Ethics, Deontology & Intellectual property

What is Ethics? Is it ethical?

- **Terminology**
- Ethics: (Fr:Etiques)
- In Arabic can have many translations; according to Almaany English Arabic Dictionary (Ar: خلق,الآداب, الأخلاق) it can be also (قواعد السلوك).

- **Definitions**
- Ethics: from the Greek word ***Ethos*** which means ***character*** that is related to the individual character of a person.
- Oxford dictionnary: moral principles that govern a person's behaviour or the conducting of an activity. It is the branch of knowledge that deals with moral principles.(معنوي؛ مغزي, السلوك الأخلاقيّ,المبادئ الأخلاقية)
- In philosophy, ethics is also used to refer to the area of morality, which concentrates on human conduct and human values.

Ethics, Deontology & Intellectual property

- **Ethical issues examples:**
- **Perspective-taking**: is a useful skill when it comes to ethical situations; understanding someone else/others point of view rather than casting them (example:students) as bad, seek to understand the reasons behind their actions of not attending course/module with low coefficient.
- **Internet Censorship:** Censorship can protect individuals from harmful content, but it also risks violation upon freedom of speech and freedom to access information. The question becomes who should control this, who has the rights to manage this and how far it should go to prevent AI (Artificial Inteligence) misinformation and disinformation which is ranked as 2nd risk in the global risk profile 2024*.

*: (https://www.visualcapitalist.com/top-global-risks-in-2024)

Ethics, Deontology & Intellectual property

What is Deontology?

- **Terminology**
- Deontology: (Fr: déontologie).
- In Arabic can have many translations; according to Almaany English Arabic Dictionary (Ar:أعراف المهنة , علم الواجبات, علم الأخلاقيات).

- **Definitions**
- Deontology: is derived from the Greek ***deon***, “duty,” and ***logos***, “science.”
- Collins dictionnary: the branch of ethics dealing with duty, moral obligation, and moral commitment.

Ethics, Deontology & Intellectual property

What is Deontology?

- Deontology from philosophers point of view like Immanuel Kant believed that ethical rules and/or actions follow universal moral laws, such as “Don't lie. Don't steal. Don't cheat.”
- It is an ethical theory that suggest an individual should act based on what they believe to be morally right, regardless of the consequences. It just requires that people commit to the rules and do their duty, as a result it is easy to apply.
- Kant also said: Morals principles are not dependent on their consequences.
- It has practical aim, wherein it intends to define a common set of rules, recommendations and procedures for a given professional practice*.
- It aims at regulating the activities of a certain profession and, therefore, constitutes a better conducting code that defines a professional identity*.

*:(From: University charter of deontology and ethics, MESRS 2023- Algeria)

Ethics, Deontology & Intellectual property

- **Deontology Examples**

Humility (التواضع): Showing modesty and not taking credit for something you don't deserve. It would be wrong to accept a prize when you feel someone else did better.

Respect: Showing respect to others by honoring their wishes and beliefs, even if you disagree with them. If a friend asks you not to talk about a specific subject, it would be wrong to disregard this wish.

Responsibility: Taking responsibility for your actions and accepting the consequences, no matter how unfavorable results. Supposed that you damage someone's property, it would be wrong to hide the deed (إخفاء الفعل) or blame someone else for your mistake.

(extracted from: https://helpfulprofessor.com/deontology-examples/).

Ethics, Deontology & Intellectual property

- **Deontology Examples**
- **Fairness(الإنصاف)**: Making sure everyone is treated fairly, regardless of their race, religion, or gender. If a company is hiring new employees, it would be wrong to discriminate against any particular group of people.
- **Integrity(استقامة,نزاهة)**: Being honest and consistent in your behavior and beliefs. It would be wrong to act one way with your friends and another way when you are around strangers.
- **Gratitude(اِمتِنان)**: Showing appreciation for generosity and kindness, even if you don't see the immediate benefit. For instance, when someone gives you a gift, it would be wrong not to say thank you or at least show appreciation.

(extracted from: https://helpfulprofessor.com/deontology-examples/).

Ethics, Deontology & Intellectual property

What is Intellectual Property (IP)?

Intellectual property (IP) **refers to creations of the mind**, such as **inventions**; **literary** and **artistic works**; **designs**; and **symbols**, **names** and **images** used in **commerce**. (WIPO)

It is not limited to the above cited example it cover a vast range of activities that have an impact on cultural and economic life.

Histroy

15th Century: patents to protect inventions were granted in Venice.

1883: Modern initiatives to protect IP through international law started with the Paris Convention for the Protection of Industrial Property.

1886: Berne Convention for the Protection of Literary and Artistic Works.

1948: IP rights are also safeguarded by Article 27 of the Universal Declaration of Human Rights.

These days, there are **more than 25 international treaties** on IP administered by WIPO.

WIPO: World Intellectual Property Organization

Ethics, Deontology & Intellectual property

Why do we need to protect the intellectual property IP?

- Authors, inventors, designers, and developers can protect the ideas they have developed, by means of copyright or **patents (براءة اختراع)**.
- For economic reason; to earn back the money you invested in developing a product.
- Protecting IP means you can prevent competitors from stealing your developed ideas or concepts.
- To prevent others from wrongly profiting from your creations or inventions or any inconvenient use.
- Competitive advantage; Your Intellectual Property creates a competitive environment that can drive business forward.

Types of intellectual property examples

- Copyright

Copyright (or author's right) is a legal term used to describe the rights that creators have over their literary and artistic works. Works covered by copyright range from books, music, paintings, sculpture, and films, to computer programs (software), databases, advertisements, maps, web content, and technical drawings. It protect expressions such as titles, slogans, or logos rather than ideas.

- Copyright has a registration fees. In USA, for one work by one author it costs about $45 for online version and $125 for paper filing.
- Copyright protection lasts for the author's entire life plus an additional 70 years, (USA, 1978 law).

Types of intellectual property examples

Copyright

- Copyright provides the owner with the exclusive right to perform certain acts in relation to the work that is subject to the copyright.
- Developed for controlling printing and extended to a very broad right which protects a wide range of works.
- Copyright is not a monopoly right, others can create similar works.
- Copyright may be exploited directly by its owner or it may be exploited by others under licence or assignement (transfer of ownership).
- In addition to the economic rights under copyright authors has moral rights that protect non-economic interest (attribution, false attribution, claim authorship).

Types of intellectual property examples

Patents

A patent is an exclusive right granted for an invention, it gives the owner the monopoly of it. It can be either a product or a process that provides, in general, a discovery of doing something, or offers a new technical solution to a problem. It is a strong protection that satisfy specific standard such as novelty but not limited to this.

To get a patent, technical information about the invention must be disclosed to the public in a patent application.

It gives a monopoly right for up to 20 years and 25 years for some medicinal product (David. Bainbridge, 2012).

Types of intellectual property examples

Patents

- Patents are formal rights, and are subject to a formal registration system.
- For Patents the monopoly rights do not last as long as some informal rights (Copyright 70 year and more).
- Patents application fees vary not only based on the location (country), but also on the complexity of the invention it can be $2000 for design patent to + $100000 for international patent.
- Generally employee are the inventor but the employer is the proprietor, the employee can asks for a compensation award if the patent gives a high return (money income).
- **Reamark:** This list of intellectual property types is not exhaustive, we will go through others in details in next chapters.

UNESCO world declaration on higher education

University has fundamental roles/functions in teaching and scientific research but it has also a sociale services. The UNESCO world declaration on higher education issued on October, 09th 1998 and validated in 2009 has well explain these functions and tasks and advise university community to:

1. Grant **Equity** of access; no discrimination can be accepted in granting access to higher education based on race, gender, language or religion, or economic, cultural or social distinctions, or physical disabilities.
2. Educate, train and to undertake research; produce highly qualified graduates and responsible citizens able to meet the needs of all sectors of human activity.
3. Preserve and develope crucial functions, through the exercise of ethics and scientific and intellectual rigour in various activities.
4. be able to speak out on ethical, cultural and social problems completely independently and in full awareness of responsibilities.
5. Enhance the access of women to higher education.

UNESCO world declaration on higher education

6. Reinforce and promote programmes with long-term orientations on social and cultural aims and need.
7. Strengthening co-operation with the world of work and analysing and anticipating societal needs.

8. Educate students to become well informed and deeply motivated citizens, who can think critically, analyse problems of society, look for solutions, apply them and accept social responsibilities.

6. Sharing knowledge and know-how across borders and continents.

7. International co-operation schemes should be based on long-term partnerships between institutions in the South and the North, and also promote South-South co-operation. Priority should be given to training programmes in the developing countries,

Algeria University Charter Of Deontology and Ethics

Algeria University identify and respect its own fundamental moral values and ensure that the entire university community has to implement and defend.

1. **Academic freedom**: teaching and research activities is practiced with respect for others, with a professional conscience ensuring the expression of critical opinions without censorship or coercion (الإكراه) (Articles 74 and 75 of the 2020 Constitution).
2. **Respect of University Franchise:** All the parties belonging to the university community should be refrained from promoting or encouraging the situations and practices which may infringe the principles, the freedoms and rights of the university. In addition, they have to be refrained to exercise any political partisan activity within the entire universities milieu.
3. **The requirement for scientific truth, objectivity and critical spirit:** Scientific truth and Critical thinking are fundamental principles of the “quest” and possibility for interrogating the knowledge that university both transmits and generates.

Algeria University Charter Of Deontology and Ethics

4. **Responsibility and competence:** Teachers competence must serve and promote the autonomy of students; considering them as future professionals and citizens.
5. **Integrity and Honesty:** The university community should refrain from all forms of corruption, plagiarism and conflicts of interest.
6. **Mutual Respect:** University community members must ban violence in whatsoever form, be it symbolic, physical or verbal moral or sexual harassment, and any kind of discrimination.
7. **Digital ethics:** Secure data to protect digital systems, infrastructure and users against breaches, unauthorized access and all other cyber security threats. Also meet the ethical, moral and social challenges that the advent of artificial intelligence inflicts on the sector of higher education and scientific research.

Algeria University Charter Of Deontology and Ethics

Rights and Duties of Professor-Researcher Staff, and Permanent Researchers of Public or Private sectors.

Rights	Duties
-The researcher-professor benefits from adequate work conditions as well as the necessary pedagogical and scientific means that will allow him/her to be fully focused on their tasks and to devote necessary time to benefit from permanent training. -All matters related to defining and administrating teaching programs, research, as well as the allocation of resources must be, in accordance with the regulations in force, based on transparency mechanisms.	-He/she shall perform their profession with care, diligence, competence, integrity, independence, loyalty, honesty and credibility, for the best interests of university institutions and research. - Be obliged to conform to universal standards as much as possible in their professional activities, while preserving their freedom to proceed. -Demonstrate his/her professional conscience and availability while performing his duties. -Prohibit any teaching activity within an informal transaction. -……

Prepared by: Salah Eddine BOUHENICHE

Algeria University Charter Of Deontology and Ethics

Students Rights and Duties .

Rights	Duties
- Information about the higher education institution to which he/she belongs, including its internal regulations. - Freedom of expression and opinion in accordance with the rules governing university institutions. - It is imperative that the student receives the marks and bar of the test as well as the copy of the test. - Quality teaching and supervision based on modern and adopted pedagogical methods. - The student elects his/her representatives to the pedagogical committees without hindrance or pressure	- The student shall respect the dignity of members of academic community and the rights of members of the academic community to freedom of expression and opinion. - The student must refrain from interfering in the smooth running of the establishment, particularly, by closing the access routes to the teaching and scientific research facilities. - The student must wear a dress worthy of his /her status as a student. - The student must show good citizenship inside and outside the university premises. - The student is forbidden to resort to fraud and plagiarism.

Ethics and Deontology in Workplace/Business

What does “doing the right thing” mean in the workplace/business?

- Do what is right means, act safely and consider the well being of employees and partners.
- Be compliant with laws and regulations governing the business and activity.
- Conduct with fairness, integrity, honesty and professionalism.
- Proactively promote ethical behavior at the work place.

Ethical framework does not concern individual workers but also business owners, company CEO’s, and boards members, because a good frame can shape an entire organization.

The company head should endeavor to deal fairly with the Company’s customers, suppliers, competitors.

Ethics and Deontology in Workplace/Business

If no ethics in workplace

- Stealing office supplies.
- Lying on your manager or vice versa.
- Selling a non conform product (not Bio/ uncertified).
- Outright lying to customers about carbon emission from car driven by Diesel (VW in USA).

It lead to:

- Sceptical and unrespectful work environment.
- Lack of communication and conflict inside the organization/company.
- Less committment, operational distractions, and less productivity.
- Potential legal problems, public relationc scandals, financial liabilities, and even total collapse.

Ethics and Deontology in Workplace/Business

Each organization or company has it own values and rules which is summarised in the code of conduct ‘ regelment interieur ’.

The code of conduct is the duties and obligations that all the company members should obey. It is a document that provide further information about policies and standards and it gives guidance on how to comply.

Most code of conduct are supporting the below subjects(policies, standards, guidelines, procedures, and business systems):

1. **Employment Practices:** What employees owe to employer and vise-versa.
2. **Protection of confidential information:** whether it belong to the company or company partners under any forms---physical, electronic, and intellectual (such as know-how).

Ethics and Deontology in Workplace/Business

3. **Anti-money laundering:** Collect and verify information about your customers- partners….
4. **Anti-trust:** Prohibit, anti-competitive agreements, abuse of market power and monopolization and anti-competitive mergers (Halliburton acquisition of Baker Hughes 2014 not completed) , joint venture.
5. **Financial reporting:** All transactions, agreements, accounts and financial results are to be properly recorded in the Financial Statements.
6. **Conflict of interest:** make business decision based on what best for the company not what is best for you. Do not accept extravagant (high value) gift from supplier, competitor or customer. Do not use company resources for personal use. …. Etc.

Ethics and Deontology in Workplace/Business

7. **Intellectual property (IP):** Do not use unauthorized IP outside company without prior approval and not IP of third party inside company.
8. **QHSE:** Improve the quality of services and products while protecting people and the environment. Commit to the QHSE procdures in the work place.
9. **Improper payment:** anti-corruption policies apply in company services anywhere and anytime. This can be implemented by prohibiting bribery, facilitating payment (the payer is legally entitled to receive without making such payment). Do not give gifts entertainment or anything else that has a value to officials (government employees).

Ethics and Deontology in Workplace/Business

Is it easy to implement ethical principle in business where all that is important is **time and money**?

To do so, you should:

- Providing resources for advice on ethics and compliance issues.
- Train employees on ethical standards.
- Monitor regulatory compliance on regular basis and conduct audits.
- Periodically reviews and amends the code of conduct to ensure that it addresses any regulatory updates.
- Consult legal department in case of suspect payment request.

Scientific Research and Ethics

What can be ethical in scientific research field ?

From ethics definition we should know what is the morally acceptable way to conduct scientific research?

Is there any code of guidelines on how to do so?

We have to define principles and standards that help researchers to preserve the value and standards of knowledge construction.

We should know unethical scientific research ➔ Need to cite some examples

Scientific Research and Ethics

Unethical scientific research example ?

Jan Hendrik Schön scandal

A German physicist got a PhD from university of Konstanz and was hire by Bell Laboratories after a series of breakthroughs that was later discovered to be fraudulent.

1. He has more than 10 papers published as first author.
2. He received Otto-Klung-Weberbank Prize for Physics in 2001, and Outstanding Young Investigator Award of the Materials Research Society in 2002.
3. Later on many scientists could not replicate the work done by Schön.
4. Some has noticed that an identical graph of data appeared in several different papers.
5. His employer (Bell Lab) started an investigation of his works. Firstly, Schön claimed not to have any logs or notebooks related these works and that he erased all data from his computers.

Scientific Research and Ethics

Unethical scientific research example ?

6. His published papers were retracted.
7. June 2004 the University of Konstanz was revoked his PHD, he was fired.
8. October 2004 the **DFG**, the German Research Foundation announced that he was banned from working in science für eight years.

There was a similar work of Doctoral thesis in Algeria 2023; the work was stollen from Iraq and published in Algeria, the scandale was over facebook pages.

Unfortunately theses stolen works exist everywhere and all the time!

Scientific Research and Ethics

The unethical acts in scientific research are many but not limited to the below:

1. Publication of the results without permission of all the researchers.
2. Non acknowledgment of all the researchers who contributed to the work.
3. Deliberate fabrication (making) of data collected to conduct the research.
4. Passing other research result as own.
5. Deliberate ommission of know data that does not match with hypothesis.
6. Ommit or misrepresenting other‘s previous work in the domain and claim originality.
7. Repeat publication of the same work (same results).

Scientific Research and Ethics

- **Research Misconduct***
- Research misconduct means fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results.
- (a) Fabrication is making up data or results and recording or reporting them.

  (b) Falsification is manipulating research materials, equipment, or processes, or changing or omitting data or results such that the research is not accurately represented in the research record.

  (c) Plagiarism is the appropriation of another person's ideas, processes, results, or words without giving appropriate credit.

  (d) Research misconduct does not include honest error or differences of opinion.
- * From the office of research integrity USDHHS. https://ori.hhs.gov/definition-research-misconduct Accessed Feb 24th 2024.

Scientific Research and Ethics

Ethical Scientific Research Guidelines:

Intellectual freedom

Scientists are free to pursue new ideas and criticize old ones and conduct research on anything that have positive impact on human and environment or that mitigate negative impact on the same. It is practiced with respect for others, with a professional conscience ensuring the expression of critical opinions (Articles 74 and 75 of the 2020 Constitution).

Scientific honesty & integrity

- Scientists should not commit scientific fraud by, fabricating, “fudging: تزوير.Ar,” trimming, “cooking,” destroying, or misrepresenting data specially for statistical fields.
- To ensure that the integrity of the data is preserved, have one individual enter the data and another individual clean and validate them. Also, back up your data onto an external support (server, hard disk or any mean of archiving)
- Data/results must be reported directly as it is, not through a filter based that your audience like; and don’t delete any finding or data even if you’re sure they’re irrelevant.
- Disclose alterations you’ve made and explain why you made them.
- Do not deceive colleagues or any partner/sponsor to your research.

Scientific Research and Ethics

Ethical Scientific Research Guidelines:

Objectivity

- Strive to avoid bias in experimental design, data analysis, data interpretation; work without being influenced.
- May it is not possible to avoid bias but try to reduce it by accepting peer review, personnel decisions, expert testimony, and other aspects of research where objectivity is expected or required.
- Avoid or self-deception. Disclose personal or financial interests that may affect research.
- If you do not try to be objective and fight subjectivity , you rise the likelihood that you may misinterpret data and results.
- Employing control groups especially for data management and blinding mechanisms is essential to reduce subjective influence. Systematic data gathering (data through interviewing, questionnaires, and other methods), coupled with **impartial analysis** will make you able to give a fair opinion or decision.

Scientific Research and Ethics

Ethical Scientific Research Guidelines:

- **Carefulness**
- Think carefully about something you will make a decision about; try to give the most serious consideration for that.
- Avoid careless mistakes, errors and negligence; carefully scan work to be published and ensure that no misleading mistakes are made.
- carefully and critically examine your own work and the work of your peers. Keep good records of research activities, such as data collection, research design, and correspondence with mentors or agencies or any organization involved in domain of research.

Scientific Research and Ethics

Ethical Scientific Research Guidelines:

- **Openness and Transparency**
- Share data (in respect to owner confidentiality), results, ideas, resources. Be open to criticism and allow other researchers to see your findings/work.
- offering public access to publication, data, and other research materials, which enables circulation of scientific knowledge, and more opportunities for replicating and building upon scientific findings.
- In our days openness in research means to conduct research in the spirit of making methodologies and documentation freely and openly available via the internet (dedicated platform like Edx & Coursera, youtube channels ….).
- Open research allows better collaboration, and more participation, and equality in the research world. The access to high-quality data makes new kinds of products, services, and promote research.
- **CODATA** is the Committee on Data of the International Science Council (ISC).
- The **European Open Science Cloud (EOSC)** and **OpenAIRE** are examples of European projects that support Open Science
- Research transparency is the sharing and dissemination of research and research outcomes within the scientific community and interested public. To maintain transparency you should be **accountable**; so be able to give an account (explanation or justification) of what you did on a research.

Scientific Research and Ethics

Ethical Scientific Research Guidelines:

- **Mentoring and publication responsibility**
- Mentor help to supervise, to advise students and researchers, and to ptomote their capacity to make their own decisions.
- Expert mentor junior researchers is a right but it is up to the researchers to not abuse mentoring relationship.
- Both mentor and trainee are responsible for the success of the process of conducting a research which transmit ethical standards of professional conduct.
- Mentoring imply that one person's knowledge or skill is greater than another's.
- Publishing gives; opportunities for collaboration, increase your visibility, credibility and trust, inspiration for future research, and contribution to the field in question.
- Publish in order to develop research and possible scholarship, not to develop just your own career.

Scientific Research and Ethics

Ethical Scientific Research Guidelines:

- **Giving Credit where it is Due**
- The author must give credit to those who contributed to the research.
- Violation of this guideline can be **not giving enough** credit and **giving too much** credit.

Claiming a breakthrough without acknowledging previous work leading to some famous controversies over priority.

e.g: Isaac Newton, though he modestly spoke of standing on the shoulders of giants, was not always so generous to living rivals. If he didn't like a certain researcher, he wouldn't cite him in an article any more than was absolutely necessary. This is unethical but is fairly common practice among researchers even today. (https://www.enago.com/academy/publication-ethics-giving-credit-credit-due/: accessed March 1st 2024).

Military scientists of the USSR.

Scientific Research and Ethics

Ethical Scientific Research Guidelines:

- **Giving too much credit**
- Giving abundant and unnecessary citations to a colleague or naming him as a coauthor when he had contributed nothing to the content of the paper is more scandalous, especially if the colleague is a superior.
- The alpha-beta-gamma paper a flagrant example of unjustified credit occurred in 1948 when PhD student Ralph Alpher and his adviser George Gamow prepared a paper on "The Origin of Chemical Elements," arguing that the Big Bang would have created all the elements found in the early universe. Before sending it off to Physical Review, Gamow added the name of his friend Hans Bethe as coauthor even he hadn't really contributed to the work, but the paper contains a **significant scientific discovery**. His justification for doing this was nothing more than "It seemed unfair to the Greek alphabet to have the article signed by Alpher and Gamow only." Get it? Alpha, beta, gamma—(Apher, Bethe, Gamow).
- Alpher, as a PhD student struggling to make a name for himself, objected to the addition, fearing that the name of the famous Bethe would overshadow his own, reducing the credit he received for his crucial contribution to an important piece of research. But Gamow published it with Bethe's name, despite Alpher's objections. (https://www.aps.org/publications/apsnews/200804/physicshistory.cfm)

Scientific Research and Ethics

Ethical Scientific Research Guidelines:

- **Conflict of interest**
- Papers review that have data or results which directly overlap with your work will be subject to conflict of interest.
- Accepting gratuities or special favors from companies sponsoring one's research at the University.
- Using students to perform services (beside the internship) for a company in which you have a financial interest.
- Accepting a paid consultancy with a company or laboratory having an interest in your research.
- Accepting gifts from students or parents of students whom they are under your evaluation.
- Assigning as the required text for a course, a book, for which you receive royalties.
- Disclosure of research results and findings, at the request of a sponsor or financially interested company.

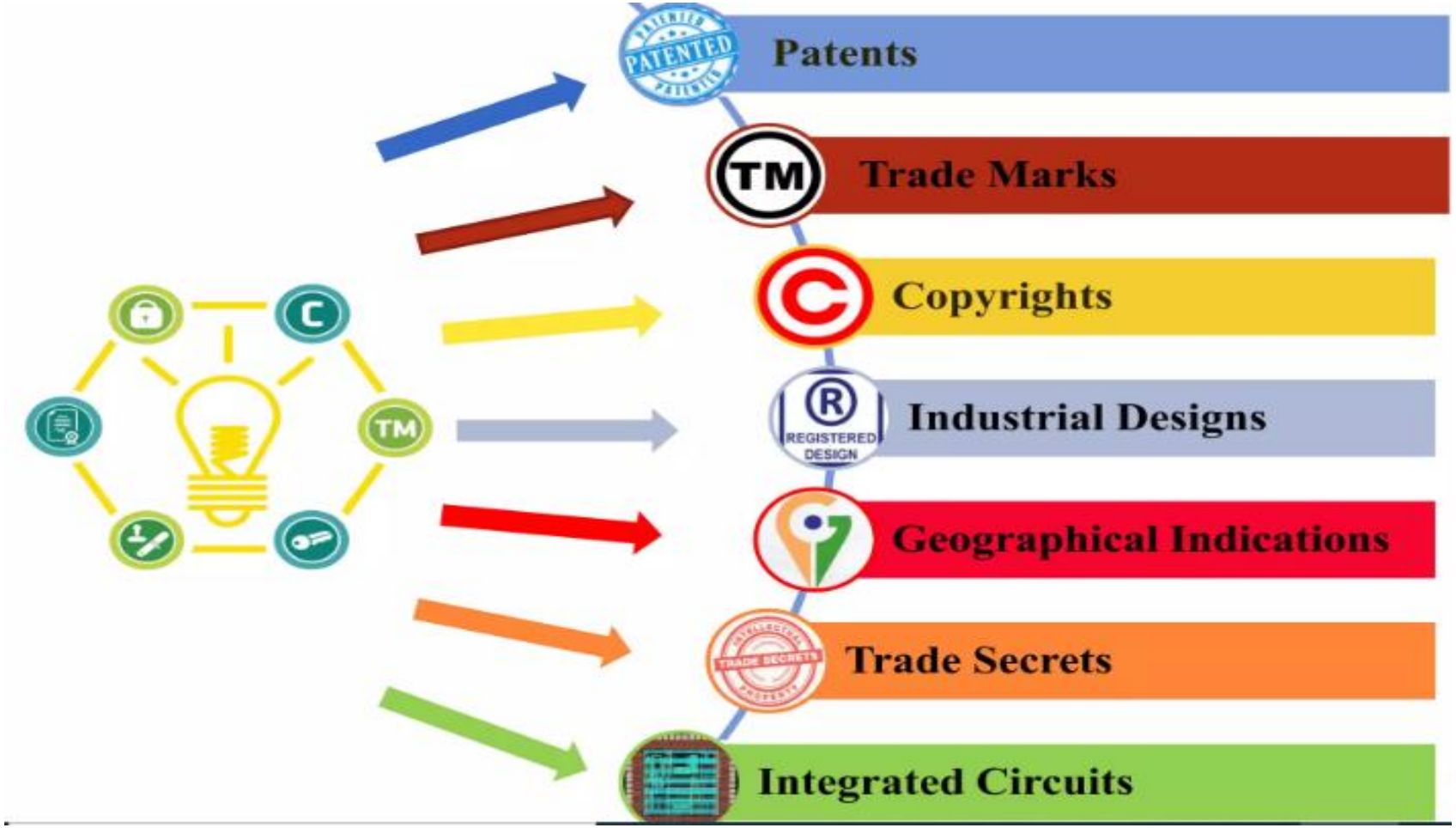
Intellectual property rights (IPR)

- As already defined, IP refers to creations of the mind or human intellect, for example, patents, copyright and trademarks……, it enable people to earn recognition or financial benefit from their own effort of what they invent or create. We have seen also that it cover a vast range of activities which have an impact on cultural and economic life. We will cover here the IPR which helps to protect information, ideas and applications of ideas that have a commercial/economique value.

- What these rights of intellectual property are for?
- To protect and faciltate the own, the sell, the lease or the license of the peoperty.
- Optimize the investement in R&D by orienting inventions to new fields where there are low number of patent and design.
- Prevents competitors infringement on your own intellect effort.
- Improve licence agremment by a rigorous and consistant texts of laws.

Intellectual Property Rights (IPR)

Some Types of intellectual property



Source: R.Arun Kumar M.E, Webinar 2021

Intellectual property rights (IPR)

- **Patent:**
- Already covered but we can added the following:
- As it concern product or process (RNA based vaccin for Covid 19)
- The first recorded patent for an industrial invention was granted in 1421 in Florence to the architect and engineer Filippo Brunelleschi. The patent gave him a three-year monopoly on the manufacture of a barge with hoisting gear used to transport marble.
- Must be inventive and show the ingenuity comparing to peers working in the same field.
- Must has industrial applicability.
- It can be a useful improvement of an existing invention e.g: cars was driven from rear wheel its unitil 1930 that Barnhart Robert Marshall register the front wheel drive (direct transmission of movement from motor to the front wheel).

Intellectual property rights (IPR)

Gem Clip
Source:
https://commons.wikimedia.org/wiki/File:Clip.jpg

Binder Clip
Source:
https://www.ontimesupplies.com/nsn2855995-nsn2855995-binder-clip-large-black-silver-dozen.html

According to the Canadian office of intellectual property around 90% of patent are improvement of existing patented invention.

Non Patentable inventions:

- Inventions that harm public order, morality, public health, the environment, etc.
- Scientific discoveries (Garvity law, method for treatment of Cancer).

Intellectual property rights (IPR)

- **Trade mark ™ or registered mark®:**

Generally it is a sign, word, or symbol or a combination that denotes a product or service and legally distinguished it from all others of its kind. It is registered for 10 years and can be renewed.

Trade mark are for:

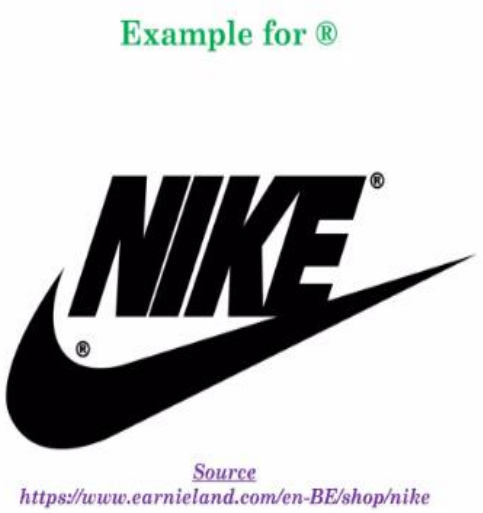
- Reflecting the fact that a registered trade mark is an item of property, to protect business reputation.
- To protect consumers from counterfeit (contrefaçon), that is to prevent the buying public from purchasing inferior quality goods or services

Remark:

® has much greater legal protections compared to an unregistered trademark (TM).

Intellectual property rights (IPR)

- **Trade mark ™ or registered mark®:**



Intellectual property rights (IPR)

- **Copyright:**

Already covered but we can added the following:

- Rights derived from any original literary, artistic or musical work can be registered from the moment this work is created.

- It is a protection of unauthorized use of other works.
- It is recomended to register your copyright by using the proper marking for your copyright © especially for softwares.

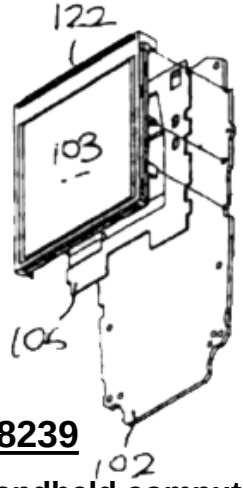
Intellectual property rights (IPR)

- **Industrial design:**
- The visual features of shape, configuration, pattern or decoration (or any combination of these features) applied to a finished good/article made by hand, tool or machine.
- The design must be original and can be showed in 2 or 3 dimension (Car design, piece/part design ……)
- Because of complexity in this field the **Hague agreement** 1925 stipulate the laws that allows industrial designs to be protected in multiple countries or regions with minimal formalities.

Intellectual property rights (IPR)

- Difference between **Patent** , **Trade mark** and **Industrial design**

- **Patent**



- **Patent CA 2508239**
- **A display for a handheld computing device includes a display panel; a circuit board carrying display electronics for the display panel; a cover assembly securing the display panel to the circuit board; and a resilient layer adhered to the circuit board for securing the display to the computing device.**
- **Inventors: HOLMES, CHEN, SIMOES**
- **Owner: RESEARCH IN MOTION LIMITED**

Trade-mark

Trade-mark Registration TMA 659946

Wares/Services: **Electronic handheld units**

Registrant: **BlackBerry Limited**

Industrial Design

Industrial Design Registration 125919

Title: **Handheld Electronic Device**

Registrant: **RESEARCH IN MOTION LIMITED**

Source: Canadian intellectual property

Intellectual property rights (IPR)

- **Geographical indication GI:**
- According to the WIPO the GI is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin.
- In another term it is a tag used on commodities (primary goods/primary product) that have a specific geographical origin, and have a unique quality or qualities or reputation related to this geographic area.
- Its registration is up to any producer (individual or association) or any organization/authority which represent the interest of the producers.
- Protection normally lasts until the conditions justifying protection are upheld. for agricultur products it is valid for eternity.
- GI is generally used for: a) Agricultur product b) Handicraft
- c) Manufactured products d)Natural and food stuffs

Intellectual property rights (IPR)

- **Exemple of GI:**
- A project (2014-2016) with Eurpean Union led to the recognition of two GIs: **Tolga Deglet Nour** date and **Beni Maouche dry fig**.
- "**Khorasan saffron**" and "**Ghaenat saffron**" in Iran.
- **Camembert cheese**, Town of Camembert in Normandy, France.

- The italian Geographical Indication Tag

Intellectual property rights (IPR)

- **Trade secret:**

Trade secrets are intellectual property (IP) rights on confidential information. They are any practice or process of a company/organization that is generally not known outside of the company/organization, which give it a competitive advantage over its competitors. They are associated with industrial and commercial activity and may be sold or licensed.

- To classify confidential information as trade secret:

  The info must be known only to a **limited group of persons,**

  Have a high economic value and **commercially valuable** because it is secret,

  Be subject to **reasonable steps taken** by the rightful owner of the information **to keep** it secret.

- Trade secret is **highly confidential** that imply rules of confidence even beyond the termination of employment or the service contract.

Intellectual property rights (IPR)

Example of Trade secret:

- A secret industrial process containing an inventive step such as some of new technologies of carbon capture storage(sequestration) CCS.
- Prices of some contracts such as; Gaz contract; new and high-tec products.
- Source code programs are trade secrets unless published by the owner of the program.

It may be protected as a trade secret, the **technical information**, concerning manufacturing processes, experimental research data, software algorithms and **commercial information** such as list of suppliers and clients, advertising strategies and supply chains. It can be also the combination of both.

Contrary to patents, trade secrets are protected **without registration**, that is, trade secrets require no procedural formalities for their protection. It can be protected for an **unlimited period of time, unless it is discovered or** acquired under license by others and disclosed to the public.

Intellectual property rights (IPR)

Integrated Circuit Topography: Integrated circuit topographies refer to the three-dimensional configurations of electronic circuits embodied in integrated circuit products or layout designs.

- They are at the heart of modern technology, such as:
  - Computers
  - Automobiles
  - Industrial robots
  - Cameras
  - Airplanes
  - Plant powering

Compliance with standards/norms (Respect des normes)

Compliance means that a company or organization adheres to the applicable rules and standards (norms). This includes both country specific laws and requirements from the regulatory authorities as well as internal organization directives/ policies/ procedure.

Here, we should mention the difference between a regulation and a standard. They are both requirements that apply on you or your organization.

Standard: - it is a level of **quality** or atteinment (Oxford Dict).

- a moral rule that should be obeyed (Cambridge Dict), e,g: Certain of the candidates were well below the usual standard, but others were very good indeed.

ISO have thousands of standards.

Regulatory: - having the power to control an area of business or industry and make sure that it is operating fairly (Oxford Dict).

of or relating to a person or organization whose job is to control an activity or process. (Cambridge Dict), e.g: State and local governments also have considerable *regulatory* authority over **granting permits** necessary for the operation.

Most active standardization organization

https://www.ianor.dz/normalisation/normes-ctn/

Compliance with standards/norms (Respect des normes)

Examples of standards in different fields:

Civil engineering	Entreprise Management	Environmental & human protection	Oil & Gas sector
B.A.E.L 91 (R 99) is a French norm/ standard/code for concrete & reinfoircing steel.	**ISO 9001** specifies requirements for a quality management system (QMS).	FAO/WHO Standard for Natural Mineral Waters **(CODEX STAN 108-1981**) Description : This standard applies to all packaged natural mineral waters offered for sale as food	**DNV-ST-F101:** The pipeline standard, Submarine pipeline systems, it provides acceptance criteria and procedures for pipeline design, fabrication and installation
ASCE 37, the wind load applied to a structure under construction for less than six weeks is 56% of that applied to a permanent structure, due to its reduced probability for being exposed as a permanent structure	**ISO 26000** is giving guidance about how any organization can improve its Social Responsibility (sustainablity, social economic development)	**NA 270** Norme Algerienne specifies procedures for the preparation of a test sample from a laboratory sample of animal or vegetable fats and oils for the purpose of analysis. **Equivalent ISO 661**	**NA 563** Liquefied petroleum gases (**GPL**),Determination of gauge vapour pressure LPG method
ASTM D615 is an American testing standard that provides dimensional, chemical, and physical requirements for steel bars.	**ISO 20022** is an ISO standard for electronic data interchange between financial institutions	**ISO 14001** It provides a framework for organizations to design and implement an environmental management systems(EMS).	**API 5CT** standard for Casing Pipes used for oil well and their grade, size, connection type….

Ethics and Artificial Intelligence

The world is not static; there are a great and fast change due to the owe of doing things more quick, more smart and more autonomy. This is happening by using a very powerfull computing machines that are using a huge existing data. These known to us as Artificial Intelligence (AI).

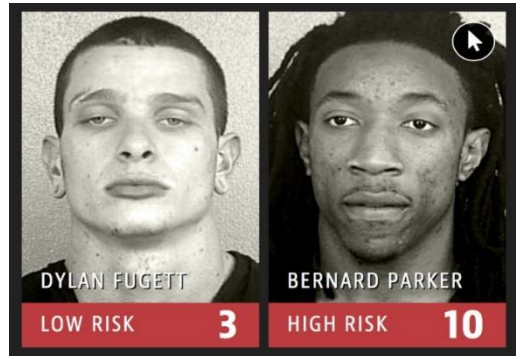
Artificial intelligence: Artificial Intelligence can be defined as technology that demonstrates some form of basic human intelligence; mainly the ability **to learn to solve problems** and **make decisions**. AI generates solutions based on existing data, whereas humans can think outside the box and invent entirely new concepts. Do this state of the art will change?

Elon Musk wrote in his post on Twitter (now X).March 13th , 2024

"AI will probably be smarter than any single human next year. By 2029, AI will probably be smarter than all humans combined,“ !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

Ethics and Artificial Intelligence

AI is becoming more present in our daily life, its impact on society is more significant from day to day, concerns and issues are raised regarding some aspects such as:



- Values respect and alignement (Privacy, theology….).
- Law and regulations comittments.
- Data analysis and bias; AI is potentially to be biased due to it needing to learn from data that **is given** to it.
- AI may threats industries where they are implemented; for the cybersecurity field, an AI tasked with assigning users on a network or a software access certain privileges may automatically deny a user these privileges based on biases that it may have.
- Potential misuse of AI technologies example of **Project Nimbus (2021)** a cloud computing project between Google+ Amazone and the Israeli government that motivate Google researchers to resign these days because of its specific mission which has not yet been revealed. AI tools could give the Israeli military and security services the capability for **facial detection**, automated image categorization, object tracking & sentiment analysis….

Ethics and robot (Roboethics)

Robot is a mechanical or virtual, artificial agent used to perform dirty, inaccessible and unsafe jobs. It is highly used for assembling and finishing tasks like in car industry. It improve production and reduce the cost of manufactured goods. But it makes a huge work force displacement/replacement of low skilled employees. Robots can accidentally hurt human kind and it is a serious danger if integrated with malicious AI.

Robert Nicholas Williams (January 25th , 1979) was the first known human to be killed by a robot. While working at the Ford Motor Company's Michigan Casting Center, Williams was struck and killed by the arm of a robotic transfer vehicle.

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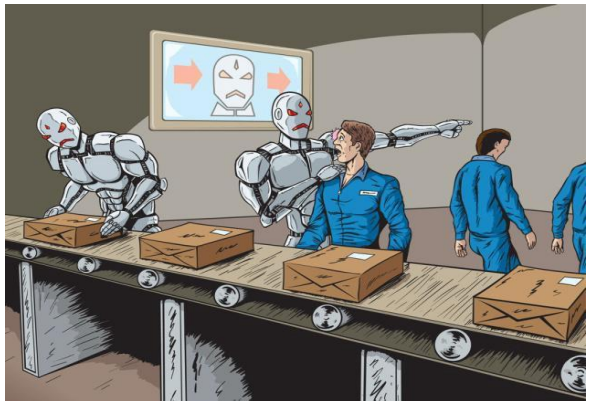
Robot in automotive industry



Robot in packaging

Robot in millitary service

Ethics and robot (Roboethics)

Robot ethical issues:

Robot intelligence and ability to act can surpass humans in many fields.

Robot is not independent from AI, so any miseuse of AI can make from robot a new kind that can exterminate human.

Lack of standard there is a race to manufacture the faster robot in the world.

Robotic evolutionary speed versus regulations weaken human control and induce new types of hazards not known before (especially from humanoid robot).

To remedy:

- **Asimov 1950** was the first to establish the principle that robots should be governed by principles. He wrote **3 laws** (not injure human, must obey order, must protect its own existence).
- 2007 South Korea drafted an ethical code to prevent humans abusing robot and vice versa and Japan also do similar law.
- EURON (European Robotics Research Network) has identified 5 area that well regulate robot activity which are: Safety, security,privacy,traceability, and identifiability.

Ethics and Artificial Intelligence and sustainable development

AI has a white face also and promote sustainable development goals (17 SDG)set by the UN for the whole humanity.

It adviceable to watch the following video to well understand impact of AI on these 17 sutainable development goals and this can be done.
https://www.youtube.com/watch?v=FtvHrwOTc7E

Ethics, Artificial Intelligence and sustainable development

According to the world economic forum there are 4 ways AI can super-charge sustainable development:

- **1. Innovation: igniting a new wave of solutions**

Examples of project that materialize these solutions are:

Stream Ocean: Addressing the least funded SDG, life below water (SDG 14), Stream Ocean (formerly Nature Counts Foundation) deploys AI and machine learning for real-time monitoring of marine biodiversity through underwater video cameras. This technology aids coral restoration projects by providing advanced ocean data analytics, including biodiversity metrics, in real time.

Pano AI: Using AI to detect, verify and classify wildfire events in real time, Pano AI contributes to global resilience against the increasing frequency and intensity of climate-related disasters caused by forest fires.

Ethics, Artificial Intelligence and sustainable development

2. Sustainable finance: navigating climate risks with AI

AI-powered tools are invaluable instruments for analyzing vast datasets/databases, including climate and financial data, to identify climate risks, mitigation plans and investment opportunities. Examples on these approaches are:

The Asian Development Bank which aims to enhance energy security in developing countries and combat climate change through increased adoption of clean energy has launched the **Artificial Intelligence and Digitalization Fund**. This fund will support technologies across multiple energy sectors, including, but not limited to, industry, transport, and power.

The AI tool **Aladdin Climate** to quantify climate risks and opportunities in financial terms. It is an Integrated AI algorithms to measure and track the carbon footprint of investments. This is a good tool helping to draw the policy of net zero world wide for each country.

Ethics, Artificial Intelligence and sustainable development

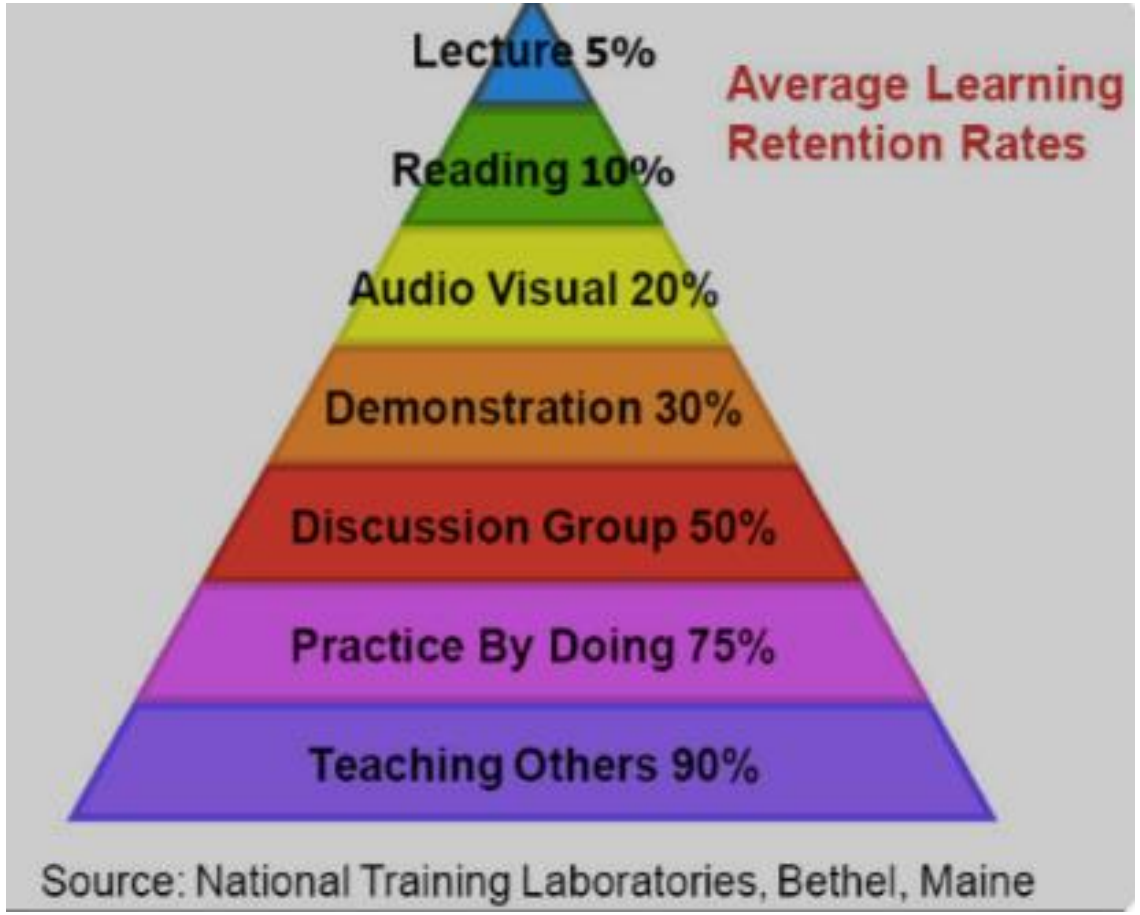
3. Impact Management & Measurement (IMM)

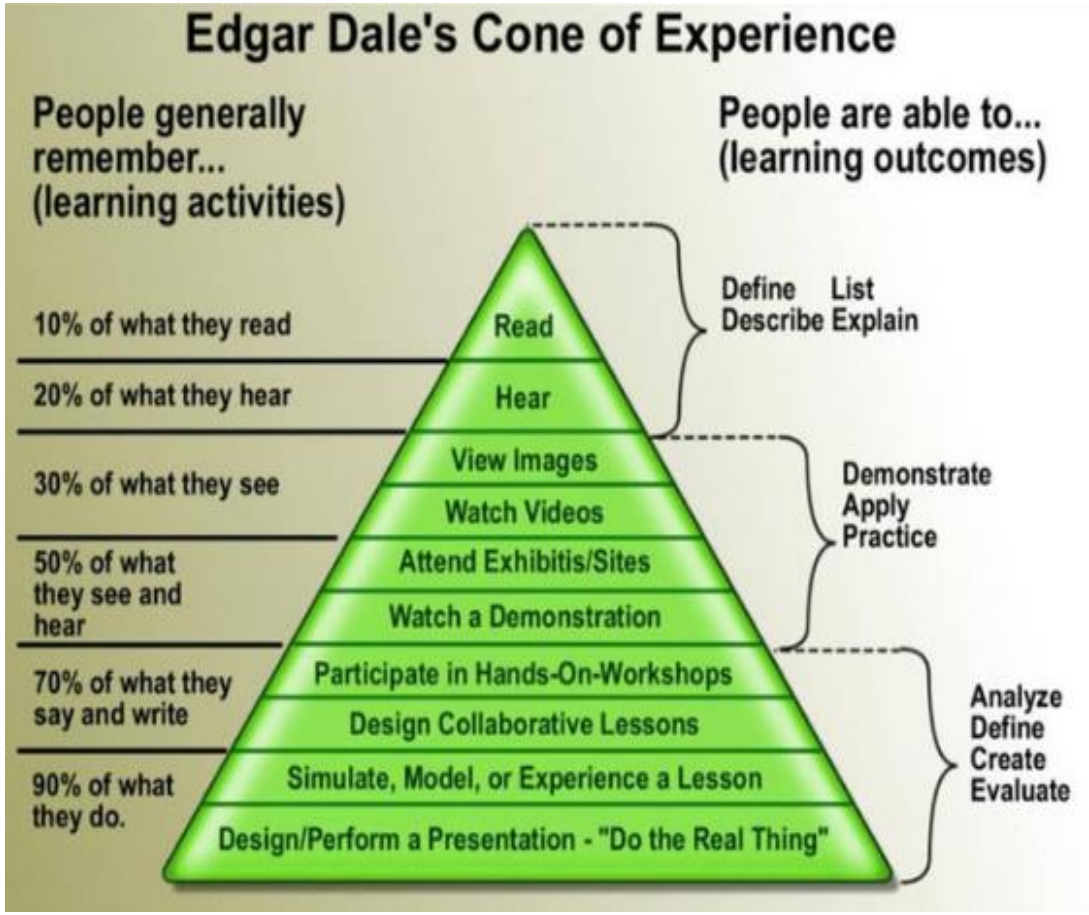
This is related to integration of AI to further enhance the precision and efficiency of assessments of the sustainable development goals. It provides a transparent means to assess whether the objectives are being achieved or not. It is also about accountability and transparency to track and report progress for achieving theses goals. A best way of this is the IMM frameworks, from the European Commission that tracks and measures the impact and progress related to clean water and sanitation goal (SDG 6), specifically focusing on the access to clean water and improvement of sanitation facilities.

4. AI's transformative role

AI emerges as a powerful catalyst for reshaping how society views sustainability. It drive transformation in all sectors. It fosters trust and propels innovation, becoming a pivotal force in directing our collective path toward a sustainable future. Keeping it ethical will be the main challenge

This is the learning activities, it helps students to manage their retention level





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