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# Task 1 – Analyse the Problem faced by the Company

Based on the case study given, Domino’s Pizza, the popular pizza restaurant have been involved in a social media storm. This is caused by the customer of Domino’s Pizza has been called up by the Commercial Crimes Department of the Royal Malaysia Police (PDRM). The reason is the customer used the ‘unauthorized’ coupons order their meals through online. After the staff found out, they report to police. After that, police bring the customer to police station interrogated the customer about this illegal purchased.

From this incident, Domino’s have found out that these unauthorized vouchers can be bought online from unregistered third party offer. Customers able to buy these ‘unauthorized’ voucher from e-commerce website, such as Shopee with a reasonable price. Customers with these coupons are able to purchased pizza from Domino’s to gain more discount and get free pizza. According to the police report, the customers who used these coupons has been defendant that he ‘hacked’ the Domino’s platform and purchased meals at Domino’s Pizza with utilized illegal voucher codes.

Based on this study case, Domino’s has problem about the illegal vouchers used by the customers. Those irresponsible person who sell these ‘unauthorized’ coupons on e-commerce website and used by customer to buy cheaper pizza or free pizza from Domino’s. Furthermore, Domino’s Pizza Company put the blame on the customer who used these illegal voucher codes to purchased pizza from Domino’s and gained discount or free pizza from them. Others than that, customer able to reduce their spent while ordering pizza online. Customer able to void the extra payment while adding different ingredients to the pizza they order. This “flaws’ or “glitch” is existing in their ordering system for long time but it did not solved until now.

# Task 2 – Discussion

## Cycle of Business Intelligence analysis

### Analysis

From the case study given, there are two problem faced by Domino’s Pizza Company. The first problem is Domino’s Pizza Company has found out that there are some orders with large amount of pizzas sold but small amount of billings in their database. After investigate, they found out that there are illegal vouchers sold by unauthorised third party on e-commerce website and used by customers to gain discount and free pizzas. The second problem is on their ordering system. People found out the “flaws” or “glitch” from their ordering system. Customer are able to avoid additional charges on the pizza they purchased through Domino’s online ordering system.

### Insight

Based on the analysis, we can see that the illegal coupons are able to buy on the e-commerce platform which causes a big problem for the customers. Customers are sued by Domino’s Pizza Company on using these illegal voucher to purchased items from them. This is not fair for these customer because they do not know these are illegal voucher and Domino’s Pizza system are not able to check the coupons’ validation. This give chances to the third party to gain profits from it by selling illegal vouchers.

For the second problems, the incomplete online ordering system from Domino’s Pizza let some customers take advantages from it to purchased pizza without additional charges when adding additional ingredients for the pizzas. This “flaws” or “glitches” causes the unbalanced inflow and outflow money in their database. This problem have been existing in their ordering system for so long and not fixed yet. This make the unbalanced amount become bigger and bigger with time.

### Decision

To solve the illegal problem, Domino’s Pizza Company should have a more reliable system to handle the discounted voucher created by them. While the new voucher created, it should have a more specific code to recognize each vouchers. While the vouchers has been used, the system should cancel the usability of the specific voucher that have been used. This can avoid third party to clone the vouchers and sell in e-commerce platform.

Next, the incomplete ordering system should be improve by the developer of this system. This action is to improve the reliability of this order system and prevent the same problem occur again.

### Evaluation

After create the voucher with specific code and having a more reliable system to handle the voucher, those illegal vouchers are not able to purchase any items from Domino’s Pizza. Customer also aware that these vouchers are not able to buy through organization others than Domino;s itself.

A more reliable system can solve the ‘flaws’ or ‘glitch’ while purchasing trough online platform. The additional charges will not be missed while purchased items from Domino.

## Analysis techniques

The analysis technique I choose to address this problem is predictive analytics. Predictive analytics used techniques to predict the most possible outcome based on the data gathered. It provides companies with insight based on data and also provides a future outcome. Companies used these statistics to decide what to do for next steps. This is because this analytics is to find out the most probability that what will happened next. Predictive analytics usually used when we need to predict the future, or fill in the information that we do not have.

Based on this case study, the predictive analytic technique I choose is Machine Learning. Nowadays, Machine Learning is often used in security to detect threats and harmful situation that need deeper human analytics. Machine Learning can recognize pattern and predict threats that will happened in future with big data sets. These actions will be done in machine speed which is fast.

Machine Learning can helps in security by protect the data in the cloud by analyzing suspicious cloud log in activity, detect location based anomalies and conduct IP address reputation analysis to identify threats which harm the data sets. So that, the data sets for coupons can be saved in cloud and prevent others get it. Others than that, Supervised Learning, one type of Machine Learning can make the system recognize massive data sets after training with big data sets.

As conclusion, Domino’s can use Machine Learning to prevent the same problems happened again. Machine Learning able to analyzed a big data set from Domino’s and predict the threats probably occurs in their systems. This can make them alert and solve the problem as fast as possible.

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