

## CHAPTER 1

### GLOBAL DIGITAL ENVIRONMENT

*Globalization is a process of interaction and integration among the people, companies, and governments of different nations, a process driven by international trade and investment and aided by information technology*

### DIGITAL DIVIDE

*The ability to use and manipulate digitalized technology is very important which is why it is ideal for everyone to have a share of technology. The digital divide describes the problem we are faced with.*

#### Information Systems Trends

**a. Cloud Computing** - Cloud computing is a network of resources a company can access, and this method of using a digital drive increases the efficiency of organizations. Instead of local storage on computer hard drives, companies will be freeing their space and conserving funds. According to Forbes, 83 percent of enterprise workloads will be in the cloud by 2020, which means 2019 will show an increasing trend closing in on this statistic.

#### b. Mobile Computing and Applications

Mobile phones, tablets, and other devices have taken both the business world and the personal realm by storm. Mobile usage and the number of applications generated have both skyrocketed in recent years.

#### c. Big Data Analytics

Big data is a trend that allows businesses to analyze extensive sets of information to achieve variety in increasing volumes and growth of velocity. Big data has a high return on investment that boosts the productivity of marketing campaigns, due to its ability to enable high-functioning processing. Data mining is a way companies can predict growth opportunities and achieve future success. Examination of data to understand markets and strategies is becoming more manageable with advances in data analytic programs.

#### d. Automation

Another current trend in the IT industry is automated processes. Automated processes can collect information from vendors, customers, and other documentation.

## CHAPTER 2

**1. Artificial Intelligence and Smart Machines** -Artificial intelligence harnesses algorithms and machine learning to predict useful patterns humans normally identify.

**2. Virtual Reality** -Technology that includes virtual reality is becoming prevalent. The software of virtual reality is making many industries prepared for various scenarios before entering them.

**3. Augmented Reality** - Augmented reality is a more versatile and practical version of virtual reality, as it does not fully immerse individuals in an experience. Augmented reality features interactive scenarios that enhance the real world with images and sounds that create an altered experience

**4. Blockchain Data** - Blockchain data, like the new cryptocurrency Bitcoin, is a secure method that will continue to grow in popularity and use in 2019. This system allows you to input additional data without changing, replacing, or deleting anything.

**5. Cyber-Privacy and Security** - Shared company systems and the growth of the Internet leave a high amount of personal and company data at risk to breaches.

**6. Internet of Things** - The Internet of Things (IoT) is an emerging movement of products with integrated Wi-Fi and network connectivity abilities. Cars, homes, appliances, and other products can now connect to the Internet, making activities around the home and on the road an enhanced experience.

### MINIATURIZATION

-the trend to manufacture ever smaller mechanical, optical and electronic products and devices. Examples include miniaturization of mobile phones, computers and vehicle engine downsizing.

### MULTIFUNCTIONAL MACHINES

• An MFP (Multi-Function Product/ Printer/ Peripheral), multi-functional, all-in-one (AIO), or Multi-Function Device (MFD), is an office machine which incorporates the functionality of multiple devices in one

### THE RISE OF ROBOTICS

• Robotics is a branch of engineering that involves the conception, design, manufacture, and operation of robots. This field overlaps with electronics, computer science, artificial intelligence, mechatronics, nanotechnology and bioengineering.

1. Robots must never harm human beings.
2. Robots must follow instructions from humans without violating rule 1.
3. Robots must protect themselves without violating the other rules.

## CHAPTER 3

### BUSINESS PROCESS OUTSOURCING (BPO)

**a. Business process outsourcing (BPO)** is the contracting of a specific business task, such as payroll, human resources (HR) or accounting, to a third-party service provider. Usually, BPO is implemented as a cost-saving measure for tasks that a company requires but does not depend upon to maintain their position in the marketplace.

**b.** One of the most dynamic and fastest growing sectors in the Philippines is the Information Technology - **Business Process Outsourcing (IT-BPO)** Industry. The industry is composed of eight sub-sectors, namely,

- knowledge process outsourcing
- back offices,
- animation,
- call centers,
- software development,
- game development,
- engineering design,
- medical transcription.

#### c. BPO Setups (Captive Markets and Offshoring/Third Party Outsourcing)

• Third Party Outsourcing

c.1 Project Based Outsourcing- primarily used for business activities with irregular frequencies or one-off projects. The usual costing method makes use of time and material costs as variable costs and the fixed costs

c.2 Dedicated Development Center - primarily used in business cases when there are hanging requirements. In this specific model it could be used for some longterm goals for developing technology or software. This is preferred when resource requirements are lower in the outsourced country than the home country hence developing a comparative advantage.

**d. BPO Setups (Captive Markets and Offshoring/Third Party Outsourcing)**

- Captive Markets- preferred when core or crucial business activities are needed to be run at cheaper costs. The rationale for employing such a setup is to cater to long term strategic plans involving high managerial control.

**e. BPO Setups (Captive Markets and Offshoring/Third Party Outsourcing)**

- Captive Markets : Start From Scratch Model
  - e.1 The usual flow is for the company to develop all its resources in the new designated area or country of operations.
  - e.2 preferred by the companies that have high levels of market knowledge and analytics
- Build Operate Transfer Model
  - e.3 the practice is to contact a 3rd party vendor in order to develop a contract in which the vendor is the one who develops the property, sources the employees and manages the BPO center for the first designated period or amount of time.
  - e.4 preferred by companies that do not have any specialized expertise in the new country of operations hence needing a local partner or vendor to assist with market entry strategies

**f. Trends in the Industry**

- Better Information security
- Strategic balanced-shore outsourcing
- Booming Blogging and Social Media Outsourcing
- Popularity of cloud-based software

**g. Issues concerning the industry in the Philippines**

- a. Health Issues** - employees experience back and shoulder pains, due to the workstation setups and monitor levels, several have complained about experiencing throat irritations due to dealing with multiple calls a day coupled with a high stress work environment and concerns regarding the employees' hearing being damaged due to most of these workers being exposed to higher noise levels
- b. Political Issues**
  - revision of Republic Act 7916 to include floors in buildings where BPO companies operates to be considered as special economic zones, exempting the companies from national and local taxes and only having to pay 5% of their gross income as tax
  - approval of RA 7916, the establishment of the Philippine Economic Zone Authority (PEZA) which considered IT Parks as special economic zones, encouraged foreign investment in the industry by providing subsidies for infrastructure development and tax exemptions
- c. Economic Issues**

- the BPO industry is the fastest growing sector in the country and is expected to overtake OFW remittances in 2017
- the growth in the BPO industry has barely trickled down to most of the Philippine population
- the development of the country mainly because of the high unemployment and underemployment rates; the BPO industry was the fastest growing sector from 2005-2012 but only took in 1% of the labor force

**MOBILE-BASED SERVICE INDUSTRY**

Defined as those companies, which together enable the provision of telecommunication, information and entertainment services including voice, internet, SMS, text and other data services

- Mobile banking,
- economic development,
- delivery of health services,
- citizen empowerment and;
- greater access to media and education

**E-SERVICES/E-GOVERNMENT**

E-Government in the Philippines is envisioned to create "a digitally empowered and integrated government that provides responsive and transparent online citizen-centered services for a globally competitive Filipino nation."

- Efficient delivery of public services (Citizens)
- Places a premium on value-added, shared services, interoperability and the maximization of public resources (Government)
- Provides spaces for participation and fosters synergy in governance (Civil Society Organizations)
- Identifies policy and advocacy areas that need to be addressed in creating an environment necessary for fostering an integrated, interoperable and harmonized system of e-Governance (Policymakers)

**CHAPTER 4**

**Internet Censorship** - Internet censorship is the control or suppression of what can be accessed, published, or viewed on the Internet enacted by regulators, or on their own initiative.

**1) TECHNICAL BLOCKING**

There are three commonly used techniques to block access to Internet sites: IP blocking, DNS tampering, and URL blocking using a proxy. These techniques are used to block access to specific Web Pages, domains, or IP addresses.

**2) SEARCH RESULT REMOVALS**

In several instances, companies that provide Internet search services cooperate with governments to omit illegal or undesirable websites from search results. Rather than blocking access to the targeted sites, this strategy makes finding the sites more difficult.

**3) TAKE-DOWN**

Where regulators have direct access to and legal jurisdiction over web content hosts, the simplest strategy is to demand the removal of websites with inappropriate or illegal content. In several countries, a cease and desist notice sent from one private party to another, with the threat of subsequent legal action, is enough to convince web hosts to take down websites with sensitive content.

**4) INDUCED SELF-CENSORSHIP**

Another common and effective strategy to limit exposure to Internet content is by encouraging self-censorship both in browsing habits and in choosing content to post online.

#### **What Are the Pros of Internet Censorship?**

1. It creates the chance to set common sense limits.
2. It limits access to harmful activities.
3. It could lessen the impact of identity theft
4. It may provide a positive impact on national security
5. It stops fake news

#### **What Are the Cons of Internet Censorship?**

1. Who watches the watchers? Even if internet censorship is directly supervised and ethically maintained, someone somewhere is deciding on what is acceptable and what is not acceptable for society to see online.
2. It stops information. Although fake information can be restricted through internet censorship, so can real information.
3. It is a costly process

#### **FREEDOM OF EXPRESSION**

- Right to express one's ideas and opinions freely through speech, writing, and other forms of communication but without deliberately causing harm to others' character and/or reputation by false or misleading statements.
  - According to the Universal Declaration of Human Rights, proclaimed in 1948, Everyone has the right to freedom of opinion and expression.
  - This right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers.
- People can gain an understanding of their surroundings and the wider world by exchanging ideas and information freely with others.
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  - Free debate about new legislation helps ensure that the eventual law has the support of the population, making it more likely to be respected;
  - If people can speak their minds without fear, and the media are allowed to report what is being said, the government can become aware of any concerns and address them.
  - Free debate about and between political parties exposes their strengths and weaknesses, as a result media scrutiny of the government and the opposition helps expose corruption or other improprieties and prevents a culture of dishonesty.

Public authorities may restrict this right if they can show that their action is lawful, necessary and proportionate in order to:

- protect national security, territorial integrity (the borders of the state) or public safety
- prevent disorder or crime
- protect health or morals
- protect the rights and reputations of other people
- prevent the disclosure of information received in confidence
- maintain the authority and impartiality of judges
- An authority may be allowed to restrict your freedom of expression if, for example, you express views that encourage racial or religious hatred.

#### **Using digital technologies for freedom of expression**

Technically, people can have global access to information. The amount of information available to the masses is incomprehensible. At the same time, Internet security and monopolistic structures have created new dangers to freedom of speech and access to information.

1. Social media - is the general term used to describe the plethora of web-based applications that allow people to create, share and exchange information, opinions and ideas in virtual communities.
2. YouTube/Soundcloud - are online websites that enable people to upload and share videos and audio for free. A variety of businesses, artists, experts and organizations use them to disseminate ideas and information to a wide audience.
3. Mobile Phones - have been around for decades and new advancements in smartphones support a variety of additional services such as business, news, social and game applications and photography.
4. Online Website - may not be new but the way that they are being used to reach wider demographics and new audiences can be considered innovative. Being online gives organizations and businesses a platform to represent their work to the world.
5. Tablet/computers - are compact mobile computers that are interactive with touchscreens and have capabilities such as inbuilt cameras and microphones that make them ideal for roving reporters and journalists who are capturing stories on the go.

#### **Advantages**

- Allows individuals to express their opinions
- Less corruption
- Freedom from hunger
- A healthier society
- Respect for environment
- Respect for fundamental human rights
- Improve national security
- Make the political system more democratic
- Make the government more efficient
- Lead to better decision-making
- Help the economy become more efficient
- Individuals will receive better treatment from institutions

#### **WEBSITE CONTENT FILTRATION**

Need of filtering:

1. Safe access to the internet
2. For business
3. Protect children for unsuitable contents

#### **Content Filtering**

- On the internet, content filtering is the use of a program to screen and exclude from access or availability web pages or e-mail that is deemed objectionable.
- Content filtering usually works by specifying character strings that, if matched, indicate undesirable content that is to be screened out.

#### **Types of filtering**

Filters can be implemented to many different ways. No solution provides complete coverage, so most companies deploy a mix of technologies to achieve the proper content control in line with their policies.

1. Browser Based Filters - It is the most lightweight solution to do content filtering, and is implemented via third party extensions.

- Blocksi is the #1 rated extension for web & Youtube filtering, time management and trend analysis for Chrome and Chromebooks.

2. E-Mail Filters - E-mail filters set on information contained in the mail headers such as sender, and subject, and e-mail attachments to classify, accept or reject messages.

3. Search-Engine Filters - Many search engines, such as Google and Bing offer users the option of turning on a safety filter. When this safety filter is activated, it filters out the inappropriate links from all of the search result.

### **Problems with Filtering**

It could be expected that allowed content would be blocked. If all pornographic content is to be blocked, other content with a resemblance in features will also be blocked e.g. sex education, medical information etc.

### **CENSORSHIP VS REGULATION**

Television and Films - The Movie and Television Review and Classification Board (MTRCB) – is a Philippine government agency under the Office of the President of the Philippines that is responsible for the classification and review of television programs, movies and home videos.

### **Films Description**

G (General Patronage) – Viewers of all ages are admitted.

PG (Parental Guidance) – Viewers below 13 years old must be accompanied by a parent or a supervising adult.

R-13 – Only viewers who are 13 years old and above can be admitted.

R-16 – Only viewers who are 16 years old and above can be admitted

R-18 – Only viewers who are 18 years old and above can be admitted.

X – “X – rated” films are not suitable for public execution.