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مستخرج فردي من محضر مداولات المجلس العلمي للكلية

في يوم: 2024/03/10 (العاشر من شهر مارس ألفان و أربعة وعشرون) اجتمع أعضاء المجلس العلمي للكلية في دورته العادية لمناقشة اعتماد المطبوعات.
و بناء على التقارير الايجابية للخبراء:
د/ ذبيح حاتم (جامعة المسيلة).
د/ زبدة نور الدين (جامعة المسيلة).

بخصوص مطبوعة الدكتور: قمره النذير / قسم: الحقوق و العلوم السياسية / المعنونة ب:
محاضرات باللغة الإنجليزية في مقياس " تكنولوجيا الإعلام والاتصال "
information and communication Technology(ICT)"

تم اعتماد المطبوعة المذكورة أعلاه والمصادقة عليها من طرف المجلس العلمي.

رئيس المجلس العلمي بوضياف بالسياسة
رئيس المجلس العلمي
أ.د/ والي عبد اللطيف



إشهاد حول وضع مطبوعة بيداغوجية في المستودع المؤسسي

يشهد السيد مسؤول مكتبة كلية الحقوق والعلوم السياسية بجامعة محمد بوضياف بالمسيلة بأن المطبوعة المرسلة من طرف :
الأستاذ : قمره النذير
الرتبة : أستاذ محاضر "أ"
قسم : الحقوق
عنوان المطبوعة :

محاضرات في مقياس : تكنولوجيا الاعلام والاتصال

Lectures in : Information and communication

قد وضعت على مستوى المستودع المؤسسيات
بتاريخ: 19- جوان-2024 على الساعة 13:46 سا

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تحيات
مكتبة



المسيلة في: 13-10-2024

الجمهورية الجزائرية الديمقراطية الشعبية
وزارة التعليم العالي والبحث العلمي
جامعة محمد بوضياف - المسيلة
كلية الحقوق والعلوم السياسية



شهادة نشر مطبوعة على الخط

(خاص بملف الترشح للأستاذية)

بناء على إشهاد من مسؤول مكتبة كلية الحقوق و العلوم السياسية بجامعة محمد بوضياف بالمسيلة، وبعد الاطلاع على مصادقة الهيئة العلمية لشهد بأن
الأستاذ(ة): قمره النذير قام (ت) اودع مطبوعة في مقياس تكنولوجيات الاعلام و الاتصال بالانجليزية المستوى: السنة الاولى ماستر ، تخصص: جنائي +
اداري.



University Mohamed Boudiaf – M'sila
Faculty of Law and Political Science
Department of Law

Field: Law and Political Science

Department: Law

Level Scale: 1st year Master, Second Semester

Specialization: Administrative Law + Criminal Law

Teacher: Dr : Geumra Nadir

Lectures in: Information and Communication

Technology (ICT)

محاضرات في مقياس:تكنولوجيات الاعلام والاتصال.

Axis :

First Axis: Basic concepts about media and communication, technology and its types

Second Axis: The Nature of Information and Communication Technology

Third Axis: Electronic Management .

Fourth Axis: Electronic Crime - Definition, Characteristics, and Types

Fifth Axis: Legislation and Penal Procedures to Combat Cybercrime.

Academic year2024 – 2023

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

Course Description:

The study of Information and Communication Technology (ICT) encompasses not only the technical aspects of the field but also the broader political, economic, social, and legal implications that shape and are shaped by this phenomenon. Particular emphasis is placed on the legal framework, in all its specializations, with a specific focus on regulatory and legislative aspects.

Course Objectives:

The objective is not only to present the key components of Information and Communication Technology (ICT), its applications, and the stages it has undergone but also to highlight the significant role ICT plays today in influencing societies. The technological revolution is a reality that should not be ignored and must be approached firmly from legal and social perspectives. Specifically, there is a need for protection against technological risks, cyber-attacks, and privacy violations, which calls for legislators to establish legal mechanisms to combat these issues.

To understand the course, a law student must have prior knowledge of media, communication, and technology, as well as their importance in our practical lives and the negative impacts resulting from their misuse. Due to the significance of this field, it has been included as a methodological unit in the first-year Master's curriculum in law across all specializations. The course consists of one lecture per week, lasting an hour and a half, to introduce students to the essence of

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

Information and Communication Technology (ICT) and its regulatory and legislative aspects through the outlined topics.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

Introduction:

Information and Communication Technology (ICT) is a field focused on developing and enhancing communication, particularly since the mid-20th century. It has permeated all aspects of life, including the economic, cultural, health, education, administration, and banking sectors, enabling the efficient and rapid transfer of information and data. ICT encompasses all digital technologies such as computers, the internet, smartphones, and social media, which facilitate communication and information exchange globally. Economic development is now largely tied to a country's ability to keep pace with and manage these technological changes, leveraging the available and constantly evolving resources.

ICT also impacts the legal systems of all countries, necessitating the establishment of legal frameworks that align with current transformations. States must address this evolution both legally and institutionally, covering all aspects of administrative organization. On the other hand, the negative consequences of ICT misuse have led to increased incidents of cyber-attacks and privacy violations, known as cybercrimes, which have become more prevalent both nationally and internationally. In response, the Algerian legislator has implemented mechanisms to combat these issues by enacting Law 04-09.

To clarify and better understand the course, which addresses a topic that has garnered the interest of researchers across various scientific disciplines due to its impact at both local and international levels and across political, economic, social, administrative, and legal

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

dimensions. This is particularly relevant to us as ICT has been subject to regulatory laws both in public and private administration, commonly referred to as "e-governance," as well as through the establishment of specific rules for preventing and combating ICT-related crimes.

Therefore, our topic has been divided into several Axis, each containing lectures, to facilitate understanding:

Axis One: Concepts and Manifestations

- **Lecture One:** Basic Concepts of Media and Communication
- **Lecture Two:** Concept of Technology and its Types

Axis Two: Information and Communication Technology (ICT)

- **Lecture Three:** Definition of ICT and its Development Stages
- **Lecture Four:** Forms of ICT
- **Lecture Five:** Importance of ICT

Axis Three: E-Governance

- **Lecture Six :** Definition of E-Governance
- **Lecture Seven:** E-Governance in Algeria and its Regulatory Laws

Axis Four: Legislative and Procedural Laws to Combat Cybercrime

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

- **Lecture Eight:** Cybercrime: Definition, Characteristics, and Types
- **Lecture Nine:** Key International and Arab Legislation and Agreements to Combat Cybercrime
- **Lecture Ten:** Major Judicial Agreements Ratified by Algeria and the Rules of International Cooperation

Axis Five: Legislative and Procedural Mechanisms to Combat Cybercrime in Algeria

- **Lecture Eleven:** Legislative Mechanisms to Combat Cybercrime in Algeria
- **Lecture Twelve:** Special Structures to Combat Cybercrime

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

Axis One: Concepts and Manifestations

- **Lecture One: Basic Concepts of Media and Communication**
- **Lecture Two: Concept of Technology and its Types**

Lecture One: Basic Concepts of Media and Communication

1-Concept of communication.

Communication in Language

The term "communication" is derived from the verb root "connect," which carries the primary meaning of linking between two individuals, as opposed to separation, disconnection, or distance. Connection implies establishing a certain type of relationship between the parties involved, conveying and delivering information.

Communication as a concept:

It is difficult to provide a comprehensive definition for the term "communication" due to its diverse applications. Many scholars and researchers have offered definitions based on their perspectives. Communication has been defined as a process through which the sender or communicator exerts an influence that modifies the behavior of others. It has also been defined as the process of sharing and interacting between a sender and a receiver.

Communication is the process or method through which knowledge is transferred from one person to another until it

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

becomes common between them, leading to understanding between these two or more individuals. This process involves elements, components, and directions that it follows, seeking to achieve a certain goal, and operates within a field that it influences ¹.

Communication includes several definitions, such as "the process of transferring meanings between members of society," or "building mutual understanding within the framework of interaction between two or more individuals," "exchanging meanings through information transfer," or "the process of engaging information and emotions among people through verbal message exchange." Some define it as "primarily social issues," and generally, the ability to communicate with others enhances an individual's opportunities in life, while its absence is considered a form of pathological personality².

Through these definitions, we observe that communication is an interactive process through which ideas and information are exchanged among individuals on common issues. It involves the sender and receiver engaging in specific issues or topics.

Communication is considered a dynamic social phenomenon that affects and is influenced by the components of individual behavior and the factors influencing both sides of the communication process aimed at transmitting and exchanging various information and meanings through specific channels.

¹ عابد كمال، تكنولوجيا الاعلام والاتصال وتأثيراتها على قيم المجتمع الجزائري-الشباب الجامعي لتلمسان نموذجاً، أطروحة دكتوراه ل م د في علم الاجتماع الاتصال، كلية العلوم الانسانية والاجتماعية، جامعة أبي بكر بلقايد تلمسان، سنة 2017، ص 28 .

² عبد الرحمان عزي، المصطلحات الحديثة في الاعلام والاتصال، الدار المتوسطة للنشر، دون بلد النشر، سنة 2011، ص 11

2- Concept of Media (The Information):

It is the process that results in disseminating accurate news and information focused on truthfulness, honesty, addressing the minds and noble emotions of the masses, and raising the level of opinion. The media is based on enlightenment and education using methods of explanation, interpretation, and logical debate³..

The media refers to all communication activities aimed at providing the public with all the facts, accurate news, and sound information about issues, information, and problems, and the course of events in an objective manner and without bias, leading to the creation of the highest possible level of knowledge, awareness, understanding, and comprehensive perception among the audience recipients of media content, of all the true facts and information about these issues and topics, contributing to shaping public opinion and forming the correct opinion among the public on the facts, topics, and problems raised⁴

3- Concept of media and communication Information et Communication

Communication for media is related to every human behavior that involves the exchange of information. Media is the process of collecting, storing, processing, and disseminating news, data, images, facts, messages, opinions, and comments to understand personal,

³ محمد الفاتح حمدي، تكنولوجيا الاتصال والاعلام الحديثة الاستخدام والتأثير، دار كنوز الحكمة، الجزائر، سنة 2011، ص
⁴ مصلح المصالح، قاموس شامل، قاموس مصطلحات العلوم الاجتماعية (انجليزي-عربي)، دار عالم الكتب، المملكة العربية السعودية،
1999، ص 31

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

environmental, national, international circumstances and act upon them with knowledge and awareness to reach a state that enables making sound decisions. Media essentially means news, means, and relatively one-way flow, applicable to newspapers, magazines, radio, and television, while the means of telephone, fax, and telex lack the mass audience and are considered communication tools rather than media. However, computers and information networks, especially the internet, combine communication and media. In general, if media primarily means data, news, and information, communication requires dialogue and exchange of ideas resulting in relationships. If media always expresses something constant (content, status, situation), communication is mainly a process (relationship) that activates media and makes it practical. Therefore, there may be media without a communicative relationship, but there cannot be communication without media as communication is more comprehensive.

4-The functions of communication:

The role of media and communication is of great importance and at the same time poses a significant risk to societies, prompting governments to establish departments or even ministries responsible for the media sector of their policies and achieving their goals, including:

- Internal goals: raising the knowledge and cultural level of the public for flexibility in implementing social and economic policies.
- External goals: such as introducing civilization and promoting government perspectives on specific issues.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

This interest is not limited to governments only, as institutions and social, economic, and political bodies also care about media material, which has become a fundamental primary material for achieving the goals of these organizations.

The reason for this interest lies in the functions performed by media and communication, which are:

- News function
- Guidance and formation of positions and trends
- Increasing culture and information
- Social communication and environmental relations
- Entertainment and recreation
- Advertising and promotion.

5-Stages of the Communication Process:

The communication process involves a series of sequential steps that ensure the effective transmission and interpretation of information between individuals or parties. These stages are as follows:

-Message Perception Stage: The sender decides to send a message, which may result from a need, an idea, or any other stimulus

-Encoding Stage: The sender converts their thoughts into appropriate language or symbols to convey their ideas, such as words, signals, or gestures.

-Selecting the Communication Medium: This medium can be written, audio, or visual. Choosing the right medium or multiple media ensures the message is effectively delivered to the receiver.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

-Decoding the Message: This is done by the receiver, who converts the message into understandable meanings for them.

-Translating, Interpreting, and Perceiving the Message Content: After decoding the message, the receiver translates and interprets it, thus understanding it.

-Providing Feedback to the Sender: The receiver gives feedback to the sender, indicating how well they understood the message and their reaction to it.

6-Communication Barriers

These are all factors that hinder successful and effective communication between the parties involved in the communication process. The success of communication depends on the behavior of the sender and the receiver, as well as the efficiency of the medium. Communication barriers are issues that affect any element of the communication process, distorting and misrepresenting the communication and preventing it from achieving its intended purpose. The following are some common communication barriers:

Barriers in the Sender (Source):

- Lack of clarity regarding the true objective of the communication: When the sender cannot determine what should be achieved through the communication, i.e., the goal they want to reach.
- The sender may make errors such as failing to consider internal and psychological factors that influence the form and content of

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

the ideas and information they want to convey to the receiver. These factors include the sender's experience, education, values, beliefs, psychological tendencies, and biases.

- Misinterpretation and misunderstanding of the information the sender intends to communicate, leading to a discrepancy between the message as intended by the sender and as received by the receiver.

Barriers in the Message: During the formulation and encoding of the message, it can be affected by influences that alter or harm its meaning. These influences include:

- Misinterpretation and misunderstanding of the information by the sender during message formulation.
- Failure to select simple and expressive meanings for ideas.
- Mismatch between the message's content and the receiver's needs.

Barriers in the Receiver: The receiver may make the same errors as the sender when receiving the message. Misunderstanding and misinterpreting the message prevent decoding and responding to the sender, causing the communication process to break down.

Barriers Related to the Medium: There are many types of media for transmitting messages, each with its own characteristics. The sender must choose the appropriate medium for the objective and one that matches the message's content and the receiver's nature. Mismatch

between the medium and the message content results in communication failure.

Barriers in the Communication Environment:

The surrounding environment significantly impacts the communication process. Ignoring it is a major mistake that communication parties make, causing disruptions in the communication process. Environmental elements and associated errors include⁵:

- One or both communication parties not understanding the shared objectives.
- One party's goals conflicting with the other party's goals.
- One or both parties not understanding the function of the other.
- One or both parties not understanding the benefits they will gain from the communication.
- One or both parties not understanding the negative consequences they will face due to poor communication.
- Neglecting natural and human conditions during communication.

⁵محمد منير حجاب، نظريات الاتصال، دار الفجر للنشر والتوزيع، مصر، 2010، ص 64

Lecture Two: Concept of Technology and its Types

4-Technology Concept

The concept of technology has been discussed by many researchers and thinkers, and they have differed in their views on it due to the diversity of their specialties and the evolution of the characteristics of technology itself. However, it is generally agreed upon that the nature of technology is as old as human inventions themselves. It was considered a means that humans discovered when they adapted to nature in primitive ways, and later became a tool used to serve and assist them in meeting their growing needs. Subsequently, its use evolved and expanded to the point where it became very important in both public and private life. This led some thinkers to believe that it is responsible for most of the changes that occur within contemporary society⁶.

In terms of its linguistic origin, the term "technology" was recently used. It is mentioned in some sources that the first appearance of the term "technology" (Technologie) was in Germany in the year 1770. It is a compound of two segments: "Techno," which means "art" or "handicraft" in Greek, and "Logie," which means "science" or "theory." The combination of these segments yields the meaning of "the science of systematic knowledge in the arts of industry or applied science." It

⁶نور الدين زمام، صباح سليمان، تطور مفهوم التكنولوجيا واستخداماته في العملية التعليمية، مجلة العلوم الانسانية والاجتماعية، جامعة محمد خيضر بسكرة، العدد 11، جوان 2013، ص 165

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

does not have a direct counterpart in the Arabic language but has been adopted through transliteration as "تكنولوجيا" (technology)⁷.

When did technology emerge? The first technological tools appeared in the seventeenth century as a result of changes that occurred in the Industrial Revolution in the fields of production and development. However, this technology rapidly evolved. At each stage of its development, researchers looked at the possibilities and sources of power at that time and applied technology to them, integrating it into all aspects of life. Thus, technological development succeeded between successive civilizations, relying on three fundamental factors: social need, social resources, and social solidarity, ultimately leading to success and progress.

Technology and its changes are among the most significant factors influencing fields related to human life, such as science, history, and the way of life. The transformations in the way we live have been closely linked to the technological boom. These advances have become more closely related to humans, such as agricultural production development and the revolution in urban life and the accompanying industrial revolution. Therefore, the concept of technology focuses on physical and biological processes more than it does on the psychological and social aspects.

If we were to define technology in its comprehensive and broad sense, we would find that it encompasses everything related to practical

⁷فضيل دليو، التكنولوجيا الجديدة للإعلام والاتصال، المفهوم، الاستعلامات، الآفاق، دار الثقافة، المملكة الأردنية الهاشمية، عمان، 2010،

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

aspects, starting from hunting, agriculture, animal husbandry, mining, construction, and other various crafts, to fields of communication, medicine, and military technologies. It represents the essence of skills, knowledge, and mechanisms for implementing what is beneficial to humanity. Additionally, technologies in all their fields are the result of developments that have occurred in cultural habits within human societies.

Mohammed Attia Khamees defines it as "the science that deals with the systematic application of research and theories and the use of human and non-human elements in a specific field, to address its problems, design appropriate scientific solutions, develop, use, manage, and evaluate them to achieve specific goals." In other words, technology is the organized application of knowledge and other scientific theories to achieve specific scientific results.

Hasan Kamel defines it as "thought, performance, and solutions to problems before being merely equipment." However, in reality, technology is not just a science or the application of science or mere devices, but it is broader and more comprehensive than that. It is a human activity that encompasses both scientific and practical aspects. It is a way of thinking about using information, skills, experiences, human and non-human elements, harmonized in a specific field and applied in discovering technological means to solve human problems,

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

meet their needs, and enhance their capabilities. It is programming for ideas, information, skills, and knowledge.⁸

5- Types of Technology

Areas where technology has made positive changes and advancements include specific fields that are constantly evolving due to the progress in technology. One of the most prominent types are⁹:

- **Biotechnology:** It involves biological systems and living organisms to create and develop something, such as using yeast as a living organism in bread production. It also extends to the field of modifying biological systems of genetic material (DNA) for living organisms. This technology is utilized in various laboratory and medical sciences, biochemistry, genetic engineering, and genomics.
- **Medical Technology:** This involves the development of devices that benefit humanity in diagnosing various diseases, treating patients, caring for them, and preventing diseases that are difficult to treat at later stages, enabling early detection.

Nuclear Technology: Nuclear technology refers to techniques aimed at developing electricity production using nuclear energy. It also plays a role in improving food production, sustainable agriculture, and plant breeding through the exposure of seeds or plant stems to radiation such as gamma rays, in addition to its various other applications.

⁸ طالبى رياض، "تكنولوجيا المعلومات والأداء - دراسة ميدانية بمتوسطة معنصر ميلاد عين كرشة نموذجاً"، مذكرة ماستر في علم الاجتماع، كلية العلوم الانسانية والاجتماعية، جامعة العربي بن هدي، أم البواقي، 2018، ص 21

⁹ عيد البسط عبد الوهاب محمد، استخدام تكنولوجيا الاتصال في الانتاج الاذاعي والتلفزيوني. الاسكندرية: المكتب الجامعي الحديث 2005،

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

- **Educational Technology:** Educational technology encompasses all the techniques used in schools and universities to enhance the learning process and facilitate the delivery of information to students, such as distance learning and educational platforms.
- **Business Technology:** Business technology involves organizing companies and institutions, managing them, and enhancing their capabilities. Examples include product technology, customer communication technology, and operational and business process technology, all aimed at sustainability and competitiveness.
- **Transportation Technology:** Transportation technology includes the skills, inventions, and innovations that have brought about developments and changes in the field of transportation and aviation, such as modern high-speed trains, contemporary aircraft, and electric cars.
- **Nuclear Technology:** This technology encompasses entertainment technologies such as television, internet networks, movies, children's games, as well as arts, acting skills, theater, and radio.
- **Information Technology:** (Computer Science) It refers to all tools and technologies used in building communication networks, protecting data and information, creating and controlling large databases. Examples include phones, computers, network devices, among others that have become essential in companies' operations.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

They are involved in controlling machines and production robots in factories, storing data and information for employees and products on computers.

- Communication Technologies: (Communication Technologies)

This term is related to information technology but includes communication means between devices and technologies that retain information. Examples include the Internet, wireless networks, software, video conferences, social networking sites, and applications. This technology deals with all means that allow the exchange and transfer of information between these devices through digital processing. It is used in various fields such as electronic agriculture and the development of information and communication technology in the agricultural sector.

Note: The term "technology" does not only refer to computer-related tools, devices, and phones but includes all developments, tools, and devices that have revolutionized various areas of life such as biology, medicine, industry, business, education, communications, information, entertainment, transportation. This technology focuses on developing means that facilitate the lives of communities in those areas.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

Axis Two: Information and Communication Technology (ICT)

- **Lecture Three:** Definition of ICT and its Development Stages
- **Lecture Four:** Forms of ICT
- **Lecture Five:** Importance of ICT

Lecture Three: Definition of ICT and its Development Stages

1- Definition of Information and Communication Technology (ICT)

The concept of information and communication technology has garnered significant attention from researchers across various disciplines such as mathematics, computer science, communication, literature, sociology, psychology, telecommunications engineering, philosophy, and law. The original concept emerged in the United States under the name "Information Technologies," resulting from the integration of computers with telephone lines. In Japan, it is known as computer and communication, while in some European countries (Spain, France, etc.), it is referred to as remote communication and informatics¹⁰.

Information and communication technology is defined as: "a revolution in information related to the industry and the expression of

¹⁰فضيل الدلو، تكنولوجيا الاعلام والاتصال الحديثة. الجزائر: دار هومة للنشر والتوزيع، 2014 ص26

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

information, its marketing, storage, retrieval, display, and distribution through modern, advanced, and fast technological means, by the shared use of computers and modern communication systems.¹¹

Information and communication technology involves combining complex terms to form a synergy between digital and analog technologies, or physical and digital interfaces, for the purpose of storing data, analyzing it, interpreting it in the appropriate context, and using it in decision-making processes. Thus, information and communication technology refers to all types of technologies used in processing, transmitting, and storing information in electronic form, including computer technology, communication networks, robotics, artificial intelligence, and other equipment commonly utilized in information processes.

It can be considered as a mixture of digital technology and various communication tools, such as digital media, social networks, microblogs, and any innovations, developments, inventions, and products that generate and process various types of information. This includes collecting, transforming, analyzing, synthesizing, storing, and retrieving data in the appropriate formats and available databases¹².

Thus, it represents a set of technologies derived from the developments in the field of computers and communications that intersect with the Internet and information engineering, including

¹¹ عامر ابراهيم قنديلجي، تكنولوجيا المعلومات وتطبيقاتها. الاردن: الوراق للنشر والتوزيع، 2002، ص37
¹² محمد الفاتح وآخرون، تكنولوجيا الاتصال والاعلام الحديثة (الاستخدام والتأثير) (ط1). الجزائر: كنوز الحكمة، 2001، ص2

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

telecommunications, cloud computing, and electronic process management and other digital tools.

Through definitions, the technologies of information and communication can be summarized in two points:

- **Information processing:** It involves the operations that process and automate data for organizations, which are essential in achieving information processing in organizations and making decisions based on data, constituting the central axis in various artificial intelligence applications.

- **Transmission and exchange of data:** It consists of the process of transmitting and delivering information operated between distant locations for communication and the use of telecommunication technologies.

2-Stages of Evolution of Information and Communication Technology

The stages of development of media and communication technology can be distinguished through several historical phases, as outlined by Marshall McLuhan:

1. Oral Communication Stage:

Thousands of years ago, before the birth of Jesus (peace be upon him), the regions of the Nile Valley, Iraq, and the Levant were home to ancient civilizations. Agriculture and livestock breeding were the primary means of survival. What helped people adapt to each other

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

was the existence of a language that enabled them to resolve personal disputes and focus on building a human civilization, which could not have developed without language. Pictorial symbols, through primitive drawings carved into stones, represented the first steps in learning to write, thus improving communication between individuals and groups.

With the emergence of languages and dialects, humanity created the first news bulletin in history, embodied by the town crier who moved from place to place, drawing the attention of the community by delivering news or information he was tasked with conveying. Similarly, communication was used for entertainment, education, and cultural purposes, leading to the first appearance of storytellers and poets. The transmission of spoken messages from one place to another relied on individuals with special abilities in terms of speed, endurance, and physical fitness.

2. Writing Stage:

With the advent of cuneiform or Sumerian alphabets, followed by hieroglyphics among the pharaohs (Egypt), writing evolved through the following stages:

The pictographic writing stage

The phonetic writing stage

The alphabetic writing stage

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

The emergence of writing heralded a new era of direct communication between humans. Messengers and runners, or horseback riders, began to carry written messages from one place to another, either directly or in relay style, and even using carrier pigeons.

3. Printing Stage:

Printing began with the Chinese around six hundred years before Christ through woodblock printing. This method was transferred to Europe during the 14th century by Dutch sailors. The first books printed using this method date back to 1431. In the mid-15th century, Johannes Gutenberg in Strasbourg, France, developed the use of movable metal type in printing, which greatly facilitated the printing of numerous books. In modern times, digital printing has emerged, relying on printers connected to computers, enabling the reproduction of millions of books in a short time with minimal effort and cost.

4. Mass Communication Stage:

The era of mass communication began with the emergence of mass media, which started competing among themselves to reach and spread across the widest area possible worldwide. They benefited from technological capabilities that allowed them to have multiple editions in various capitals and cities. Additionally, they utilized satellite and digital technology for satellite broadcasting, with numerous public and private satellite stations in existence.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

Understanding the evolution of media and communication technology is crucial for comprehending its impact on societies and its development throughout history.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

Lecture Four: Forms of ICT

1- The Internet

A-Definition of the Internet:

The word "Internet" consists of two parts: "Inter," meaning between, and "net," meaning network, hence "inter-network," which describes the structure of the Internet as a network of networks.

Linguistically, it signifies the interconnection of networks, where interconnected computer networks scattered across many parts of the world are governed by a unified protocol called the Transmission Control Protocol/Internet Protocol (TCP/IP). The Internet is defined as a vast collection of interconnected communication networks, linking computer devices via telephone lines, allowing users to send and receive information. Today, the Internet carries a large volume of data, services, and applications.

The Internet is the widest computer network in the world, providing users with various services such as email, file transfer, news access, and connection to thousands of databases. It also offers services for engaging in conversations with people worldwide, playing electronic games, accessing a large electronic library of books, magazines, newspapers, images, and other applications and services

B-Internet Services:

- **E-commerce:** It encompasses all commercial transactions involving the buying and selling of goods and services.
- **Email Services:** Most websites offer free email services that allow

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

users to exchange letters, messages, and transfer files between individuals and companies.

- **Remote Negotiation:** The internet, through its various applications, has enabled some individuals to work from their homes without the need to commute to their offices or workplaces.

- **Instant Messaging Service:** Many websites offer chat rooms where users can engage in conversations with an infinite number of friends through either voice or text chat.

- **Telephone Calling Service:** Internet calling refers to making phone calls over the Internet using computer programs and components, at a much lower cost than traditional phone calls.

- **File Transfer Services:** This service allows for sending or copying files over the Internet provided that the files are transferable.

- **Educational Field:** The Internet is one of the leading modern educational technologies facilitating knowledge exchange among various institutions, universities, and global research centers.

Similar Terms:

- **Intranet:** An internal computer network that allows for easier and faster exchange of information within an organization.

- **Extranet:** A network created by an organization to include its closest stakeholders such as customers, distributors, consultants, and others. To protect it, a password is set to allow members to access and exchange information.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

2- Electronic Blogs

A-Concept of a Blog (Web log):

Linguistic Meaning: In the intermediate lexicon: "Doun (Al-Diwan)" means to create or compile, and "Doun Al-Kutub" means to collect and organize books, and it is an Arabic word.

Technical Definition: The term "blog" consists of two parts (Web) referring to the World Wide Web, and (Log) meaning recording or log. Thus, as :

The blog : is an internet page with blogs by its owner or owners according to a system, dated, arranged in ascending or descending order according to a mechanism for archiving old blogs, and each blog has a permanent address that can be referred to at any time, and gives readers the right to comment directly or via the blogger's email. Microsoft's blog network is defined as "personal web journals, constantly updated, helping small and large companies to disseminate their marketing messages, and increasing people's ability to communicate and share ideas and information globally."

One of the general definitions is that the blog (platform) is a personal internet site that includes a form of public diaries, mostly managed by one person or more, and there are blogs for groups, organizations, and companies that include a list of ideas and links.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

B-Types of Blogs:

- According to the source of the blog:

* **Personal Blogs:** These are continuous diaries or comments by individuals, and this type of blog is the most common.

* **Corporate Blogs:** This type of blog is used for private sectors and commercial purposes, used internally to enhance communication and culture within the company or externally for marketing, branding, or public relations purposes.

- **According to the topic:** Some blogs focus on a specific topic such as travel blogs, educational blogs, project blogs, and music blogs.

- **According to the type of media:** Video blogs, known as vlogs, link blogs, known as linklogs, sketch blogs, known as sketchblogs, and photo blogs, known as photoblogs.

- **According to the method:** Identifying the type of blogs based on the method of writing, blogs written via mobile are called Moblogs.

C-Evolution Factors of Blogs:

- **Globalization of Media:** Some consider the blog as a brilliant invention that allows individuals to interact directly with events and others without intermediaries, making the blog a tool for free human communication that gradually surpasses traditional mass communication methods that were prevalent in authoritarian regimes.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

- **Decline of Traditional Press Readership:** This is coupled with the rise of blogging journalism, where blogs publish what traditional print media does not.

- **Marketing and Commercial Factor:** This is driven by bloggers, internet service providers, and communication companies, as blogs represent a field of economy and commerce.

- **Role of Youth:** The phenomenon of blogging is spreading among youth, who have been the driving force behind the popularity of this form of online communication.

- **Wars and Multiple Events:** Among the indirect factors that have accelerated the spread of blogging, wars like the Gulf War and individuals documenting its events through blogs, as well as natural disasters like the "Tsunami and Earthquakes," where bloggers have closely followed and detailed the destruction caused by these disasters, many television channels have even broadcasted event details from these bloggers.

3-Social Networks

A-Definition of Social Networks:

There are several definitions of social networks, including the definition by "Press and Malone Krishmar," which states: "A virtual place where people meet for specific purposes, guided by policies that include a number of rules and standards proposed by the program."

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

It is defined as websites that allow individuals to create a personal page where they present an overview of their personality to a wide or specific audience according to a specific system that outlines a list of users with whom they interact; with the ability to also access private pages and available information. The nature and labeling of these links vary and diversify from one site to another.

Social networks are also known as "a group of websites on the Internet that facilitate communication between individuals in a virtual community structure, bringing together individuals with a common interest or affiliation (country, school, university, company...etc.) Communication between individuals on social networks is facilitated through messages, viewing personal profiles, staying updated on their news, and accessing information they choose to share. It serves as an effective means of social interaction among individuals, whether they are friends we know in real life or friends we know through virtual contexts.

B- The characteristics of social networks.

- **Self-Introduction:** The first step to entering social networks is creating a personal information page, which is a page that the user creates and develops to introduce themselves through text, images, music, videos, and other functions. Social networking sites also allow individuals to fill out and organize their social relationships and personal pages in the way their friends prefer to see them.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

- **New Ways of forming communities:** Social networks allow people to create friendships with others who share their interests and content, thus effectively contributing to the realization of the concept of the virtual community that has been present since the inception of internet applications. However, social networks have supported new ways of connecting people, as site users choose to connect through various digital methods and applications integrated into social networking sites.

- **Ease of Use:** Among the factors that have greatly contributed to the spread of social networks is their simplicity. Therefore, anyone with basic internet skills can create and manage a social networking site. Previously, individuals could establish an online presence through personal pages, but the challenge lay in the difficulty of creating and developing these pages, as well as hosting the site, which often incurred costs. In contrast, social networks are free and open to all, allowing people to register without the need for invitations from existing members, as is common on other sites.

- **Interactivity:** Social networking sites have aimed to embody interactivity among their users since their inception, ensuring continuity and evolution.

- **Interest:** These networks are built around common interests such as games, music, the stock market, politics, and health, facilitating the exchange of information.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

C-Uses of Social Networks:

- **Connecting with Family and Friends:** Allows for constant and instant communication with various family members and friends.

- **Political Practices:** Plays a significant role in political participation by expressing opinions and preferences, and various practices such as conducting polls on numerous issues through these platforms.

- **Entertainment and Hobby Pursuits:** Serves as an outlet through which users spend their leisure time on various gaming and entertainment sites, as well as using them to engage in different hobbies and interests.

- **Marketing and Advertising:** Particularly by economic institutions, used to promote and advertise their various products through various advertising flashes, as well as providing the environment for various marketing operations.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

Lecture Five: Importance of ICT

1-The Importance of Information and Communication Technology

Information and Communication Technology (ICT) is defined as a technology used to deal with various communication processes. It is a comprehensive term for all technologies and services that deal with computing, data management, providing communications, and the internet. It is hard to find an aspect of life that is not influenced by this technology, highlighting its importance in various fields:

In the Social Field: It cannot be denied that ICT is an integral part of our lives and has a positive impact on state governance by promoting international economic integration, improving living standards, narrowing inequality gaps, and optimizing natural resource utilization through alignment with advanced information societies. There are two main ways in which information and communication technology (ICT) contributes to the economic growth of developing countries: through manufacturing and through utilization.

In the Economic Field: Technology in media and communication has made significant contributions to the national Gross Domestic Product (GDP), enhancing competitiveness in the market for goods and services. Additionally, it has positively impacted state governance by promoting international economic integration, improving living standards, narrowing inequality gaps, and optimizing natural resource utilization through alignment with advanced information societies.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

There are two main ways in which information and communication technology (ICT) contributes to the economic growth of developing countries: through manufacturing and through utilization.

In the Educational Field: Several key issues underscore the importance of ICT in education:

- **Online Education:** ICT has introduced new methods of education, with e-learning becoming prevalent in universities, research centers, and other public and private educational institutions.

- **Enhancing Critical Thinking:** ICT facilitates data collection, statistics, and charting, necessitating deep thinking for problem-solving and justification from a scientific perspective, especially in the 21st century, the century of speed.

- **Effectiveness of ICT in Education:** Particularly in primary learning areas such as reading, writing, and arithmetic.

In the Legal Field: ICT holds significance in legal proceedings, with traditional methods being dispensed with both in the judiciary, especially courts, and in lawyering.

- **Role of ICT in Courts:** ICT plays a role in law, especially with the growth of society, increased burdens, and the volume of information and data generated in legal and judicial processes.

- **Role of ICT in Law Firms:** ICT provides various facilitations for lawyers in their professional lives, facilitating

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

access to judicial decisions through online legal databases and creating platforms for lawyers to send and receive messages from clients and colleagues, as well as documentation operations and providing legal formulations for clients or legislative formulations.

Furthermore, ICT is of great importance in both private and public institutions and for all entities in terms of utilizing it to improve the performance of various administrative tasks to achieve institutional goals, for harnessing the information managed by management in making decisions and carrying out various administrative activities through the conversion, storage, and processing of all types of information, texts, images, and sounds in various digital formats, and by utilizing the Internet to share global knowledge, or translating future information and converting it into the desired format, whether it be audio, visual, or text, to facilitate changes in administrative processes.

2-Positive and Negative Effects of ICT:

A-Positive Effects: There are many positive effects of information and communication technology on various aspects of practical life, the most important of which are:

- **Information and Education:** ICT facilitates access to required information and online learning through devices like computers, tablets, data projectors, interactive whiteboards, etc. It also creates new job opportunities such as remote work and various positions in the communications field.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

- **Social Networking Sites:** Platforms like Facebook, Twitter, and LinkedIn enable users to stay connected globally, fostering closer relationships despite geographical distances.

- **E-commerce:** ICT allows easy online shopping, payment transactions, and access to a global market, leading to the expansion of e-commerce and providing businesses with wider reach.

- **Financial Services:** Through online banking, e-payment systems, and money transfers, ICT enhances financial services' efficiency and accessibility.

- **Speed and Cost Efficiency:** Communication via ICT is faster and cheaper compared to traditional methods like mail delivery, ensuring efficient and timely message delivery.

- **Data Documentation:** ICT enables organized documentation, archiving, and retrieval of data through modern technologies like databases and email.

- **Public Services:** Users can perform various activities online such as bill payments, renewing official documents like licenses, through government websites.

- **Home Security:** Home automation systems allow remote management of lighting, home security, and climate control, enhancing safety and convenience.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

- **Access to New Opportunities and Tools:** ICT opens new avenues for creativity and self-expression through tools like digital cameras, photo editing software, and high-quality printers.

- **Integration of Individuals with Special Needs:** ICT tools such as screen readers and Braille keyboards facilitate integration of individuals with disabilities into society.

- **Entertainment:** Interactive technologies in TV programs, digital cameras, and scanners have enriched entertainment experiences for users.

B-Negative Effects: Despite the positive effects of information and communication technology, there are negative impacts of this technology, including:

- **Job Displacement:** Automation and robotics in workplaces can lead to job losses and economic and social consequences.

- **Health Issues:** Excessive use of technology can result in health problems like headaches, neck pain, eye strain, and psychological issues such as social isolation.

- **Misinformation:** The proliferation of misleading websites and fake news contributes to misinformation and confusion among users.

- **Loss of Personal Data:** Data breaches and cyber-attacks pose risks to personal information, especially when using social media and online payment platforms.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

- **Decreased Creative Skills:** Over-reliance on technology may diminish individuals' creative thinking skills due to reduced time for deep thinking and creativity.

- **Social Isolation and Lack of Real Social Interaction:** Excessive engagement with technology can lead to social isolation and a decline in face-to-face interactions.

- **Addiction:** Certain demographics, especially adolescents, may develop technology addiction leading to depression and anxiety.

Note: The field of media and communication has brought about significant and immense benefits, leading to the advancement of the world and the facilitation of human life in several aspects. Proper usage implies harnessing this technology to its fullest potential without causing any harm. On the other hand, the misuse of media and communication technology has also resulted in numerous drawbacks and harmful effects. Such technology has been utilized by criminals to achieve their illegitimate goals, thus becoming a new tool that has transformed the nature of crime, whether as a means of committing it or as a stage for its enactment. This phenomenon has been termed "modern crime" or "technical crime," which has given rise to a new category of crimes known as cybercrimes or electronic crimes. We will delve into this in the fourth axis. Additionally, we will discuss the most important international and Arab legislations and agreements to combat this electronic crime in the fifth axis. Furthermore, We will address this

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

in the fourth axis. The most important legislations and international and Arab agreements to combat this cybercrime.

However, prior to this, it is essential to discuss the third axis, which is equally important, regarding e-government and the transformation of traditional administrative work into digitally executed tasks using modern digital communication technologies. Moreover, we will explore the initial regulatory laws for e-government in Algeria in line with the technological advancements in media and communication witnessed globally.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

Axis Three: E-Governance

- **Lecture Six** : Definition of E-Governance
- **Lecture Seven**: E-Governance in Algeria and its Regulatory Laws

Lecture Six : Definition of E-Governance

1- **Definition of E-Governance**: Electronic management has several definitions, including:

- According to Najm Aboud Najm, it is "the administrative process based on the exceptional capabilities of the Internet and business networks in planning, directing, and controlling the essential resources and capacities of the organization without borders in order to achieve the goals of the institution."¹³

- Hamad Mohamed Ghunaim defines it as "the exchange of business and transactions between parties using electronic means instead of relying on other physical means such as direct communication."¹⁴

- According to Ahmed Youssef Fehmi, it is "an integrated electronic system based on communication and information

¹³نجم عبود نجم ، الإدارة والمعرفة الإلكترونية: الإستراتيجية - الوظائف - المجالات. عمان: دار اليازوري العلمية للنشر والتوزيع
سنة النشر : 2008 ص 260

¹⁴أحمد محمد غنيم، الإدارة الإلكترونية بين النظرية والتطبيق. مصر: المكتبة العصرية للنشر، 2004: ص 81.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

technologies to transform manual administrative work into digitally executed tasks using modern digital technologies. Electronic management relies on human resources, networks, databases, the Internet, and the computer."

From this, electronic management is the administrative process based on the exceptional capabilities of the Internet and business networks in planning, directing, and controlling the essential resources and capacities of the company without borders to achieve the company's goals.

Similar concepts: electronic management, e-government, e-business.

- **E-business:** It involves managing business electronically at the level of projects or private organizations and is divided into two categories: e-commerce and non-commercial e-business such as procurement, provisioning, marketing.

- **E-government:** It concerns public functions or government services that are implemented electronically to the general public with the aim of providing government services.

- **Electronic management:** It is a system of business and activities that are executed electronically through networks.

The common denominator among the previous concepts is their use of communication means, including the Internet, intranet, and extranet, as their primary technological option. Without these means

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

and networks, it becomes impossible to implement an interactive and realistic information environment.

Note: Electronic management is an extension of technological advancement in management. Technological advancement has been directed from the outset towards replacing the worker with the machine, then evolved to reach the Internet and business networks.

2 - Importance and Advantages of Electronic Management

A- Importance of Electronic Management: The importance of electronic management is evident in its ability to keep pace with the enormous qualitative and quantitative development in the application of information technologies and systems. It represents a strong response to the challenges of the twenty-first century world, including globalization, the digital space, information and knowledge economies, and the internet revolution. The importance of electronic management also lies in the following:

- Reducing production costs and increasing organizational profitability.
- Improving the performance level of government organizations.
- Avoiding the risks of paper-based transactions.
- Increasing exports and bolstering the economy.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

- Creating new opportunities for freelancing and taking advantage of opportunities available in advanced technological markets.

B- Advantages of Electronic Management:

- Based on the previous definitions of e-government, we can conclude that there are features of electronic administration, such as:

- Electronic management is characterized by its ability to improve operational efficiency through optimal investment in the latest available technologies and trained and expert digital minds.

- It features a more efficient and effective method of managing virtual work in terms of planning, execution, and control.

- It has the ability to achieve the highest degree of speed, agility, and high flexibility, manifested by providing anything, anytime, anywhere, and in any way.

- Electronic management possesses a strong culture based on information transparency and competitiveness among employees.

- It also excels in its ability to reduce costs, enhance performance, and improve the quality levels of the services provided.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

- Electronic administration relies on information as its primary resource.
- Electronic administration relies on digital technology.
- Electronic administration exists in a digital virtual environment.
- Electronic administration is based on collaboration with all parties.

3- Objectives of Electronic Management:

The general aim of electronic administration is to leverage its primary benefits, which directly include speed and accuracy in transaction completion, as well as reducing time, effort, and cost. Indirect benefits include preventing congestion in administrative offices, eliminating the issue of paper accumulation, and other negative aspects that will gradually diminish with the implementation of electronic administration systems in administrative operations.¹⁵

Some of the objectives of electronic administration include:

Impact on Internal Government Operations: Electronic administration reflects on the internal work of government institutions, which is not visible to the public. It achieves speed, transparency, accountability, efficiency, and effectiveness in performing government administrative activities. This approach helps reduce business costs and provides services more fundamentally.

¹⁵ سحر قدوري الرفاعي، الحكومة الالكترونية وسبل تطبيقها، مجلة اقتصاديات شمال افريقيا، العدد 7، جامعة المستنصرية، بغداد – العراق، 2009م، ص 309، 310).

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

Meeting Community Needs: Electronic administration aims to meet community needs satisfactorily by simplifying interaction and dealing with various services available through communication means. It enhances efficiency and productivity or improves services provided to the community. It also promotes opportunities for administrative and economic development and reform.

- Electronic administration works to bridge the digital divide in society by utilizing advanced information and communication technology to deliver administrative services to citizens and businesses, regardless of their location or the time they apply for services.

Electronic administration does not merely involve changes in the methods of delivering transactions, administrative services, and public benefits to citizens, but also in reengineering and restructuring the administrative activities, processes, and procedures themselves, supporting administrative and economic development and reform.

Additional objectives include:¹⁶

- **Enhancing Transparency:** Electronic administration contributes to enhancing transparency by providing highly reliable information and a strong commitment to publishing and disseminating this information.
- **Improving Responsiveness:** It improves the administration's responsiveness to the needs of beneficiaries by equipping them

¹⁶سعد غالب ياسين، الإدارة الالكترونية وآفاق تطبيقاتها العربية، الرياض: معهد الإدارة العامة، دون سنة النشر، ص190

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

with comprehensive information and developing new methods of interactive relationships between beneficiaries and government departments, agencies, and authorities.

- **Saving Effort, Money, Time, and Resources:** It saves effort, money, time, and resources used by the administration in improving its relationships with citizens, businesses, and investors. This goal is achieved through the direct positive impact of electronic government in enhancing administrative performance.
- **Improving Service Quality:** Electronic administration projects aim to improve the quality of public services provided to beneficiaries, based on objective quality measurement standards for public administrations.
- **Creating Positive Societal Impact:** It creates a positive impact in society by promoting and developing IT knowledge and skills among community members.
- **Providing 24/7 Services:** It aims to provide services to beneficiaries satisfactorily, 24 hours a day, 7 days a week, including weekends.
- Achieving the required speed for completing work procedures at an appropriate financial cost.
- Creating a society capable of dealing with the realities of the technological era.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

- Generalizing the concept of transparency and avoiding favoritism.
- Preserving the rights of employees in terms of creativity and innovation.
- Increasing the volume of commercial investments.
- Maintaining the confidentiality of information and reducing the risks of its loss.

Important: To achieve these goals, several stages must be passed through:

- **First Stage:** This involves identifying the service that interests a large number of beneficiaries and launching it electronically. This includes clarifying its use and how to obtain it.
- **Second Stage:** This involves launching many services electronically, whether internally or externally.
- **Third Stage:** This involves determining the expenses and revenues related to the electronic service.

Thus, the objectives of e-government in the experiences of countries worldwide encompass social, cultural, educational, and political meanings, in addition to the important economic implications of e-government projects. Without these strategic objectives, the development remains superficial and does not benefit sustainable development in its multiple and diverse dimensions and fields.

4- Functions of Electronic Management:

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

• **Electronic Planning:** Electronic planning may not differ significantly from traditional planning in terms of general determination, as both focus on setting goals and identifying means to achieve these goals. However, they differ in terms of mechanisms, practices, and electronic planning involves determining what needs to be done instantly and in the future, based on an information flow from inside and outside the organization and through mutual cooperation utilizing the electronic network to meet the changing demands and needs of customers and according to a long-term plan with flexibility and clear and easy division into short-term and immediate plans.

• **Electronic Organization:** Organizing is a complementary administrative function to the planning function, where it transforms it into an executable reality. Due to the significant changes and developments in the field of information technology, the organizing process has become more efficient and effective, capable of keeping pace with various developments. Thus, organizing in this manner is known as "electronic organization."

• **Direction or Leadership:** Electronic direction in contemporary organizations relies on electronic leadership, which seeks to activate the role of dynamic goals and work to achieve them. It also relies on having leaders capable of effectively dealing electronically with other individuals and motivating them to collaborate to accomplish the required tasks. Efficient application of electronic guidance relies on using advanced

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

electronic communication networks, such as the internet, to execute all guidance operations through them.

- **Control:** Achieving effective use of internet-based information systems and networks for all that entails inspection, verification, and real-time monitoring. This can bring many benefits, including minimizing internal surprises in control and achieving continuous control instead of periodic control, generating a continuous flow of control information at all times instead of intermittent control performed at separate and periodic times.

5- Requirements for Implementing Electronic Management and Its Advantages and Disadvantages.

A- Requirements for Implementing Electronic Management:¹⁷

Administrative Requirements:

- **Developing strategies and establishment plans:** This requires the formation of a management or board to plan, monitor, execute, and develop plans for electronic management projects. It also involves seeking consultancy and research entities to study and establish general specifications and standards for electronic management, as well as integration.

- **Leadership and managerial support:** Effective leadership is one of the most influential factors in any project, as it is the key

¹⁷ عصام عبد الفتاح مطر، الحكومة الالكترونية بين النظرية والتطبيق، الإسكندرية: دار الجامعة الجديدة، 2008، ص 56.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

to the success or failure of any project. Management support and its ability to create a suitable working environment play a major role in the success or failure of any project. Leadership commitment is essential to support every point of success and develop the project.

•**Organizational structure:** The traditional hierarchical model of the institution, which accompanied the industrial era, is no longer suitable for new business models in the era of information technology and electronic business. Suitable organizational structures for electronic business include matrices, networks, and cellular organizations arranged in a communication fabric. Implementing electronic management requires changes in structural, organizational, procedural, and methodological aspects to align with the principles of electronic management, by introducing new departments or merging some departments together.

•**Establishing and updating legislative frameworks:** This involves issuing laws, regulations, and procedures that facilitate the transition to electronic management and meet the requirements for adaptation. Most legislation and laws originated in a traditional environment, and of course, transitioning to electronic management requires a different legal and legislative environment. Having legislation and legal texts facilitates the work of electronic management, giving it legitimacy and credibility in all legal consequences resulting from it.

Human Requirements:

The human element is one of the most important resources that can be invested in to achieve success in any project and in any institution. It is the originator of electronic management, discovering it, developing it, and harnessing it to achieve its aspirations. Therefore, electronic management is from and to the human element. Experts and specialists working in the field of knowledge management, representing the human structure and intellectual capital in the institution, manage strategic cooperation for the elements of electronic management, including (managers, agents, assistants, programmers, data officers, and operators)¹⁸.

Technical Requirements: These include providing the infrastructure for electronic management, which includes developing and improving the communication network to be integrated and ready for use and capable of accommodating the huge volume of communications simultaneously. This is to achieve the goal of using the internet network, in addition to providing suitable digital technology in terms of equipment, computers, devices, equipment, systems, and databases. It also includes providing digital mail services

¹⁸ سحر قدوري الرفاعي، مرجع سابق، ص 314، 315

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

and providing all of this for individual or institutional use on the widest possible scale¹⁹.

B Advantages and Disadvantages Electronic Management:

Discussing e-government and the use of Information and Communication Technology (ICT) is indeed unavoidable, as it is a development imposed on the international community, especially on states. However, like any development, it has both positive and negative impacts on the internal and external levels, which we will outline in the following sections.

Advantages of E-Government:

- **Speed of Service Delivery:** By replacing the traditional manual system with computers, there has been a significant improvement in service delivery to citizens. This is due to the quick flow of information and data from computers concerning the required service, allowing it to be performed in a very short and specified time.
- **Cost Reduction:** Traditional administrative work consumes a large amount of paper, documents, and writing tools, and often requires multiple employees to review and sign off. However, with the e-government system, costs are greatly reduced as it relies on computers, which save on writing tools and paper, resulting in fewer employees and faster service delivery.

¹⁹ عصام عبد الفتاح مطر، مرجع سابق، ص 86 وما يليها

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

- **Simplification of Administrative Procedures:** Traditional administrative work is often characterized by many complexities because it usually requires approval from multiple administrative bodies, leading to bureaucracy. E-government can simplify these procedures by enabling a single employee to complete the required transaction by referring to a pre-prepared database in their department, effectively delegating authority to the employee.
- **Accuracy and Quality of Services Provided:** The e-government system relies on computers loaded with information and data related to all services, which minimizes errors in the work performed by electronic devices.
- **Elimination of Administrative Corruption:** Since the e-government system involves completing transactions electronically, service seekers can access the relevant administrative website, specify the required service, follow the necessary procedures, and finally obtain the service. This eliminates direct interaction between any employee and the service seeker, thus reducing the chances of corruption.

Disadvantages of E-Government

- **Unemployment:** Implementing this system can lead to increased unemployment rates, as it allows for the acquisition of all services without the need to hire new employees.
- **Impact on Public Health:** Prolonged use of the internet to access services can negatively affect the health of the service

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

seeker, particularly their eyesight. Continuous use of these networks can also isolate individuals from reality due to the self-imposed isolation.

- **Infringement on Privacy:** Privacy is one of the most crucial rights protected by most laws, which have dedicated numerous provisions to its regulation and protection.
- **Loss of Security:** Electronic transactions can lead to a complete loss of security in many dealings, especially those involving credit cards.

There are other obstacles to e-governance, including:

- **Varied Administrative Systems:** Even within a single organization, different administrative systems can pose challenges.
- **Institutional Resistance:** The lack of institutional buy-in regarding the reasons and requirements for transformation can hinder progress.
- **Lack of Incentive:** Individuals may lack strong motivation to ensure the success of the transformation process and may not feel that they are part of the transformation and success.
- **Difficulty in Achieving Integrated E-Governance:** Achieving fully integrated e-governance within an organization can be challenging.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

- **Lack of New Technical Skills:** There may be a significant gap in the availability of essential technical skills.
- **Human Nature and Closed-Door Culture:** Resistance to technology and its applications due to human nature and a culture of closed-door policies.
- **Ongoing Data Updates:** Continuous data updates, along with the traditional administrative burdens on the individuals responsible, can be challenging.
- **Compatibility with Traditional Manual Systems:** Resistance to modernization and change due to comfort with conventional manual systems.
- **Lack of Trust in Privacy and Security:** There may be a lack of confidence in the protection of the confidentiality and security of personal transactions.

Lecture Seven: E-Governance in Algeria and its Regulatory Laws

1- E-Government in Algeria

Under this title, we will explore the scope and fields of application of e-government in Algeria:"

A. The Scope of Modern E-Government Application on E-Administration (its Application Scope)

- **The e-government system on administrative decision-making:**

It is acknowledged in administration that progress or development cannot be achieved without decisions, and decisions cannot be made without sufficient information and data about the subject matter. The e-government system, with its use of the latest modern technologies, whether computers or others, plays a crucial role in the administrative decision-making process necessary for achieving the public interest. This is evident through the stages involved in decision-making.

- **The impact of the e-government system on public facilities:**

As it provides services that are essential to individuals' lives, the continued regular operation of these facilities holds significant importance compared to traditional administration. Through the use of communication technology, individuals and contractors can access the e-government website at any time to avail themselves of services. Moreover, this system helps alleviate the consequences of disrupting the regular operation of facilities. Even in the event of employee strikes, individuals can obtain services via the website. Furthermore, the system

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

aids employees in responding to citizens' inquiries via email, leading to the elimination of favoritism and mediation in service provision. Additionally, university students can register at universities or learn about admission requirements through their websites.

From the above, we can highlight the impact of the e-government system on adapting the interpretation of the general principles governing public services to the electronic system:

- **Principle of Continuity and Consistency of Public Services:**

This principle means the continuous and consistent operation of public services to meet the general needs of individuals. These services are essential for organizing the lives of these individuals, and any disruption (like water or electricity outages) causes significant inconvenience. The principle results in important measures like banning strikes, regulating employee resignations, and the theory of exceptional circumstances.

- The e-government system supports this principle more effectively than the traditional system. It allows individuals and contractors to access services through a website, mitigating the impact of any service disruption. Even if employees strike, services can still be accessed electronically. Employees can also respond to citizen inquiries via email, and university students can register or find out admission requirements through university websites.

- This system helps eliminate bureaucracy, speeding up processes and reducing administrative burdens and costs.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

- **Principle of Equality in Access to Public Services:** This principle ensures that individuals who wish to benefit from a particular public service can do so equally, without discrimination based on gender or other factors. The principle requires that those wishing to benefit from the service meet the legal or regulatory conditions set by the service, ensuring equal access and cost-sharing without discrimination. The application of this system strongly supports and confirms the principle of equality. Providing services electronically means there is no discrimination in accessing these services; anyone who can use a computer can obtain the necessary services²⁰. Additionally, the use of this system helps eliminate favoritism and mediation in service delivery, which used to differentiate individuals based on their relationships with administrative leaders.

B-Areas of application of e-government:

Concerning the areas of e-government application, it encompasses almost all the fields dealt with by traditional government, based on available resources, especially from a legal perspective.

- **Administrative contracts:** Administrative contracts are those in which the administrative entity is a party and are governed by administrative law, subject to administrative jurisdiction due to their administrative nature. These contracts involve one party being a person from public law, and the contract is related to the activity of a public facility²¹, such as water, electricity, and gas supply contracts, which

²⁰ سحر قدوري الرفاعي، مرجع سابق، ص 310، 311

²¹ عبد الفتاح بيومي حجازي، النظام القانوني لحماية الحكومة الالكترونية، شركة جلال للطباعة، الإسكندرية مصر، 2003م، ص 91

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

must be concluded according to public law methods. The administrative entity appears in these contracts in the guise of public authority. Therefore, the contract includes clauses unfamiliar to private law contracts.

- Among these contracts are commitments to public facilities, where the contractor undertakes to provide a public service to the public, under their financial responsibility for a certain period in exchange for a fee or specified charge. There are also contracts for public works, which involve carrying out construction, supply, or transport activities. However, this does not preclude the existence of unspecified contracts where the administration is a party as a public authority.

- With the transition to e-government, new types of administrative contracts have emerged, particularly those conducted online within the framework of e-commerce.

- **E-learning:** Through the e-government project, numerous significant advantages have been achieved for the education sector. Educational institution systems and teaching methods have evolved. The Internet has become a necessary tool in schools and universities²². Distance learning has become an alternative to traditional education to address universities' inability to accommodate the massive influx of students, leading to what is known as 'university without walls.' Research conducted on this type of education has shown it to be as

²²عبد الله عمر الفراء، المدخل إلى تكنولوجيا التعليم، مكتبة دار الثقافة للنشر والتوزيع، عمان، 1999، ص 81

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

effective or even more so than traditional methods when all technologies are utilized.

2. Primary Regulatory Laws for Electronic Governance in Algeria

The Algerian legislator has endeavored through various legal texts to keep pace with the developments in information and communication technology, aiming to build a knowledge society by enacting a set of laws that fall within the mechanisms establishing the concept of e-government. Among these laws are:

Regulatory Laws:

Executive Decree No. 98-275 dated August 25, 1998, regulating the conditions and procedures for establishing internet services and their exploitation (Official Gazette, No. 36, August 26, 1998, p. 05). This decree regulates the conditions and procedures for practicing internet services, ending the state monopoly on the internet sector, allowing the emergence of new public and private providers.

Executive Decree No. 2000-307, specifying the conditions and standards for regulating the internet and its use, the rights and obligations of service providers, the procedures for obtaining licenses, and cases of withdrawal. It also emphasizes the need to establish a licensing committee for providing internet services (dated October 14, 2000, Official Gazette No. 60, October 15, 2000, p. 15).

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

Law 03-2000, which deals with the general rules related to postal and wired and wireless telecommunications²³, aiming to separate the functions of postal operators and telecommunications operators. The restructuring of the Ministry of Post and Telecommunications allowed for the creation of Algeria Telecom and Poste Algerie, and a constitutional framework was established for an independent and free regulatory authority. This law opened doors for private investors and tasked them with granting licenses to the private sector, whether related to mobile or fixed telephony, internet service providers, or call centers.

Law No. 05-10 dated June 20, 2005, amending and supplementing the Algerian Civil Code. Through this law, the Algerian legislator transitioned from paper-based evidence to electronic evidence. It established that writing in digital form constitutes evidence according to Article 323 bis of the Algerian Civil Code, referring to writing in electronic form with a sequence in descriptions, numbers, or any meaningful signs or symbols, regardless of the electronic medium used or the methods of transmission.

Other laws related to:

Electronic signatures: The Algerian legislator adopted electronic signatures in Article 327/2 of the Algerian Civil

²³أمانة بن عبد ربه، الجزائر في عصر المعلومات سنة 2003 حصيلة وفاق في الجزائر: مذكرة ماجستير في علوم الاعلام والاتصال ، جامعة الجزائر ، 2005م – 2006م، ص41

Code, as amended by Law No. 05-10, which provides validity to electronic documents through electronic signatures²⁴.

Electronic authentication: The practice of electronic authentication service providers was defined by Executive Decree 07-162, requiring a license from the regulatory authority for postal and wired and wireless telecommunications (ARPT), accompanied by terms and conditions determining the rights and duties of service providers and users, and specifying individuals eligible by law to practice this activity.

Therefore, the activity of certification service providers is considered an economic activity subject to commercial registration according to commercial law. Consequently, the electronic notarization authority is responsible for notarizing electronic contracts, which aligns this function with that of a traditional notary²⁵.

Electronic payments: Algerian law includes provisions related to electronic payment systems, with official recognition beginning in 2003 through Order 03-11 concerning cash and credit (Order No. 03-11 dated August 26, 2003, Official Gazette No. 53, August 27, 2003, p. 11). Article 69 states that payment means any tool enabling a person to

²⁴نذير غانم وعبد الحميد ربحان، ونبيل عكنوش وجميلة معمر، "الثقة الرقمية ضمن استراتيجية الجزائر الالكترونية 2013"، واقعها ودورها في إرساء مجتمع المعرفة"، بحث مقدم للمؤتمر 23 للاتحاد العربي للمكتبات والمعلومات، جامعة قسنطينة، معهد علوم المكتبات والتوثيق، 2013

²⁵نذير غانم وعبد الحميد ربحان ونبيل عكنوش وجميلة معمر، مرجع سابق

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

transfer money regardless of the document or technical method used.

Recognition of the validity of electronic writing; through the issuance of Law No. 05-10 dated June 20, 2005, which supplements and amends the Algerian Civil Code. Through this law, the legislator transitioned from the paper-based system of proof to the electronic system, where writing in digital form became admissible within the rules of evidence according to the text of Article 323 bis of the Algerian Civil Code. By electronic writing, it refers to sequential writing in descriptions, numbers, or any meaningful signs or symbols regardless of the electronic means used and the methods of transmission. Also, the electronic means used refers to hard or floppy disks or in the form of electronic messages.

Cybercrime: Faced with legal gaps in cybercrime, Law No. 04-15 was issued on November 10, amending and supplementing the Penal Code to provide criminal protection for information systems, criminalizing all types of attacks targeting data processing systems such as unauthorized access, alteration, or destruction of data.

In 2009, the Electronic Crime Law, Law No. 09-04 dated August 5, 2009, containing specific provisions for prevention, was enacted.

3-Obstacles to Implementing E-Government in Algeria

The e-government project in Algeria was launched more than three years ago, but it has yet to materialize due to several obstacles, including:

- **Inadequate Telecommunications Infrastructure:** The postal and telecommunications sector struggles to meet customer demands for telephone connections, which are crucial for internet communication.
- **Delay in Infrastructure Development:** There is a significant delay in completing telecommunications infrastructure, and it varies greatly between regions. This disparity highlights the substantial gap in achieving the digital integration seen in developed countries.
- **Limited Internet Usage:** The spread of internet usage in Algeria is limited. The percentage of internet users remains low compared to even neighboring countries, such as Morocco, where it is 14.36%, while in Algeria, it is only 5.33%. This is due to the previously mentioned issues²⁶.
- **Underdeveloped Electronic Financial Transactions:** Despite over three years since the Algerian authorities launched a project to generalize electronic financial transactions across various financial and commercial institutions, progress has been slow.

²⁶عامر خضير الكبيسي، السياسات العامة مدخل لأداء وتطوير الحكومات، مصر: المنظمة العربية للتنمية الإدارية، 2008، ص164

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

Many economic operators and citizens are still wary of using magnetic cards to withdraw money due to frequent errors with ATMs and significant delays in account updates.

- **Limited Legislation:** There is a lack of comprehensive laws and regulations governing this sector.

Other obstacles to implementing e-government policies include:

- **Lack of Qualified Personnel:** There is a shortage of qualified human resources capable of implementing public policies, especially high-level technical projects.
- **Inadequate Psychological and Environmental Preparation:** There is insufficient effort in preparing the psychological or environmental conditions necessary for policy implementation, along with a lack of awareness campaigns and mobilization efforts to drive change, resulting in resistance.
- **Inappropriate Timing:** The timing set for public policy implementation may not be suitable or feasible. Unexpected developments can also hinder adherence to the scheduled timeframe for policy translation.
- **Focus on Procedures Over Goals:** Often, there is an excessive focus on procedures and formalities or the means used to implement public policies at the expense of the time and effort

Module : Information andCommunication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

dedicated to achieving objectives or goals, leading to the dilution of the policies' content.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

Axis Four: Legislative and Procedural Laws to Combat Cybercrime

Lecture Eight: Cybercrime: Definition, Characteristics, and Types

Lecture Nine: Key International and Arab Legislation and Agreements to Combat Cybercrime

Lecture Ten: Major Judicial Agreements Ratified by Algeria and the Rules of International Cooperation

Lecture Eight: Cybercrime: Definition, Characteristics, and Types

1. Definition of Electronic Crime and Its Characteristics:

Electronic crime is a modern crime due to its association with information and communication technology (ICT). Definitions of electronic crime have varied due to different perspectives, given its unique characteristics distinguishing it from traditional crimes. Some define technical crime based on its location within the information system components, while others perceive electronic crime based on the means or tools used to commit it, considering cybercrime as that committed through electronic means. Additionally, some define electronic crime based on the personal or technical knowledge possessed by the criminal. This variance

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

in perspectives has led to the absence of a universally accepted definition, resulting in several definitions, including:

Electronic Crime: "Any unauthorized act aimed at copying, accessing, altering, or deleting stored information within a computer or accessing information stored within a computer or transmitted through it."²⁷

Definitions by Forester TOM and Ball. D Eslie: Criminal acts using a computer as the primary tool.²⁸

Electronic Crime: "Any deliberate act or omission arising from the unauthorized use of information technology aimed at attacking material or immaterial assets."

The Tenth United Nations Congress on Crime Prevention and Criminal Justice, held in Vienna in 2000, defined electronic crime as: "Any crime that can be committed via a computer system or computer network, including all crimes that can be committed in an electronic environment, whether occurring on, through, or by means of such environment." ²⁹

The European Convention on Cybercrime (Budapest Convention)³⁰ defines it as: "All illegal or unauthorized activities

²⁷قورة نائلة، جرائم الحاسب الاقتصادية (ط1). القاهرة: دار النهضة العربية، ج 2، القاهرة، 2004، ص 21.

²⁸ TOM Forester, Essential problèmes to High-tech Society First MIT Prés édition, Cambridge, Massachusetts, 1989, P. 105.

²⁹حمد المناعسة، جرائم الحاسب الآلي والأنترنيت. دار وائل للنشر والتوزيع، عمان الطبعة الأولى 2001 ص 08

³⁰انعقدت الاتفاقية الأوروبية لجرائم الانترنت في بودابست بدولة المجر بتاريخ 130 نوفمبر 2001 وتعتبر هي الأساس الأول للتعاون الدولي في مجال مكافحة الجريمة المنظمة عبر الانترنت، وقد تم توقيعها من 30 دولة أوروبية بالإضافة إلى أربع دول غير أعضاء في المجلس الأوروبي وهم كندا الولايات المتحدة الأمريكية، اليابان، جنوب أفريقيا.... للمزيد حول هذه الاتفاقية. راجع: د/ عمر محمد أبو بكر يونس، "الجرائم الناشئة عن استخدام الانترنت، الأحكام الموضوعية والجوانب الإجرائية". القاهرة: رسالة دكتوراه، جامعة عين شمس، دار النهضة العربية، القاهرة، 2004، ص 198-200،

associated with computer devices and the use of the internet," categorizing crimes committed into several categories, including those against information security and privacy, those related to computers, those concerning computer content, and those related to trademarks and intellectual property.

Through these definitions, we infer the elements of the crime, requiring an unauthorized act or omission punishable by law. The act must be designated as criminal and subject to punishment, with the perpetrator being technically proficient and the means used for the crime being the computer itself.

2. Features of Electronic Crime:

Electronic crimes exhibit characteristics that distinguish them from traditional crimes, among the most significant are³¹:

- **Occurrence within an Automated Data Processing Environment:** Electronic crimes occur within an environment where data is collected and processed electronically. This necessitates dealing with data that can be entered into the information system for electronic processing, enabling users to write, correct, modify, delete, store, retrieve, and print data. These operations are closely related to the commission of crimes, requiring the perpetrator's understanding during forgery and imitation.

انظر كذلك: جورج لبكي، المعاهدات الدولية للإنترنت، حقوق وتحديات. مجلة الدفاع الوطني، ص3، بحث منشور عبر الإنترنت على موقع : <http://www.lebarmy.gov.lb>

³¹ خالد محمد كدفور المهيري. جرائم الكمبيوتر والإنترنت والتجارة الإلكترونية، دار الغرير للطباعة والنشر، دبي، 2005، ص 135.

انظر كذلك: - أحمد خليفة الملط، الجرائم المعلوماتية. دار الفكر الجامعي/الإسكندرية، د س ن ص 94

- خالد ممدوح إبراهيم، الجرائم المعلوماتية. دار الفكر الجامعي، الإسكندرية، 2009، ص 74

- نهال عبد القادر المومني، الجرائم المعلوماتية (ط1). الثقافة للنشر والتوزيع، الأردن، 2008، ص 48

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

- **Transnational Nature of Electronic Crime:** Electronic crimes transcend national borders, as they can be committed across different countries through information systems. Examples include database trespassing, forgery and destruction of electronic documents, fraud, and piracy. This lack of recognition of borders has created many problems in determining the jurisdictional authority and the applicable law, in addition to issues related to legal prosecution procedures.

- **Difficulty in Proving Electronic Crime:** Electronic crimes are characterized by their difficulty in detection, and even if discovered and reported, proving them is challenging. They occur in a non-traditional environment outside the tangible physical reality, with their elements embedded in the computer and internet environment. This complexity complicates matters for law enforcement authorities, investigation agencies, and prosecutors. In this environment, data and information are invisible electronic pulses flowing through the information system, making erasing and tampering with evidence by the perpetrator extremely easy.

The difficulty in proving electronic crime stems from several factors, including:

- The lack of tangible evidence after the commission of the crime, as there are no bodies of victims or traces of blood. If the crime is discovered, it often happens by sheer chance.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

-The rapid erasure of evidence and the difficulty of accessing it.

Evidence can be easily erased from a computer screen in a short time using specialized software, sometimes in the blink of an eye or with a fleeting touch on the computer keyboard.

-The shortage of technical and technological expertise among the police, prosecutors, and judiciary. Computer and internet crimes require a special understanding of computer technology and information systems to investigate and prosecute offenders judicially.

- **Privacy of Committing Electronic Crime:** Electronic crimes differ from traditional crimes in terms of their method of commission and perpetrators. They are non-violent crimes that do not require physical harm, as seen in crimes like murder, kidnapping, burglary, or theft. Electronic crimes are inherently quiet, requiring only the touch of buttons by a knowledgeable cybercriminal distinguished from traditional criminals by their intelligence, high technical skills, knowledge of computer and internet technologies, and expertise in automated data processing.

- **Underreporting of Electronic Crime:** There is a low rate of reporting internet crimes, either because the victim is unaware of them or due to fear of defamation. Many companies and institutions in business communities refrain from reporting them to avoid damaging their reputation and fear of defamation.

3-Types of Electronic Crimes:

There are several types of electronic crimes based on their nature and method of commission, including:³²

- **A-Unauthorized Access and Utilization Crimes:**

- Unauthorized access refers to deliberate unauthorized access to computers, information systems, networks, or websites by bypassing security measures, either partially or completely, without authorization or by exceeding the authorized access.

- Unauthorized utilization involves achieving a certain level of benefit, whether material, moral, or intellectual, by using computer networks or information technology means without legal authority, through communication services or broadcast channels.

- **B-Data and Information Systems Assault Crimes:**

- This category encompasses any attack on data, information, and all information systems, whether in the form of destruction, disruption, alteration, deletion, or any other form of interference with computer networks, devices, equipment, data, programs, stored or processed information on any information system.

- Crimes in this category can be classified as follows:³³

³² عفيف كامل عفيفي "جرائم الكمبيوتر وحقوق المؤلف والمصنفات الفنية ودور الشرطة والقانون" (ط2). لبنان: منشورات الحلبي الحقوقية 2007 ص 31

³³ إمال قارة , الحماية الجزائية للمعلوماتية في التشريع الجزائري , دار هومة الطبعة الأولى 2006 ص13

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

- **Unauthorized Interception Crime:** Involves intercepting information or data without lawful authority through a computer network or any computer device.

- **Assault on Website Design:** Refers to attacking website designs, whether owned by individuals, companies, or institutions, by unauthorized access with the intention to change, delete, destroy, modify, or occupy their domain.

- **Assault on Government Information Systems:** Any action that violates the privacy of a website, email, private account, or information system managed, owned, or related to the government or any public entity.

- **Assault on Network Integrity:** Involves disrupting or interfering with the operation of an information network, obstructing its efficiency, or tampering with electronic data processing.

- **Crimes Committed by Site Administrators:** Site administrators, due to their technical knowledge, are capable of committing various information crimes by exploiting technical vulnerabilities. They are subject to punishment if they fail to fulfill their responsibilities, resulting in the violation or damage of the resource.

- **C-Financial Fraud and Unauthorized Possession and Trafficking of Information Technology Means Crimes:**

- Crimes in this category can be further classified into:

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

- **Unauthorized Possession and Trafficking of Information Technology Means:** Involves the possession, acquisition, sale, provision, manufacture, import, export, or trading of devices, equipment, tools, designed or developed software, passwords, codes, or similar data without authorization, with the intent to use them in committing or facilitating any crime.
- **Financial Fraud Crimes:** Include offenses related to bank card fraud, electronic payment services, and other financial tools. These offenses involve exploiting or using information technology means to gain unauthorized access to bank numbers, data, or electronic payment tools, even if no profit or benefit is obtained by the perpetrator.

Lecture Nine: Key International and Arab Legislation and Agreements to Combat Cybercrime

1-Key International and Arab Legislation and Agreements on Combating Cybercrime

Key International and Arab Legislation to Combat Technological Crime: Technological crimes using information and communication technology are considered violations of individual and institutional rights and freedoms, posing risks to both the economic and legal spheres, as well as encroaching on the sovereignty of states. Therefore, the international community has responded by enacting legislation and penal procedures commensurate with the seriousness of these crimes, and establishing legal mechanisms to protect against their dangers, whether at the European or Arab levels.

A. European Legislation for Combating Cybercrime:³⁴

- Sweden:** Issued the Swedish Data Act in 1973, focusing on unauthorized access to computer data, forgery, alteration, or unauthorized acquisition.

- Denmark:** Enacted legislation to combat computer and internet crimes in 1985, specifying penalties for offenses such as computer forgery.

³⁴ربيع محمود الصغير- "القصد الجنائي- دراسة تطبيقية على الجرائم المتعلقة بالانترنت"، مصر: رسالة دكتوراه، كلية الحقوق، جامعة عين الشمس ، 2015، ص9

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

- **United Kingdom:** Enacted legislation to combat forgery and counterfeiting in 1986.

- **Germany:** Enacted special legislation to combat digital forgery in 1986.

- **France:** Law No. 19 of 1988 to combat digital forgery.

- **United States of America:** Enacted various legislation related to information technology, including Law No. 474-99-100, aimed at addressing computer crimes.

B. Arab Legislation for Combating Cybercrime:³⁵

- **Oman:** Issued legislation to combat information crime in 2001, including Sultanate Decree No. 72 of 2001.

- **Morocco:** Established legislation to combat information crime in 2003.

- **United Arab Emirates:** Enacted laws in 2006, 2012, and 2018 to combat information technology crimes, as well as the establishment of the National Electronic Security Authority.

- **Saudi Arabia:** Introduced legislation to combat information crimes in 2007 under the System for Combating Information Crimes.

- **Kuwait:** Enacted various laws related to electronic transactions, media regulation, and combating information technology crimes, including Law No. 63 of 2015.

³⁵حاتم احمد محمد بطيخ، "تطور السياسة التشريعية في مجال مكافحة جرائم تقنية المعلومات". مصر: دكتوراه في الحقوق جامعة عين شمس، د س ن ص 21-23

- **Algeria:** Enacted Law 09-04 on 05/07/2009, containing specific provisions for preventing crimes related to information and communication technology.

2-Important International and Arab Agreements for Combating Cybercrime

The aim of these agreements is to establish mechanisms related to criminal cooperation to ensure close collaboration with foreign countries, as well as to support coordination between the competent judicial authorities. This is to combat the phenomenon of cybercrime and overcome the obstacles related to borders to facilitate the prosecution of criminals.

A. International Agreement:³⁶

- The resolution issued by the Eighth United Nations Congress on the Prevention of Crime and the Treatment of Offenders, Havana 1990, regarding computer-related crimes: This resolution represents one of the efforts made by the United Nations, with this conference held in Havana in 1990. In its decision on computer-related crimes, it urged member states to intensify their efforts to combat the misuse of this technology and to criminalize such acts.

The resolution also urged member states to increase their activities at the international level to combat computer-related crimes, including becoming parties to treaties related to extradition and mutual assistance

³⁶ منير محمد الجنيبي، جرائم الأنترنت والحساب الإلكتروني ووسائل مكافحتها، دار الفكر الجامعي، الاسكندرية 2005، ص، 201

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

in criminal matters associated with this type of crime. It advised member states to ensure that their legislation related to extradition and mutual assistance in criminal matters fully applies to new forms of crime such as cybercrimes and to take specific steps towards achieving this goal.

The United Nations also proposed its vision on cybercrime in general, emphasizing the need to establish or develop:

- International standards for the security of automated data processing.
- Appropriate measures to address the issue of jurisdiction raised by transnational or international cybercrimes.
- International agreements that include provisions regulating direct cross-border search and seizure operations on interconnected information systems, and other forms of mutual assistance while ensuring the protection of individual rights and freedoms and the sovereignty of states.

he resolutions and recommendations of the World Summit on Information Society (WSIS) held in Brazil in 1994 emphasized the need for international cooperation in combating information crimes, particularly cybercrime. They stressed the importance of legal frameworks to address and prosecute such crimes, as well as the development of technical expertise and capacity building in law enforcement, prosecution, and the judiciary to investigate and prosecute them judicially. This requires familiarity with computer technologies

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

and information systems to effectively investigate and prosecute cybercrimes, including hacking, data breaches, and the dissemination of illegal content.

The Arab Agreement is another key international instrument in this regard, aiming to enhance cooperation among Arab states in combating cybercrime.

Additionally, the Budapest Convention on Cybercrime, signed in Budapest, Hungary, on November 23, 2001, serves as the primary basis for international cooperation in combating organized cybercrime. Signed by 30 European countries and four non-European countries (Canada, the United States, Japan, and South Africa), it provides a framework for harmonizing national laws, enhancing investigative techniques, and facilitating international cooperation in combating cybercrime.

B. Arab Agreement:³⁷

- At the Arab level, the Arab Model Law on Combating Information Technology Crimes was developed, adopted by the Arab Council of Ministers of Justice during its nineteenth session on October 8, 2003.

- Additionally, the Arab Agreement on Combating Information Technology Crimes, signed on December 21, 2010, aims to enhance cooperation among Arab countries in combating

³⁷حاتم احمد محمد بطيخ، مرجع سابق ص 25

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

cybercrimes to protect their security, interests, and the safety of their societies and individuals. This agreement is one of the most important Arab agreements aimed at preventing, investigating, and prosecuting cybercrimes such as:

- Data breaches.
- Misuse of information technology.
- Forgery, fraud, pornography, and invasion of privacy.
- Terrorism-related offenses committed through information technology, such as disseminating ideas of terrorist groups, funding terrorist operations, and disseminating methods of manufacturing explosives and weapons.
- Organized crime, including money laundering, drug trafficking, human trafficking, and organ trafficking.

3-The most important multilateral judicial agreements ratified by Algeria" "Algeria, like other countries worldwide, faces significant challenges due to the tremendous development of modern communication technologies in various fields and the resulting transformations that require dealing with them consciously, cautiously, and preventively." "In response, Algeria has reinforced international efforts to combat cybercrime through the agreements it has ratified, such as the Budapest Convention (Hungary) in 2001, the Arab Convention (December 21, 2010),

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

and the African Union Convention for International and Judicial Cooperation to Combat Transnational Crime concluded in Equatorial Guinea in 2014." "Among the Arab agreements ratified by Algeria:"

- "The Arab Convention to Combat Information Technology Crimes mentioned above, under Presidential Decree No. 14-252 dated 08/09/2014 (Official Gazette No. 57 of 2014)."

- "The Arab Convention to Combat Transnational Organized Crime across National Borders under Presidential Decree No. 14-251 dated 08/09/2014 (Official Gazette No. 56 of 2014)."

- "The Arab Convention to Combat Money Laundering and Terrorism Financing under Presidential Decree No. 14-250 dated 08/09/2014 (Official Gazette No. 55 of 2014)."

"Algeria, like other countries around the world, faces significant challenges due to the tremendous development of modern communication technologies in various fields, and the resulting transformations necessitate dealing with them consciously, cautiously, and preventively. To address this, Algeria has bolstered international efforts to combat cybercrime through the agreements it has ratified, such as the Budapest Convention (Hungary) in 2001, the Arab Convention (December 21, 2010), and the African Union Convention for International and Judicial Cooperation to Combat Transnational Crime signed in Equatorial Guinea in 2014. Among the Arab agreements ratified by Algeria are: - The Arab Convention to Combat

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

Information Technology Crimes mentioned above, under Presidential Decree No. 14-252 dated 08/09/2014 (Official Gazette No. 57 of 2014).

- The Arab Convention to Combat Transnational Organized Crime across National Borders under Presidential Decree No. 14-251 dated 08/09/2014 (Official Gazette No. 56 of 2014). - The Arab Convention to Combat Money Laundering and Terrorism Financing under Presidential Decree No. 14-250 dated 08/09/2014 (Official Gazette No. 55 of 2014)."

Lecture Ten: Major Judicial Agreements Ratified by Algeria and the Rules of International Cooperation.

1-International Cooperation Framework and Determination of Judicial Jurisdiction

Algeria, like other countries worldwide, faces the tremendous advancements in modern communication technologies across various sectors. The resulting transformations necessitate a conscious, cautious, and proactive approach in dealing with them.

Algeria has contributed to international efforts to combat cybercrime by endorsing several agreements. These include the Budapest Convention (Hungary, 2001), the Arab Convention (December 21, 2010), and the African Union Convention for International Cooperation and Judicial Assistance in Combating Cross-Border Crime, signed in Equatorial Guinea in 2014.

Among the Arab agreements ratified by Algeria are:

- The Arab Convention on Combating Information Technology Crimes, ratified by Presidential Decree No. 14-252 dated September 8, 2014 (Official Gazette No. 57 of 2014).
- The Arab Convention on Combating Transnational Organized Crime, ratified by Presidential Decree No. 14-251 dated September 8, 2014 (Official Gazette No. 56 of 2014).

- The Arab Convention on Combating Money Laundering and the Financing of Terrorism, ratified by Presidential Decree No. 14-250 dated September 8, 2014 (Official Gazette No. 55 of 2014).

2-Determination of Judicial Jurisdiction (Territorial Scope of Law Application): ³⁸

cybercrimes have posed numerous challenges due to their unique nature, complexity, and rapidity in execution, along with perpetrators' ability to evade detection and leave minimal traces, making them transnational and transcontinental crimes. These crimes can be committed within one country's jurisdiction while their effects are realized in another country, adding significant complexity and importance to the issue.

Addressing these challenges involves:

- Determining the legal and jurisdictional competence for these emerging crimes.
- Emphasizing international cooperation in combating cybercrime based on agreements.
- Establishing guidelines for international cooperation in crime-fighting, including principles of criminal and procedural universality, extradition rules for fugitive criminals under international and regional agreements, facilitating international cooperation in crime prevention and information exchange,

³⁸مروي السيد الحساوي، مبدأ العالمية في القانون الجنائي. رسالة دكتوراه، كلية الحقوق، جامعة المنصورة، مصر 2019، ص101

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

apprehending fugitive criminals, and assisting in conducting investigations.

Facilitating cooperation with foreign counterparts is done through international, regional, and bilateral agreements, or by applying the principle of reciprocity. Information exchange plays a crucial role in preventing and investigating information technology crimes and tracking down perpetrators.

Determining judicial jurisdiction (territorial jurisdiction for law enforcement) involves:

- The principle of territoriality, where the criminal law applies to any crime committed within the state's territory, regardless of the perpetrator's or victim's nationality. National courts have jurisdiction to try suspects regardless of their nationality or religion.

Note: Examining the territorial scope of applying laws against information technology crimes is one of the most significant issues addressed by both local and international legislatures, serving as an expression of state sovereignty.

The Arab Convention addresses the issue of determining the competent judge regarding cybercrimes as follows:

To alleviate confusion and ambiguity, the Arab Convention focused on the matter of appointing the competent criminal judge to adjudicate cybercrimes committed through modern technological

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

means. It worked on providing solutions to disputes that may arise concerning jurisdictional conflicts:

- Whether positive disputes arise from multiple states claiming jurisdiction over a technological crime and insisting on their claim.
- Or negative disputes, where states relinquish or deny their jurisdiction and designate the competent judge based on the severity of the damage caused to the state and the level of criminal involvement. The convention set a condition for activation, requiring the involved state to be a party to the Arab Convention.

This convention prioritized the judge of the state whose security and interests were compromised by the crime as the primary and foremost competent judge in adopting trial and punishment procedures. Next in importance and jurisdiction is the judge of the state where the crime occurred, even if it did not cause harm or a security threat to that state. Following that, jurisdiction lies with the judge of the state to which the offender or offenders belong.

Note: The convention states that in all cases, if the circumstances indicated coincide, jurisdiction lies with the judge of the state that first submitted the extradition request for trial.

Important: For further information on judicial conflicts, Master's students and researchers are encouraged to refer to the Arab Convention on Combating Information Technology Crimes signed on

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

December 21, 2010, which is attached to the provided lectures. This convention was approved by the Arab Ministers of Interior and Justice during their joint meeting held at the headquarters of the General Secretariat of the League of Arab States in Cairo.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

Axis Five: Legislative and Procedural Mechanisms to Combat Cybercrime in Algeria

- **Lecture Eleven: Legislative Mechanisms to Combat Cybercrime in Algeria**
- **Lecture Twelve: Special Structures to Combat Cybercrime**

Lecture Eleven: Legislative Mechanisms to Combat Cybercrime in Algeria

1-Mechanisms for Combating Electronic Crime in the Penal Code

2-Mechanisms for Combating Electronic Crime in Special Laws

3-Procedural Rules Regulating Cybercrime Combat

Introduction

: Since 2004, with the increase in cybercrime due to the advancement of information and communication technology and the internet, and with the inadequacy of traditional regulations in combating electronic crime, it was necessary for the Algerian legislator to think about enacting practical legal mechanisms to contain the phenomenon and address it in line with the requirements of the international system and its obligations arising from its ratification of

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

many agreements related to cybercrime. The Algerian legislator issued special laws that align with the nature of the crime and its combat, including:

- Amendment and supplementation of the Penal Code (Law 15/04 amending the Penal Code).

- Law 09-04 dated 05/07/2009 concerning the special rules for preventing crimes related to information and communication technology and combating them, and the establishment of a national body to combat electronic crimes based on this law. This calls for cooperation among legal entities and IT experts in addition to international cooperation, all aimed at combating multifaceted electronic crime.

1- Mechanisms for Combating Electronic Crime in the Penal Code:

The Algerian legislator added provisions to criminalize attacks on information in the Penal Code, under Law No. 15/04 amending the Penal Code, especially after the exponential increase in attacks on information systems due to the development of communication mechanisms and the emergence of websites and the internet.

Under Law No. 15/04 dated: November 10, 2004, amending the Penal Code, the Algerian legislator introduced a repeated seventh section of the Penal Code, from the third chapter concerning crimes against property, under the title "Interference with Data Processing

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

Systems" from Article 394 repeated to Article 394 repeated 7, which enumerates crimes against data processing systems as follows:

- **Crime of Unauthorized Access:** Article 394 repeated of the Penal Code states: "Anyone who enters or remains by cheating in any part of a data processing system or attempts to do so shall be punished by imprisonment for a period of three months to one year and a fine of 50,000 DZD to 100,000 DZD. The penalty is doubled if this leads to the deletion or alteration of data in the system."

- According to this article, an unauthorized access crime refers to unauthorized entry, which the legislator defines as fraudulent access to an automated data processing system. This means accessing the information system without proper authorization. The crux of illegality is the absence of the actor's authority to access this system, with the knowledge that they are unauthorized. Instances of unauthorized access to an information system include:

- When the actor accesses the system without permission from the system's administrator or owner.

- When the actor is authorized to access a part of the system but exceeds the granted authorization and accesses the entire system or other restricted parts. This situation often occurs with employees in organizations that have information systems.

- **Note:** In the first scenario, unauthorized access can occur by any means, such as using a legitimate password that the perpetrator is not authorized to use, employing special programs or codes, or using

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

another person's code number to gain access through an authorized person, whether via telephone network or the internet.³⁹

•Crime of Unauthorized Presence within the Information System:

- An unauthorized stay crime within an information system refers to being inside the system against the will of the system owner or the person in control of it. This occurs when someone finds themselves inside the system by mistake or coincidence but decides to remain there and not disconnect (constituting trespass in this case).
- Note: Accidental entry may occur when someone accesses an information system they are authorized to enter but, due to using an incorrect code, finds themselves in another system. Staying in this system constitutes a crime, especially if data is deleted or altered.
- The Algerian legislator criminalized merely entering or staying unlawfully within an information system, even if this act does not cause any harm to the system. The penalty is increased if unauthorized entry or stay results in the deletion or alteration of the system's data.

•**Crime of Data Interference:** Article 394 repeated 1 of the Penal Code states: "Anyone who introduces false data into an automated processing system or deletes or modifies data contained therein by

³⁹عودة يوسف سليمان، "الجرائم الماسة بحرمة الحياة الخاصة التي تقع عبر وسائل تقنية المعلومات الحديثة". مصر: كلية الرافدين الجامعية قسم القانون. 2017 ص 10 .

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

cheating shall be punished by imprisonment for a period of three months to six years and a fine of 500,000 DZD to 2,000,000 DZD."

- According to this article, the Algerian legislator has categorized data attacks into three forms:

- Introducing new incorrect data into the existing data within the automated processing system.

- Deleting and removing data that was already in the system.

- Modifying and altering data, replacing it with other data through certain programs designed to destroy the data.

- Note:

- The attack can occur remotely without entering or staying in the system by using virus programs.

- Criminal legislation across various jurisdictions aims to protect data or information by criminalizing the above actions. Therefore, information security specialists strive to maintain the privacy of data transmitted over networks, especially the internet. They work to secure the confidentiality of electronic messages and data, particularly those related to digital business transactions.

- Thus, encryption represents the best means to maintain the confidentiality of transmitted data and prevent others from accessing electronic messages.

- **Crime of Dealing with Unlawful Information:**

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

- Article 394 repeated 2 of the same law states: "Anyone who deliberately or fraudulently commits the following acts shall be punished with imprisonment for two months to three years and a fine of 1,000,000 DZD to 5,000,000 DZD:

- Designing, searching, collecting, providing, publishing, or trafficking in stored data, processed or transmitted through an information system, which could be used to commit the aforementioned crimes.

- Possessing, disclosing, publishing, or using data obtained for the crimes stipulated in this section for any purpose whatsoever."

- Additionally, Article 394 bis 6 stipulates that, in addition to imprisonment and fines: "...the devices, programs, and means used shall be confiscated, and the sites that were venues for the crimes punishable under this section shall be closed, in addition to closing the premises or place of exploitation if the crime was committed with the owner's knowledge."

- Cybercrimes related to state security and its institutions, such as espionage and terrorism.

- Cybercrimes by legal entities, which are punishable by fines five times greater than those for natural persons as per Article 394 bis 4 of the Penal Code.

- Note: In 2006, the legislator introduced new amendments to the Seventh Section bis, tightening the penalties for all crimes listed in this

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

section without affecting the crimes listed therein. This certainly reflects the legislator's acknowledgment that this phenomenon is new and distinct from traditional crimes in terms of its nature and the individuals involved.

2- Mechanisms for combating electronic crime in special laws:

Due to the inadequacy of the provisions of the Penal Code to protect private life from the risks of modern technology, the Algerian legislator enacted a series of laws to protect private life in the face of cybercrimes, starting from the year 2009. These laws include the following:

• Mechanisms for combating electronic crime in the Prevention Law related to Information and Communication Technologies:

- The Algerian legislator addressed crimes violating private life in the digital environment with clear interest, distinguishing them from traditional crimes and enacting a specific law for them, Law No. 04/09, which includes rules for preventing and combating crimes related to information and communication technology.⁴⁰

This law was enacted to combat cybercrime and the procedures followed for this type of crime and its perpetrators, along with the criminal field associated with it, through rules that ensure the legitimacy of the actions taken by the relevant authorities.

Law 04/09 consists of six chapters and provides a definition of cybercrime, which does not differ much from what is stated in the Penal Code. According to Article 2, crimes related to information and

⁴⁰المؤرخ في 25 أوت 2009 منشور في الجريدة الرسمية، العدد 47 لسنة 2009

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

communication technologies are: "Crimes that interfere with automated data processing systems specified in the Penal Code, and any other crime committed or facilitated by an information system or an electronic communication system."

The legislator also specified in Article 4 of this law four cases in which competent authorities are allowed to resort to electronic communications surveillance, as follows:

- Prevention of terrorism, sabotage, or crimes seriously threatening national security.
- When information is available about the possibility of an attack on an information system that threatens public order, national defense, state institutions, or the national economy.
- For the needs of investigations and judicial inquiries when it is difficult to obtain results concerning ongoing investigations without resorting to electronic surveillance.
- Within the framework of implementing mutual international judicial assistance requests.

Important note: In the second chapter of this law, monitoring individual communications is permitted without their knowledge and without committing any physical or moral crime, which constitutes a blatant violation of the right to privacy and the confidentiality of private correspondence and communications according to the principle

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

of "Human and the presumption of innocence guaranteed constitutionally."

On the other hand, what largely justifies monitoring individual communications is the content of Article 4 of Law 90-04, which stipulates four cases where resorting to this measure is permissible, considering the seriousness of potential threats and the importance of the protected interest, namely:

- Crimes of terrorism, sabotage, and crimes seriously threatening national security.
- When information is available about the possibility of an attack on an information system threatening state institutions or the national economy.
- For the needs of investigations and judicial inquiries, when it is difficult to obtain results concerning ongoing investigations without resorting to electronic surveillance.
- Within the framework of implementing mutual international judicial assistance requests.

The legislator also obliged service providers to assist the authorities responsible for judicial investigations in collecting and recording data related to the content of communications and correspondence and making them available, while maintaining the confidentiality of these transactions. They are also required to preserve data that helps detect crimes and their perpetrators and to intervene

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

immediately to withdraw the content they become aware of if it violates the law, store it, or make it inaccessible.⁴¹

Furthermore, under Article 13 of this law, the Algerian legislator established a national body for the prevention and combating of crimes related to information and communication technologies, tasked with detecting and deterring these emerging types of crimes, assisting judicial authorities in investigations into these crimes, both domestically and internationally, gathering information, conducting judicial expertise, uncovering perpetrators of crimes related to information and communication technology, and determining their whereabouts.

The Algerian legislator also dedicated an entire chapter of this law (Chapter 6 of Law 04-09) to international judicial cooperation and assistance concerning jurisdiction, as per the location of the electronic crime, international judicial assistance, information exchange, and taking necessary actions. To facilitate this task and limit these crimes, Algeria has entered into numerous bilateral, Arab, and international agreements, as mentioned in the above-mentioned fifth chapter.

3-Procedural Rules for Combating Cybercrime:

The various amendments to the Algerian Penal Procedure Code have introduced several new procedural rules to combat cybercrime, similar to those for organized crime. The Algerian legislature has provided for special procedures for these crimes at all stages, including

⁴¹انظر نص 10، 11، 12 من القانون رقم 09/04 المتعلق بالوقاية من الجرائم المتصلة بتكنولوجيا الاعلام والاتصال.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

investigation and trial. The particularities of the procedures for monitoring electronic crimes are as follows:

A. Extension of Local Jurisdiction: Extending local jurisdiction to include judicial police officers, investigating judges, and public prosecutors according to Article 37 of the Penal Procedure Code, and establishing technical arrangements for monitoring electronic communications and collecting and recording their content in real-time. This is stipulated in Article 3 of Law 09-04, in accordance with the procedural rules specified in the Penal Procedure Code. This applies particularly to organized crime, crimes involving automated data processing, terrorism, money laundering, and currency offenses. Additionally, Law 09-04, Article 15, extends the jurisdiction of Algerian courts to crimes related to information and communication technologies committed outside national territory when the perpetrator is a foreigner and targets Algerian state institutions, national defense, or strategic interests of the national economy.

Moreover, the Prosecutor's Office has been stripped of its discretion in prosecuting certain crimes, as the Public Prosecutor is obliged to pursue criminal cases strictly according to the law, without the discretionary power previously granted. This was done for crimes specified in Articles 144 bis, 144 bis 1, and 144 bis 2 of the amended Penal Code supplemented by Law No. 01-09 dated June 26, 2000.

B. Special Investigative Methods: Despite the importance of the judicial police in detecting cybercrime and identifying cybercriminals,

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

the Algerian legislature has introduced special investigative methods tailored to address the new face of crime. These methods are used in accordance with the requirements of combating modern crime, drawing legitimacy from international treaties ratified by Algeria, especially Article 20 and Article 22 of the "Palermo Convention" * to combat transnational organized crime, which includes cybercrime as a form of organized crime.

These special investigative methods are only permitted for certain specified crimes by the Algerian legislature, including cybercrime, as amended by Law No. 06-22. These methods include intercepting correspondence via wired and wireless communication, implementing technical arrangements for capturing, recording, and broadcasting spoken words in private conversations, and capturing images of individuals in private or public places.

C. Inspection: Given the difficulty of proving electronic crimes compared to other offenses, Algerian legislation allows inspection of information systems for any potential crime. However, the guarantees and evidence required by the legislature, compared to other crimes, are often challenging to obtain, if not impossible, due to the speed of committing such crimes, erasing their traces, and the cunning of their perpetrators, as well as their transnational nature.

*المادة 22 من اتفاقية الأمم المتحدة لمكافحة الجريمة المنظمة العابرة للحدود الوطنية، الوثيقة تحت رقم: (a/res/55/25) قرار الجمعية العامة للأمم المتحدة رقم 25 الدورة 55 بتاريخ 15 تشرين الثاني لسنة 2000 يجوز لكل دولة طرف أن تعتمد ما قد يلزم من تدابير تشريعية أو تدابير أخرى لكي تأخذ بعين الاعتبار، وفقا لما تراه ملائما من شروط، وللغرض الذي تعتبره ملائما، أي حكم إدانة صدر سابقا بحق الجاني المزعوم في دولة أخرى، بغية استخدام تلك المعلومات في إجراءات جنائية ذات صلة بجرم مشمول بهذه الاتفاقية.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

Inspection in this context involves searching for the crime, the tools used in its commission, and any related evidence or individuals involved. Therefore, technical crimes differ from ordinary crimes in two aspects:

- **Material aspect:** Concerns tangible evidence subject to general inspection rules, regardless of whether the place is public or private (e.g., the suspect's residence, shop, or affiliated institution).

- **Moral aspect:** Relates to inspecting programs, operating systems, and databases. Article 47(4) of the Penal Procedure Code authorizes inspection and seizure of the intellectual components of computers, allowing investigating judges to conduct searches and seizures at any time and place within national territory or upon the order of judicial police officers.

D. Detention Pending Trial: In addition to inspection, one of the new procedures introduced to combat cybercrime in Algerian legislation is the extension of detention pending trial granted to judicial police officers. According to Article 51-5 of Order No. 15-02 dated July 23, 2015, detention can be extended once if the crime involves electronic means. This police procedure, performed by the designated officer, can detain any individual strongly suspected of committing a cybercrime for a specified period, with a maximum duration of 48 hours, except for serious crimes, which are subject to exceptions.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

Lecture Twelve: Special Structures to Combat Cybercrime

Due to the escalating phenomenon of cybercrime worldwide and its distinctive characteristics, law enforcement agencies have developed specialized units to address such crimes. These units are tasked with investigating and conducting inquiries in the virtual world, similar to international bodies like Interpol, Europol, and AfrIPOL.

In Algeria, the National Agency for Preventing Crimes Related to Information and Communication Technology (ICT) was established, along with judicial units and others affiliated with the National Security and National Gendarmerie, supported by modern investigation tools.

A. Specialized Technical Units for Investigating Cybercrimes

These units, specialized in combating cybercrime, are tasked with prevention and investigation due to their unique composition, including investigators with specialized skills who possess judicial authority, extensive knowledge of information systems, and expertise in cybercriminal behavior.

The National Agency for Preventing Crimes Related to Information and Communication Technology Established in Algeria under Law 09-04, this agency was tasked with preventing and combating crimes related to ICT and was further defined by Presidential Decree 15-261 issued on October 8, 2015. According to the provisions of the Criminal Procedure Code, the agency is responsible for gathering, recording, and preserving digital data, identifying its source and path, for use in judicial proceedings, as well

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

as monitoring and preventing electronic communications to detect crimes specified in the Penal Code or other laws, under the authority of the competent judge.*

Units Affiliated with the National Police Force At the national level, there are three units within the National Police Force tasked with researching and investigating cybercrimes:

- Central Forensic Police Laboratory in Algiers.
- Regional Forensic Police Laboratory in Constantine.
- Regional Forensic Police Laboratory in Oran.

To strengthen the provincial interests of the judicial police, the General Directorate of National Security established approximately 23 units in 2010 to combat cybercrime across various regions, subsequently expanding them to all security departments nationwide.

Units Affiliated with the General Command of the National Gendarmerie Among the key units responsible for investigating cybercrimes at the central level within the National Gendarmerie is the National Institute of Forensic Evidence and Criminology based in Bouzareah. This national administrative institution, established by Presidential Decree No. 04-183 on June 26, 2004, primarily serves

* للإشارة فقط: تمكنت الجزائر الممثلة أساسا في أجهزتها الأمنية التابعة للدرك الوطني والأمن الوطني وبالتعاون مع الهيئة الوطنية للوقاية من الجرائم المتصلة بتكنولوجيا الإعلام والاتصال من معالجة أكثر من 1000 جريمة إلكترونية منها 30 بالمائة على مواقع التواصل الاجتماعي، هذا وقد سجلت مديرية الشرطة القضائية بالمديرية العامة للأمن الوطني خلال السداسي الأول من عام 2016 وجود 11 قضية متعلقة بالإرهاب الإلكتروني (حيث أسفرت جهود البحث والتحري والتنسيق بين مختلف القطاعات المختصة بتوقيف 58 شخص متورط في قضايا إرهاب إلكتروني تمت إحالتهم على القضاء) مع العلم ومع مرور السنوات تفاقم عدد القضايا الخاص بالجرائم الإلكترونية خاصة في وجود أجهزة إلكترونية متطورة

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

justice and supports investigation units within the framework of judicial police missions in combating various crimes, including cybercrime.

This institute includes a department for computer and electronic investigations specialized in cybercrimes. Other units within the National Gendarmerie include:

- Center for Preventing Cybercrimes within the National Gendarmerie.
- General Security and Exploitation Directorate.
- Central Department of Criminal Investigations.

Additionally, there are specialized units and research departments within the National Gendarmerie tasked with investigating cybercrimes.

For reference: Algerian security agencies, particularly those under the National Gendarmerie and National Security, in collaboration with the National Agency for Preventing Crimes Related to ICT, have successfully processed over 1,000 electronic crimes, including 30% related to social media. Notably, the Criminal Police Directorate of the General Directorate of National Security recorded 11 cases of cyberterrorism in the first half of 2016 alone. Efforts in research, investigation, and coordination among various specialized sectors led to the arrest of 58 individuals involved in cyberterrorism cases, who were subsequently referred to the judiciary. Over the years, the number of cybercrime cases, especially with the use of advanced electronic devices, has increased.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

Algerian specialized police have successfully apprehended over 160 Algerians directly linked to ISIS in Iraq, Syria, and Libya, decrypted messages, and dismantled over 30 cells recruiting youth through the internet and social media platforms, particularly Facebook and Twitter, for terrorist organizations. This was achieved through the use of modern technological systems and intelligence indicating the presence of terrorist propaganda encouraging participation in terrorist forums, along with local and international communications.

B. Specialized Judicial Bodies for Adjudicating Cyber Crimes

The risks posed by information and communication technology (ICT) on individuals' lives and privacy have increased. This type of crime extends beyond the borders of a single state, threatening economies, security, and the activities of criminal organizations, which utilize cyberspace to exploit the characteristics of cybercrime.

To mitigate these crimes, the Algerian legislature established specialized judicial bodies known as expanded regional jurisdiction courts under Law 04-14 dated November 10, 2004, which amended and supplemented the Algerian Code of Criminal Procedure. This law expanded the jurisdiction of certain courts, public prosecutors, and investigating judges to address specific crimes exclusively classified as serious, complex, and organized, including drug crimes, transnational organized crime, crimes involving automated data processing systems, money laundering, terrorism, sabotage, and violations of banking legislation.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

In this regard, regulatory measures were issued to extend the jurisdiction to four judicial regions through Decree No. 06-348 dated October 5, 2006, as amended and supplemented by Executive Decree No. 16-267 dated October 17, 2016. These decrees defined these courts with slight modifications, including the division and addition of some judicial councils.

The division is as follows:

- Sidi M'hamed Court in Algiers, with its regional jurisdiction extending to several judicial councils.
- Constantine Court, with jurisdiction over various judicial councils.
- Ouargla Court, with jurisdiction over specific judicial councils.
- Oran Court, with jurisdiction over designated judicial councils.

Each judicial region encompasses a group of judicial councils located in different areas of Algeria, north, south, east, and west, with four courts designated as judicial poles. Additionally, these courts were reinforced by establishing specialized investigation means to confront organized crime, including cybercrime.

In summary, despite the measures taken by the Algerian legislature to combat crimes using ICT, through legislative and legal mechanisms, including amending substantive and procedural provisions,

Module : Information andCommunication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

and the establishment of specialized units and bodies to combat crime and deter criminals, the confrontation remains challenging due to the lack of adequate technical foundations for investigation, research, and classification of crime severity before issuing punishment.

To overcome this formidable obstacle, it is essential to train specialized judges who surpass the intelligence of technical criminals. Additionally, keeping pace with new technologies of various electronic devices and tracking their techniques is crucial, considering them as means of cybercrime.

Module : Information and Communication Technology (ICT)

Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

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Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

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Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

Teacher: Dr : Geumra Nadir

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Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

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Level Scale: 1st year Master Administrative Law + Criminal Law, Second Semester

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