Diep Vu (Emma) – ID: 2619038

**DATA IN OUR LIVES**

Data has been around for centuries and plays an indispensable role in our lives. It is defined as the facts and statistics collected for references and analysis. “Dated back to 18,000 BCE, the Paleolithic knew how to store and analyze data by carving marks on tally sticks or bones to keep track of trading activities and supplies and also made rudimentary calculations to predict the amount of food left by the data they put on the sticks” (Marr, Bernard). Now, after years of evolving, people have come up with new ways of storing and analyzing data, mostly in computers, and they make it machine-readable. Data is infinite and can become the key to competitive advantage and success of individuals or businesses. But also, at the same time, if it is not extracted and processed effectively or is manipulated for self-interest, data can sabotage peoples’ work and identities tremendously. That is why people need to manage data with smart strategy and caution.

Data is categorized into four types: personal, transactional, web and sensor data. Personal data is explicitly attached to each different individual. It covers identifying factors such as demographics, contact information, occupation, account number. Lots of companies seize to collect personal data to provide personalized suggestions and keep customers engaged. Transactional data is information that needs action to collect like clicking on an advertisement, visiting websites, etc. Businesses’ success relies on this data by optimizing operations for better quality results and exerting benefits from effective advertising and increased revenue. Web data refers to anything that can be collected online, which is not generated by businesses themselves but can be used to monitor competitors and track potential customers, changing unstructured data from the web into improved structured data. Finally, sensor data is produced from movements and external impacts from objects. So far, it has mostly been used to help optimize processes by making smart changes to increase productivity and forecasting. “For example, AirAsia saved $30-50 million by using GE sensors and technology to help reduce operating costs and increase aircraft usage” (“What Is Data, and Why Is It Important?”).

Data serves different purposes and is prevalent to mostly everyone, from individuals to big firms and the government. Accountants analyze data and calculate figures to manage companies’ budgets, scientists do experiments and report data on their research papers; doctors see data from patients’ health records to make better diagnosis and treatments, and school officials make adjustments and improvements on teaching approaches, learning facilities and admission processes based on data gathered from the student body, alumni and faculty. Business departments leverage corporate data to make informed decisions and navigate promising plans; IT departments prioritize protecting personal and confidential data of customers. Likewise, governments utilize data interpreted to improve policymaking and forecast future occurrences. For me, I collected data from renowned sources like U.S. News & World Report, Niche and Quora when I searched for US colleges last year. The data compiled from different colleges helped me compare and decide which one was the right fit for me. The InBody machine at the gym also accurately measured the components which are closely related to my health status such as body water, mineral, fat percentage, and protein. It helped me keep track of my health and adjust to a more balanced diet and workout. No one can escape from using data, and soon, I may have to generate data on the Internet for my research paper and senior thesis. In the next few years, I intend to get data from popular databases like MySQL, MariaDB or Redis to create an application and a selling website online for family business. Data will also be a big part of my life as I plan to pursue a career path in data science in the future.

To some extent, data has been used appropriately and responsibly. “For example, US Naval Officer Matthew Maury turned years of old hand-written shipping logs (human-readable) into a large collection of coordinate routes (machine-readable). He was then able to process these routes en masse to reduce the average Naval journey by 33%” (“What Is Data, and Why Is It Important?”). If it is used properly, data can exert tremendous benefits for the companies. “Ninety-two percent of employees are open to data collection on them and their work as long as this collection improves their performance or well-being or provides other benefits. One of these benefits may be greater fairness or diversity, with 82 percent of employees saying that having reliable data will improve fairness in pay, promotions, and appraisal decisions” (Blanchard, Eliza). Data can also be digitized from medical records for doctors to track the impacts of medications on whole populations, to prevent emerging diseases and reduce healthcare spending. “According to McKinsey, the employment of big data on a nationwide scale in the United States could reduce health care spending from between 12% -17%” (Mills, Terence). However, sometimes individuals take advantage of people’s gullibility by tricking them to get their personal data and manipulate it for their self-interests. People could be the victims of a cyberbully, blackmail or their reputation and identity are tarnished once they give out their credit card number, residential address, or other sensitive information. In some cases, students or researchers sacrifice their integrity by making up data to put in their reports. This action could harm their honesty, morality and could lead to severe consequences. Earlier this year, Facebook faced one of the biggest technical flaws regarding the privacy and safety of the users. It turned out that Facebook had stored millions of unencrypted passwords in plain text with no security online. “Worse, the latest blow to the new privacy-friendly Facebook facade came just last night as news of a data leak exposing the phone numbers linked to 419 million user accounts broke” (Winder, Davey). This incident posed real hazards for users online and cost Facebook its reliability as well as money and resources to fix the problem.

Data should be utilized effectively and appropriately with people’s consent. I have no problem with my data being used for beneficial purposes like improving academic quality, medications or customer service as long as I am informed. I would consider distorting, selling and using my personal information without my consent as an illegal act and believe it should be prevented. Sometimes I receive emails, phone calls and advertisements from companies I have never heard of which is disturbing and a waste of my time. Given the potential threats from having your data exposed and misused, I think anyone should be more cautious when giving out their personal data. I feel the need to protect myself and my data from people with bad intentions because they could steal or damage my identity. A few ways that one can protect their data is to use firewalls, limit sharing on social media, turn off location navigation when it is unnecessary, change your passwords periodically and especially be more careful when someone asks for personal details.

Living in the 21st century, people should adapt to living and working with data. It will reflect the good and bad of society, and it is each person’s responsibility to be aware of its impacts as well as know how to protect oneself from being exploited. Business firms should come up with smart strategies to extract and utilize data for good purposes, and the government could improve policymaking to optimize people’s living standard and increase happiness.

“I affirm that I have carried out my academic endeavors with full academic honesty."

[Signed, Diep Vu]

Bibliography

Marr, Bernard. “A Brief History of Big Data Everyone Should Read.” *World Economic Forum*, <https://www.weforum.org/agenda/2015/02/a-brief-history-of-big-data-everyone-should-read/>.

Import.io. “What Is Data, and Why Is It Important?” Import.io, 9 Aug. 2019, <https://www.import.io/post/what-is-data-and-why-is-it-important/>.

Blanchard, Eliza. “Use Data Responsibly.” Main, 1 Apr. 2019, <https://www.td.org/magazines/td-magazine/use-data-responsibly>.

Mills, Terence. “Big Data Is Changing The Way People Live Their Lives.” *Forbes*, Forbes Magazine, 16 May 2018, <https://www.forbes.com/sites/forbestechcouncil/2018/05/16/big-data-is-changing-the-way-people-live-their-lives/#63f18cc13ce6>.

Winder, Davey. “Unsecured Facebook Databases Leak Data Of 419 Million Users.” Forbes, Forbes Magazine, 6 Sept. 2019, https://www.forbes.com/sites/daveywinder/2019/09/05/facebook-security-snafu-exposes-419-million-user-phone-numbers/#292274fb1ab7.