Law and Technology in the 21st Century: Nexus and Challenges

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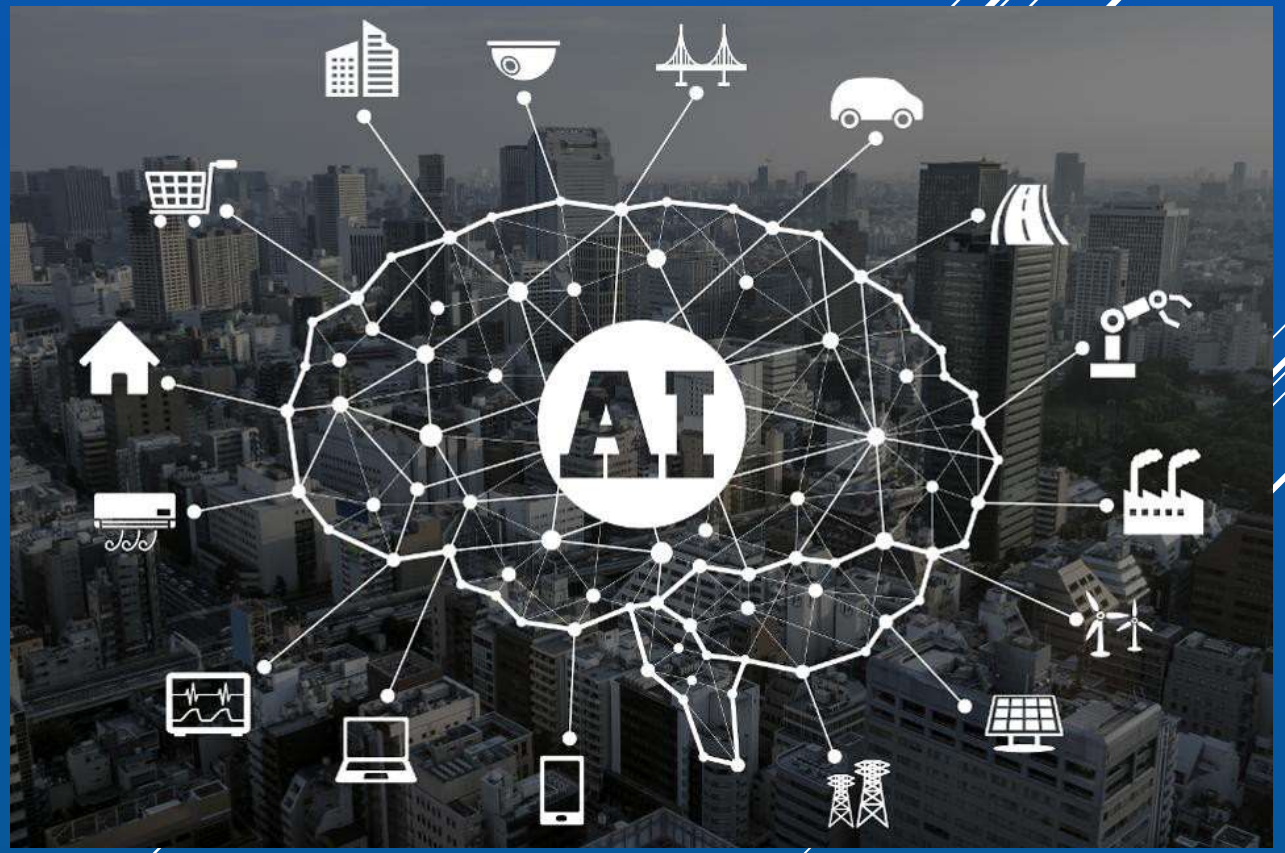
Technology as a Betrothed Wife to Law in an Unhappy Marriage

An old man who loves stability, law claims to be young at heart. But forever young, technology wants to innovate and disrupt. Betrothed to law, technology is often shopping for something new and thrives in constant change. Law is forever playing catch up, unable to fully understand technology's disruptive, fast, unstable, and constantly changing ways. The couples are unhappy. Technology threatens divorce. Law threatens showdown. Consequently, law and technology constantly struggle to find a nexus. And the struggle goes on, unhappily ever after.

Globally, disruptive technologies are not only creating **new opportunities,** but also creating **new challenges.**

Artificial Intelligence (AI)

- By 2020, 1 billion video cameras will be connected to AI;
- By 2020, 85% of customer interactions will be managed without humans.



Artificial Intelligence (AI)

- By 2025, AI software market will be $60 billion;
- By 2030, AI will add an estimated $15.7 trillion to global GDP.
- By 2020, there will be 4 billion AI-powered devices.

Autonomous Cars

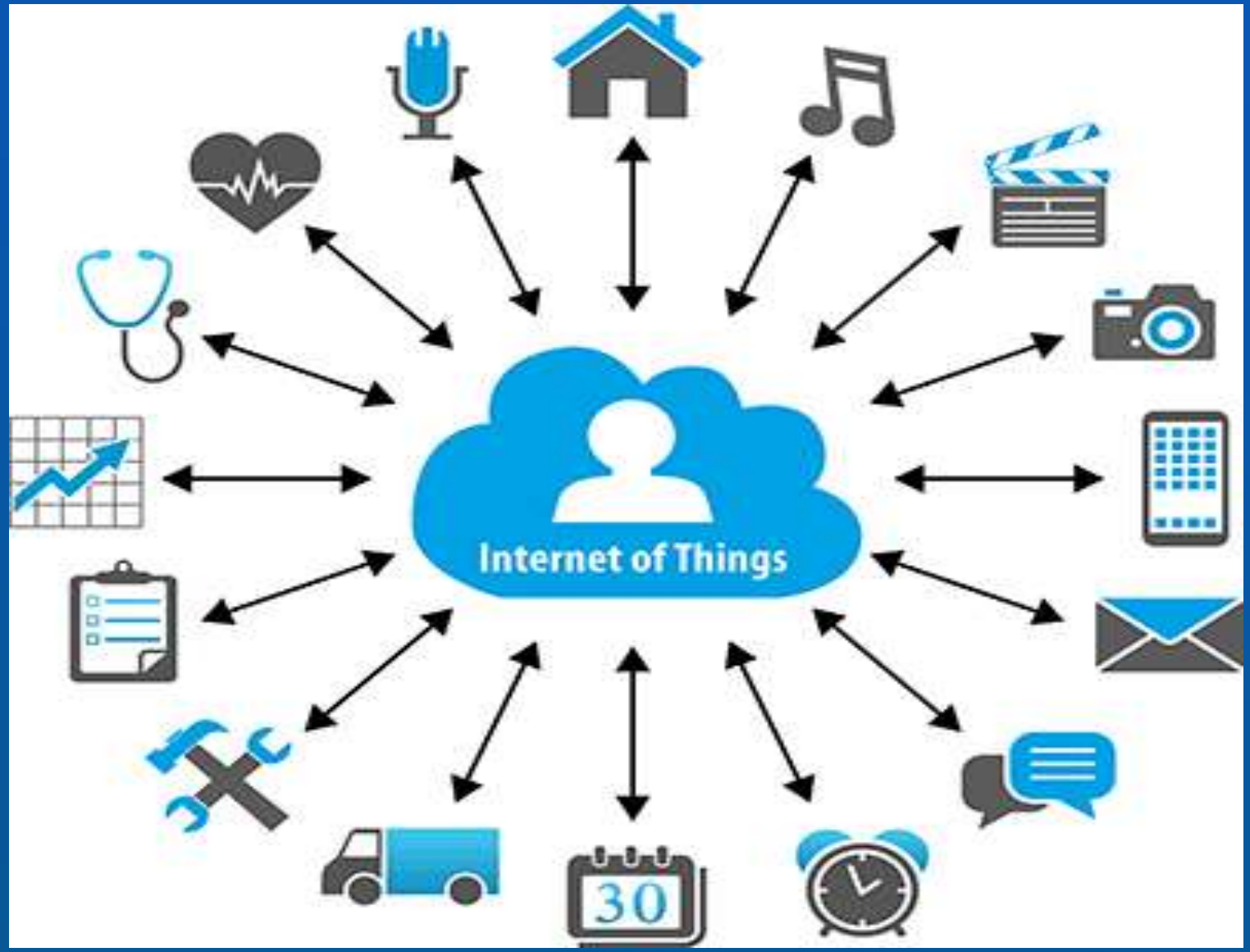
Who is liable for damages resulting from accidents? Maker or machine?

Blockchain

"The third-generation Internet."

Cloud Technology

Storing and accessing data and programs over the Internet instead of your computer's hard drive.



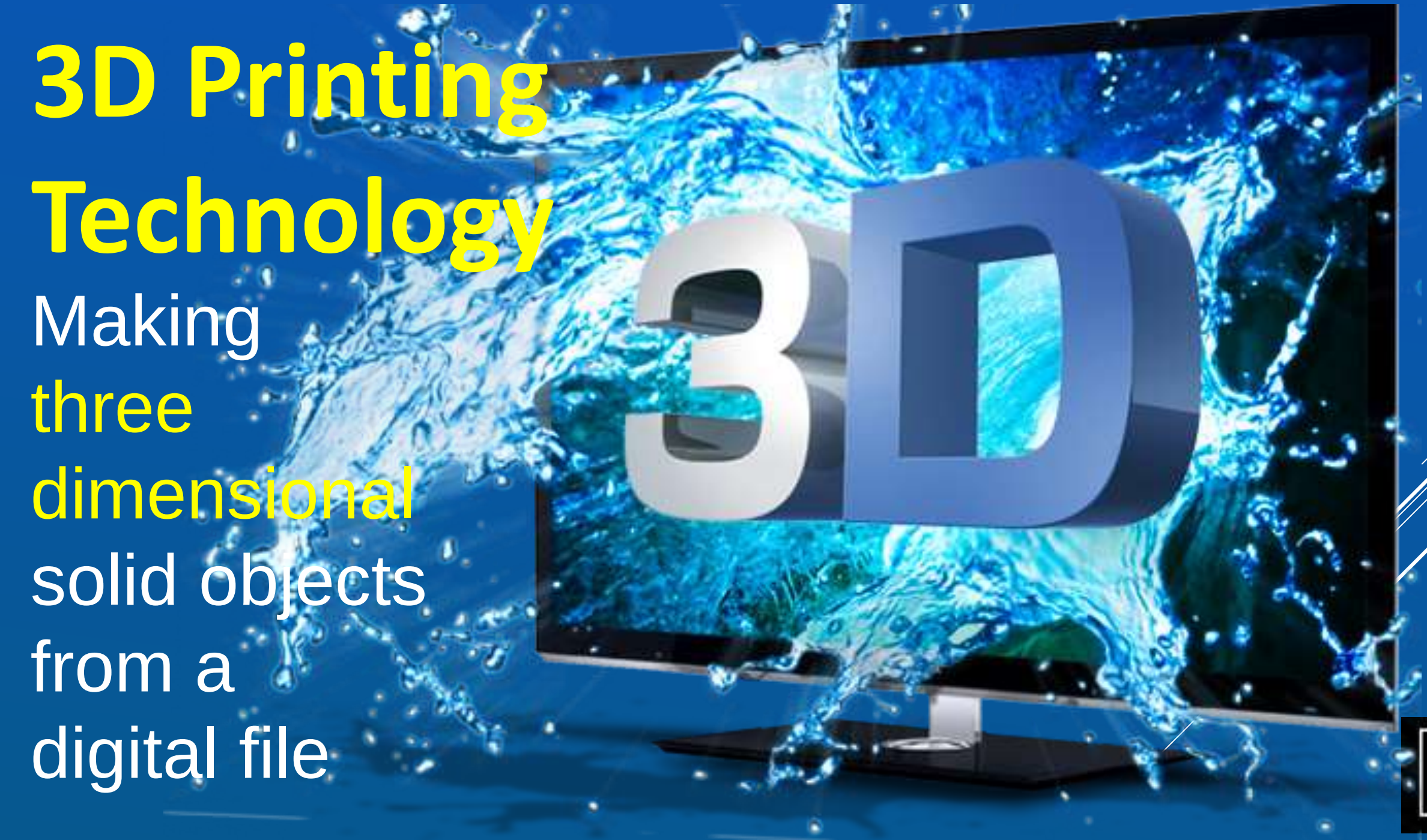
Internet of Things (IoT)

A giant network of connected "things" (including people)

Gartner says that by 2020 there will be over 26 billion connected devices.

3D Printing Technology

Making three dimensional solid objects from a digital file



Interaction between Law and Technology

"Law and technology interact when legal rules foster or retard the development of technology. They also interact when society decides that technology produces undesirable results and employs legal rules to contain or modify those results."- Daniel J. Gifford, 'Law and Technology: Interactions and Relationships', Minnesota Law Review, Journal of Law, Science & Technology, 2007, Vol 8, Issue 2, 572

Spot the difference.

Technology

Law

What is law?

“Law is social engineering which means a balance between the competing interests in society.”-

Electronic Evidence: Challenges in Admissibility of Electronic Evidence

Until the Evidence Act of 1945 was repealed by the Evidence Act 2011, computer-generated evidence was completely inadmissible in judicial proceedings in Nigerian courts. Esso West Africa Inc. v. T. Oyegbola (1969) 1 NMLR 194, the Supreme Court said obiter that "The law cannot be and is not ignorant of modern business methods and must not shut its eyes to the mysteries of the computer".

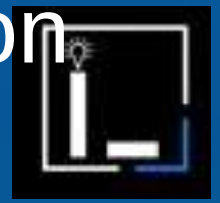
Nexus: The Evidence Act 2011 accepts electronic evidence if it meets the conditions therein.

Section 84 of the Act adopted the provision of section 5 of the English Civil Evidence Act 1968.

Nexus Contd: Section 84 on Conditions for Admissibility of Electronic Evidence

(a) The computer from which the document was produced, was used regularly during the material period to store electronic information or to process information of the kind stated in the document;

(b) The computer from which the document was produced also had stored in it other information of the kind contained in the document or of the kind from which the information contained in the document was derived;



Nexus Contd: Section 84 on Conditions for Admissibility of Electronic Evidence

(c) That throughout the material period, the computer was operating properly; and where it was not, evidence must be provided to establish that during the period when the computer was not operating properly, the production of the document or the accuracy of its contents were not compromised or affected; and

(d) That the information in the statement is reproduced or derived from the information supplied to the computer in the ordinary course of the activities in question.

Intellectual Property

In the area of intellectual property, technological advancements in digital media continue to impact on IP, both positively and negatively. More and more sectors are becoming IP-intensive.

Challenges: Six Characteristics of Digital Media Present Serious Challenges to IP

(1) the ease with which works in digital form can be replicated;
(2) the ease with which they can be transmitted;
(3) the ease with which they can be modified and manipulated;
(4) the equivalence of works in digital form;
(5) the compactness of works in digital form; and

Challenges: Six Characteristics of Digital Media Present Serious Challenges to IP Contd …

(6) the capacity works in digital media have for creating new methods of searching digital space and linking works together.

Pamela Samuelson, 'Digital Media and the Changing Face of Intellectual Property Law', Berkeley Law Scholarship Repository, Law, 16 Rutgers Computer & Tech. L.J. 323 (1990), 323, 324

Nexus: Law and Technology can combine to protect IP in the digital age

1. Content Identification Technique e.g YouTube's Content ID;
2. Blockchain-powered anti-counterfeiting mechanisms;
3. Encryption for digital contents such as ebooks;
4. Online Dispute Resolution (ODR) for domain-name trademark infringements to cater to digital businesses, e-commerce sites, and others doing business online or providing services online; and
5. Technology-friendly IP law reforms.

Artificial Intelligence

First, a “smart robot” has been defined as “one which has autonomy through the use of sensors and/or interconnectivity with the environment, which has at least a minor physical support, which adapts its behavior and actions to the environment and which cannot be defined as having ‘life’ in the biological sense.” The proposal is made to “introduce a system for registering advanced robots that would be managed by an EU Agency for Robotics and Artificial Intelligence.”- Civil Law Rules on Robotics, European Union Parliament

On ethical issues, a Code of Ethical Conduct for Robotics Engineers and a Code for Research Ethics Have Been Developed

Four ethical principles in robotics engineering:
1) Beneficence: Robots should act in the best interests of humans;
2) Non-maleficence: Robots should not harm humans;
3) Autonomy: Human interaction with robots should be voluntary; and
4) Justice: The benefits of robotics should be distributed fairly.

Two Options Have Been Suggested for Determining Liability of Robots

1. Strict-liability approach (no fault required); or

2. Risk-management approach (liability of a person who was able to minimize the risks)

This should be proportionate to the actual level of instructions given to the robot and to its degree of autonomy.

Challenges with AI-powered Devices

1. The Question of Fault Challenge

"The real issue with AI powered devices is that as increasingly the decisions that they take become more and more removed from any direct programming and are in turn more based on machine learning principles, as we have discussed above, it becomes harder to attribute the question of fault."-
John C. Buyers, Artificial Intelligence: the real legal issues, Society for Computers and Law Journal, June 2017

Challenges with AI-powered Devices Contd

2. The Big Data challenge

a. Smart devices stream terabytes of data which often violate data protection and privacy

b. the use of predictive analytics modelled by AI used by businesses to serve customers create privacy concerns.

Nexus

1. Strict liability system backed by mandatory insurance policy; and
2. Government licensing system

Blockchain and Cryptocurrency

“The blockchain is an incorruptible digital ledger of economic transactions that can be programmed to record not just financial transactions but virtually everything of value.”

- Don Tapscott and Alex Tapscott, cited in Senator Ihenyen, 'How the Blockchain Will Help Law ', Keynote Address, Blockchain & Cryptocurrency Conference , Civic Centre, Victoria Island, Lagos, 19–20 May 2018

Some Facts and Figures about Blockchain

- 30%: Blockchain's reported potential for reducing bank infrastructure costs;
- $20 billion: Amount the global blockchain market is expected to be worth in 2024;
- $1 million: Average investment in blockchain projects in 2017; and
- $1.4 billion dollars: Estimated amount that financial and technology firms invested in blockchain in 2016.

Challenges: Application of Blockchain in Cryptocurrency--Digital Currency

a. No cryptocurrency regulation by the Central Bank of Nigeria (CBN) but CBN has warned banks from touching cryptocurrency;
b. Securities and Exchange Commission (SEC) has warned investors and the public to avoid dealing in cryptocurrency because it is highly risky and susceptible to scams; and
c. Data protection and privacy are of great concern.

Nexus

In the absence of CBN regulation of cryptocurrency in Nigeria, many cryptocurrency businesses have adopted Know Your Customer (KYC) and Anti-money Laundering (AML) policies and standards to bring their operations in conformity with banking regulations. But as the cryptocurrency market grows bigger, it will need cryptocurrency legislation or regulation administered by CBN.

Digital Rights and Freedom of Nigerians

"With up to 91.6 million people on the internet, that has Africa’s biggest and most vibrant press, most youthful population, and fast-growing telecom and e-commerce industries, safeguarding the rights and freedoms of Nigerians in the digital environment is critical."- Senator Ihenyen, 'Nigeria: An Analysis of the Digital Rights and Freedom Bill', Data Protection Leader, April 2018, Vol 15, Issue 4

Challenges

1. The rise of social media, online publishing platforms, and the Internet generally has resulted in both flagrant infringements of citizens' right to freedom expression and association, and also citizens' abuse of these rights.
2. The rate of defamatory comments, inflammatory statements, hate speeches, etc has increases significantly on social media and the cyberworld generally and this calls for some level of control.

Challenges Contd …

3. Though Chapter 4 of the 1999 Constitution of the Federal Republic of Nigeria (as amended) guarantees the fundamental rights of every Nigerians under, it has been practically inadequate in the digital environment.
4. The Cybercrime Prevention Act 2015 already contains provisions that border on cyber activities but these provisions have been inadequate and they only cover criminal liability.

Nexus

- Technological advancements especially social media technology require that Nigeria has a legislation that addresses civil concerns such as citizen's digital rights and freedoms in a digital age. The Digital Rights and Freedom Bill largely addresses this, creating a nexus between law and technology in a digital age.

Conclusion and Recommendation

1. The Evidence Act 2011 needs to be simplified. Plain English is recommended.

2. Nigeria needs to amend its IP laws to enable it compete in the new global economy. For example, the Digital Millennium Copyright Act (DMCA) 1998 is the United State's reaction to the rising rate of copyright infringement on the Internet. Also we need to amend the Patents and Designs Act to require substantive examination so Nigerian patents can be globally credible and competitive.

Conclusion and Recommendation

3. Our legislators need to put more effort regarding legislations that touch on technology so Nigeria does not continue to lag behind. Bills such as the Computer Security And Critical Information Infrastructure Protection Bill 2005; the Cyber Security and Data Protection Agency (Establishment, etc.) Bill 2008; the Electronic Fraud Prohibition Bill 2008; the Nigeria Computer Security and Protection Agency Bill 2009; the Computer Misuse Bill 2009, etc all call for legislative action. it.

Conclusion and Recommendation

4. Nigeria urgently needs a comprehensive legislation on data protection and privacy. Data is now "the new oil". The European Union's recent General Data Protection Regulation (GDPR) is instructive. The National Information Technology Development Agency's (NITDA) Data Protection Guidelines was drafted to achieve this, but there is no evidence that the Guidelines has been issued since NITDA first made the draft public in September 2013.

Conclusion and Recommendation

5. The legal system in Nigeria must learn to leverage on not only the nexus between law and technology in the aspects of the application of law to technology but also the application of technology to law. Technology can be used to improve access to and administration of justice, such as Online Dispute Resolution (ODR); help law firms deploy smart contracts and e-discovery; and enhance legal reasoning and research through AI-powered legal analytics or legal informatics.


AI

Thank you!

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