialized in collecting huge information about candidates, their identities and their behaviors. To provide recommendations on the best options (such as Evolv and Kenexena), and which were confirmed by research centers in human resources, institutes of digital business and statistics. The point is that some companies find interest in reusing them and adopting their own algorithms in the field of special relationships between workers and their users. Without forgetting that Google has a human resources informant to conduct investigations about its users in order to employ them and compete with more technically linked-in with the quality of the big data used from a source CVs placed on its classified platform, in a way that makes it the controller in the labor market and employment.

So, the tools of artificial intelligence and rational language are the ones that provide us with options and results, but they do not justify them as we are often used to in administrative decisions. They do not distinguish between legal situations (such as the end of treatment to a result based on racial discrimination or prejudice to vulnerable social groups or standards. Due to its compliance with the principle of 'neutrality of the law in the face of technology', and,



accordingly, the institutions producing big data bear the burden of proof and the dangers of deviation because of the techniques for improving results. This is generally done using the Customer Relationship Management (CRM) program, which is an improvement of the 'customer file' method. It is a tool for data rationalization provided that cloud computing systems are fully secured, yet, it is feared by the public consumer. Guillaut (2016c) emphasized that the 'ambiguity' entails its natural surroundings as it relies on three different methods: arrangement, classification and matching. This makes it a condition for the effectiveness of the algorithms as a whole, and only, here, can intellectual property rules justify them through the rules of credibility and transparency. Based on the above, if the data and information are subject to improving the management of the business intelligence stock based on the extraordinary efficiency indicators of the product policy, we must always inquire about the legal system applied to the data generated by the company (by processing)? The answer is as follows: the company undertakes the protection of the database because it has the power to justify its investments, and it has guaranteed applicable legal principles, such as the licensing procedures it takes in front of the competent bodies in the field of personal data, respecting the prior media requirement or opt-in arrangements. The example here is that the French Court of Cassation issued a decision on June 25, 2013 regarding the importance of the contract as a tool to regulate a trade in progress.

Selling an unauthorized customer file to CNIL on the grounds that the law does not explicitly specify the penalty in respect of items that were not put into circulation commercially in accordance with the provisions of the Civil Code (Article 1125) that the items are the subject of agreement. In a study by Nissenbaum (2011) for the collection of reports about online secrecy about Google Bizz, and Facebook's inconsistent privacy policies. The Federal Trade Commission (FTC) reported that the US government's Commerce Department described NATO as a place for government or data-hungry private entities to monitor and control the source for secondary activities whose in-depth information is shared by individuals in exchange for reception. Money and services are sold to third parties via clicks, cookies, website addresses, IP domain names, and social browsing archives. To the point of saying that The Net is largely commercial, making the free and competitive market subject to the logic of technical empowerment that relies on the link between transparency, choice between informed reporting and satisfaction by patrons of the presence of personal information as part of the online price offered. These were the arguments on which Nissenbaum relied on the Contextual approach, which means institutional investments are not based on their ownership of digital assets that form their intangible heritage, but rather direct them in their total or branched form according to their social context and utility. That is banks, friendship networks, experts and institutional consultants try to give to the public to understand that context without distinguishing between legal rules and legitimate desires. This prevents the concept of appropriation, and the greatest risk of which comes in the field of technology for managing the rights of digital assets of the type of second life. Here, there is a frequent violation of intellectual property rights due to the amendment of the virtual property conditions that push network users to automatically accept it in order to continue to earn money and new services. In our view, it is an attempt to contain the standards of the intellectual property system and go beyond its traditional foundations.

The empowerment and accountability that Guillaut (2013a) talked about represent a guarantee and guardianship of standards treatment despite its short answer, which is an innovation in treatment without requiring the consent of its users. A music service can create new entertainment services, which leads us to suggest that a cellular intervention is necessary to Public control agencies, and programmers of such processes have their mission. To organize information extraction or retrieval of data systems, to build profiles, establish the authority of

law to monitor the nature and objectives of algorithms, as well as prevent abnormal behaviors, and generally target to achieve the balance as drawn by the CJUE judiciary in 2019.

As a result, our view of the steadfastness of the lack of resilience of the intellectual property system to protect and value the institution's digital heritage depends on the latter's strategy for protection. This creates a diverse composition of systems: either independent or complementary to each other. We may find it subject to the literary and laws industrial rights, or it is strengthened by covenants behavior and codes of ethics (business confidentiality, and data security). In addition to the internal regulations of institutions, which are also included in a contractual framework towards workers and others, or by moving civil liability to public law, disciplinary measures, and competition and privacy laws, without neglecting the importance of protecting innovations that universities bring and small projects created by research centers. All of this makes the absence of a special law on the right to process big data a reason to resort to directed rules.

## ***II- The legal risks associated with ITC's digital assets***

### ***1- Big Data's digital assets, is there a legal concept in ITC?***

The issue of digital assets as part of the intangible heritage of enterprise has become a cause of specific legal concerns which is linked to the unprecedented development of ITC and the complex structure of Big Data. It affects the social, political and economic model used to develop the capabilities of states in these areas. All the information generated on it and in every specific activity that leaves digital traces can be easily tracked by artificial intelligence techniques (Economist, 2017).

At the outset, we point out that the topic of "digital assets" of Big Data returned to the front of discussions on the occasion of the 'Intel Developer Forum' for the International Information Society (2013), where the human being is described as a qualitative platform. It means in addition in addition to digital capital (programs, and applications of digital documents) there is Big Data, and the higher value of the latter, the more it has become accessible to it. Thus, ITC entrepreneurship which combines the two characteristics of complexity in its technical image (whether organized or unorganized) with ease of management, turns 'intangible heritage' into its property.

However, the absence of a legal system for "digital assets" has made monitoring over them more limited. Especially with regard to entry or tracking directed by individual institutions, or problems related to the owner of these assets when it is difficult to determine the rights of holders in the event of death or how it is transmitted (Cahn, 2011). It is usually satisfied with general legal means in order to mitigate its effects. For example, relying on the conditions set on websites, like Yahoo, Google or Facebook, and digital asset planning technology that Cahn explained by saying:

As part of every estate Planning consultation these days, I ask not only "Where do you keep your assets" (ie: what institutions do you use for banks, broker age accounts) but "How do you access your assets?". The point of the second question is to find out if the client takes advantage of electronic account access. If so, who else shares access to those accounts

Also, providing solutions in this field is not related to the presence of a specialist in law (a lawyer, for example). Rather, there are many institutions that offer, in the form of a special service, to support the management of digital assets in such situations. It can be found in many platforms and sites. As it is the case with the idea of The Digital Beyond, which was launched

thanks to Evan Carroll and John Romano in 2009 in order to help understand the phenomenon of digital life after death (The Digital Beyond, (nd) ). For that, several sites have appeared to provide such a service, including: Memito (founded 2017), postnumo (2017), afterVault (2016), digital remains (2016), derictive online (2016), directive communicative system (2014), EstateMAps (2013), Everplan (2013), Chonicle of life (2008) ) ... etc

Until 2017, the Digital Legacy Design Project was initiated by Leonie Fischer (Cornell, 2017) in order to plan and support the field of digital inheritance. Starting with individuals and ending with institutions that do not stop developing methods for preserving their intangible heritage. It gives a importance and value of the whole digital assets which are possessed during the life time lifetime (Pitsillides, 2019). Then, it was emphasized at work as a program for training adopted by the company.

Marketing planning and design services Lloyd & Co ('Businesses can learn how to leave a digital legacy', n.d).

## ***2- Determine the importance of financial assets for virtual currencies in ITC entrepreneurship***

### ***1-2 The constituting elements of the legal concept of virtual money***

In this section of the study, we raise the issue of virtual money, as it is the most recent and complex international financial digital asset in the entrepreneurial heritage.

Virtual money is subject to a sui generis numerical system closely related to financial activities (BCE, 2012). Traditionally we know that money takes three basic functions: Medium of exchange, unit of account and storage of value. It is of a sustainable nature that reflects its development according to Social transformations and their needs. Especially since the increase in the use of the Internet and virtual groups that seek to achieve "common goals". Just like social networks and open data sites, to be added to virtual cash groups that allow the circulation of goods and services that are in competition with everything that is traditional. For that, it is acquired in two ways: either by purchasing real money for what it has in exchange in the virtual world, or responding to the requirements of marketing promotion or advertising services. The European Central Bank (EBC, 2012) defined it as:

*'A virtual currency is a type of unregulated, digital money, which is issued and usually controlled by its developers, used and accepted among the members of a specific virtual community'.*

In this sense, it is found that the new hypothetical practice is the cryptocurrency phenomenon that is based on a formal template of intangible money. It is not issued by a central authority, and it is dependent on decentralized control. Thus, it is driven by a distributed ledger technology called 'blockchain.' (BitFury Group and Garzik, 2015). It provides a database of public financial transactions to collect repeated, concurrent and geographically dispersed data across the world in many locations or institutions without being distributed or centrally managed. We also recall that cryptocurrency was defined by Castillo and Brito (Okhuese, 2017) is as follows:

*'Is a digital asset designed to work as a medium of exchange where individual coin ownership records are stored in a ledger existing in a form of computerized database using strong cryptography to secure transaction records, to control the creation of additional coins, and to verify the transfer of coin ownership '.*

This nomenclature was actually added to Merriam-Webster Dictionary starting in 2018. Meanwhile, it recognized the registration of financial transactions on a digital database within the framework of a network open to the public using blockchain technology. ('The dictionary just got a whole lot bigger', nd.)

It should be noted that such a monetary system interacts with money and real economies through the possibility of acquiring real goods and services or exchanging hard currency. Lansky (2018) defines six conditions for this: (i) this system does not require central authority, but rather its position is based on distributed consensus. (ii) This system maintains a comprehensive view of cryptocurrency units and their ownership. (iii) This system determines whether new monetary units will be established in the future and then emerge from the origin of the circumstances of their origin and ownership. (iv) The ownership of these monetary units is only proven cryptographically. (v) this system allows for transactions to be made that accept modification of their ownership, so that the statement of the transaction can only be given by the entity confirming its current ownership. (vi) Finally, if two different instructions have been introduced to change the ownership of the same units at the same time, the default system depends on one of them at most and based on the aforementioned conditions.

In this context, the European Central Bank (2012) identified three main forms of the digital monetary system which are: (i) Closed virtual currency schemes that have nothing to do with the real economy, and whose danger lies in violating anti-money laundering laws, such as Wowgold. (ii) The Virtual currency system schemes with unidirectional flow, such as frequent-flyer programs, Facebook Credits or Nintendo Points. (iii) A Virtual currency schemes with bidirectional flow system that allows real and virtual goods and services to be purchased together at the corresponding rate of exchange such as Linden Dollars. The validity of the transaction added to the blockchain ledger without requiring the intervention of a third party, which currently justifies its access to 2000 monetary units ('Bitcoin et monnaie virtuelle: investir dans la crypto monnaie' 2020). BitCoin remains ahead of the various units due to its frequent use that determines the value of its exchange according to supply and demand, as it is more leaked into the world of the Dark Web. We are finally interested in relying on Brito and Castillo (2013) analysis of this system:

Within a cryptocurrency system, the safety, integrity and balance of ledgers is maintained by a community of parties of mutually distrustful referred to as miners: who use their computers to help validate and timestamp transactions, adding them to the ledger in accordance with a particular timestamping scheme.

## ***2-2 Distinguish electronic money and cryptocurrency***

Electronic money is used in the field of transactions via the WAP and through a storage engine. It depends on physical supports such as e-wallet, Prepaid bank card, virtual bank card, Gift card from commercial brands ... etc. It also maintains the same value of the latter, whether it is dollars, dirhams, euros or dinars. Most importantly, it is based on legal grounds, whether in terms of its existence or its relationship to the traditional monetary system. In practice, the World Bank ('The World Bank Annual Report', 2012) estimated that electronic payment remained marginalized in light of the investigations. It was conducted on 110 countries, where 75% of them are waiting for governments to develop their policies around public electronic money in the first place, because the private sector is in constant fluctuation ('The World Bank Report', 2014). It has turned into a general revolution with ICT where countries are moving more towards E-Government and E-Commerce as an appropriate framework for embodying facilitation in the area of financial transactions. Especially since the World Bank initiated the "General Guidelines for the Development of Government Payment Programs" (2015). The latter promotes best

practices and establishes standards for developing and improving government payments programs. For example, Canada, in which every person owns more than one credit card, ranks first, followed by Sweden and Denmark, with 59% of electronic transactions, then, the United Kingdom (47%) and France (39%) in the fourth place. After that, it provides approximately 3 electronic cards for every citizen, followed by China with a higher growth rate, then Australia or Germany. The rest of the countries remain uneven or weak, such as Italy, Greece and Mexico (6%). Sometimes, even if it seems modest to some, it is counted for positive growth digitally such as for the United Arab Emirates, which has transformed into the stage of smart government, and in 2011 launched E-Dirham for smart payment of fees for more than 5000 government services ('The futur of government payments is here ... introducing E-Drihem, simplified, fast and direct', nd). It was developed in 2016 into a 'digital wallet' through a single payment platform called 'KLIP'. It is expected to be tested this current year, and, thus, the UAE United Arab Emirates first in the world of ICT developed for the financial sector.

In addition, electronic money is subject to vigilant control by the institutions related to it, to the extent that it is sufficient to collect bank information related to its customers. Despite that it remains exposed to operational risks related to its storage and encryption of transactions between its parties, and its models: Walmart, BestBuy, PayPal of American origin that operates by means of a virtual account and according to a license and a system of two banks (in terms of their reliance on payment with a credit card or a branch bank account across the world), and Paylib, a French source since 2013. On the other hand, we find E-Commerce giants are active in a different way in terms of goals and context such as Google Wallet, Chinese, Alibaba. This explains the phenomenon of banks' cooperation with non-banking actors, which was justified by Laurent and Monvoisin (2015) as open possibilities available in less developed countries, in terms of banks' reliance on the network of small merchants to benefit from corresponding services among themselves without the need for huge investments. The distribution of bank cards may result from mere coordination between banks that provide the payment service, and a non-bank partner who undertakes marketing with tracking part of the transfer process and processing payment data. This is a hybrid method between the virtual world (using the web), and the intervention of a bank body in the payment process. However, it is practically considered an urgent necessity in the field of E-Commerce as long as the banks themselves are undergoing an internal shift in their activities towards participating in commercial activities and marketing alongside its original financial mission.

However, in the second type of money (i.e. virtual), we find that the sovereignty of banks and financial institutions in controlling the electronic financial system is diminished with the entry of New Business Models in several countries. After new competitors sweep the monetary world and overstep the limits in the virtual environment into digital money that proceeds according to another system and new framework, even from the point of view of the government.

### ***3- International diversity and disparity in treating the legal position of Cryptocurrency***

#### ***3.1 International models for deepening digital inequality in the field of sustainable financial enterprise***

This part will take a significant share of the current study, as it will help us form an appropriate legal adaptation for the cryptocurrency center and link it to the phenomenon of "digital inequality". It represents another challenge to ICT developments in the business world that has nothing to do with the country being developing or advanced in this field, as far as its ability to establish mechanisms to confront the risks results from resorting to them. We will take models from the five continents whose trends vary due to the centrality of political and administrative decisions, and inferred from soft law sources (specialized studies, settlements,

and directives in addition to relevant laws).

Perhaps the first of these sources is what was mentioned in the latest report of The Law of the Library of Congress, Global Legal Research Center (2018) which classifies countries into two categories. The first licensed or permitted to use of cryptocurrency without issuing any laws of its own because it imposed de facto or actually resorted to legalizing it, and endorsing it within its internal or external policies or leaving it free without incurring responsibility. Another group alternated between permanently banning it, and contenting with setting restrictions on it or recognizing it as a foreign currency with a tax objective.

At the European level, and because of the dominance of the Bitcoin phenomenon in practice, a kind of give-and-take appeared in dealing with it. As the Union Foundation did not adopt any text of its own, but, on the other hand, a judicial distinction in the field of taxes and fees between the inability to apply it to the process of converting it into currency values. In most cases, they are exempted because they are considered a currency not a commodity (EUCJ, 2015) when they impose them on incoming transactions on goods and services. As for the ECB (2012), it recognized that the traditional system of money does not apply to Bitcoin being a currency. Decentralization is transferable, although member states disagree about this to the point that the European Banking Authority (EBA) (2014-2019) report advised European banks not to negotiate over virtual assets and the imperative to adopt a legal approach to the risks expected from them and establish a concept of 'financial governance' in this field. In the context of diligent follow-up on the issue, the European Parliament and Commission also intervened in 2016 to establish a task force in charge of virtual money control in the context of combating money laundering and terrorism. In the same direction, the G7 countries issued on the initiative of the FATF / GAFI (2013) Guidance for a risk-based approach aimed at companies dealing with Bitcoin or any money of unknown source, with all the regulatory and security challenges they pose.

The Law Library of Congress, Global Legal Research Center (2018) in its report on 130 countries that have seen rapid and resilient development in blockchain-powered money despite its various names:

Digital currency (Argentina, Thailand, and Australia), virtual commodity (Canada, China, Taiwan), crypto-token (Germany), paymenttoken (Switzerland), cyber currency (Italy and Lebanon), electronic currency (Colombia and Lebanon), and virtual asset (Honduras and Mexico).

It is a law that distinguishes between money and legal currency, as the first means that virtual money is a tool to cancel debts and raise obligations, while the second may be money in the field of exchange or something that can be invested in it as a commodity.

Many of the warnings that affected contemporary investment and business owners are related to the danger of their association with illegal activities to the point that some countries included them in the provisions of laws related to combating money laundering. Terrorist financing and organized crime impose an obligation on banks and financial institutions that facilitate their markets to respect requirements of caution such as: Canada, which agreed in 2014 to extend the work of Bill.C-31 in the field of virtual transactions for financial service companies. it is originally from the countries that do not prevent it and approved it as a commodity by The Canada Revenue Agency, and there is Australia that has not been interested in it until 2015 Based on the report issued by Parliament on Digital Currency "Game Changer or Bit Player " and after the Corporations Act of 2001 people failed to become familiar with it.

While some countries have banned them altogether in detail without any exception, such as: Algeria under the Finance Law No. 11-17 (2018) under penalties and fines. In Morocco, the Ministry of Economy adapted it in 2017 as a violation of exchange laws and with serious risks. At the time, the Central Bank of Morocco declared them financial assets only a framework for them must be set. Egypt also issued a fatwa regarding it, recognizing its illegal character. Other Arab countries followed it, such as Saudi Arabia, Iraq, the Sultanate of Oman, and Lebanon, in addition to Bolivia, Nepal, Pakistan, and Vietnam. India did not continue the ban imposed by the Reserve Bank of India (RBI) in 2018 and the support of citizens for it since the Supreme Court took the decision to an important precedent about the judicial authority in taking care of it (Mathur, 2020). It is noted that countries such as Singapore, Bahrain or Qatar adopted a flexible proposal by agreeing to deal with it outside its borders.

There are restrictions imposed on local banks in the event of providing facilities for them without resorting to a total ban, and the first of its examples is China. It does not recognize cryptocurrencies, neither legally nor bankers, but considered it a commodity starting from 2013. It kept tightening the screws on dealing with it to protect investors and prevent risks. In addition, in 2018 the Leading Group of Internet Financial Risks Remediation called on local authorities to remove the preferential policy applied with Bitcoin companies in the area of electricity prices, taxes and land use, and the latter had to submit regular reports. It transformed its activities as a way to actually enhance the effectiveness of regulations and measures across Chinese provinces to the point of arresting most of them (The Law Library of Congress, Global Legal Research Center, 2018). Thailand followed the same approach, in addition to Iran, Lithuania, Lesotho and Bangladesh. It is noteworthy that in 2014 the People's Bank of China initiated a 'digital yuan' project to reduce the costs of handling traditional money. In order to compete with Facebook's project on its currency called 'Libra', which is to be launched in the second semester of that year, if it were not known to have stumbled due to the withdrawal of many companies from it with this financial mobility. China is working on using its digital currency through the main payment platforms (Alipay and WeChat), and the Chinese bank has been able to file 84 patents to integrate the digital currency into the infrastructure of the financial sector in the country. It is currently in the official launch stage of the official Chinese digital yuan. It is supported by conditions such as the one that accompanied the Covid-19 crisis, the the trade exacerbation of war with the U, M, A, and the competition of the Silicon Valley giants to be the largest beneficiaries of the reformulation of the relationship of money with economic power and political influence. As it is trying to re-create a balance with banks that face risks from ghosts. The consumer group who has opened important money markets to invest in products for operating a highly profitable intangible heritage (Mukherjee, 2020).

We also refer to Russia, which is one of the countries on which the security requirements .the repercussions of the Covid-19 crisis have been imposed on it to adopt a dual-scale ban on this money. After the financial and tax interests in 2016 approved its legality, the Ministry of Economy began to retreat a year after that. It had not been offered a draft bill on 'digital assets' two years ago, and is currently expected to be approved with great care. It is confirmed that the Russian policy of seclusion from the virtual world combines the complete partial ban on virtual money mining, any business dealings outside the region, some individual transactions, and the adoption of Reglementary sand box with tax burdens on the transactions of institutions established on its territory (Alper, PT, 2020, a, b). We can see it as a continuation of the general trend which is adopted regarding the restoration of full sovereignty over the informatics and ICT industry this year.

In this regard also, Law Library of Congress (2018) extracted a small sample of countries that legalized funding by Initial coin offering (ICO) used as a tool to increase their  
*Res Militaris*, vol.13, n°1, Winter-Spring 2023 1566

capital, such as Macau and Pakistan. However, New Zealand resorted to organizing special obligations according to its classification as a bond or a share, or just an investment product, unlike low-lying countries that distinguish between a debt instrument and a dealing unit.

It is worth noting that a significant number of other countries do not see the introduction of this technology as a serious danger that justifies preventing it. Some find it a suitable legal currency to deal with because of its prospects for developing a suitable legal system to attract ITC business investments, such as Spain, Belarus and Luxembourg, and others went further. From that, he developed systems for virtual money, such as the Caribbean region, which declared since 2017 the need to open technological opportunities for money contracting. Venezuela followed as it was approved in 2018 according to a government decision with dropping all fines, confiscations and previous detentions. There are American countries that were not decisive in 2017. Changing its policies, in that they agreed in principle to the absence of anything that would regulate them legally and not support them by the government, but they remain tradable as commodities (Nicaragua, Costa Rica and Chile). So, a last group in this region would be classified either as hesitant, such as Brazil, which, until 2014, was considered unregulated and It discouraged dealing with it because of its risks, but it changed its position in 2017 due to considerations of the economic crisis. The Ecuador decided to reject it when it decided to ban it along with the rest of digital money due to the launch of a new electronic monetary system managed by the state starting in 2015 with the aim of supporting the national currency. As well as Colombia which announced in 2014 that financial institutions were not authorized to deal with it and that they were not responsible for any investment or management of the operations contained therein. South Africa and the Morris Islands classified them as intangible assets under special texts starting from 2007 and 2014 respectively without legalizing them. In addition, there is a group of African countries (eastern and southern) that have united positions in 2017 regarding not preventing them Legally due to the necessities of technological development in this area (Nigeria), or the risk of adapting it as a currency (Namibia and Zimbabwe).

Finally, there are some countries that do not find the size of the huge market for this money indicates concern to regulate or prohibit it completely. There are content with licensing their investments and using them for tax purposes, by estimating the applicable taxes according to the incomes or gains resulting from the issuance or sale of virtual money with the disagreement about the origin of the tax base. Fees may be imposed on them as commodities, as is the case for Germany, which was approved by the Ministry of Finance in 2013 as private money and then issued a law in 2019 allowing banks to sell their stock of it that took effect in January 2020. It is a foreign currency as Switzerland has legalized it since 2014, in addition to The bank licensing system applied to some virtual financial institutions and the inclusion of this sector in anti-money laundering laws, fees on financial assets (Bulgaria), or fees on profits only. Argentina has provided it under the Law on Income Tax since 2017 and beyond that it zqs kept as a subject to the provisions of civil law, or fees on corporate or individual incomes and losses (Denmark), or applied to capital gains, such as the United Kingdom (Policy paper: Tax on crypto assets, 2018).

### ***3-2 The principle of "Technology neutrality against the law": What has it accomplished for cryptocurrency law?***

We expect that in the future, governments will turn more and more towards this method: 'You can benefit from virtual wealth, provided you pay what you owe! But beware of the integrity of others!' On what basis will this be done? Will it benefit the field of organizing digital financial governance in a way that embodies the dimensions of the sustainable development of the information society?



At first glance, we are brought up to talk about a very ambitious model from the countries that have expressed the positivity of this phenomenon. The matter is related to Sweden, which relied on two tools: bank cards and Swish from 2012 to the point that digitization overwhelmed daily life transactions in a very broad way. On the occasion of a study that he conducted in The Royal Institute of Technology in Stockholm, the economist Niklas Arvidsson stated that 'there will not be a final shift towards abandoning traditional currencies before 2030' (Cuny, 2017). In its project announced since 2017 to launch the e-krona coin, the Riksbank is still hesitating between issuing it centrally from the bank, and being satisfied with its nature. If it succeeds in that, it will be the first country in the world to adopt a digital version of a legal currency used by everyone. Everyone is racing for this role, so where are the ICT giants of all this in light of the transformations brought about by the health crisis of Covid-19 and changed the balances of national decisions of countries? The world is currently thinking about the 'Covid 19' currency!

On the other hand, our answer is based on the interview between two trends: one is governmental and the other is a free economic, where we refer to the joint declaration of the finance ministers of the G20 countries (2019). It includes a clear warning of the dangers of leaving the use of virtual money free without supervision, and it stresses the need for the authorities to adopt an explicit approach to run cryptocurrency with all its challenges while evaluating a multilateral response. It means that governments will not leave the institutions' virtual digital assets in complete freedom in all cases, even if their goals and backgrounds are diversified. However, it lured us in return for a preview that Lorphelin, *et al* (2016), who are the directors of the Institute Economie, we considered it in response to this position. They consider that digital platforms will only be sustainable if the resulting benefits of their owners are redistributed to their users. A new wealth-sharing mechanism has to be included, because the failure of Tobin fees imposed on commercial platforms has demonstrated the ineffectiveness of the tax system. Therefore, it had to be borrowed from the creative industries that we find in video games or movies which have been converted by intellectual property into money photosteve 101\_CC BY 2.0, and they provided examples of BlaBlacar and Velib, whose production capacity and sharing of things and services showed the magnitude of the significant reduction in costs. These experts add that the major platforms do not pay taxes, because they have created a virtual reality in which they increase their wealth for free. For example, Wikipedia or Facebook, which deal with volunteers for buying programs at low prices that do not achieve economic or social sustainability in the information society. They are witnessing a revolution in the world of Big Data, even if the situation appears to be directed towards a socialist environment that abolishes capitalism and stops the need for work. However, it is actually an announcement of the economy of wealth sharing and digital participation in the interest of the minority, which is, creating a state of "hypercapitalism"; Therefore, "no sustainability in light of this situation". This is justified by the emergence of new transformations in the positive law of ICT entrepreneurship by which state behaviors and legal practices towards the phenomenon of cryptocurrency are explained and represented. There are two main categories: the modern approach which is called 'regulatory sand box', and it opens the dialogue between the regulatory authorities and the related financial entities, which Jenik and Lauer (2017) know as:

A framework set up by a financial sector regulator 1 to allow small scale, live testing of innovations by private firms in a controlled environment (operating under a special exemption, allowance, or other limited, time-exception) under the regulator's supervision bound.

Hence, the goal will be to fill the legal and regulatory void in the face of new players in the FinTechs market, and experimenting with new business models in a controlled

environment through compatible rules even if the work is suspended by the applicable legal rules. According to Jenik and Lauer, legal and regulatory framework achieve three important things. Namely: the ability, the flexibility and utility.

Canada is perhaps the first to implement this approach, as ACVMs have issued regulatory sand boxes aimed at supporting FinTechs in order to contribute to innovative goods, services and applications. It was tested in the Canadian market for a certain period within the framework of implementing the Business Plan 2016-2019 in exchange for the contracting entities benefiting from exemption from obligations. Imposed in movable values legislation with quick and easy procedures ('CSA Regulatory Sandbox', nd). It was used in the same manner as the Australian Securities and Investments Commission later, bearing in mind that Microsoft had previously requested the Australian Central Bank to settle the national market for payments in order to help the consumer community to conduct transactions using virtual money RBA (document, 2012). The United Kingdom, for its part, appears to be in a special situation, as it was only in 2017 that it recognized Bitcoin as private money of a foreign nature, following the silence of the European Union on this matter, by Financial Conduct Authority (FCA). The latter and the Bank of England (BoE) worked together in order to help the country manage the risks associated with it and try to take advantage of its benefits. But without confirming how it was regulated, until the same year that an independent body specialized in self-regulation of virtual money industry called Crypto UK, ambitious to promote Britain's role as a global leader in this field, proposed a code of conduct that includes 12 points (security, guarantees. ...) (United Kingdom (EU): Regulations, nd). In our opinion, it is a good ground for many countries that are still afraid to regulate them even if legally, they do not have the legal force, but we know that the world of entrepreneurship and governance accepts it. Accordingly, the United Kingdom remains linked to tax legislation in handling cryptocurrency issues pending the reflections of Brexit on the business world as a whole, and what are the results of The Crypto-Assets Task Force (CATF) that are produced in the near future and the conduct of the post-issuance of The Government Treasury Committee report titled 'Crypto -Assets' since September 2018 as the ground that has proposed two scenarios on the prospects for how to organize this sector.

However, the committee endorsed the first proposal that was in line with the urgent requirements on the condition of expediting the regulation of the issuance of ICOs and crypto-exchanges (United Kingdom (EU): Regulations, n.d). It follows the Canadian model that incorporated them into the anti-money laundering and terrorist financing system.

As for the second approach, it aims to adopt a comprehensive legal framework that aspires to be familiar with the range of new technology problems and practices. Just as Malta, which is called the Blockchain Island, has followed it since the government approved its position before the United Nations during the 73<sup>rd</sup> session of the General Assembly as 'the money of the future'. Its policy attracted the attention of the largest stock exchanges in the world, where it partnered with Binance, Okex, and Zhao assessed in 2018 that it would be the center of the blockchain system in Europe. It has issued three important legal texts Digital: The Malta Innovation Authority Bill, The Technological Arrangements and Services Bill and the Virtual Financial Assets Bill. Through it, three basic systems were devoted: legal guarantees related to virtual money, determining how to register leading institutions in the Blockchain and organizing their activities. Finally, setting up a system for virtual money, ICO, crypto-portfolio developers, exchanges, asset managers and others. Like this, local entities can request registration under the VFA law for formal recognition (and it is currently estimated at 20 institutions). As for foreign companies, they are subject to licensing before The Malta Financial Services Authority (MFSA Blockblog, 2020; Yazbek, 2019)).

However, France was more open in its ambition about trying to avoid the two approaches, especially since 2018 was a year of multi-level debate before the National Assembly. The first explicitly expressed that 'the obsession with the faults of the uncertain legal environment overcomes any attempt to frame the development of Blockchain technology by means of positive law rules' (Faure-Muntian *et al*, 2018). This will be evident through our analysis of the state of legal and political disparity towards the acceptability of this system. It resulted in a distinction between acknowledging the status of Blockchain Technology in general in, its legal policy and fear to the degree of reluctance to acknowledge cryptocurrency. As for the first, it was supported in accordance with the development witnessed by the financial services through two legal texts: Ordinance No. 2016-520 (2016) regarding Zero Coupon Bonds

Under which a 'Minibons' category was created to finance small enterprises that are issued and exchanged on the blockchain. Also, Ordinance no. 2017-1674 (2017), regarding the use of a shared electronic registration method for the representation and conveyance of financial instruments

It allows the transfer of some financial instruments using the blockchain within the framework of respecting the legislative requirements in force, which make their sources of confidence. It is the first development of its kind at the European level with which France wanted to try this technology in markets of large size. Corso Bavagnoli's view, ('Comptes rendus de la commission des finance', 2018) 'that it deserves to be circulated in the common market at a time when European law has taken silence on non-resident goods or financial shares. Such developments constitute an important actor for creativity and financial security in such a fundamental field as it is also a catalyst for professionalism. The second situation was dominated by independent positions of financial regulatory authorities represented by both AMF and ACPR, which sent a memorandum in 2017 to warn investors about cryptocurrency risks. Then, another memorandum by AMF alone in 2018 to warn of the risk of acquiring anonymous and unregistered digital assets, for It was suggested in a private consultation that a distinction should be made between utility token and tokens that grant political or monetary rights. It is also important to note that the legislative authority has shown discussions of its own committees an administrative and legal approach ('Comptes rendus de la commission des finance', mission d'information commune, 2018).

As for the government, it has relied on imposing a tax on wealth on all profits arising from its sale, and Corso Bavagnoli described it as 'a kind of legal trust or trust granted to institutions and all actors in order to advance their activities. In order to define the parameters of a more dynamic common law in the European region', it was further embodied in the official initiative of finance ministers and central bank directors of France and Germany before the G20 to carry a bill For virtual money to the international level (REUTERS, 2018). Its objectives are limited to: legal security, financial stability, consumer protection, combating money laundering crimes, terrorist financing and organized crime. However, the issuance of 'Pact Law' n° 2019-486 of May 22, 2019 relating to the growth and transformation of businesses clarified the French ambition to enter the blockchain technology market and make the legal base more sophisticated and flexible to ensure the technological neutrality of the law. In other words, it adopted a practical approach to make new applications a sustainable development without any solid regulatory hindrance ('Comptes rendus de la commission des finance ', 2018)

It is also important to point out another example from the countries that, although technologically constituted the largest economic power, have experienced delays in the legal regulation of money and virtual financial assets. The matter is related to the USA , since the

government was not able to impose its control or embargo until the beginning of 2006. In general, it is difficult to say that the American legal framework is homogeneous. Due to several considerations, the most important of which is the multiplicity of laws and judicial practice applied across the federal states. As well as the difference in the concept of cryptocurrency in light of the diversity of the authorities regulating it, chiefly: The FinCEN. In addition, The Commodity Future Trading Commission (CFTC), which adapted this money as a commodity in 2015, and in return there is the Internal Revenue Service (IRS) that issued The Notice 2014-21 (2014) which provide that virtual currency is treated as property for US. What is more interesting is that the regulation of cryptocurrency exchange exists in an uncertain legal environment with the overcrowding of federal agencies to supervise it as well, namely: the Securities Exchange Commission (SEC) as financial trusts. The Commodities Futures Trading Commission (CFTC) adopts a more friendly and open proposition by adapting it. for example, Bitcoin as an openly negotiable raw material subject to the provisions of The Commodity Exchange Act of 1936, CFTC Regulation and CFTC Unified Agenda of Regulatory and Deregulatory Actions. At the present time, the law is in the middle of a qualitative race between the priority of creating an integrated legal system around cryptocurrency. The urgent necessity to establish settlements related to cryptocurrency crime, through the presentation of Republican Representative Paul Gosar at the end of 2019 with the project `` Crypto-Currency Act of 2020, which is clearly defined and the distinction between three crypto-commodity, cryptocurrency and crypto-security financial assets. On the basis of which powers are divided between CFTC, secretary of treasury and SEC. In addition, to the inclusion of Bitcoin within the group of Stablecoins like TrueUSD, USDCoin, Tether, USDT, but it is still a matter of debate. Especially after the failure a few months ago of a previous project 'the Token Taxonomy Act of 2019' ((Goldstin and McEvoy, 2019; Kim, 2020). Challenges also deepened to press for a final agreement on drafting future settlements for the cryptocurrency crime subject of the partnership between the Ministry of Justice and the SEC and CFTC bodies, since 2018 with the aim of establishing effective consumer protection and more rational control and confronting various global and local criminal activities. We refer in this context to those studies that are developed as a stand-alone theory. The reason for the growth in the number of cases before the Federal Court such as NalascoBraaten and Vaughn(2019), who analyzed their various forms in a practical application of Gottschalk's convenience theory of white-collar crime, whether related to smart contracts or dark web. In addition to the new bill that the Democrats submitted on March 22, 2020 (consisting of 269 pages) to launch the 'Digital Dollar' coin. To provide financial protections and assistance for America's consumers, states, businesses, vulnerable populations during the COVID-19 emergency. To recover from the emergency, bearing in mind that even if the justification appears urgent from its address and is conditional on strict and specific regulation, the ambition is to compete with other countries (Especially China, Sweden, Turkey, Uruguay ...). The leading global policy in the field of state cryptocurrency remains an important background in our view of such an initiative. As it needs a broad dialogue with the actors of the private digital enterprise entities, the first of which is Facebook, which is waiting to launch the Libra currency. It does not clarify the truth of the rules intended to be used this time in the united states of America.

It is the rapid growth of the Cryptocurrency Ecosystem that has brought the interest of globally powerful regulators to move the legal toolbox for maintenance of digital enterprise mechanisms, Friedman President & CEO of NASDAQ (Viens, 2019) says: Cryptocurrency deserves an opportunity to find a sustainable future in our economy.

But is it not time for international bodies such as FMI, World Bank or OMC to turn to open a global debate about the legal stability of Big Data technology as the capital for the new

economies to use. Why don't they unify rules based on the Model Law on Electronic Commerce (MLEC) formula that are already compatible with the application of the three principles known internationally (Non-discrimination, technology neutrality and functional balance)? These are bodies that support this monetary system ((Lagarde, 2018) support the joint initiative of both FMI and World Bank to launch a private blockchain, and support a quasi-cryptocurrency called 'Learning Coin'. Its technology is applied between the two institutions and for the benefit of it as a new approach to changing political mindsets (Pogorzelski, 2019). FMI refuted in several situations the exaggeration of the obsession with risks called on states to produce virtual money of their own while stressing that they hold national responsibility to fight violations and imbalances, and to lift internal legal and regulatory obstacles. Also, declared their commitment to intervene to develop international legal mechanisms to strengthen state legislative capacities such as combating cryptocurrency crime (Bayard, 2018). Such bodies have sufficient power to soften regulations and create an environment of trust as long as they possess the rules of conduct for sustainable development that the world needs at the present time. As evidenced by the fact that this discourse has reached certain regional areas that need new horizons in this field such as The African Union adopted the 'Strategic Document for Digital Transformation (2020-2030)' in its ambition towards creating a unified digital market based on the implementation of the policies and regulations necessary to stimulate and accelerate digital transformation for the sake of national, regional and continental development. As well as ensuring the means of growth of sources of beneficial funds for the people. The project of converting big data into capital is one of the goals that the World Bank seeks to realize in favor of modern development projects (World Bank Report, 2012-2014))

### ***III- Requirements for embodying a legal environment to protect ICT businesses***

#### ***1- Legal governance tools needed to regulate ICT business activities and fields***

In the previous axes of this study we focused on the ground on which ICT entrepreneurship is established and the fundamental component of its entity, which is represented by the knowledge capital of Big Data, as we have adapted it legally to the digital intangible heritage and the digital assets in its most recent form. So, the main vector in Modern Business life is considered in its various stages. However, this ground is not stable and the risks surrounding it are not trusted unless they are found in an appropriate legal environment. We will address from the perspective of 'legal governance'. So, It is not like any other form of governance, because its traditional concept in this world has scattered legal rules (formalities or procedures) and became bothered by the insufficiency of classical law. It has confined itself to defining the relationship of public bodies to creating an entrepreneurial model with performance and quality (Pitsys, 2010). Its modern content transformed us from a law of coercion into a law of negotiation. It is generated as a multilateral proposal and interaction to evoke a consensus between opposing interests (the state, contracting entities, interest groups, international institutions ...). It was open to negotiation and cooperation using the two methods of proceduralization and contractualization (Chevallier, 2005). We know that modern enterprise is a social entity guided by Big Data technology, its life is linked to its sustainable growth, and its preservation of internal harmony and the ability to adapt to the external environment. Where Chevallier called it 'Governance Law' consisting of a hard law formulated with clear objectives and a moving and developed Soft Law. Hence, where do we find the necessary legal governance tools to run the activities and fields of ICT contracting? Our answer will depend on the Lex Ferenda approach.

#### ***1-2 Smart Contracts and Contract Law: a hybrid legal system that needs clarification***

Smart contracts Computer Codes are self-executing and automatic. Once the conditions of a real agreement between the parties of the seller and the buyer are fulfilled without the

intervention of a third party or any other legal system as a single manifestation of the agreement or as a complement to a traditional agreement contract. According to Blockchain Technology (Kraus *et al* (Eds), 2019; Stuart *et al. al*, 2018), it is characterized by speed, security through encryption and distribution. Finally, the absence of legal problems resulting from trust or reputation, despite its relatively old age, as it dates back to the birth of Bit Gold in 1994, and the expansion of the functions of electronic transaction and payment methods. But, it is developed with the implementation of synthetic asset contracts between new securities and contracts. Later it helped cryptocurrencies such as Bitcoin and Ethereum to use them more to distribute digital information and not to copy it, which means that each piece of data (currency) can have only one owner, and every transaction that arises from the digital currency wallet of another party in The form of a private key called a 'contract'. As for several people to make contracts, it means the possibility of collecting them in the currency register ((Bitoin or Ethreum) to be sent to the network for verification, which creates the Bloc platform, which consists of huge businesses with shares. In this context, we relied on the best projections made by the (WEF) report of World Economic Forum (2015) until the year 2027 regarding the arrangement of these companies, as IBM included the facility since 2018 with a participation size in 500 projects such as IBM Food Trust to improve food safety. Followed by Chinese AliBaba, the largest e-commerce company with 90 patents supported by small and medium enterprises, and it also launched important projects in 2019 such as Ant Financial and the health care company. Finally, Master Card has 100 patents filled to reduce costs and enhance Fraud Protection.

Although its prosperous future includes the most certain environments in form, fulfillment in implementation and commercial confidence in the transaction. At the end, it is software formulated by people according to their multiple abilities and levels. If it is actually done, it is not subject to modification even if an error is mentioned in it. For that, it requires a high level of competence (we find companies that depend on it internally and invest in training and training in this field) in order to secure and successful smart contracts.

Also, these contracts do not raise a problem in whether or not they are accepted, because the Blockchain Technologie revolution continues to expand work in various cross-border projects, beyond even the areas and scope of traditional contracts (Kraus *et al* (Eds), 2019). So, are smart contracts a source of rights and obligations? Is it correct to apply the provisions of property laws, contracts and even criminal law to the online activities? Or will we accept leaving this digital environment in the legal vacuum? Because the mechanism for implementing conditions previously agreed upon and concurrent with it, as if it is a contract of compliance, will push the parties each time to abide by the consequences and risks of this implementation (from errors, original technical design, or hackers or malcioususers). As It happened in the case of The Attack of DAO in 2016. Koulu (2016) has expressed the reality of this transformation, Which once again justifies the opportunity to work with the theory of 'Code is Law' (Lessig, 1999). It means that computer and information law must be applied to it in order to preserve the requirements of integrity and trust. However, it is not an easy thing, because the users' confrontation with the strictness of this software has become pushing them into contracts randomly. This prompted them to personally develop their applications and the urgency to demand two new means to improve these contracts, namely: automatic contract amendment in the face of the instability of the interest rate and the re-negotiation mechanism to face force majeure or emergency circumstances, by trying to borrow the traditional contract law mechanisms. Athanassiou (2017) called on the European Central Bank (ECB) to impose regulatory intervention to create a certain and necessary legal environment for the use of smart contracts as automated payment tools as well as to generate confidence among users in the

implementation of their contractual intentions based on: simplifying transactions as a unit that is not subject to fraud or corruption, protection of its parties from harmful consequences or any interference Foreign, providing reliable records, encouraging the mechanism of buying and selling and reducing the marginal costs of contracts. finally, procedures imposed by national laws and appropriate judicial oversight in addition to public control must be followed.

Perhaps the most important highlight in the legal arena is the development introduced in the French legal system in the field of the digital assets market with the issuance of Pact Law n ° 2019-486 on May 22, 2019 and decree n ° 2019-1213 on November 21, 2019 relating to service providers on digital assets ( PSAN) completes the regulatory framework by defining services on digital assets. which was described by many as one of the first systems that clearly and precisely defined the law applicable to blockchain technology. especially in the financial sector, where it organized four topics, namely (i): Visa Optimonnel issued by the Authority. AMF in the field of ICO as a modern information document embodied as a competitive law, not a coercive one, as enshrined in legal governance that we previously talked about above, (ii) licensing some companies to invest in digital assets and determining the duty to adapt the powers granted in the framework of investing digital assets to facilitate the application of the rules Convenience without hindrance.

In front of AMF in the context of combating money laundering (Courvoise, 2019; De Vauplane, 2018), France has thus achieved the first legal movement in this field. but it does not compare in return with its judicial practice. Because the latter is few or rare, we mention a decision of the Paris Court of Appeal on 26 September 2013 No. 12/0161. which decided that the contracts received on digital assets should be legally accompanied, because the existence of many of them includes stipulations in the framework of bitcoin loans without any accuracy or right to update them. in the case of B, Spread / Limited c / Paynium SAS, a judgment was issued A conversation about the Nanterre Commercial Court on February 26, 2020 (that is, the first decision since the issuance of Pact Law) about defining the legal system between the French and English company. in which it was decided that intangible assets are homosexual and therefore subject to the general provisions of the civil law and the consumption law regarding the right of the French platform In refusing to implement its customer's orders and how to terminate the contract. but compared to the US judiciary, we find it unstable in terms of dealing with the digital money market and the transactions received on it. especially determining its legal nature, despite all the issues. Dhaya presented to him took another turn and focused on the absence of a license as a procedural condition for the digital transaction and its basis for criminal or civil accountability.in the case of SEC v Shavers and BitcoinSavings and Trust on August 06, 2013 the US District Court of Texas adapted the transactions under follow-up as investment contracts received in cash or a form of money And the same trend was decided on 21april 2016 in the United States v Murgio case related to the unauthorized operation 'Coin.mx' and described it as money. except that it was known that there are visions between the decision issued in the State of Florida v Espinoza case on July 22, 2016.in which the court rejected it. Follow-up of Espinoza in part for money laundering or the illegal sale of bitcoin currencies, because the latter does not constitute transferable money according to the local law of Florida but merely ownership, and between the Court of Appeal that violated it in its decision of 30 January 2019 is conditioned to the currency with cash and that the seller should have been registered ( Accused) as a financial services corporation, in the HashfastTechs case. LLC v. Lowe was described by the Bankruptcy Court of the Northern District of California on February 19, 2016 as a property, and that it is never considered a US dollar.A decision that actually caused a legal crisis in which the judicial debate over digital currencies and the obligations and rights arising from dealing with them deepened.

In the end, we point out that it helps us to distinguish between the theoretical legal approach and the practical technical approach in the field of smart contracts, because the first allows for an in-depth discussion of three issues: The possibility of any investor recognizing contractual rights in the face of the exploiter of the network site without a right of possession. so where is the binding force of contracts? Regulating conflict of laws and jurisdiction rules in the absence of a unified account of capital, as well as the possibility of extending the work of the UNCITRAL rules of 1996, especially Articles 5 to 7 of them on Smart contracts, as they are not far from the scope of the formality of electronic signature and the legal force of all that is generated by Data and control over the results / risks of transactions, while the second is satisfied with conforming to the legal and regulatory, financial and fiscal requirements (such as financial stability, market safety and financial policy ...) with which at least a first level of legal governance (control) is achieved.

### ***1-2 Requirements for establishing the legal environment for Startup in favor of the Sustainable Development Objectives***

When the Council of State french (2006) asked about the frequent use of institutions to external consultations to dismantle a rigid and complex legislative and organizational corpus facing economic growth entities in their conduct of business, he answered that the attractiveness of any national law to the requirements of economic competition drives this, and he justified it with the theory of "economic analysis." And developed by North Douglass in his in-depth treatment in his book 'Institutional Change and Economic Performance' of the critical role of legal and political institutions in explaining growth and development, which is the view that benefits us in this part of our study, as it constitutes a suitable framework for researching how ICT entrepreneurship can benefit Of these institutions that you are subject to, meaning we will not ask about the extent to which the law recognizes startup entities. as they were originally imposed de facto, but rather about their interaction with a legal corpus that must adapt and adapt to that competitive mobility of the knowledge economy and the attractiveness of Big Data economies. which we are witnessing. With the explosion of entities supporting contracting projects that have been for a long time the prerogative of the state and subject to bureaucracy and poor management relationship with project owners And the legal stagnation. in return there is an increase in the TinkThank series specialized in the permanent legal evaluation of public policies for the results achieved as a counter-market authority. emanating from the academic, professional, civil society or even public bodies, this on the one hand. on the other hand we have to ask about the opportunities for directing technological starup Towards sustainable development goals. so as not to be confined to their narcissistic approach to the digital economy that denies social accountability for institutions?

Start up ecosysteme is one of the most advanced systems that includes many forms of activities Based on this multiplicity, several elements intervene in the formation of this system: ideas emanating from universities and scientific research, the intellectual property system, the virtual or financial digital infrastructure, artificial intelligence ... etc. this means that each country has its legislative and organizational policies in framing Various activities.

We point out that the countries 'policies are clearly different in the approach they draw to Business Life in the field of ICT. which is reflected in the legal environment that they embody for startups. for example, most European countries adopt a fragmented view of the life of an Moukawalati project whose goal is to achieve a business number only.that is, it is based on the intervention of a series of Startups such as Incubators that depend on helping young people create projects and search for resources to enter the market during a relatively long period (Numa, Bic...). accelerators that include monetorat risk for a short period and structuring the commercial map (Dropbox, Airbnb, LeCamping, The Family...). there startup



nursery Which relied upon at an advanced stage in the project in order to create a network with other entrepreneurs (Atrium, Creatis) and others. in contrast to the Anglo-Saxon approach, especially the American one that does not focus on the stage of filing the registration of startups or relying on incubators, which creates a crisis of legal concepts that do not distinguish between the various The activities and roles of these entities. a conflict between the legal centers granted to them (rights and duties) in the states, and investors vacillate in choosing between them, were it not for the 'white books' issued by them It is these entities or the reports of networks of expertise and advice that are often clarified.

However, the problem may not be related to the form, but rather the ground on which these entities are built. let us give an example of The African startups, which know development obstacles for several reasons. on top of which is financing. According to ChooseAfricainitiative, 20% of SMEs are what benefit from bank financing, while 87% Some of the startups are not funded. that is why several solutions are followed, such as loans with zero interest to support Business Angels and according to certain criteria (the nature of the project, its geographical scope, and the stage of its development) (NDAKPRI, Hervé-Serge, 2020). there is an obstacle not to form and qualify human capital for knowledge of professions And the activities that startupsdigital includes. especially in cases where companies investing in the continent are looking for employment. which makes them often frame them by means of a 'partnership' or legal, technical and financial 'accompaniment'. such as the coordination that linked Investors & Partners Group (I&P) with 11 contractors (from Mali, Madagascar, Mauritania, Senegal ... etc.) talked about their Nathalie Madeline (2020) experiment on embodying the Business model in the agriculture, health, and energy sector as an important step to achieve the necessary social and environmental development for the region.

Because the reality shows the depth of the gap between the capitalist tools, goals and results of the Business of ICT startup and the developmental dimensions. countries are resorting to redrawing the economics of Techs at the core of responsibility, meaning making 'Techs for good' in the service of sustainable goals with all their social and environmental challenges. The expert in sustainable management, Patrick d'Humières (2018) raised the importance of leading the technological community to globalization by responsible actors in the European entrepreneurial culture, citing his recommendations.

Nicole Notat, Jean-Dominique Senard and Pact Law, which define the various social and environmental challenges of each entrepreneurial project: new or old, large or small. this trend is not new, because the United Nations Development Program (UNSD / UNPD) and its specialized offices have dedicated the concept of TechForGood that requires the exploitation of technology and innovations in The heart of entrepreneurship under the condition of responding to the sustainable development goals.

In this context, we inferred the 'Global Startup ecosystem report' (2020) issued by Startup Genome, in its examination of a crisis in this system due to the effects of Covid 19 that shocked the human capacity for startup (not laying off its workers and full time) and the increase in the demand for capital. Which led it to adopt a future vision that calls for resetting the world for a greener economy and through more democratic ICT entrepreneurship and more sustainable scientific discoveries, as well as by ranking the best 140 systems and arranging thirty distinct countries in this period working on to buildsmarter entrepreneurial ecosystems in every economy, which is, in our opinion, one of the best approaches to containing 'digital inequality' at the moment.

## ***2- Keys to update / renew the ICT contracting legal environment***

### ***2.1 “Tech For Good” is a concept imposed by an international law on sustainable development***

Atefeh Riazi confirmed United Nations chief information technology officer (UN CITO), (Patterson, 2016) argues that the arrival of artificial intelligence as the last stage of human innovation means that ICT is a knowledge capital for every project with good and noble goals for humankind, which the latter should strive to embody. as a theoretician of the international approach to governance Global Technology AtefehRiazi enumerated the basic elements of TechForGood.which in our opinion constitute the essential keys for any system, we enriched them as follows:(i) Addressing the problem of Digital Divide: By ensuring that countries have the right to have the Internet and then the right to access technology, which are closely related to the right to expression and development as enshrined in the principles of the World Conference on the Information Society (2013).

We believe that they are rights at the core of the policies. The legal status of countries, whether in the need to recognize or protect them in advanced stages, but they appear to vary between different governments, developing or advanced, democratic or non-democratic, such as Finland, which has approved it in a special law as a 'right accompanying birth', unlike China and Russia, which are both They have recently returned to shutting down digitally. Other politically unstable countries exercise tight control over it.(ii) As wellts high ceiling is due to the rapid growth of the ICT industry, which is the responsibility of sector officials to assume the tasks entrusted to them by The UN Environment Program (UNEP) and was confirmed at the meeting of States Parties in Basel, Rotterdam and Stockholm Conventions in Geneva in 2015 in order to create a common platform. To enrich national decisions and decision-makers with the modalities for sustainable management of hazardous and chemical substances resulting from digital waste, which pose serious challenges in the developing world, especially with its implications for peoples' vital sectors. Especially agriculture and health (Sustainable development Goals, 2015) , (iii) Encryption and cybersecurity: Atefeh Riazi had a practical and rational conception.in this field is subject to conflict and competition between states and the private sector. lot of money is spent on it.but without avoiding the side effects that they arrange.

Because encryption is an immoral and relative issue. And dual-use (for good and for worse). private life and the reasons for privacy or confidentiality are not viewed with the same view by the internal systems. In the previous axes of our study, we explained how the reality of Cryptocurrency is the most valuable raw material for digital economy projects and how countries arrange their prohibitions or allowances from it according to objectives certain countries and the approach of licensing, public control, or prohibitions at all. Such as the European Union countries that adhere to the strictness in bridging legal gaps in the field of personal data. While the member states are still adapting the Big Data economy to cautious steps that may take years to establish a law in this area (Such as the relevant laws issued by France in the period 2015 and 2019 and were the subject of discussion and debate) As for African countries. They are still hesitant to approve legal regulations for specialized contracting projects. Moreover, international transformations are also raising the challenges of establishing a safe legal environment. it is related to the implications of Cyber Risks on human rights, international peace and security. economic and social sustainable development projects for which the United Nations decided to adopt a strategy for establishing a more modern information environment in response to support UN Basic Activities (UNITE, nd, 'The Digital Blue Helmets (DBH)) and OICT.

The objective is mainly based on the rapid exchange of information and coordination in protection measures and directing national policies and frameworks for legal activities in the field

of information operations and digital security. Therefore, the United Nations seeks, through a digital platform established for this purpose, to embody an integrated strategy to form policies, follow-up, intervene and mitigate threats As for the enforcement of humanitarian assistance (UNITE, nd, 'Cyber Risk').(iv) Social media: Since it is the ground that helped Big Data to develop virtual economies (marketing, web commerce, digital money., new professions ...).

Thanks to it, the Internet has created two fronts: one of them is subject to the digital freedom that modern capitalism drives and freedom Trade and investment by groups. such as Facebook, Google, Alibaba. Amazon and others are controlled by the e-government or the smart government. which intervene either to control the digital world in the face of the private sector. but remain threatened by the risks of escalation of terrorist activities, violence and cross-border crimes, which requires controlling it with legal systems. Developed for monitoring and monitoring, or governments adopt a system of licenses and accreditations, or they make coordination with the private sector 'to exchange expertise and solutions as the most appropriate guarantee for the legal security of transactions. we see that it is difficult for the first front, as long as our vision for freedom differs. the solution will not be final if we decide to close our accounts on social networks. Therefore, the topic needed to intensify the international discussion about Cyber criminality, and we point out that the international and regional legal tools and systems apply According to the United Nations Office on Crime and Drugs ONUDC (2013) in the field of combating cyber criminality, there are five groups of a binding and coercive nature, which are: the tools established by the Council of Europe or the European Union, the tools developed within the framework of the CIS or the Shanghai Cooperation Organization, the advanced tools in The framework of African organizations, the tools developed by the League of Arab States. finally the advanced tools under a guarantee or in partnership with the United Nations agencies, and the Office notes that they are very interactive tools among them.as they all contributed to the development of exemplary laws or legislations of a non-binding nature but necessary to help .For example, we mention the Budapest Convention of 2001, which was the first development in the digital international system through the rich content it contained about provisions related to information crimes, cyber crimes including sexual harassment, copyright infringement and hate speech. as well as It provided for acceptable consistency with national laws, improvement of investigation techniques and raising the level of mutual cooperation in this field while protecting human rights and freedoms medicine According to the relevant international conventions, and its first implementation was in the European Union's adoption of the Sirius project in 2017 in order to conduct police and judicial procedures related to tracking and accessing data abroad. In general, up to 2019, the number of countries joining this agreement is estimated at 63 countries, most of them There are 29 countries that have ratified the additional protocol to the agreement on xenophobia and racism, but there is a modest number compared to the size of the threats that entered all regions of the world and interacted with the factors of insecurity, economic crises. internal deterioration of some Countries, Russia and because of its exposure to a piracy attack in 2017, for the first time in the history of the industry, the agreement of the United Nations General Assembly submitted a draft treaty for cooperation in this field, based on the 2001 Convention and the 2003 Anti-Corruption Agreement and other texts, and this international mobility is necessary in the investment sector. Big Data If countries adopt a culture of 'exchange and coordination' and 'update their internal systems'.as evidenced by the fact that the United Nations, to this day, is still continuing Discuss the developments and challenges of this topic in the framework of high-level meetings in Geneva, (v) Artificial intelligence (AI) , man invented the computer, developed the network and contracted the algorithmic language to bring his innovations to the level of intelligence, an intelligence that would eliminate 80% of the workforce in institutions. because the machine is what it will replace, and it is something that

raises people's happiness because economic and social life will be easy and simple, but will This is convincing? Is it sufficient for the robotic head to run a project according to complex calculations from The Big Data? He may find solutions for you that the human mind, which was originally created by him, cannot find, if this competition is not? We are facing a revolution in the transportation sector, which is governed by the platforms Uber, Join2Ship, Waynaut, uShip... Who is running it? Do we consider the drivers or their clients to be independent professionals who are self-employed and not workers? ,

We also find the matter interesting with the financial transactions revolution that adopts the 'Scoring' technique as a statistical and algorithmic method for evaluating financing and loan opportunities, which was explained by Guillaud (2013) in an article highlighting for us a recent practice by many institutions, such as: the American office Finca International that deals with With several African countries (Malawi, Tanzania, Zambia, Uganda ...) through statistics related to the use of mobile phones and field visits to urban areas to determine the degree of dealing with the outside and the wealthy in order to estimate the quality of the good borrower from the bad. My Neo Loan Startup that depends on the stored data In the Linked-in network, or the nature of letters used through Facbook data, there is MovenBank that it relies on to attract clients with low loan interest, while Lenddo Startup from Hong Kong resorts to pushing Facbook subscribers to borrow with certain benefits in exchange for their friends winning bonuses ... etc., and Guillaud believes that they intend on LotS: In which illegal activities have increased and the process of tracking the crimes committed has become more complicated. as it is easy to establish businesses for trade and facilitate daily life and think about plans for the growth of other institutions, but who can guarantee their safety? Also, money laundering generated by digital assets, human trafficking and slavery knows no limits. in fact there are no breakthrough solutions in this area except to help between the owners of the digital world and governments. as AtefehRiazi (Patterson, 2016) indicated that the United Nations has developed The Cyber-Expertise to become a catalyst, and she suggested creating a 'Light Web' by saying: 'As a social group, we can create positive algorithms for social good'

We are the ones who created and developed the web, so it is logical that we have the choice in running it, taming it or closing it, which is what those countries that restrict or control their laws restrict or control the technology and digital industry for certain reasons (security, political, or moral ...).

### ***2-2 Diversity of knowledge capitals and open competition for sectors: distinct opportunities for law enforcement***

If Atefeh Riazi (Patterson, 2016) emphasized the need to devote Tech For Good culture at the present time and the United Nations is striving to embody this across its various organs. then we envision that this culture should prevail in the internal systems of digital institutions and startups activities. Because it will be the reason for its establishment rather than its connection By making profits only. this can only be achieved through mutual-benefit collective action that creates an organic link between Tech (in particular Big Data) and scientific research.

Perhaps sweeping the ICT revolution to embody more beneficial enterprise in relation to the sustainable development goals has re-renewed the theories of development and growth, by highlighting the role of 'knowledge (education, education and training) in creating beneficial activities for society in exchange for valuing knowledge in favor of developing institutions and making them publishable and exploitable and adapting them to What is new and innovation. thus the wheel is in constant motion, how is this done? It is appropriate to refer to the 'participatory approach to knowledge production' brought by Chambers (Borda-Rodriguez et Lafranco, 2015).which is based on two basic elements: respect for local knowledge and the

need to adopt knowledge for development rather than borrowing experiences coming from other, less homogeneous environments, Which reminds us of the opinion of the European Commission (2013) in its report on 'social enterprise' when it stated that the European proposal is based on preserving national peculiarities while spreading the best practices, because what is not transferable cannot be transferred, and it is an example of how to lay down an organizational and legal ground in A specific sector can be applied with different countries. as confirmed by this argument in the World Bank report on “Transforming Arab Economies: The Path to Knowledge and Innovation (2012), for which four conditions are specified: (i) Establishing an institutional system that stimulates efficiency for the use of knowledge technologies, (ii) Providing qualified human energy trained to use it and participate in its engineering and manufacturing, (iii) providing a flexible infrastructure for ICT, (iv) and finally establishing a national system for innovation that seeks to ensure high efficiency and capable of absorbing innovations, and is compatible with the need Local and co-creating new technologies.

This report and similar reports issued between 2015 and 2019 raise several issues for discussion, which are not only related to developing economies but also advanced ones. the reason is simply that the sustainable development goals or their tools are not unilaterally driven, which prompted us at the last point of this study to An attempt to frame the *lexferenda*. which is necessary to advance the level of beneficial development projects as being subject to evaluation by international institutions, as well as criteria for embodying a balance with advanced projects for countries that know advanced steps in this field. among its most important aspects are the following:

(i) Legalization of competition between the various forms of knowledge capital and cooperation between actors.

Clear knowledge is what relies on states to reform and update laws that value the contribution of the education and higher education and vocational training sectors. Including research centers and patents useful for creating pioneering institutions or those that contribute to the development of technology transfer mechanisms as well as the formation of workers in their field of work, which Veltmeyer et al (2015) endorsed it within the framework of the concept of 'human development' enshrined in the framework of the United Nations Development Program (UNDP) and followed by the World Bank in its reports and studies, as this field has witnessed a distinct disparity between countries that have limited investment in knowledge, i.e. they do not pay significant budgets for science and technology or to acquire structures. Digital infrastructure and between countries that rode the 'engine of rapid growth'. such as India, which has succeeded in achieving a quantum leap in ICT investments, through long cumulative experience in the digital industry, and has not paid the bill for modernizing its infrastructure compared to developed countries, and facilitating direct financing in exchange for exemptions. Taxation and bonuses for exporters, as well as the rehabilitation of human capital. As for other countries, they may possess technology to a degree that is difficult to control, but their concern remains not to self-harm this Modernity. On the other hand, we find implicit knowledge of a local character, even if it is difficult to define it because it is the common property of the national group. However, states are relying on reforming laws in favor of workers as they are human capital in institutions to promote them towards stability, efficiency, sustainability and effectiveness, as this in our opinion constitutes A problem in the countries of the world, developing or developed. especially in the field of distinguishing between what is owned by the state and what is owned by institutions from the tangible heritage, or the recognition of a special status for workers in their contribution to the formation of digital capital that can only come through them, which is what really necessitates keeping

pace with property laws Intellectual with these new shifts in the knowledge economy.

(ii) Basis for enforcing respect for competition rules in the ICT business world , the imbalance between dealers in the digital environment has become a requirement. (iii) The transformation of the state's role from a sovereign actor to a controlling actor for the Business ICT market

In a report by the World Bank (2009) on 'A model for sustainable and replicable ICT incubators in Sub-Saharan Africa', in which a full explanation of the challenges that African countries face to promote an entrepreneurial economy based on ICT. in that the costs of knowledge capital are determined according to the institutional environment that stimulates life Digital works, including: resorting to establishing digital economy ministries with relevant agencies and hangars, organizing free zones and rationalizing tax and tax policy for the benefit of system innovators and Big Data makers. we add to it the importance of facilitating procedures for establishing technological institutions in front of the concerned departments in accordance with digital requirements. such as establishing Unified licensing and accreditation systems that are based on specialized departments and have a central network related to all departments. in order to bypass their length or formalities in front of the interests of the commercial registry, taxes, or notaries. Indeed, there are countries that have resorted to renewing and reforming their laws and providing an incubator and stimulating environment for investment. such as France's issuance of Pact Law distinguishes through it between the various procedures according to the classification of contracting firms. there is Saudi Arabia that is described as the model Economic development embodied by reducing the cost of procedures, encouraging initiative in commercial activity, encouraging PME investments, establishing legal rules in the field of fair and sound practice of the principles of corporate governance, devoting institutional work to economic entities in accordance with the rules of integrity of transactions, and finally defining the role of regulatory agencies and bodies supervising them (Ministry State contributions) and transferring them to the Capital Market Authority and encouraging family businesses. The Indian experience also followed the method of reducing the role of the public sector and transforming the state into a regulator of the economic process and inviting immigrant minds to benefit from their expertise and consultations instead of relying on foreign offices and contracting expertise while supporting the owners of projects that are beneficial to the internal community. in general countries began to realize the importance of changing their minds in dealing with entities Entrepreneurialism.so as not to fall into isolation or rigidity imposed by one party as two factors of unsustainability.

(iv) Legalizing a sectoral view of investing digital capital in ICT entrepreneurship

Since the ICT business climate is based on everything that is initiative, openness, innovation and creativity, the opportunities for diversification of fields and activities of work in it (digital financial contracting, consulting and / or training contracting, startups technologies ...) touch various aspects of economic, social, environmental life. Cultural and scientific, such as: energy, banking, health, nutrition, education, defense and security, justice and others, all of which have come to impose the necessity of organizing them using a sectoral view, meaning that ICT and everything that Big Data includes in a rich environment of activities (storage, use Reuse and exploitation), and the 4V formula has also expanded in the areas of investment to the point of fear of digital freedom and release, which are difficult to control with Dark Web, cryptocurrency and artificial intelligence, and from a legal technicality point of view, the success of the initiative to legalize any sector and its subsequent effectiveness depends on two conditions: simplicity The rules governing it, as well as its visibility to all actors (CE, 2013). Moreover, the development and improvement of any legal environment affects three aspects: establishing appropriate legal

systems for the various ICT business entities, facilitating the identification of rights and obligations and the nature of public control applied to them, facilitating their entry into public markets, by simplifying deal procedures and participating in the social development of important projects, and finally opening the field Aid, support, concessions or tax facilities and bank financing for state-owned enterprises, which are essential elements for the success of the renewal process in a better developmental business world (World Bank, 2009).

Among the outlook embodied in the financial technology sector that swept the list of businesses in the MENA region between 2018 and 2019 by the role played by the UEA , its leadership position in the region, according to the Magnitt Startup Report (2019), especially by establishing the 'Regulatory Laboratory' in 2016 as the first licensing and testing environment for services. This technology, which is granted for a period of two years until obtaining the full license, and its launch between 2017 and 2018 for a comprehensive risk-commensurate framework for risk capital fund managers, as well as an asset encryption system for banking and securities services, advisory services, robotics and application programming interfaces. It has also formulated partnership projects with global technology companies to represent The information society in the region, and since 2019, it has relied on foreign expertise to develop legislation for crowdfunding, and based on that, this country, along with Lebanon, Egypt, Jordan, Afghanistan and Pakistan, has become one of the entities that owns 75% of the startups in the MENA region (Magnitt Report, 2019).

(v) 'Soft Law' is another resource for strengthening the legal systems for ICT business

The rise of 'digital ethics' to contemporary legal debates about Big Data and the protection of personal data, transparency towards customers, the digital divide between generations and predictive algorithms....etc, all of them have become imperative to act preemptively by accompanying the process of digital creativity in a more positive way, and they are justified. Professional bodies, official bodies, NGOs and consulting startups and Tink Thank centers to develop and publish White Papers - of English origin - in the form of reports or studies in a simple and safe format (Graham, 2013) as charters, codes of conduct and ethics, or forward-looking or objective evaluative studies for reference either In order to promote respect for principles and rules related to the protection of intellectual property rights based on the experience and approaches of legal and professional specialists.

## **Conclusion**

In this study, we concluded that the interest in the algorithmic language as a positive addition to our daily lives and the economies of entire countries makes us think about the risks that result from them for each innovation and its effects. Also, technological development does not necessarily carry political and social solutions, but countries visions for innovation and technological development about entrepreneurship of ICT is related to the huge information produced for development projects. Thus, it relies on the relevant international bodies (World Bank, FMI, UNDP, ITU, WIPO, and WTO) to play a decisive role in the field of 'digital inequality', including encouraging the establishment of an effective digital law especially in developing countries. It is also accompanied by setting up an international stock of various legislations, regulations and charters related to information technology and big data.

Faced with the phenomenon of big data's intrusion into the business world, and its accompanying diversification in enterprise forms, it is found that institutions needed legal recognition of the existence of a sui generis capital that form an essential part of the intangible heritage. It benefits from its value and still needs to update the intellectual property system to

protect it effectively, as it represents a joint work under the permission of the legal personality of the corporation. However, it still needs to accept the culture of sensitization, and the internal formation of its workers in order not to harm the data collected with great capacity according to the 4V rule and to exploit them in a coherent manner. This is a condition for their coexistence in the era of cloud Computing with more care and greater vigilance.

This paper proposes enhancing the role of codes of conduct in promoting the protection of the digital intangible heritage of institutions as a stage prior to imposing their legal respect. Due to its importance in rationalizing the concept of ownership of virtual capital provided that it is governed by unified, homogeneous and common principles. So, it is easy to retrieve it by the factors of the global information society. In this The context, we must encourage the initiative to visualize information and regulations on digitization, archive it and ensure online access. it is also necessary to identify information savings and knowledge related to the public domain at the national and international level. In order to clarify the idea of the common digital heritage of humanity which is useful to the business world and with it the need to develop the legal system for open data until It is easy to distinguish between public and private ownership in this area. It relies heavily on the involvement of the private sector, including the innovative technological institutions specialized in creating this heritage. In the same context, we brought the issue of the risks surrounding cryptocurrency as a very recent field in ICT entrepreneurship that calls for strengthening the financial system with basic legal tools to provide efficiency and stability.

Finally, we can say that the legal regulation of innovative entrepreneurship with a developmental ground depends on highlighting ICT as a strategic sector that produces work and wealth. As well as creating legal centers for ICT institutions with positive links with public bodies whose role has shifted in two tasks: an ICT market controller and a negotiating partner in development. The partnership should be encouraged to ensure the effectiveness of spreading the culture of ICT entrepreneurship and cooperation in marketing this type of knowledge capital, as indicated by the partnership with regional (Arab, European and African), and bilateral business magnates, or international (multi-lateral). We also highlight the importance of non- governmental organization to broadcast an cooperate ethical commitment to make technological knowledge available to everyone (individuals or institutions). This proposition is a continuation of what Riazi (2020) expressed: 'We are the ones who create things that we do not necessarily own .... and when we look at these problems we cannot solve them alone.' On the literary level and above the organizational problems presented previously, it is seen that the legal environment for both ICT and the world of big data present important prospects, the most important of which are: What is related to trust in transaction, the values of digital bureaucracy and transparency in its use according to the approach of interaction between law and ethics. The other one is concerned with translating the algorithmic language into the language of law or vice versa, through the suitability of the legal industry to the technological industry. It is the task of every legal person trying to link research with practice in order to develop a smart enterprise that is useful for achieving economic and social development.

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