Tutorial 1: Lessig's Four Modalities Analysis, Globalization, The Digital Divide

Part 1

1. Lessig identifies four forces that constrain our actions: the law, social norms, the market, and architecture. Discuss the impacts of the rise of the Internet by using Lessig's Four Modalities Analysis. (PIC: Jun Wai)

Law: As the rise of the internet, governments have enforced a number of laws to ensure that personal information does not leak to any third party and also to enhance the cyber security in the Internet. Hence, the safety of online users is guaranteed. For example, the **Personal Data Protection Act** is to monitor the processing of personal data of individuals involved in commercial transactions by User Data that is not misused and misapplied by the parties concerned. Furthermore, the terms and conditions that we agreed on the Internet are also a piece of rules and regulations.

Law to cover about /to tackle about topics like cyberbully, cyber security, defamation law, privacy law…..

Social norms: People nowadays heavily rely on online resources due to the rise of the Internet. Furthermore, the resources are highly available and accessible and it is useful in helping them for doing academic research and assignments. For example, Google Scholar is a freely accessible web search engine that indexes the full text or metadata of scholarly literature across an array of publishing formats and disciplines. In **gaming** perspective, instead of playing offline games alone, there are online games nowadays that allow players to play with other players that they have never met before which brings more competitiveness and excitement for players and this is the norm now of how online games become the number one entertainment for people nowadays.

Market: In order to be competitive in the business world, the retailers are converting their traditional marketing to online marketing because they wanted to increase their profitability from online and offline users due to the rise of the internet. For example, Amazon, Shopee, and Lazada.

From business man point of view,

Good/ positive: Any small company is given opportunity to compete with International companies

-lowering the costs of doing business such as the costs for rental, electricity

Bad/negative: compete with famous brand

Architecture: Hardware design such as laptops has become **smaller and smaller** for ease of carrying because people need smart devices to access their information from the internet anytime and anywhere. At the same time, smartphones are advancing in terms of technology aspects such as **processing power, camera quality and storage space** due to the demand of internet users.

Technology: wired internet connection ---> wireless connection

Offline websites → online websites → mobile apps

Old version software → updated version software

Local storage → Cloud storage

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2. IT law, including computing and the Internet. Is it necessary for computing professionals to know laws related to IT? Justify your answer. (PIC: Xin Yi)

Yes,

1. Computing professionals would know what they can do and what they cannot do with the knowledge of IT so that they can protect themselves with the proper behaviour.

A list of do's---> to know to protect your rights, e.g. privacy rights, copyright, petent right….

And a list of don't → never do it since once caught, you will be subject to punishment

2. To prevent law-breaking, knowing what's right and wrong to be done.
3. They need a sense of where legal problems are likely to arise and avoid breaching the law. → to make your IT product /service you propose, develop, maintain, engage

always work within the legal framework /scope..

4. It is important to protect the rights of its users'. Therefore it is achieved through enforcing privacy, data protection, and validity of online contracts.
5. Foresee the changes in law setting in near future and do necessary amendment to cope with such change /grasp faster the business opportunity, mitigate the risk….

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3. Computerization involves taking activities or tasks not previously done on the computer and shifting them to being done on the computer. In your opinion, list and explain TWO (2) job categories where the number of jobs declined and increased drastically due to computerization. (PIC: Yee Hui)

Declined job categories - Phone call customer service workers/ telecommunication operator

- Nowadays many companies have begun to use automated customer service like chatbot instead of manpower. This is because usually the customer service hotline is always busy, which causes many people to need to wait a long time if they wish to ask some questions. Automated customer services will help to improve the quality of customer service and can also avoid customer dissatisfaction due to too long waiting time.

- Industry worker/factory worker/production line worker → all can done by machineg

- Cashier – Decrease because most of their work is repeating and can be replaced by using the automated payment system. For example, Lotus's has set up an automated payment machine to allow the customers to make payment on their own.

- Physical bank counter - e-banking/ ATM machine…
- Postman - popular use of e-documents (e-greeting card/message, e-mail)

Increased job categories - IT trainer -conduct training / workshop

This is because a lot of work is already done by using AI or computer systems. Therefore, the computer trainers play an important role in training staff to use the system properly so that they can do their jobs efficiently.

AI Engineer -to develop AI product, e.g. robot, self-driving car,Siri

Software engineer - to design, develop, test and maintain a newly-built application

Penetration tester /information security analyst - to secure the apps from outside intrusion

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4. Personal devices could include smartphones, personal computers, tablets, or USB drives. List and explain the pros and cons of Bringing Your Own Device (BYOD) to work. (PIC: Pei Xuan)

Pros

- **Save money**
  - Companies can save a lot of money due to the company no longer having to purchase and pay for routine maintenance on workplace computers.
- **Faster learning curve → Increase productivity**
  - Employees will be more familiar with their own devices rather than workplace computers. The company can save on the training expenses and employees can get right to work. Since they are already familiar with their own device which features and functions to use, productivity increases.
- **Work flexibility**
  - With BYOD, employees can have the flexibility to work at any time and anywhere, and it shall be restricted by a normal working hour and work in company. Staff satisfaction will increase. Besides, it also helps that some employees can do their work when they go to work outstation. Work anywhere, anytime, practising the concept of “SOHO” (small office, home office)

Cons

- **Data retrieval**
  - When employees leave the company, it may be necessary to remove the company's private information from their own device, in order to prevent any potential misuse of information. This could be quite challenging because it can be seen as an invasion of the employee's privacy and there is an obligation to protect worker personal data.
- **Security risks**
  - With employee devices not possessing the advanced security measures that office equipment will typically have. Moreover, if devices are lost, stolen or misplaced, this could lead to unwanted, third-party individuals gaining access to confidential and sensitive information, particularly if these devices are not password protected.
- **Software difficulties/compatibility issues**
  - Some companies may use specific software to carry out certain projects. In some cases, employees bringing their own devices may experience problems in the installation or usage processes required for this software. Their devices may not even be suitable with the software.

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5. According to Martin Carnoy, "Thanks to a communications and software revolution, we are more 'connected' than ever before—by cell phone, email, and video conferencing—yet more disconnected than in the past from social interaction". Do you agree? (PIC: Xin Yi)

I agree with it, this is because nowadays is a technology world which will cause people to be more disconnected than in the past from social interaction. For example, we are able to connect to the people from all over the world even though we are not physically there but people tend to communicate more on **social apps** and google suite service product (e.g. gmail, google meet, google chat, google drive, google docs, google classroom, google calendar) instead of communicating face-to-face that leads to lack of interaction in person.For instance, due to the covid-19 pandemic, we also use the social platform we have online classes instead of physical class in the classroom. Besides, everyone is addicted to the use of

social media platforms such as **Facebook, Whatsapp and Instagram** to get or deliver the information from or to others.

Due to the communication software revolution, it is easier to connect with friends through digital means/gadgets but most of the people do not know how to maintain the relationship through online and people might suffer to have physical communication without the aid of digital gadgets.

→the more time spent with machine/IT apps/gadget, the less time engage for physical activities – e.g. outdoor activities, physical communication to build/foster close bonding/intimate relationship with each other….

e.g. chat through use of emoji/text through machine/device can't replace physical human chat(e.g. pillow talk, in depth face to face sharing with each other) as ppl can feel love, emotion, feeling, passion, enthusiasm, caring, companionship, through physical meet up and chat but not through machine chat which ppl may still feel sad, moody, lonely, depression, etc…✅✅

6. Globalization creates greater mobility of goods, services and capital around the world. Discuss how Lessig's Four Modalities Model may play a role here to affect the globalization process. (PIC: Jun Xian)

Law: By contrast, international law has been comparatively weak, with little effective enforcement powers. But globalization is changing the contours of law and creating new global legal institutions and norms. For example, business law is globalizing fastest of all, as nations agree to standard regulations, rules and legal practices, Eg. business law that cover taxation, pricing law.

For spreading of new, need to set up rules/law to govern / prevent spread of fake news, rumours, gossips……

E.g. when liaise /joint venture with china company, need to be-aware of international trade law/act, e.g. labour law, web filtering policy….

And preserved the integrity of the news

Censorship law

Market: Globalization leads to increased competition. This competition can be related to product and service cost and price, target market, technological adaptation, quick response, quick production by companies etc. When a company produces with less cost and sells cheaper, it is able to increase its market share. -examples, proof

Social Norms: People nowadays are highly attached to the social medias as the main source of interaction which affects how people globalise because social medias like facebook, instagram, twitter etc allows user to interact with each others globally with ease, but if an individual did not have access or do not want to interact with social medias, their peers might found it odd and weird since its the norms for the society nowadays.

Last time without globalisations, interacting globally will need an individual to physically fly to the other part of the world in order to experience global interaction.

Buying products from overseas becomes more common because globalisation allow user to purchase item via

Architecture: Social medias are design in a way to allow user to interact with each others globally with ease by letting them communicate via texting, calling, video calling etc. and also letting user interact whatever an individual post on their profiles like tweets (thoughts at the moment), photo post on instagram profiles, and snaps and captions.

Hardware

-> i.e. g need to be supported by having good bandwidth in order to properly enjoy proper globalisations.

-Compatible hardware

software->
-compatible software
-data encryptions
-payment gateway
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Part 2

7. “YouTube acts as a platform for expression, a marketplace for media products, a place for debate, a navigable library of information and a source of inspiration, all at once. It reflects, highlights and amplifies popular culture and media.”
Apply Lessig’s Four Modalities to analyze how the FOUR (4) elements constrain the phenomenon mentioned above. (PIC: Kah Wei)

Law: Google Company (Youtube) has enforced a number of laws to ensure that the media that has been uploaded to the platform is legal to be watched and used. For example, there are the terms of services that guide the users (creators and audiences) to follow the rules and regulations set by Youtube Company to maintain a safe and vibrant community.

Market: In order to maintain the competitiveness of youtube, Youtube has made mobile applications for the platforms such as android and IOS. It eases the user because they can watch the video from anywhere on their smart devices. For example, the seller can put advertisements on youtube because the number of active youtube users has been increasing in a very fast way in a short period of time. Secondly, youtube enables the merchants to do live and enables the celebrities to show their talent to the world in order to get famous. Thirdly, there is also a new emerging job which is known as youtuber which enables the creators to make more money.

Architecture: There is hardwares such as data servers that are used to store the media uploaded by the creators and it enables the media to be accessed by the users using their smart devices with internet connection. These data servers would be upgraded from time to

time to cater the increasing number of media and users. Secondly, youtube also enables the user to set the playback quality hence it enables the users to save their internet data usage and also enable the user to turn on the caption and also the auto translate function that enables the user to have more understanding of the media watching. The annotations also enable the user to click on the video to link to another webpage or other videos of the same creators.

Social norms: People nowadays are heavily relying on social media rather than watching physical reading materials such as newspapers in the old-fashioned day. Hence, youtube as the online social media made the resources highly available and accessible. Users can get more information from every side of the world instantly without much delay. For example, users can find the recipes and tutorials from the youtube videos to guide them along the way that consist of illustration with the step-to-step tutorial in 3D rather than text or 2D in order to make the perfect meal. Users can also watch the entertaining videos rather than having to go to the cinemas in order to spend their leisure time.✅✅

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8. **Digital inequality** refers to differences in the material, cultural and cognitive resources required to use information and communication technology. Discuss the **three (3) key stages** that influence **digital inequality worldwide**. (PIC: Yit Wee)

Digital inequalities is evident between:

1. **Location within the country ---e.g. Communities living in urban areas and those in rural area settlements**. For example KL has the wifi speed 500mbps and Seremban only 300 mbps highest.(Stage 1: Economic Divide)
2. **Between socio economics groups (e.g. socioeconomic status determine your income, social status, work/job, education level, etc).** Because some people are rich and some are poor.(Stage 1: Economic Divide)
3. **Between less developed countries/nation Vs. more developed countries/nation** like America vs Africa. (Stage 1: Economic Divide)
4. **Educated and uneducated populations that separated from the digital split**. Because the old generation may not know how to use digital technology compared to the new generation. (Stage 2: Usability Divide)

And leading to following 3 key stages:

Stage 1: **Economic Divide**
It is the idea whereby some rich / high socioeconomic status group/people can afford to have a computer and Internet access while others (those poor, low high socioeconomic status group/people cannot. The price of hardware has continued to fall as a result of Moore's Law, and we can now have digital technology, such as smartphones, for very little money.

For truly poor developing countries, computers will remain out of the average citizen's reach for 20 years or more.

In areas like North America, Europe, Australia, and Asia's advanced countries, computer cost is no longer an issue.

Stage 2: **Usability Divide**
It is concerned with the fact that “technology remains so complicated that many people would be unable to use a computer even if they were given one for free.” And even for those who can use a computer, accessing all the benefits of having one is beyond their understanding. Included in this group are those with low literacy and seniors. According to Nielsen, we know how to help these users, but we are not doing it because there is little profit in doing so.

Stage 3: **Empowerment Divide**
Empowerment is about how we use technology to empower ourselves. However, very few users truly understand the power that digital technologies can give them. Based on an article by Nielsen, he explains that his and others’ research has shown that very few users contribute content to the Internet, use advanced search, or can even distinguish paid search ads from organic search results. Many people will limit what they can do online by accepting the basic, default settings of their computer and not work to understand how they can truly be empowered.

reference:http://www.digitaldividecouncil.com/what-is-the-digital-divide/

9. Do online research, discuss the following: (PIC: Chia Chung)

(i) Current status of the digital divide in Malaysia.

18-year-old Veveonah Mosibin from Sabah inadvertently unearthed the bitter truth of the divide that exists between urban and rural areas in terms of connectivity levels. Although official statistics indicate that 90% of households in the country have internet access and almost 100% have access to mobile phones, connectivity is something the Sabah native and many others living in the most remote parts of Malaysia have to actively hunt down.

Reference: Cover Story: The digital divide and disconnection

(ii) Measures were taken/to be taken by the Malaysian government to solve the digital divide problem.

Ninth Malaysia Plan, 2006-2010

- Malaysia government is committed to bridging the digital divide by implementing an infrastructure plan for universal digital access to the internet under the National Strategic Framework for Bridging the Digital Divide.

The Ministry of Energy, Water and Communication (MEWC) has embarked on several activities.

- **Performance Monitoring is done centrally at Digital Divide Data Center in MEWC Headquarters.** Library staff can report online any hardware and software problems for MEWC to take action on. This center also monitors usage of internet connectivity and activities.
- **MEWC cooperated with MOE and several multinational companies launched a project called SchoolNet in February 2004.** By leveraging on current initiatives such as Smart Schools and Universal Service Provision (USP) projects. The SchoolNet was intended to provide broadband access to more than 10,000 schools nationwide, focusing particularly in the rural and remote areas.

- **Rural Internet Centers (RIC) programme was developed as a holistic approach to establish internet access in the rural areas.** By focusing on infrastructure needs, capacity building as well as content development.

Reference: Narrowing The Digital Divide