

Volume 6, Issue 1, 2025

Identifying the Legal Status of Public Digital Assets in Egypt

DOI: 10.21608/IJDJL.2024.315376.1258

Pages 63-95

Marc Michail Amin

Assistant Professor, Faculty of Law, The British University in Egypt

Correspondence: Marc Michail Amin, Assistant Professor, Faculty of Law, The British University in Egypt.

E-mail: marcbekhet@gmail.com

Received Date: 29 August 2024, **Accept Date :** 16 October 2024

Citation: Marc Michail Amin, Identifying the Legal Status of Public Digital Assets in Egypt, *International Journal of Doctrine, Judiciary and Legislation*, Volume 6, Issue 1, 2025, Pages (63-95)

المجلد ٦، العدد ١، ٢٠٢٥

تحديد المركز القانوني للأصول العامة الرقمية في مصر

معرف الوثيقة الرقمية: 10.21608/IJDJL.2024.315376.1258

الصفحات ٦٣-٩٥

مارك ميخائيل امين

كلية القانون، الجامعة البريطانية، القاهرة، مصر

المراسلة: مارك ميخائيل امين، دكتور القانون العام، كلية القانون، الجامعة البريطانية، القاهرة، مصر.
البريد الإلكتروني: marcbekhet@gmail.com
تاريخ الإرسال: ٢٩ أغسطس ٢٠٢٤، تاريخ القبول: ١٦ أكتوبر ٢٠٢٤

نسخ توثيق المقالة: مارك ميخائيل امين، تحديد المركز القانوني للأصول العامة الرقمية في مصر، المجلة الدولية للفقہ والقضاء والتشريع، المجلد ٦، العدد ١، ٢٠٢٥، صفحات (٦٣-٩٥)

Abstract

This study is based on the simple observation that new types of assets have emerged during the last decade due to fast-growing technological innovation. In reality, the appearance of digital goods is a consequence of the emergence of new technological innovation. It has influenced the global economy through the appearance of a new form of economy. It is the digital economy that in turn has given birth to a new form of non-tangible assets that exist in the virtual world. Although they are not completely regulated by the legal system, their status is not yet identified in the laws of countries including the Arab Republic of Egypt. Due to the importance of these assets, which is increasing, day by day, it has become necessary to try to know the legal status of digital public assets in Egyptian law which have an inestimable economic value neglected by Egyptian legislation; it does not focus on public goods, particularly digital public assets. To achieve this goal, the author employs a legal analysis approach to examine and critique the current laws and regulations relating to public digital assets in Egypt. Additionally, a comparative analysis with the legislation of the United Arab Emirates is utilized to provide a clear definition of public digital assets. This paper clarifies and eliminates several legal barriers at the level of the identification of public digital assets in Egypt, The paper identifies and clears several of the legal impediments on identification of the public digital assets in Egypt. The paper stresses that there is a long overdue need for standard legislation that would define public digital assets, their classification, ownership determination, and the rights attached thereto. In the absence of specific legislation this study, tries to classify the different types of public digital assets in Egypt, focusing on the need to distinctly identify the rightful owners and determine their rights about these assets.

The paper particularly points to the fact that the Egyptian constitution provides the highest protection to the cultural heritage that is part of public digital assets. Nevertheless, it follows that these assets are likely to face in practice a number of risks because of an inability of the existing legal systems to treat alike tangible and intangible assets, public digital assets being one of the latter. The study emphasized that it is necessary to create a regulatory body for all processes related to the utilization, conservation, and accessibility of public digital assets. This shall be the competent authority to propose legislation on such matters with a view to ensuring that in the State of Egypt there is a single entity responsible for the protection of public digital assets as part of the nation's wealth, next to all other tangible public assets.

Keywords: Public digital assets -Digital Asset- Public Property- virtual assets- Immovable Property – Movable Property- Public Juristic Person – Private Sector.

الملخص

تعتمد هذه الدراسة على ملاحظة دقيقة مفادها أن أنواعاً جديدة من الأصول قد برزت خلال العقد الماضي نتيجة للتطور التكنولوجي المتسارع. في الواقع، فإن بروز الأصول الرقمية هو انعكاس مباشر لظهور ابتكارات تكنولوجية حديثة، وقد أثر هذا الأمر على الاقتصاد العالمي من خلال نشوء شكل جديد من الاقتصاد يُعرف بالاقتصاد الرقمي، والذي أفرز بدوره فئة جديدة من الأصول الغير الملموسة التي تتواجد في العالم الافتراضي. ورغم أن هذه الأصول لم تخضع بعد للتنظيم الكامل ضمن الأطر القانونية، إلا أن وضعها القانوني لم يتحدد بعد في التشريعات الوطنية، بما في ذلك جمهورية مصر العربية.

ونظراً للأهمية المتزايدة لهذه الأصول، والتي تزداد يوماً بعد يوم، بات من الضروري محاولة استجلاء الوضع القانوني للأصول الرقمية العامة في القانون المصري، والتي تحمل قيمة اقتصادية هائلة لم تُعطَ ما تستحقه من اهتمام في التشريعات المصرية، حيث لم تُخصص التشريعات الاهتمام الكافي للأموال العامة، ولا سيما الأملاك الرقمية العامة.

ولتحقيق هذا الهدف، يعتمد الباحث على منهج التحليل القانوني لفحص ونقد القوانين واللوائح الحالية المتعلقة بالأصول الرقمية العامة في مصر. إضافةً إلى ذلك، يتم توظيف تحليل مقارنة مع التشريعات السارية في دولة الإمارات العربية المتحدة بهدف تقديم تعريف واضح للأصول الرقمية العامة. تسعى هذه الدراسة إلى توضيح وإزالة العديد من الحواجز القانونية فيما يتعلق بتحديد الأصول الرقمية العامة في مصر، مما يساهم في بيان الملاك الحقيقيين لهذه الممتلكات وتوضيح الحقوق التي يمتلكونها عليها، وأخيراً تحديد الأنواع المختلفة لهذه الأصول.

الكلمات المفتاحية: الأصول العامة الرقمية، الأصول الافتراضية، المال العام.

Introduction

The Internet, which has helped billions of humans during the arena with verbal exchange, paintings, examination, and undertaking, has sparked an outstanding technological and social revolution. People now have new methods of conversation way to the internet, irrespective of distance or cultural barriers⁽¹⁾.

The records of the internet and digital property are closely intertwined because the development of the internet has played an important role in the creation and adoption of virtual

⁽¹⁾ "Digital Inclusion: An International Comparative Analysis", edited by M. Ragnedda, and B. Mutsvairo, Lexington Books, 2018, p.7.

houses. The net was first developed in the Nineteen Sixties as a means of linking computer systems together to share data. Over the following couple of decades, the Internet grew rapidly, and by way of the Nineteen Nineties, it had turned out to be an international community connecting millions of computer systems and customers.

With the upward thrust of digital assets, humans have received get right of entry to to a wealth of facts and resources that have been formerly inaccessible⁽²⁾. For instance, public digital belongings like government databases and open facts units have enabled researchers, marketers, and policymakers to gain essential insights into diverse aspects of society and the financial system. Similarly, the advent of blockchain-primarily based belongings like cryptocurrencies and NFTs has opened up new avenues for funding, creativity, and expression⁽³⁾.

At the equal time, the Internet has facilitated the creation and distribution of virtual belongings, enabling individuals and groups to proportion their information, ideas, and creations with the arena. Social media structures, for example, have provided a area for human beings to share their thoughts, reviews, and opinions, even as crowdfunding systems have enabled people to raise funds for their creative projects and ventures⁽⁴⁾.. However, the link between virtual assets, the Internet, and people isn't without its demanding situations⁽⁵⁾. The great amount of information and assets to be had online may be overwhelming, and navigating the web panorama can be tough and fraught with hazards. Moreover, the proliferation of virtual property has raised complicated criminal, moral, and regulatory issues, requiring new frameworks and tactics for their control and governance⁽⁶⁾.

The historical relationship between public digital assets and the internet in Egypt can be traced back to the early 2000s when the Egyptian government invested heavily in building

⁽²⁾P. Sangwa Lumbu, "Le Droit International à L'ère De L'internet et De L'intelligence Artificielle", *International Journal of Social Sciences and Scientific Studies*, Vol. 2, No. 6, p. 1722.

⁽³⁾Ch. Leteinturier, "L'internet, Une Mondialisation En Trompe L'œil ", *CARISM / Institut Français de Presse - Université Panthéon-Assas*, 2018, p. 11

⁽⁴⁾S. Astier "Vers une régulation éthique de l'internet : les défis d'une gouvernance mondiale", *Revue Internationale des Sciences Administratives*, vol. 71, no. 1, 2005, pp. 143-161.

⁽⁵⁾C. LETEINTURIER, P. ALBERT, " Les médias dans le monde. Enjeux internationaux et diversités nationales", Paris, Ellipses coll. Infocom, 1999, p. 145

⁽⁶⁾Kh. Obbed, "Les effets de l'Internet sur les règles de conflit de compétence international : Comparaison entre les droit irakien, français, et américain", *Université De Toulon, Thèse.fr*, 2016, p. 14.

its digital infrastructure⁽⁷⁾. This investment aims to expand internet access across the country to support the growth of the digital economy and enhance access to public services⁽⁸⁾. The Egyptian government passed Law No. 10 of 2003, also known as the National Telecommunication Regulatory Authority, to create the “NTRA”. The National Telecommunication Regulatory Authority has been considered as public juristic person, according to this law. According to Article 4 of the law, the NTRA’s main objective is to control and improve telecommunications services, including the Internet, by making use of the most cutting-edge technologies available⁽⁹⁾.

Law No. 10 of 2003 established NTRA and created a legal framework by which the government regulated the use of ICT for economic growth and social development. This framework facilitated the development and expansion of the Internet in Egypt, which has played a crucial role in promoting digital entrepreneurship, and e-commerce, and enhancing access to public services⁽¹⁰⁾.

In this context, the Egyptian government developed projects like EGNET and EGOV aiming to achieve a strong digital infrastructure and boost ICT usage. This has imposed massive impact on the economy and society of the country. These programs have contributed to closing the digital gap and contributed to economic development in general, and particularly to such industries as electronic commerce and digital entrepreneurship, through increased access and usage of the Internet and other government services. Online services are easy to use and accessible, which encourages innovation and entrepreneurship and has impacted positively on the economy and society at large in Egypt.

Moreover, access to public services and information through the deployment of ICT contributed to better social development in Egypt. Through such facilitation of electronic access to government services by its citizens, the government was able to reduce bureaucracy and enhance transparency to engender public confidence in government institutions. This means, generally speaking, that the efforts of the government were in harmony with the

⁽⁷⁾World Bank official web site, Egypt Digital Economy Country Assessment (DECA), 2020.

⁽⁸⁾B. FERGUSON, “Public Administration Performance Measurement.” *Competing for Influence: The Role of the Public Service in Better Government in Australia*, ANU Press, 2019, pp.144.

⁽⁹⁾M.POLLAK, “ La régulation technologique : le difficile mariage entre le droit et la technologie.” *Revue Française de Science Politique*, vol. 32, no. 2, 1982, pp. 165–84.

⁽¹⁰⁾Human Rights Library (Hrlibrary), “ Egypt Télécommunication Régulation Law”, University of Minnesota, Article 8, p. 6

stipulations of Law No. 10 of 2003 on Telecommunications Regulation and have set up an enabling environment for the digital economy in Egypt⁽¹¹⁾ to thrive, and indeed it has grown and is continuously evolving since the inception of these efforts.

The National Telecommunication Authority Regulatory Authority (NTRA) by virtue of articles 5 and 6 of the above-mentioned law is responsible for overseeing the telecommunication sector in Egypt and ensuring compliance with the regulations set out in the law. Also NTRA is tasked to promote and develop the ICT infrastructure and service, including the internet services aiming to increase accessibility and affordability for all Egyptian citizens⁽¹²⁾.

All funds possessed by the NTRA are identified as public assets according to Law No. 10 of 2003. These assets are defined in Article 1 of the aforementioned law as “all that is used or prepared to be used in telecommunication, including buildings, lands, structures, machines, equipment, cables, towers, poles, communication lines, systems, and software”. All mentioned assets are considered public property owned by the National Telecommunication Regulatory Authority. Law No, 10 of 2003, has indicated that authority-owned assets are considered public assets including digital assets such as systems and software. Practically, law No. 10 of 2003 is relatively old and did not adapt to the rapid evolution of digital technologies that introduced a new form of assets called digital assets.

In the last couple of years, digital assets have become quite significant for a number of industries, including the telecommunications sector, and have become invaluable assets for the private sector, governments, and regulatory bodies. Simplistically speaking, “digital assets” refers to all intangible assets, like software, databases, and digital systems, that may be owned, used, and transferred in value.

Digital technology systems are growing and developing rapidly. Thus these forms of new technologies are not just systems and software, its considered valuable assets. It will be crucial to see how such assets are regarded and controlled under Egyptian law. We shall look at the legal structure and definition of such assets under international and national laws in the next chapter so as to establish if they can be classified as public assets within the Egyptian framework.

⁽¹¹⁾Legal website, Manshurat, “Issuance of the Tele Communications Regulation Law.”, Accessed June 27, 2023

⁽¹²⁾M. Michail, “Digital Public Services in Egypt”, The article was published at the 8th Annual Scientific Conference, titled “Technology and Law,” on the 8th of May 2023, Tanta University.

In light of the rapid advancement of digital technologies and the growing significance of digital assets in humans' daily lives, it is imperative to analyze how these assets are recognized and regulated under Egyptian law. It is crucial to thoroughly examine the legal framework and definitions of digital assets in both foreign and national legislation to define these emerging public assets, classify them, and ultimately determine their legal status under Egyptian law.

The challenging identification of public digital assets

Property law is structured around various dichotomies, the most well-known being the distinction between movable and immovable property (as defined in Article 516 of the Civil Code). However, there exists a preliminary distinction between "goods" and "things". Both terms can refer to animate or inanimate objects that impact one or more of a person's senses, with or without consciousness or sensitivity. Nevertheless, the concept of "good" characterizes objects that are capable of being appropriated, meaning they can be owned. Therefore, it is the potential for an object to be appropriated that qualifies it as a "good". Conversely, objects that cannot be appropriated are classified as "things" (as per Article 714 of the Civil Code). This is where the notion of "common things" comes into play. "Common" things are objects, whether terrestrial or celestial, that do not belong to anyone (not susceptible to appropriation) and whose use is common to all, either by nature or by law.

Lives are increasingly being digitized. Social media has changed how people socialize, and the Internet has changed how people make a living. Another aspect of human existence that can be found online is "Assets". Thinking about the kind of assets that can fall under the category of digital assets, will lead individuals to think of their online bank accounts right away. Strictly speaking, this is a digital asset, but whether or not they utilize online banking, the majority of consumers currently take security precautions with their bank accounts. Indeed, there isn't a definition that is recognized by the law. "Content possessed in digital form" is the simplest definition of a digital asset. This makes it reasonable, but it might not do the priceless digital assets of an estate credit.

Despite the growing importance of digital assets⁽¹³⁾ and their major role in the new economies of nations, no legislation defines this new form of assets. To date, the Egyptian legislator has overlooked the need to define this innovative asset type has become increasingly significant in parallel with the rising prominence of digital technology. Despite extensive research into Egyptian law, no specific definition for digital assets has been found. The existing definitions solely focus on traditional or conventional assets, without addressing the unique nature of digital assets. Thus, to identify public digital assets, it is important to begin by defining what digital assets are in general, and then exploring their public aspect to arrive at a definition for public digital assets.

It is crucial to first investigate what an asset is according to Article 81 of the Egyptian Civil Code No. 131 of 1948 which defines an asset as “Anything that is not outside the ambit of a trade by its nature or by virtue of the law, maybe the object of proprietary rights. Things outside the ambit of a trade by their very nature are things that cannot be objects of exclusive possession. Things outside the ambit of a trade by law are things which, by the law, cannot be objects of proprietary rights.” In keeping with Article 81 of Egyptian Civil Law No. 131, objects that can be traded according to their nature are recognized as property rights. This denotes that items that are inherently capable of being bought, sold, or traded, such as tangible goods like land, buildings, or vehicles, are recognized as objects of proprietary rights under Egyptian civil law.

However, the article also clarifies that objects that are considered to be outside the scope of trade because of their inherent nature or by the law are not recognized as objects of proprietary rights. In other words, if the sole reason for an object’s value or trade ability is its inherent nature, rather than its specific characteristics or attributes, it may not be considered an object of proprietary rights under Egyptian civil law. This provision recognizes the distinction between objects that have inherent economic value and can be traded as property, and objects that are not traditionally bought or sold due to their inherent nature, but rather for their specific characteristics or attributes. It reflects the principle that not all objects can be considered property and subject to proprietary rights under Egyptian law, and that there are limitations on what can be legally recognized as property based on the nature and characteristics of the object in question.

⁽¹³⁾D. Uzsoki, “Tokenizing Real Assets: Examples from Switzerland.” *Tokenization of Infrastructure: A Blockchain-Based Solution to Financing Sustainable Infrastructure*, International Institute for Sustainable Development (IISD), 2019, pp. 18–24.

Article 81 identifies assets based on their ability to be within the ambit of trade, either by their nature or as defined by law. However, the law does not provide further clarification on the specific nature of assets or how they can be considered within the scope of trade. This lack of specificity leaves room for interpretation and raises questions about which types of assets are included or excluded. Furthermore, in the context of digital assets, it can be argued that they can always be considered within the ambit of trade on digital markets due to their inherent digital nature. However, the absence of clear guidance in Article 81 creates ambiguity and may require further elaboration or interpretation in the context of digital assets or other evolving forms of assets in modern technologies' scope⁽¹⁴⁾.

The Egyptian law, as stated in Article 82 of the Egyptian Civil Code, recognizes only two types of assets: fixed assets and movable assets. These are the only types of assets that are explicitly defined in the Egyptian Civil Code. Notably, immaterial assets, including digital assets, are not addressed in the provisions of Article 82, indicating that Egyptian law has not kept up with the evolution of digital technologies and the creation of new forms of assets. This limitation in the identification and recognition of assets in Egyptian law highlights the negligence of important assets in the digital era⁽¹⁵⁾. Article 86 of the Egyptian civil code states that all immaterial assets will be regulated by special laws, but it does not provide further explanation or details regarding what these immaterial assets entail. Additionally, the legislator has not enacted any specific laws related to immaterial assets, except for intellectual property laws, which may only define certain types of immaterial assets without including digital assets.

As a result, the lack of specific laws or regulations that explicitly define and regulate digital assets may pose challenges in determining their legal status and protections. In such situations, it may be necessary to examine other existing laws and regulations to gain insights and understanding of the definition and treatment of digital assets within the legal framework.

In terms of identifying, digital assets, through other foreign legislation, as long as there is no definition of this type of assets in any of the Egyptian laws and regulations except the central bank law No. 194 of 2020 that defined one of the key types of digital assets which

⁽¹⁴⁾O. Osman, "The Legal Encyclopedia of Public Property." 1st éd., Manshaat EL Maaref, 2004, p. 126.

⁽¹⁵⁾Eastlaws, "Egyptian Civil Code N° 131 of 1948", Accessed 20th of April 2023.

is the cryptocurrencies as its states in article one that “ Cryptocurrencies: Digitally stored currencies that are not denominated in any of the currencies issued by official monetary authorities and are traded over the internet” . Despite this important definition accorded to the cryptocurrencies as part of digital assets, there is no definition that would define all types of public digital assets in Egypt. Thus it would be beneficial to refer to Law No. 4 of 2022 related Regulation of virtual assets in the Emirate of Dubai. Along with the cabinet resolution No. 111 of 2022 issued by the United Arab emirates which governs the regulation of virtual assets and their services providers in United Arab Emirate (UAE)⁽¹⁶⁾.

Article 2 of Law No. 4 of 2022, which regulates virtual assets in Dubai, defines a digital asset as “a digital representation of value that can be digitally traded, transferred, or used for exchange, payment, or investment purposes.” It includes a virtual token and any other digital representation of value as may be determined by the Authority. Article 1 of Resolution No. 111 of 2022 supports a similar definition to Article 2 of Law No. 4, where the concept of digital assets is “a digital representation of value that can be traded or transferred digitally and used for investment purposes.” However, this excludes “digital representations of paper currencies, securities, or other funds.” While both are almost similar in definition, the latter connotes specifically that digital assets do not include such things as paper currencies or securities. With this slight difference, it can be understood from both definitions that in substance, digital assets are the digital forms of value that could be traded and transferred with the use of technology.

As per the given definitions highlighted in the aforementioned articles, actions in digital assets can be executed virtually in the type of trade, transfer, and usage, however, the stated article was silent regarding the possession of this type of assets⁽¹⁷⁾, according to its specific nature digital assets can be used but cannot be possessed, it means that ownership or physical possession of the digital asset may not be recognized, this ownership of digital assets can be recognized mainly by its usage. The new theories of digital economies have defined the property right of the digital asset by the capability of the physical person or the moral person to use it instead of owning it. Zhiyi Liu has stated in his book Principles of Digital

⁽¹⁶⁾Securities and Commodities Authority, official website, the Hon’ble Prime Minister of the UAE, 2022. “Cabinet Resolution No. (111) of 2022 Concerning the Regulation of Virtual Assets and their Service Providers”. Issued 13 January 2023.

⁽¹⁷⁾G. Rowland, T. Kiviat, “Cryptocurrency and other digital assets for asset managers”, Global Legal Group LTD, 2019, p. 93

Economics that “Finally the boundaries defined by property rights are relaxed by network organizational structures to shift the core of property rights from ownership to use, thus making the sharing economy an important proposition in the digital economy”⁽¹⁸⁾

Clearly the era of digital transformation is introducing a new form of property explained by its usage rather than its possession to a specific type of assets that do not exist in our physical world, however, it has a significant impact on the economies and people’s daily lives⁽¹⁹⁾. Accordingly, the key elements of the property right can be explained as the right of trade, the right of transfer, and the right of use, those three rights combined are present which would lead to ownership right without the need for the possession right.

Consequently, the Egyptian legislator can adopt the same definition of digital assets stated in Article 4 of Law No. 4 of 2022 related to the regulation of virtual assets in Dubai. Additionally, the Egyptian legislator while adopting the same definition of digital assets in the previously stated Article 4 of law No. 4 of 2022 has to indicate that ownership of digital assets is not recognized by possession, but by usage⁽²⁰⁾. While it was initially important to identify and define what constitutes digital assets. These assets refer to digital content or resources that are created. Now it’s time to establish the criteria that determine whether digital assets can be owned, or maintained by public entities such as governments, organizations, or institutions, and are made available to the general public or a wide audience for access, use, or sharing or not and to set the qualification for digital assets to be considered as public digital assets.

The complicated process of identifying digital assets is far coming to an end, as it was difficult to define digital assets while the Egyptian legislation was silent regarding these types of assets. It is still important to highlight whether these assets can be accorded public identity or not as, previously mentioned digital assets are ignored by the Egyptian legislation and there is no clue on the legal framework that would govern the digital assets despite their importance.

⁽¹⁸⁾Z. Liu, “Principles of Digital Economics: Innovation Theory in the Age of Intelligence”, Springer, 2022, p. 99

⁽¹⁹⁾A. Salah, Salah Aly, “The Relation between digital transformation and sustainable Development study Egypt case”, Scientific journals for Economic and Commerce, 2022, p. 15.

⁽²⁰⁾Official Website Dubai Legislative Portal, “Law No. 4 of 2022 related to Virtual Asset Management”, accessed 13 April 2023

Recognizing the public digital assets and its owners in light of the ambiguous legal framework governing these types of assets.

Article 87 of the Egyptian civil code has set valuable criteria for considering the assets as public assets, as it states “Immovable and movable property owned by the State or other public juristic persons and allocated either in fact or by virtue of a law or a decree for purposes of public utility, forms part of the public domain. Such immovable and movable property is not alienable, is not liable to seizure nor to acquisition by prescription⁽²¹⁾.” This article has included just two types of assets Immovable assets in other term fixed assets and movable assets, it didn’t recognize any other types of immaterial assets, which is considered a false step from the Egyptian legislator to neglect the rest of the asset types no matter their form. This article has also highlighted that for the assets to be considered public assets, there are only three legal methods to realize so, the first one is that this asset be allocated in fact or by virtue of a law or decree for the sole purpose of the public utility, to be considered as part of the public domain. This was mentioned clearly that these assets cannot be granted public status unless one of the above three methods has been applied to them. The question that will persist, is if these methods can be applied to digital assets⁽²²⁾.

In general, digital assets are considered a part of immaterial assets, which are assets that lack physical form but have economic value. Digital assets, by their nature, are considered among “res communis,” meaning they are available for use by all people. However, digital assets, despite being freely accessible to the public, can still have economic value and can be owned. The existing laws and regulations governing assets exhibit a notable deficiency in addressing the intricacies of digital assets. The legal status and public perception of digital assets can be better understood by referencing the laws governing intellectual property rights, as digital assets are considered a subset of immaterial assets⁽²³⁾.

To understand, the legal framework that governs digital assets in Egypt and if they can be considered a public asset and owned by a public juristic person; it is crucial to look at

⁽²¹⁾Official Website, Manshurat, “Article 87 of the Egyptian civil code N’131 of 1948”, accessed 16th of April 2023.

⁽²²⁾A. Blandin, J. Allen, K. Bear, M. Rauchs, “Legal and Regulatory Consideration For digital assets report”, Cambridge Centre for Alternative Finance, 2020, p. 20

⁽²³⁾J. Korbet, K. Janine, R. Zarnekow, “The Role of the Virtual Asset in the Distribution of Goods and Products”, Twenty-fifth Americas Conference on Information Systems, Cancun, 2019, p. 5.

the current laws that regulate immaterial assets such as intellectual property rights to gain a better understanding of the legal standing of digital assets and it perceives in the Egyptian legal system. Understanding how digital assets sit inside the legal system requires a grasp of intellectual property laws, which were created to safeguard immaterial goods like inventions, trademarks, copyrights, and trade secrets⁽²⁴⁾.

In Egypt, there is no specific comprehensive law that governs and regulates all types of public assets. However, different laws are not collected in one code and are diversified in different laws for instance Law No. 7 of 1991 related law provisions relating to private state property⁽²⁵⁾, and Law No. 144 of 2017 also related to “In regard to some rules and procedures for dealing with state-owned properties⁽²⁶⁾”. Other provisions related to public assets can be found in the civil code, penal code, and other relevant laws that aim to regulate mainly the immovable and movable assets owned by the state and other public juristic persons. These laws provide legal frameworks for various aspects related to public assets, such as their acquisition, management, utilization, and disposal. They also establish rules and procedures for the protection, preservation, and accountability of public assets. While there may not be a single dedicated law exclusively for all public assets in Egypt, the existing legal framework encompasses diverse laws that collectively address the legal aspects related to public properties in the country.

In Egypt, there are no specific laws or regulations that govern public immaterial property as well including digital assets, and current laws, and regulations applied to immaterial assets owned by the private or public sector. What consolidates this approach is that intellectual property law No. 82 of 2002 didn't distinguish between these properties created and owned by a private person whether a physical person or private juristic person or public juristic person these laws provide the same protections for both parties without any specific treatment similar to what is accorded to corporal public assets. Upon thorough analysis of intellectual property law No. 82 of 2002, it becomes apparent that there is no overarching definition for

⁽²⁴⁾L. Khater, “Encyclopedia of Intellectual Property Rights: An Analytical Study of Law No. 82 of 2002 Regarding the Protection of Intellectual Property Rights. Explanation, Analysis, Commentary, and Comparison with the WIPO Agreement Texts, Practical Applications, and Key Issues.”, Lotfy Khater, 2003, p. 356.

⁽²⁵⁾Official Legal Website, Mansurat, “Law on Provisions Regarding State Private Properties No. 7 of 1991”, published in the Official Gazette, No. 10 (bis), March 13,1991, consulted on 23rd of April, 2023.

⁽²⁶⁾Official Legal Website, Manshurat, Law No. 144 of 2017 concerning rules and procedures for the disposal of assets from the private domain, published in the Official Journal, No. 29 (Bis), July 22, 2017, consulted 24th of April 2023.

immaterial assets similar to the definitions of immovable and movable assets stated in the Egyptian civil code⁽²⁷⁾.

Instead, the law tends to provide separate and distinct definitions for each specific type of immaterial property. This absence of a comprehensive and unified definition for immaterial assets can make it challenge the status of digital assets whether they can be public property or not. It's notable through the study of intellectual property law. As indicated a separate definition has been accorded to specific types of immaterial assets, such as Trademark, article 63 of law No. 82 of 2002 has to define trademark as “ A trademark is any sign distinguishing goods, whether products or services, and include in particular names represented in a distinctive manner, signatures, words, letters, numerals, designs, symbols, signposts, stamps, seals, drawings, engravings, a combination of distinctly formed colors and any other combination of these elements if used, or meant to be used, to distinguish the products of a particular industry, agricultural, forest or mining venture or any goods, or to indicate the origin of products or goods, or their quality, category, guarantee, preparation process, or to indicate the provision of any service. In all cases, a trademark shall be a sign that is recognizable by sight⁽²⁸⁾”.

The stated article has defined the trademark, but as indicated it did not differentiate between the owner of the trademark whether it is a private person or a public juristic person. However, the law has provided specific protection to certain types of trademarks, this has been highlighted in Article 67 which prohibited the registers of certain immaterial assets as trademarks such as public armorial bearings, flags, and other insignia owned by the State or any other state, regional, or international organization, as well as any imitations thereof and it considers these assets as public assets. Accordingly, article 67 has explicitly explained that immaterial public assets can be owned by the state and other juristic persons⁽²⁹⁾. This can be seen as well in Article 124 embedded in the same law that prohibited registering designs of emblems, religious symbols, stamps, or flags of Egypt. The article truly prohibited the use of

⁽²⁷⁾Official Website, “Egyptian Patent Office, “Law of the protection of intellectual property rights N° 82 of 2002”, accessed 18th of April 2023.

⁽²⁸⁾Food and Agriculture Organization of the United Nations (FAO), “Article 63 of the Law of the protection of intellectual property rights N°82 of 2002”, accessed on the 18th of April 2023.

⁽²⁹⁾Official Website, Manshurat, “Article 67 of the Law of the protection of intellectual property rights N° 82 of 2002”, Loc. cit., accessed 19th of April 2023.

any type of design related to Egypt⁽³⁰⁾.

However, the article described simply that usage of design related to the state of Egypt is prohibited, It seems that this article refrained from explicitly mentioning whether these designs are owned by the state of Egypt or any of its public juristic persons. The ambiguity and vagueness in the article left readers uncertain about the ownership and legal status of these assets, creating confusion and lack of clarity.

The infrastructure owned by the Telecommunication Authority has been officially defined in Article 1 point 9 of law No. 10 of 2003 that all that is used or intended to be used in telecommunications, including but not limited to buildings, lands, structures, machines, equipment, cables, towers, poles, communication lines, systems, and software. Therefore, these assets are considered to be owned by the Telecommunication Authority, including the software and systems which are classified as digital assets⁽³¹⁾. Furthermore, these assets and liquid funds have been considered public assets according to the provisions of Article 11 of the aforementioned law regulating all matters related to the telecommunication Authority⁽³²⁾.

Based on the provisions and explanations provided, it can be concluded that software and systems owned by the Telecommunication Authority are considered public assets. Therefore, it can be inferred that digital assets, in general, can be classified as public digital assets by simply being owned by a public juristic person, such as a government agency or a state-owned enterprise.

Challenges in Classifying Public Digital Assets Amidst Legislative Gaps in Egypt.

In Egypt, public digital assets are not currently classified under any specific legislation, and there are no clear property rights associated with them. Unlike physical assets, there is no established legal framework for determining ownership and protecting property rights for digital assets. Each type of digital asset may have different rights associated with it, further complicating the matter.

⁽³⁰⁾Official Website, Manshurat, "Article 124 of the Law of the protection of intellectual property rights N° 82 of 2022", op.cit.

⁽³¹⁾M. Shahawy, "Interpretation of The telecommunication regulation law N° 10 of 2003", Dar El Nahda El Arabia, 2010, P. 305.

⁽³²⁾Egyptian Ministry of Telecommunication, "Article 11 of The telecommunication regulation law N° 10 of 2003", Accessed on the 19th of April 2023.

The absence of sufficient legislation classifying digital assets owned by the Egyptian state and other public Egyptian juristic persons creates difficulties when there is an attempt to classify those assets according to existing laws and regulations. In the absence of any definite guidance, one can hardly try to put them under a heading. It would, therefore, be useful to attempt to understand how the different national laws currently in place and diverse classify public digital assets. Moreover, referring to the foreign legislation can also provide some overview of how digital assets could be categorized under such a jurisdiction. For example, the Emirate of Dubai has issued a special law which has created an authority in charge of digital assets. By understanding this law, individuals and organizations may grasp how such similar assets could be classified in other contexts.

The aforementioned Egyptian civil code, No. 131 of 1948 in article 87 has clarified that all properties that are owned by the Egyptian state and any other public juristic person, which are allocated to public utility purposes by law or decree and considered to be a public asset or property. This is considered the first part of public assets. However, article 88 of the Egyptian Civil does not explicitly mention what happens to properties that are no longer allocated for public utility purposes and lose their status as public assets. Therefore, their status remains undefined in this context. However, according to the doctrine and law number 252 of 1959, properties that are not allocated for public utility purposes are considered the private property of the state and other public juristic persons.

Based on the previous interpretation of Articles 87 and 88 in addition to Laws No. 252 of 1959⁽³³⁾, law No. 7 of 1991 modified by the law No. 184 of 2018 public digital assets in Egypt can be broadly categorized into two main groups: public digital assets owned and private digital assets owned by the state and other public juristic persons. Public digital assets are owned by the state or other public juristic persons are accessible to all people and are allocated to public utility purposes.

There are various types of public digital assets, that are owned by the Egyptian state and other Egyptian public juristic persons, these assets can be divided into different categories based on their purpose and function. Thus, examples of public digital assets will be provided

⁽³³⁾Official Legal Website, Manshurat, "Law No. 252 of 1959 concerning State Property Regulation", published in the Official Gazette, No. 230, October 29, 1959, consulted 26th of April 2023.

to highlight the various types of public assets that do exist in Egypt⁽³⁴⁾. It is worth noting that in Egypt, there is not enough legislation and regulation that governs all types of public digital assets, as indicated earlier. However, some public digital assets that are available in Egypt include the following.

Government digital assets

a- Public Digital Bank

According to the Egyptian Central Bank Law No. 194 of 2020, digital banks have been defined as banks that provide banking services through digital channels or platforms using modern technology⁽³⁵⁾. Examples of Egyptian public banks that provide banking services through digital channels and platforms are the National Bank of Egypt and Banque Misr. Both are public banks owned by the Egyptian state, subsequently, all assets and properties that belong to these banks are considered to be public digital assets⁽³⁶⁾.

b- A Public digital financial platforms

They have been defined by law No. 5 of 2022 related to Regulation and Development of the Use of Financial Technology in Non-Banking Financial Activities, which states “ A business model based on the use of technology in conducting non-bank financial activities, and in presenting products and services related to them to individuals who wish to obtain them, allowing for the exchange of the necessary data and information to complete these transactions⁽³⁷⁾”. This can be seen in the Egyptian platform called “Instapay”. This platform has been used on a large scale in Egypt and it provides financial services to all people with no fee; this platform which is considered a digital asset is owned by “Misr Banks Company for technological innovation”. This latter company’s shares are owned by the Central Bank of Egypt and other public Egyptian banks which can be illustrated as follows: Central Bank

(34)

⁽³⁵⁾Central Bank of Egypt, “Law N° 194 of 2020”, published in the Official Gazette, No. 37 (bis) o, September 15, 2020, consulted on 27th of April 2023.

⁽³⁶⁾EastLaws, “Law N° 39 of 1960 Regarding the Transfer of Ownership of Banque Misr to the State”, published February 11, 1960, accessed on 2nd of May 2023.

⁽³⁷⁾Official Legal Website, “Article 5, Paragraph 5 of the Law on the Regulation and Development of the Use of Financial Technology in Non-Banking Financial Activities N° 5 of 2022”, Published in the Official Gazette, No. 5 (bis) (d), February 8, 2022, consulted 4th of May 2023.

of Egypt owns 58.7% of the company's shares, National Investment Bank owns 20.52% of the Misr Banks company's for technological innovation, National Bank of Egypt 12.93% of company's shares and finally Banque Misr 7.8% of the company's shares, according to the illustrated ownership shares, the company is owned by a public juristic person and that means that "Instapay" platform is public digital assets allocated for public utility purposes⁽³⁸⁾.

C- Government websites and online portals

These digital assets, provide public information, government services, and e-government apps and are accessible through all governmental websites, for instance, the Egyptian governmental portal, which provides plenty of public services for Egyptian citizens and foreigners, such as services for personal documents. Proof of identity and nationality/marriage and divorce, also it receives citizen complaints against any governmental institution that provides public services and Local Unites that are responsible for all services related to the neighborhood where the citizen lives. This portal provides other services to facilitate government services⁽³⁹⁾.

d- Digital archives and libraries

These are considered a form of public digital asset that grants access to its users to numerous digital resources⁽⁴⁰⁾, for example, the "Bibliotheca Alexandrina" or the Library of Alexandria which is according to Article 1 of the law No.1 of 2001 " The Library of Alexandria is a public juristic person, headquartered in the city of Alexandria and under the authority of the President of the Republic. It is a center for Egyptian cultural radiance and a beacon for thought, culture, and science. The library contains the products of human intellect in both ancient and modern civilizations, in all languages."⁽⁴¹⁾ As stated, all digital collections provided by the library, including e-books, manuscripts, photographs, maps, and audio recordings, as well as its special collection related to the history and culture of

⁽³⁸⁾Ministry of Communications and Information Technologies, "Egypt FinTech Landscape Report 2023", 2023, accessed 6th of May 2023.

⁽³⁹⁾Egyptian Governmental Portal, " Unified Governmental Complain System", accessed 7th of May 2023.

⁽⁴⁰⁾D. Woodyard, " Digital preservation and libraries: part one: Significant property: Digital preservation at the British Library", The Journal of Information and Knowledge Management Systems, vol. 34, N° 1, 2004, Emerald Publishing Limited p. 18.

⁽⁴¹⁾Official Website, Manshurat, "Law N° 1 of 2001 related to the Alexandria Library", No. 10 (bis), March 12, 2001, published 12 March 2001, consulted 8th of May 2023.

Alexandria, are also considered to be public digital property.

After indicating the various types of governmental digital assets, it is also important to understand another main type of digital asset, which is infrastructure digital assets. These digital assets form the backbone of critical infrastructure systems, including transportation, energy, water, and communication systems⁽⁴²⁾.

Infrastructure public digital assets

Infrastructure digital assets can include various types of assets from digital traffic control systems, smart grid systems, digital water management systems, communication networks, train control systems, and other numerous digital assets that will be beneficial to the project and identify these infrastructure digital assets owned by the Egyptian state and another public juristic person. Thus, some of the public digital infrastructure assets in Egypt will be illustrated to understand their classification in Egypt in light of the absence of laws and regulations governing these valuable assets⁽⁴³⁾

A- Public Transportation Systems:

Transportation systems used in public transportation are digital assets because they rely heavily on digital technologies to function efficiently and safely. Digital technologies are used now on a large scale in Egypt to improve public transportation systems such as buses and trains. Egypt has recently finalized and functioned the LRT, which is considered one of the most developed transportation methods, that will decrease traffic and traffic time and it will boost transportation effectiveness and safety. The light rail transit (LRT) will be owned and operated by the Egyptian National Authority for tunnels. This authority is considered a public juristic person by virtue of law No. 113 of 1983. This can be read in Article 1 “An authority called the National Authority for Tunnels is established with headquarters in Cairo and is under the authority of the Minister of Transportation. It has legal personality⁽⁴⁴⁾.” Article 4 consolidates that the National Authority of Tunnels is a public juristic person as it

⁽⁴²⁾S. Kamel. (2021). “The Potential Impact of Digital Transformation on Egypt”, Working Paper No. 1488. Economic Research Forum, p. 16.

⁽⁴³⁾Shakweer, A. (2023, October 4). “Unlocking digital potential: UNDP’s support to Egypt’s digital transformation”. United Nations Development Programme (UNDP).

⁽⁴⁴⁾Egypt, Manshurat, Law No. 113 of 1983, art. 1

states “The funds of the Authority are public funds, and the Authority may take administrative seizure measures to enforce its rights⁽⁴⁵⁾”.

While a public juristic person is one of the key factors that identify public assets whether physical assets or immaterial assets such as digital assets, this is what has confirmed in the previous paragraph that the National Authority of Tunnels has a public juristic personality. It is important to clarify the other key factor of public assets is that the Authority owns the assets that it operates this can be affirmed in article 2 (bis) of the same law No. 113 of 1983 modified by law No. 33 of 2018 this law has stated the following “ The authority owns the assets of the lines and the infrastructure/facilities it creates within the Arab Republic of Egypt, and it also has ownership of the assets of the first and second lines of the metro⁽⁴⁶⁾”.

The Authority is responsible for establishing the lines and infrastructure of the LRT and Monorail systems, which means that it will own these assets and infrastructure. However, the term “facilities” remains ambiguous and imprecise because the legislator did not clarify what it means by the Text in article 2(bis) that “The Authority owns the assets of the lines and facilities it creates”. The term “facilities” is very broad and “Ambiguous”, it could include all types of assets, including digital assets. On the contrary, it could mean a specific type of facility that is not clarified by the legislator. Consequently, it would be more accurate if the legislator had chosen more precise wording when describing the ownership of the Authority. Therefore, the Text of Article 2(bis) could be modified to include all assets that belong to the Authority, including all digital assets owned and used to operate the LRT, Monorail, and subway systems that belong to the Authority. In general, the text is partially clear, but it needs to be modified to add more precise language and wording regarding the assets that belong to the Authority.

Subsequently, it can be deduced that all digital assets utilized in operating the Light Rail Transit (LRT) and other forms of transportation owned by the National Authority for Tunnels (NAT) can be classified as public digital assets⁽⁴⁷⁾. Nevertheless, as previously indicated, the current legislation that governs the NAT requires rectification to explicitly identify the

⁽⁴⁵⁾Egypt, Eastlaws, Law No.Ibid, art. 4

⁽⁴⁶⁾Egypt, Manshurat, Law No. 113 of 1983, art. 33, loc. cit.

⁽⁴⁷⁾B. Abbott, “The Anything Asset: The Tax Classification of Cryptocurrency, NFTs, DAOs and Other Digital Assets”, 26 *Chapman Law Review* 245, (2023), p.459.

digital assets it possesses and to establish its ownership over all types of assets used to operate its various systems. This amendment is necessary to provide legal certainty and ensure the effective administration of the NAT's assets. The inclusion of precise language in the law regarding the classification and ownership of digital assets will not only facilitate the maintenance and operation of these transportation systems but also promote transparency and accountability in the management of public resources.

This can be ascertained in the Egyptian contemporary transport system, which is developing quickly, as evidenced by the several massive projects that are now under construction. These initiatives are intended to enhance the nation's transportation network, decrease traffic and travel times, and boost transportation effectiveness and safety.

In a similar vein, another contemporary transportation system being constructed in Egypt is the monorail system. The New Administrative Capital will be linked to other major cities by a monorail that is outfitted with cutting-edge technology, including automatic train control, intelligent transportation systems, and digital ticketing and payment systems⁽⁴⁸⁾.

These transportation systems will mainly depend on digital technologies to achieve their objectives of being greatly effective and convenient for passengers. These transport systems will be able to give passengers and operators real-time information by combining cutting-edge sensors, tracking systems, and other digital technology, enabling them to manage the systems more effectively and react quickly to any potential problems. Thus all assets that will include valuable information, tracks, maps, and other technological tools used to operate the Monorail in Egypt, will be considered digital assets. Accordingly, several laws and legislation have to be enacted to govern all matters related to the monorail including all digital assets that will be owned and used to operate, essential public transportation, that will connect the new capital to other major cities in Egypt⁽⁴⁹⁾.

B. Public Digital Infrastructure for Sustainable Energy Systems

In light of the aggravating climate challenges, their threat and imminent danger to the

⁽⁴⁸⁾The Arab Contractors, "Light Rail Transit -LRT (Adly Mansour – New Administrative Capital – 10 Ramadan City)", accessed on 3 December 2023.

⁽⁴⁹⁾Walker, M. D. (2017). "The New Uniform Digital Assets Law: Estate Planning and Administration in the Information Age. Real Property", *Trust and Estate Law Journal*, 52(1), 51-78.

global environmental critical situation, and their impact on the feasibility of development plans in societies, the Egyptian state has developed a road map through which it proceeds in parallel paths to deal with these challenges and obstacles, especially with regard the expansion of green economy projects, the development, and diversification of renewable energy sources, and the maximization of its value as one of the safe havens to undermine the causes of climate change and decrease the economic burden resulting from the uses of traditional energy sources. Furthermore, Egypt is continuing to invest in clean energy and digital asset technologies to make itself a leader in the production of renewable energy. Through the formation of strong partnerships with private companies, and international partners, and the expansion of technological capabilities, Egypt is well-equipped to become one of the leading producers of clean energy. This includes investments in digital asset technologies such as programs and platforms used to control, assess, and maintain the power grids in the country⁽⁵⁰⁾.

According to Article 1 of Egyptian Law No. 102 of 1986, a public authority known as the New and Renewable Energy Development and Utilization Authority must be established with a legal personality and headquartered in Cairo, reporting to the Minister of Electricity and Energy. The primary responsibility of this authority is to promote and develop green energy in Egypt⁽⁵¹⁾.

However, the law is silent on the classification of digital assets that will be utilized by the authority to implement green energy projects in Egypt, even though the authority will rely on new, technologies, software, and other technological tools, that will enable the Authority to implement the green energy and to facilitate the energy transition by increasing efficiency and demand-side flexibility.

All these assets are considered state-owned and should be classified, identified, and protected as public digital assets owned either by the state or the New and Renewable Energy Development and Utilization Authority. This will help ensure the proper management, protection, and utilization of these assets in the transition toward sustainable energy sources in Egypt. As such, it is essential to update the law to reflect these realities and to recognize the

⁽⁵⁰⁾A. El-Bassiouny, "The Role of Open Data in Building Public Digital Assets in Egypt" (2023).

⁽⁵¹⁾Egypt, Manshurat, Law No. 102 of 1986, art. 1

importance of digital assets in the development of green energy in Egypt⁽⁵²⁾.

C. Broadband and Telecommunication Infrastructure

Egypt's broadband and telecommunication infrastructure weaves a labyrinthine maze of interlocking systems and networks, catalyzing lightning-fast internet connectivity and telecommunications services throughout the nation⁽⁵³⁾. This crucial element acts as the backbone of propelling digital connectivity, frictionless communication, and unbridled access to information.

As previously mentioned, the regulation of broadband and connectivity in Egypt falls under the purview of Law NO.10 of 2003, which governs various aspects related to these domains. However, it is worth noting that the aforementioned law does not explicitly address the status and classification of all digital assets, including systems, data, and other technological tools utilized by the National Telecommunication Regulatory Authority (NTRA) in the provision of its services⁽⁵⁴⁾. These digital assets encompass technological tools, networks, big data, and digital equipment, and they should be recognized as public digital assets within the framework of the law. Consequently, it is crucial to identify and define the status of these assets to ensure comprehensive coverage and effective regulation in alignment with evolving technological advancements. By including provisions that explicitly classify and address public digital assets within the existing law, it would facilitate a more cohesive and comprehensive regulatory framework in Egypt's broadband and telecommunication infrastructure. Such enhancements would contribute to ensuring the proper management, protection, and utilization of these assets, ultimately promoting the efficient and secure provision of telecommunication services in the country.

D. State public digital Data

State digital data refers to the information and records generated or collected by governmental entities during the course of their operations. This data encompasses a vast range of

⁽⁵²⁾M. Walker. » The new uniform digital assets law: estate planning and administration in the information age." Real Property, Trust and Estate Law Journal, vol. 52, no. 1, 2017, p. 51–60.,

⁽⁵³⁾M. Badran. (2011). "The Impact of Broadband Infrastructure On Economic Growth in Egypt and some Arab and Emerging Countries", Working Paper No. 591. Economic Research Forum, p. 7

⁽⁵⁴⁾Egypt, Manshurat, Law No. 10 of 2003 related to Egypt telecommunication regulation Law.

information, starting from citizen records, public financial data, legislative records, administrative documents to other forms of digital information vital to the operations of all government entities and other public juristic persons⁽⁵⁵⁾.

For this reason, governments worldwide are increasingly starting to regard digital data as assets and have been passing legislation for its protection and regulating its management and use. The objectives of this legislative effort are to secure state digital data, making sure it is private, accessible, and well-governed. Indeed, over recent years, more recognition has been accorded to state digital data in terms of value and importance. In fact, many countries these days are crafting legislation just to provide absolute measures of data protection in order for the data to be secured and used with much responsibility. The most outstanding example here is the United Arab Emirates, namely Dubai Emirates, which has taken far-reaching steps toward the protection of digital data.

In this regard, Emirate of Dubai in the United Arab Emirates enacted some remarkable legislation under the title “Law No. 26 of 2015 regarding Data Dissemination and Exchange in the Emirate of Dubai” which established the general approach towards the protection and management of such data within the emirate. Most importantly, this law puts forth a broad and comprehensive definition of data, so that good cognizance may be taken of the purview and importance of data. Above-mentioned law defines data as “a set of organized or unorganized information, facts, concepts, instructions, observations, or measurements in the form of numbers, alphabets, symbols, images, or any other form, received, created, or otherwise processed by Data Providers. It shall also include ‘information’ wherever used under this Law.” It covers a wide category of data types and leaves no segment of information relevant in the context out of the ambit of the law. Law No. 26 of 2015 further emphasizes the role of the electronic platform in the dissemination and exchange of data. An electronic system composed of hardware, software, networks, storage systems, and a connectivity and communication site via which Dubai Data is being disseminated and exchanged.” This is a widely broad definition to note that technology will play a rather vital role in the sharing of data with efficiency, but at the same time, it should be secure and on reliable platforms. Besides the two, which are data and electronic platforms, information systems stand as another

⁽⁵⁵⁾Reinsch, William, and Jack Caporal. “The Digital Economy & Data Governance.” *Key Trends in the Global Economy through 2030*, edited by Matthew P. Goodman and Scott Miller, Center for Strategic and International Studies (CSIS), 2020, pp. 18–21.

important recognition by the law. It means an electronic or paper-based system used by the Data Providers for collecting, storing, managing, processing, distributing, disseminating, and exchanging Dubai Data, connected to the Electronic Platform. This definition shows the importance of robust systems that enable effective data management and exchange⁽⁵⁶⁾.

One of the key provisions of the law is the explicit recognition of Dubai Data as an asset owned by the Government. Article 15 of this legislation states, “Dubai Data is deemed as an asset owned by the Government and may only be disposed of by Data Providers or users by the provisions of this Law, the resolutions issued in pursuance hereof, and the legislation in force. Dubai Data may be used only for its intended purposes.” This provision ensures that Dubai Data is treated as a valuable resource, with rigid guidelines for its use and disposal. Consequently, all digital data owned by the Emirate of Dubai is considered public digital assets. This recognition highlights the significance of data in facilitating effective governance and underscores the need for comprehensive protection and responsible utilization.

Given the importance and success of the legislation in the Emirate of Dubai, it is imperative to enact similar legislation in Egypt. Such legislation should provide a comprehensive definition of digital data owned by the state, explicitly designating them as digital assets. Furthermore, the law should include well-defined terms related to concerned parties such as competent entities, data providers, open data, shared data, electronic platforms, and manual data. By incorporating rigorous protections for these valuable assets owned by the state the legislation will ensure their proper governance, security, and appropriate use. Generally, emulating this legislative approach in Egypt through the enactment of complete legislation in the Egyptian state similar to the enacted law No. 26 of 2015 in Dubai would provide a solid legal framework for the management, protection, and responsible utilization of digital assets owned by the state and other public juristic persons⁽⁵⁷⁾.

The vulnerability of public digital assets

The constitutional protection bestowed upon public assets in Egypt has a rich historical

⁽⁵⁶⁾Emirate of Dubai, Legislative Portal, Law No. 26 of 2015 Regulating Data Dissemination and Exchange in the Emirate of Dubai, Art. 2

⁽⁵⁷⁾Supreme Legislation Committee in the Emirate of Dubai. “Law No. (26) of 2015 Regulating Data Dissemination and Exchange in the Emirate of Dubai.” ©2016. Page 2.

lineage, reflecting their significance as a repository of the nation's wealth, economic vitality, and cultural heritage. These assets serve as a tangible testament to Egypt's past and future civilizations, encapsulating its identity and aspirations. To ensure their preservation and safeguarding, a robust legal framework underpins their protection, explicitly delineated by stringent laws and regulations. Fixed and movable public assets are afforded explicit protection, prohibiting any form of aggression that may threaten their integrity. This can be read in Article 33 of the current Egyptian constitution adopted in 2014 which states "Public property is inviolable and may not be infringed upon. Every citizen must protect it by the law⁽⁵⁸⁾" This article highlights Egypt's commitment to bestowing constitutional protection upon public property or assets owned by the state and other public juristic persons. The constitutional framework in Egypt encompasses robust provisions that underscore the significance of safeguarding these assets, which hold immense value for the nation.

Article 33 of the Egyptian Constitution firmly establishes the vital principle of protecting public assets. This provision unequivocally asserts the inviolability of public property and emphasizes that every citizen must safeguard such assets following the law. This article is the basis of the legal foundation in Egypt, which respects the will of its people to preserve commonwealth and natural resources for use by all people.

The above-mentioned article is almost an illustration of just how much public asset protection is taken seriously in Egypt; it is an article that has no room for ambiguity or misconception. By stating straightforwardly that public property is inviolable, what it has meant is an affirmation to protection against infringement or encroachment. This manifestation of the duty of the state to ensure that public property is preserved and managed responsibly. Article 33 indicates, that such responsibility cannot be achieved without the citizens. It squarely places the protection of public assets in the hands of every individual within society. This collective responsibility due to public ownership underlines the need for creating a disposition of civic duty and positive involvement in the care of the nation's wealth. The article thus identifies this responsibility to infuse into the citizens a sense of ownership and trusteeship towards the property of the public. "By the law" sums up the basic principle of legality built into the Egyptian legal system. This essentially means that the protection of

⁽⁵⁸⁾ Egypt, Constitution of 2014, art. 33.

public property should be strictly exercised within the purview of the law and by the legally established mechanisms and procedures. This gives an assurance to the provision that the preservation of public property shall be in line with the greater legal framework, upholding principles of justice, fairness, and accountability.

Moreover, the aforementioned article, reveals knowledge that public assets are not exclusively the property of the Egyptian state but it's citizens. That is to say, they are intended to be held in trust by the entire nation, and it is the responsibility of the state and all its citizens to serve as guardians of those assets. This constitutional provision is a strong bulwark against any attempts at divesting the public of assets or surreptitiously exploiting such assets for personal benefit, demanding instead that their management and utilization should be for the common benefit of the people.

The protection of public property in Egypt extends beyond the scope of Article 33 of the Egyptian Constitution. Article 34 stands as a complementary provision that reinforces the safeguarding of public assets, specifically emphasizing the preservation of natural resources. This article serves as a crucial pillar within the legal framework of Egypt, encapsulating the nation's commitment to responsible stewardship of its natural wealth and environmental heritage⁽⁵⁹⁾.

Article 34 States “ Natural resources belong to the people. The state commits to preserving such resources, to their sound exploitation, to preventing their depletion, and to taking into consideration the rights of future generations to them. The state commits to making the best use of renewable energy resources, motivating investment, and encouraging relevant scientific research. The state works on encouraging the manufacture of raw materials and increasing their added value according to economic feasibility. Disposing of the state's public property is forbidden. Granting the right to exploit natural resources or a concession to a public utility shall take place by law for a period not exceeding 30 years. Granting the right to exploit quarries and small mines and salterns, or granting a concession to a public utility shall take place for a period not exceeding 30 years based on a law. The law sets the provisions for disposing of state private property, and the rules and procedures regulating such⁽⁶⁰⁾”

⁽⁵⁹⁾Egypt, The Egyptian Constitution of 2014, art. 34, op. cit.

⁽⁶⁰⁾Egypt, The Egyptian Constitution of 2014, art. 34, op. cit.

Surprisingly, despite the comprehensive constitutional and legal protection afforded to public property in Egypt, a noteworthy disparity exists in the treatment of different forms of assets. While tangible, movable, and fixed assets receive due recognition and safeguarding, it is disconcerting to observe that public digital assets do not receive an equivalent level of protection. This incongruity raises concerns regarding the adequacy of existing legal frameworks to address the unique nature of digital assets and underscores the need for comprehensive protection in this realm. Digital public assets remain conspicuously absent from the ambit of rigid legal safeguards, with no specific recognition within Egyptian laws.

Public digital assets face unique and evolving threats that differ from those faced by tangible and movable public assets. Traditional laws and regulations have long provided stringent protection to tangible assets, considering them as the wealth of the people and the nation's treasure⁽⁶¹⁾. Consequently, public assets owned by the state and other legal entities have been granted comprehensive and robust protection. This stems from their significance as public property belonging to the entire nation and, in some cases, due to their cultural heritage value, symbolizing the nation's rich history and civilization compared to other civilizations. Hence, constitutional provisions and laws govern the utilization, management, and protection of these public assets, ensuring their preservation.

Article 49 of the Egyptian Constitution establishes a vigorous framework for the protection and preservation of Egyptian monuments, antiquities, and other forms of Egyptian cultural heritage⁽⁶²⁾. The language used in this article conveys a resolute commitment by the state to safeguard, protect and maintain these invaluable assets, emphasizing the stringent measures in place to ensure their integrity and longevity. The provision explicitly states “ The state commits to protecting and preserving antiquities and their areas, and to maintaining them, renovating them, working to retrieve those that have been taken, and organizing and supervising excavations thereof. It is prohibited to give away any of them as gifts or exchange them. Attacks upon them and trafficking in them is a crime for which there is no statute of limitations⁽⁶³⁾.”

⁽⁶¹⁾D. Whyte, G. Lobay, L. Korsell, K. Polk, N. Brodie, P. Green, R. Bland, S. Mackenzie, “Criminology and Archaeology: Studies in Looted Antiquities”, Bloomsbury Publishing PLC, 2009, p. 15.

⁽⁶²⁾N. Brodie, K. Walker Tubb, “Illicit Antiquities: The theft of culture and extinction of archeology”, Taylor and Francis, 2001, p. 112.

⁽⁶³⁾Egypt, The Egyptian Constitution of 2014, art. 36.

The recognized prohibition within the above mentioned Article, acknowledges the profound significance of monuments, antiquities, and cultural heritage as integral components of Egypt's collective identity. It highlights the imperative to prevent transactions that could jeopardize their authenticity, ownership, or overall protection. By explicitly prohibiting such acts, the provision underscores the state's unwavering dedication to preserving and safeguarding Egypt's cultural heritage for the benefit of current and future generations.

However, with developments in technology, and an increase in the digitization of cultural artifacts, the issue of protection for public digital assets becomes ever more crucial. Nowadays, using technologies such as 3D printing, it is possible to reproduce antiquities quite accurately and replicate them. Other countries might try to use these technologies in order to copy the natural and historical heritage of Egypt, which calls for detailed legislation regarding the protection of Egyptian cultural heritage. Thus, an adequate amendment to Article 49 of the Egyptian Constitution should be proposed in order to clearly mention the protection of national heritage in its digital format, as part of the nation's intellectual property, along with public digital assets. The proposed amendment represents the admission on the part of the state that digital technologies had fundamentally changed cultural heritage and their will to preserve Egypt's cultural heritage in the digital space⁽⁶⁴⁾. By explicitly including digital assets within the purview of Article 49, the Constitution would provide a sound legal basis for the protection of digitized replicas, 3D-printed monuments, and other forms of digital cultural heritage. The amendments would, therefore give pride of place of such assets in their peculiar character and intrinsic value as intellectual property and part of the nation's patrimony.

In bringing such an amendment, the state would, therefore, be developing an integrated legal framework for the creation, distribution, and reproduction of digital cultural assets. This framework would comprise steps to ensure that the accuracy, authenticity, and responsible usage of digital counterparts are maintained and would also provide all forms of protection against unauthorized reproduction or misuse. This will put the Egyptian legal landscape on a par with the shifting nature of preservation of the cultural heritage in the digital era.

⁽⁶⁴⁾I. Ouahes, "Syria and Lebanon under the French Mandate: Cultural Imperialism and the Workings of Empire", I. B. Tauris & Company, Limited, 2018. P. 55.

The recognition and protection of digital public assets should not be limited solely to the examples provided about digital cultural heritage⁽⁶⁵⁾. The emergence of new types of digital assets raises important questions about their preservation and security, particularly in cases where cultural heritage is transformed and utilized in digital formats. It is imperative to extend substantial and rigorous protection to all forms of public digital assets, as they hold significant value and require equivalent levels of safeguarding. Just as physical assets are valued and protected, digital assets must also be recognized for their importance and given the appropriate level of preservation..

Attention needs to be drawn to the development of legal frameworks in the State of Egypt to address challenges and threats relating to public digital assets. In this respect, this paper develops a framework aimed at regulating the integrity, security, and preservation of the different types of digital assets by taking into consideration their peculiar characteristics. Their specificity and the dynamic nature of digital technologies.⁽⁶⁶⁾

Setting up a regulatory body in Egypt for public digital assets will, among other things, involve the management and enforcement of policies, standards, and guidelines concerning different types of digital assets. This means that such an institution or body would shoulder responsibilities for preservation, use, and security, tasks that cannot be independently managed by a state or any other public juristic entity. They must be managed and regulated under one single unified body for effective monitoring and protection or any other public juristic entity. They must be managed and regulated under one single unified body for effective oversight and protection. Such a regulatory body shall be responsible for the comprehensive identification and understanding of a variety of threats and complexities that may arise concerning these assets. With enough research and evaluation, the regulatory body will be in a better position to make informed recommendations to the relevant authorities in the legislative or executive arm of the government within their purview. Such recommendations will provide the basis necessary for the enactment of relevant laws or the implementation of adequate procedures that ensure the protection of these novel forms of assets.

⁽⁶⁵⁾J. Kila, M. Balcells, *Cultural Property Crime: An Overview and Analysis of Contemporary Perspectives and Trends*, BRILL, Vol. 3, 2014, p. 4.

⁽⁶⁶⁾Ch. Catalini »Blockchain Technology and Cryptocurrencies: Implications for the Digital Economy, Cybersecurity, and Government« *Georgetown Journal of International Affairs*, vol. ۲۰۱۸, ۱۹, p. .۴۲-۳۶

By centralizing the management and regulation of public digital assets, the regulatory body will provide a coherent approach to address the complicated challenges associated with these assets. It will be in charge of creating risk-reduction strategies, building secure utilization frameworks, and making sure these assets are preserved over the long term. The regulatory body will additionally act as a reliable source, providing direction and knowledge to the relevant authorities regarding the protection of public digital assets.

This gives rise to perhaps the most critical question that the appearance of new types of assets dictates. Assets that have never existed before are becoming highly relevant, such as when cultural heritage is modified and used as a digital asset. This automatically means it becomes essential to afford such asset types serious and strict protection. Yet, just as physical capital was recognized and protected, so too its digital equivalent need to be given serious consideration and provided with the levels of protection it deserves. To this end, there remains a significant necessity for adequate legal frameworks to concentrate efforts on this special challenge and threat facing public digital assets in pursuit of preservation, integrity, and security.

Conclusion

The digital era has brought new valuable assets that are not confined to physical bounds but find their existence in the form of data and code. Among these “digital public assets” is cultural heritage, which needs a legal system that identifies its value and guarantees its preservation for the long run. This study thus looks into the legal system of Egypt to bring into light the ongoing situation and suggest further development. In the torturous dissection of the 2014 Constitution, telecommunications regulations, and even laws related to tunnels and renewable energy by this academic, he meticulously categorizes the many digital public assets. This was where the shortcomings of the various pieces of existing legislation were exposed through categorization: showing gaps and inconsistencies in an otherwise valuable set of assets. It also draws vital lessons from the more pioneering United Arab Emirates legislation, in particular Dubai’s Law No. 4 of 2022 and Law No. 26 of 2015, which present a more holistic approach and as such provide the base from which Egypt can build its strong legal framework.

The research proposes rectification to the current Egyptian constitution and law governing public assets in Egypt, urging the extension of Article 49's protection of antiquities to encompass their digital counterparts. It envisions the establishment of a dedicated regulatory body, a digital asset guardian which is responsible for the identification and inventory of public digital assets; legislative guidance to the legislative authorities in Egypt, and providing centralized management of public digital assets in Egypt. These amendments are not mere suggestions; they are a call to action. Protecting Egypt's digital public assets is not just a legal imperative; it is a commitment to safeguarding the nation's future. Embracing a comprehensive and adaptive approach positions Egypt as a frontrunner in the digital age.