Data Analysis & Visualization Assignment 3

Diploma in Information Technology

Objective

To create a dashboard summarizing the overall performance of the consumer Banking department.

Instructions

1. This assignment to be done in groups of 3-4 students.
2. This assignment constitutes 25% of your total ICA marks for this module. Refer to the marking criteria section for more information on the marks allocated to each assessment component.
3. Assignment schedule is as follow:

No.	Description	Period
1	Identify tables required	Week 14
2	Assignment Preparation and Presentation	Week 16

4. Assignment requirements
   a. Dashboard must be created using Tableau desktop with interactivity added.
   b. Deliverables
      i. Tableau file in .twb format
      ii. Annex A indicating Group members' name, admin number, roles & responsibilities played by each member and key findings to help management to make better business decision.
      iii. Submit the deliverables to Blackboard by end of **Week 16 (2nd Feb 2020), 2359.**
   c. Assignment presentation is on week 16 during Lab hours. You are to present using Tableau desktop. Powerpoint slides are not required. Your tutor will schedule the timing for your group. Late submission will receive penalty of marks deduction.

Business Scenario

United Bank of Singapore (UBS) was established in 1990 has been a full service bank offering credit cards, housing loans and auto loan. In a recent strategic roadmap meeting, the Chief Executive Officer (CEO) has tasked the Head of Analytics to create a dashboard summarizing the overall performance of his auto loan department. This dashboard will aid senior management in formulating the strategic directions for auto loan offerings in the next five years.

You and your team mates are tasked to work on this project.

Your team will be provided with:

- Auto Loan data in excel format containing data from 2008 to 2016 downloaded from UBS's operational database. The provided data include auto loan master data, customer data and payment data such as loan payment and default payment.

Type of product and its dataset
AutoLoanDefaultPayment
AutoLoanMaster
AutoLoanPayment
CustomerMaster
CustomerEmployment

Your team needs to study the given dataset and create a dashboard which will deliver useful business insights to aid decision making in achieving business goals.
Your dashboard should cover at minimum the following:

1) Profile of UBS customers, their auto loan serviceability and household income. (Hint: to use data mining method to identify the profile)
2) Overall performance of your auto loan department including but not limited to the following; interest earned, auto loan take up and default payment rate etc
3) Any other analysis that you think will deliver useful insights to UBS.

Assessment Rubrics

Assessment Component	Developing	Functional	Proficient	Advanced
Data Management (5%)	**Completeness (<1%)** Unable to identify the tables needed for the table join. **Quality (<1%)** None of the required tables are correctly joined Poor data management skills. • Unsure of the relevant fields needed. • Unsure of how to clean the data or transform the raw data into usable fields. • Wrong computation of derived values or no usage of derived fields.	**Completeness (1%)** Able to identify some of the tables needed for table join. **Quality (<1.5%)** Some of the required tables are correctly joined. Average data management skills. • Not all the relevant fields needed are selected. • Able to transform the raw data into usable fields. • Shows computation of derived values for some fields needed. • Some derived values are computed correctly.	**Completeness (1.5%)** Able to identify most of the tables needed for table join. **Quality (<2%)** Most of the required tables are correctly joined. Good data management skills. • Most of the relevant fields needed are selected. • Able to transform the raw data into usable fields. • Shows computation of derived values for most of the fields needed. • Most derived values are computed correctly.	**Completeness (2%)** Able to identify all the tables needed for table join. **Quality (3%)** All the required tables are correctly joined. Excellent data management skills. • All the relevant fields needed are selected. • Able to transform the raw data into usable fields. • Shows computation of derived values for all the fields needed. • All derived values are computed correctly.
Data analysis (10%)	**Data Analysis (Individual<=2.5%)** Analysis is ill-structured and illogical, providing information / insights that are not helpful to the business. Analysis provides information that are obvious and provide no insights. No modeling techniques are used.	**Data Analysis (Individual <=5%)** Analysis is somewhat-structured and logical, providing information / insights that attempt to help the business. Analysis provides insights about the customers and business. Attempt to show usage of modelling techniques to provide insights to the business questions. However, the techniques chosen are not quite correct.	**Data Analysis (Individual <=7.5%)** Analysis is structured and mostly logical, providing information / insights that help the business. Analysis provides meaningful insights that can make a difference to the business. Show correct usage of modeling techniques to provide insights to the business questions.	**Data Analysis (Individual >7.5%)** Analysis is well-structured and logical, providing information / insights that go beyond touching the surface. Analysis provides unique insights that can make a big difference to the business. Good use of modeling techniques to provide insights to the business questions.
Final Report and Presentation (10%)	**Presentation skills and Q&A (Individual <=2%)** Articulation is poor.	**Presentation skills and Q&A (Individual <=3%)** Articulation is confusing at times.	**Presentation skills and Q&A (Individual <=4%)** Articulation is clear.	**Presentation skills and Q&A (Individual >4%)** Articulation is clear with varying tones.

Assessment Component	Developing	Functional	Proficient	Advanced
(Presentation 5% Dashboard 5%)	The presenter is unable to response relevantly to any of the questions. **Dashboard (<=2%)** Incorrect use of charts to illustration findings. No interaction/incorrect interaction between visualizations is added. Student demonstrates very basic understanding of his/her lines of business through the graphs/tables created. Contents (graphs, tables) are laid out poorly so that it is hard to understand the data even with elaboration.	The presenter has difficulty responding to some questions asked. Answers are relevant but little elaboration is provided. **Dashboard (<=3%)** Some correct use of charts to illustration findings. Some interaction between visualizations. Student demonstrates a somewhat clear understanding of his/her lines of business through the graphs/tables created. Contents (graphs, tables) are laid out well enough such that with verbal elaboration, it is possible to understand the data.	The presenter is able to respond to questions asked. The answers are relevant and elaborated on. **Dashboard (<=4%)** Correct use of charts to illustration findings. Interaction between visualizations are correctly used. Student demonstrates a clear understanding of his/her lines of business through the graphs/tables created. Contents (graphs, tables) are laid out reasonably well that allows for a somewhat clear understanding.	The presenter is able to respond confidently and completely to questions asked. The answers are relevant, well thought out and elaborated on. **Dashboard(>4%)** Correct use of charts, interactivity between visualization. Student demonstrates a comprehensive understanding of his/her lines of business through the graphs/tables created. Contents (graphs, tables) are laid out in a manner that allows for quick and clear understanding.

ANNEX A – PROJECT TEAM ORGANISATION

Module Group : ____

Instructions:

(i) The team must comprise 3 or 4 students.

(ii) All members must be from the same Module Group.

(iii) The first team member in the list above will be the team leader.

(iv) A copy of this form together with tableau workbook must be submitted to blackboard.

S/No	Name	Admin No.	Task allocated
1*			e.g in charge of doing data mining, in charge of transaction analysis etc
2			
3			
4			

key findings from your dashboard (in point form):

_____
_____
_____
_____