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### Task 1

From the case study given, Domino’s Pizza Malaysia faced a few problems. Because of these problems Domino’s Pizza called Commercial Crimes Department of the Royal Malaysia Police (PDRM) to investigate this case with the customers that using the unauthorized vouches in their purchase. After carry out investigations, the first of the problem is Domino’s Pizza find out one of the customers using unauthorized vouchers to buy Domino’s Pizza. Through Domino’s database, they found out uncommon pattern of purchases which is large orders but low sales transaction involved. Furthermore, the customers bought untheorized vouchers with unregistered third party offers which is from Shopee.com.my, an e-commerce platform. Besides, customer ordered a few pizza but after using the unauthorized vouches, it free one pizza. Which is orders in large volume with a small billing amount. It causes Domino’s Pizza lose money and unprofitably.

The second of the problem that Domino’s Pizza found out was the ordering system. Domino’s Pizza thinks that the customers “hacked” Domino’s online platform to get illegal voucher code for discount. Besides, Domino’s Pizza did not admit the obvious flaws in their system and blaming to the customers who using the codes. In fact, it is the ordering system’s problem. Although the unauthorized vouchers valid on Domino’s Pizza sites but it still considers illegal vouchers.

### Task 2a

There are four stage to re-identify the cycle of Bi analysis with to study case. Which is analysis, insight, decision, evaluation.

#### Analysis

According to the case study, there is a problem need to be analysis. The first of the problem is customer using the unauthorized voucher to buy a Domino’s Pizza with large volume but small amount to billing. When customer added some ingredients to the pizza it cost nothing. Furthermore, the customers ordered two pizza and one garlic twisty bread but one of the pizza is free by using the unauthorized voucher from Shopee. This cause Domino’s Pizza revenue loss.

#### Insight

To avoid the customer using the unauthorized voucher, Domino’s Pizza’s system needs to be reliable and accurate. In addition, the customer using the unauthorized voucher but still remain valid on Domino’s website. In the end, Domino’s Pizza blamed the customer that using the unauthorized voucher illegally. If the voucher are illegally obtained, Domino’s Pizza should take action such as show invalid voucher in their system. Because of the flawed system, Domino’s Pizza make mistake and cause revenue loss.

#### Decision

After this issue happened and under investigation, Domino’s Pizza found out it is not customer’s fault although the customer using the unauthorized voucher but it also caused their customer to be interrogated by police. Domino’s Pizza blame customer rapidly and failed to admit that there are fundamental logic flaws in their online ordering system. In conclusion, if a lot of customers involves orders in large volumes with a small billing amount, Domino’s Pizza will be caused revenue loss and tarnish the image of the Domino’s Pizza.

#### Evaluation

To address the solution, Domino’s Pizza company can solve these problems with business logic. Business logic is real-world business rules put into computer code and shown in a computer program via a user interface.[1] Which is Domino’s Pizza can create a workflows that to pass data between users and software system. It can be illustrated as series of steps that need to be completed sequentially in checklist. Example: When the customer uses the unauthorized voucher, the Domino’s software or websites will check the voucher it is whether valid or invalid. If the voucher is valid then he system will automatically take action. Else the system will display “invalid voucher”. This is to keeping system running smoothly and fewer administrative errors.

### Task 2b

Descriptive techniques can propose to address the problem. Data analysts can create models and run analyses such as summary statistics, clustering, and regression analysis on the data to determine patterns and measure performance. [2] After Domino’s Pizza having analysed the irregularities orders and unusual pattern of purchase. Domino’s Pizza able to find out what happened with the order and their system. It allows Domino’s Pizza to solve the problem rapidly and learnt from past. Domino’s Pizza determine which metrics are important for evaluating performance. Example: Domino’s Pizza have to improve the operational efficiency. Besides, descriptive analysis is therefore an important source to determine what to do next and with predictive analytics such data can be turned into information regarding the likely future outcome of an event [2].

Last but not least, predictive analytics strategy also able to address the problem. Domino’s Pizza can be used to solve the problem which is invalid vouchers but still remain valid in the Domino’s Pizza websites and software. In others words, it provides organisations which actionable insights based on data. In order to do this, Domino’s Pizza can use the machine learning. Machine learning is the system can learn form data, identify the patterns and make decisions with minimal human intervention. Which is Domino’s Pizza can avoid unknown risks such as this kind of problem which is the flawed system. In this case, one of the learning methods suitable to the machine learning is supervised machine learning algorithms.[4] It trained using labeled examples, such as either “Invalid voucher” or “Valid voucher”.in other words, the learning problem is called classification and is called Boolean.[5] In order to do this, the learning machine have to check the vouchers code from the database. If the voucher code from the database didn’t match with the customer’s voucher code it will display “invalid voucher”. Else, the voucher code that customer typed match with the database it will display “Valid voucher”. So yes, the customers of the Domino’s Pizza can continue enjoy their vouchers code. In conclusion, because of the learning machines their incompetence and negligence in managing their order ordering system won’t be happened again.

### Reference

[1] Investopedia, Business logic, accessed on :Oct2,2019 [online].Available : <https://www.investopedia.com/terms/b/businesslogic.asp>

[2]IBM, Descriptive analytics 101 accessed on :May10,2018 [online]<https://www.ibm.com/blogs/business-analytics/descriptive-analytics-101-what-happened/>

[3] Predictive Analytics world , 4 Data Management Need for fraud Detection , accessed on Dec23,2014 [online] [https://www.predictiveanalyticsworld.com/patimes/understanding-your-business-with-descriptive-predictive-and-prescriptive-analytics/2802/[4](https://www.predictiveanalyticsworld.com/patimes/understanding-your-business-with-descriptive-predictive-and-prescriptive-analytics/2802/%5b4)]

[4] Aurelien Geron , Hands -on Machine Learning with Scikit-Learn & TensorFlow, O'Reilly Media, Inc, 13 March 2017[E-book] Available on Goole Drive : <https://drive.google.com/file/d/1tYo_xIAi8jPqKiaHSPQX9pHaJ8tf8MTd/view>

[5] Stuart Russell and Peter Norvig, Artificial Intelligence, a modern Approach third edition, Pearson,Inc, Dec 13, 1994[ e-book] Available on Google Drive :

<https://drive.google.com/file/d/1KNgDk49DUGjb9Z3P3c3MWgxh9IhL3bkL/view>