ASSIGNMENT 4

ONLINE DASHBOARD REPORT

DATA ANALYTICS ON DOMESTIC VIOLENCE USING MICROSOFT
BI

TECHNOLOGY AND INFORMATION SYSTEM

SECP1513 SECTION-02

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Online dashboard Report

Title of the report : Data on Domestic violence

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Organization of members and their tasks:

Ang Yi Qin	Trends of Data Analytics in Different Sectors
Fong Khah Kheh	Introduction to Data Visualization (iCEP)
Lau Yee Chi	Data visualization
Yew Rui Xiang	Data Analytics

a. **Trends of Data Analytics in Different Sectors**

Data analytics is the science of analyzing raw data to make conclusions about the information. There are a series of techniques that include extracting data and valuable information from extensive and diverse sets of data gathered from different sources and varying in sizes.

In the banking and finances sector, data analytics are very important because they are used to predict market trends and assess risk by tracking the movements in the market. They also used to detect and prevent illegal trade practices to increase efficiency and decrease the risk for financial institutions.

In the healthcare sector, data analysts are very popular nowadays due to the COVID-19 pandemic. Data analysts in the healthcare sector used to collect current and historical data to predict trends such as infection risks and deterioration that could help improve clinical care, lower expenses, and help healthcare institutions such as clinics and hospitals to run more effectively.

In the marketing sector, data analysts help to gain a targeted and precise understanding of customers and consumers. For example, movie preferences on Netflix and understanding favourite foods and items on e-commerce sites such as Shopee and Lazada or food apps such as Grabfood and Foodpanda.

In the human resources sector, data analysts play a significant role in this sector. HR professionals have a wealth of data that is often left unused. Data analysts collect HR data to help analyze human resources and involve in HR Data Analytics. This can improve an organization's workforce performance and make smart data-driven decisions.

In Internet of Things (IoT), according to a report by Mordor Intelligence, the IoT market is expected to reach $6.1 billion by 2024. The global market seems to be clearly favoring the growth of the IoT and its economic potential. The convergence of IoT and big data, known as data analytics, is a major contributing part of its growth. IoT data analytics is an analysis of various data generated by connected services to help organizations to optimize the operations, automate processes, attract more customers and empower employees. The key players in the IT sector such as Microsoft, Metaverse, Amazon and Google are already implementing Data Analytics in IoT.

In the business sector, data analysts make effective use of past and current data as well as employ a specific set of techniques, procedures, and competencies to gain insight into the business and help organizations make better business decisions. Data analytics can help businesses in key ways, such as providing personalized marketing solutions for customers or identifying and mitigating business risks.

Reflection about these trends.

From the data analytics trends, we can know the importance of the use of these trends in the development of any sector. It brings a lot of benefits to the sectors which applied the data analytics for purposes such as decision-making and improving the performances. With data analytics, a certain sector is able to become proactive in making decisions and anticipating its needs and actions. For the part of organization or customer security, security and fraud analytics are able to mitigate risk and fraud

by protecting all the physical, financial and intellectual assets from misuse. Not only that, by data analytics, marketing and the business sector will get a great enhancement in their development as they can personalize their service and optimize and improve the customer experience. Undeniably, with the data analytics skills applied in any of the sectors, the sector will have made more and right decisions for the sector's future developments.

b. Industrial Talk 7: Introduction to Data Visualization (iCEP)

iCEP is formerly known as WGC 2021 Organizing Committee, and aims to be the professional conference and event organizer. We must understand the different types of data before knowing visualization such as quantitative data, discrete data, continuous data, and categorical data. Besides, we can visualize the information in networks of ways, so that each of them can provide a specific insight. A proper visualization is required in order to best deliver your message.

What, when and where to use Microsoft Power BI
Microsoft Power BI is a Data Visualization tool that is used to visualize or find insights based on a company's data. It is also known as a cloud-based Business Intelligence service that allows end users to produce their own reports and dashboards using a simple interface. It helps to connect a wide range of the data sets, transform and clean the data into visuals that can be better digested and understood.

Capacity BI is the next level in business intelligence for companies who desire more reporting power and analytic muscle than Excel provides. Businesses may use Power BI to gather, analyze, and visualize data from across the company, providing them a deeper understanding of business operations and performance and allowing them to make better decisions based on real facts. We can use Power BI with Power BI Desktop for free.

The reflection from the talk.

From the talk, we get to know the knowledge about the data visualization such as types of the data, data relationships and chart types. Apart from that, we also become more familiar with what is about the Microsoft Power BI and how it conducts as a powerful data visualization tool. Nowadays, the emergence of big data analytics makes the data analytics skills become much more important for the companies to make right decisions in order to improve the working performance. Thus, data visualization becomes a vital tool to produce an interactive and easily understood interface or report for a company to analyze and make better decisions. A simple and complete data interface produced is able to let the companies understand more about what problems they face and they can take initiative to overcome such problems within a short period. This might result in a quick decision making and speed up the development of the countries. To conclude that, it is useful to know the knowledge about data relationships, its types of data and how to visualize using data visualization tools such as Microsoft Power BI.
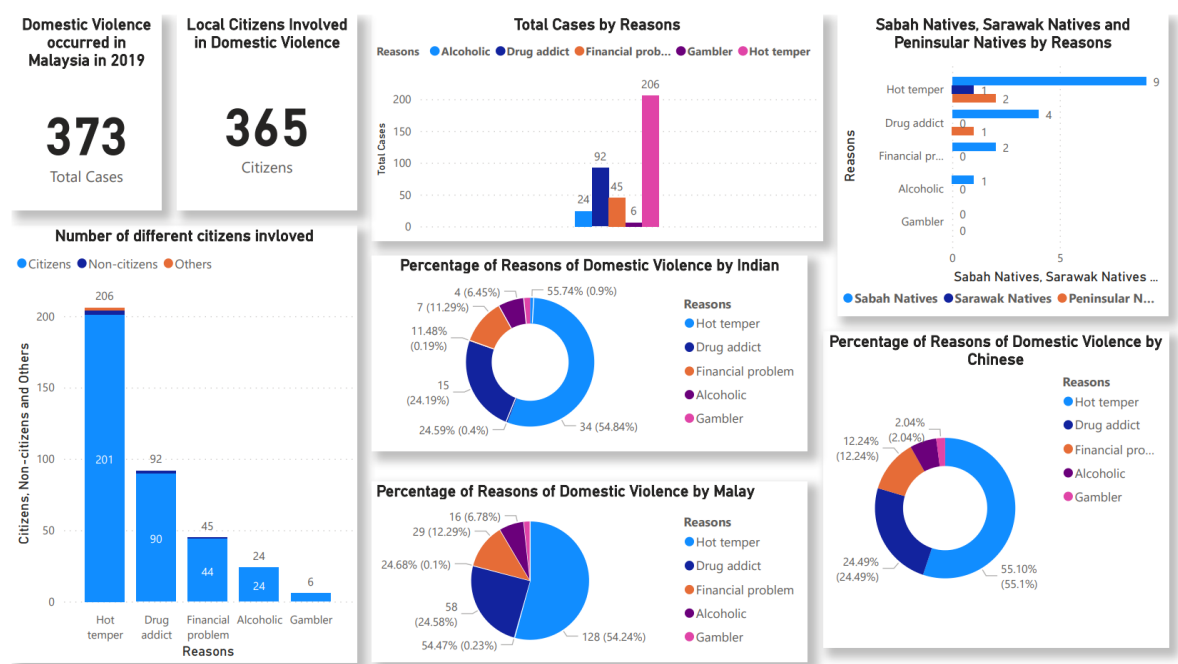
c. **Data visualization**

Figure: Data Visualization Online Dashboard on Domestic Violence in Malaysia 2019

Data Visualization in pdf format: Assignment 4 -Online Dashboard

d. Data Analytics (Discussion of the results for data visualization)

Domestic Violence refers to any act of direct or indirect violence or abuse that is used by someone within the domestic sphere to exercise power and control over another. In Malaysia, domestic violence has become a trending topic discussed in recent years. And hence, an informational (descriptive) and analytical report is written to depict the factual information of cases of domestic violence in Malaysia 2019 and determine what are the main reasons that caused domestic violence.

The dashboard above shows the analytic data on cases of domestic violence in Malaysia in the year 2019. From first panel in the dashboard, there are 373 cases of domestic violence happening in Malaysia in 2019 caused by 5 main reasons which are hot tempered (206 cases), drug addict (92 cases), financial problems (45 cases), alcoholism (24 cases) and gambling (6 cases) which is shown in the clustered column bar chart. There are 365 local citizens in total involved in domestic violence (shown in second panel), which means the majority of domestic violence done by local citizens. The most causes of domestic violence are hot-tempered as there are 128 cases in the Malay community, 27 cases in the Chinese community and 24 cases in the Indian community, which are the most reasons in every community. (shown in 2 pie charts and 1 donut charts, the percentage of reasons by different communities) Besides, the second biggest reason is drug addiction. From the dashboard, there are 24.66% of cases caused by drug addiction, 58 cases from Malay community, 12 cases from Chinese community, 15 cases from Indian community and 5 cases from the Peninsular and Sabah natives.

1. Why do hot-tempered become the most common reason for domestic violence in Malaysia?
2. What is the root cause causing people using domestic violence instead of solving conflicts rationally and calmly?

Domestic violence is about power and control. A person with a mood out of control may become aggressive and even harm people around as a way to get power or control over others in addition to expressing their bad tempered mood and emotions. Abusers' hot temperness may quickly spiral out of control with the appearance of external stimulation —tension and stress in reality such as work pressure, family conflicts or financial problems faced. For instance, a husband who lost his temper may use domestic violence towards his wife and even his children to give vent to his anger and bad-tempered mood. From the example above, we might wonder why they

choose to use domestic violence instead of solving conflict rationally and calmly. One of the reasons that gives significant impacts is childhood memories and growth experience of abusers. According to the article from PsychCentral, children who witness or experience abuse or violence may grow up thinking that physical or physiological violence are acceptable ways to solve conflicts. In last 30 decades, corporal punishment was seen as the most 'effective' way to discipline a child in most Asian families included in Malaysia. In another word, if you grew up in Malaysia, there were big chances for you to be disciplined by your parents or teachers through some form of corporal punishment such as spanking and canning. Indirectly or unintentionally, children are instilled that violence is an acceptable way by getting power or control over others to solve conflicts . Sadly fact to be said, there are 14 child abuse or related cases happen in every day in Malaysia based on the Welfare Department's statistics and there may be more cases are unreported. Long and short, these memories and experiences may leave a significant impact for them and become flames that cause domestic violence to occur one day in the future.

Conclusion

From the visualization above, hot-temperedness becomes the most common reason for domestic violence in Malaysia because a person with a mood out of control might lose his or her rationality in a moment with the appearance of external stimulation in reality. And thus, using domestic violence to control others as a way to give vent to his or her wrath. Besides, one of the reasons why some people use domestic violence instead of solving conflicts rationally and calmly is wrong concept thinking instilled through corporal punishment in childhood memories and growth experiences of abusers in which violence is acceptable way to solve conflicts. Indirectly, numerous people may have thought that using domestic violence while in a hot temper is a way to vent anger. In fact, there are other reasons that lead to domestic violence which may be linked to several individual factors like personality disorders, cultural attitudes or gender ideologies. Hence, what we need to concentrate and study further is how to avoid domestic violence from the root causes in a psychological way and what are the effective channels to get help for the victims in order to reduce the cases of domestic violence in Malaysia.