

Assessment 1 Word doc Final

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Level 4 Assessment Document

Task Scenario and introduction

In this scenario, I have undertaken the role of a director of a newly founded company that produces and manufactures part for aeroplanes called "Delta Fast". High up management has decided to hold a meeting in which they will discuss the topic of how they will use the budgeting for the year ahead. Being a director, I will have to present data that I have analysed from the available airlines, this includes the amount of orders, the cost of operations etc. To help create a successful presentation, I will be using the Power BI software to transform and present the data of the multiple sheets given to me.

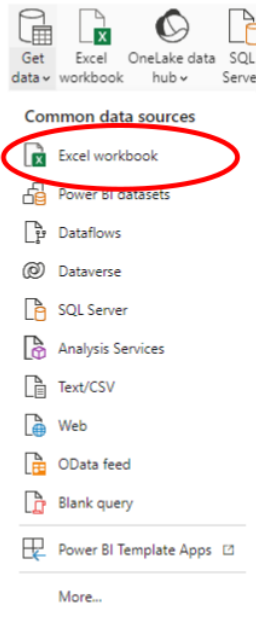
This document exists to show that I am able to complete the tasks given in the scenario, and if for whatever reason the original Power BI document is unable to be accessed, is it evidence that I am competent in my demonstration of the use of Power BI. In this document, I will break down my process of work step by step for each task and provide accompanying screenshots to visualise exactly where I was at that time in the assignment.

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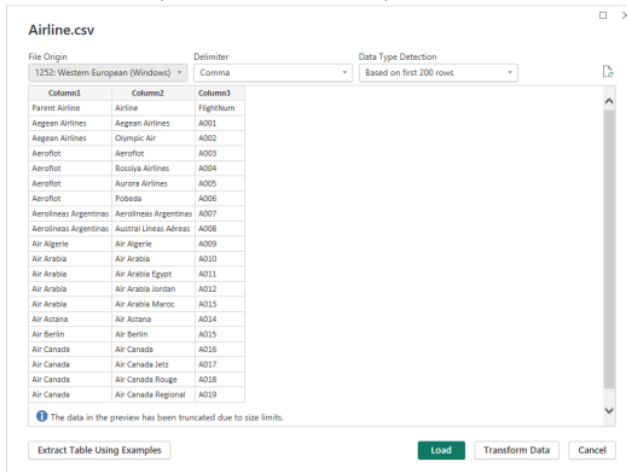
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Task 1

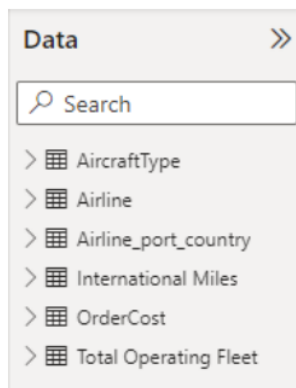
i) Import the data form the airlines folder



To import the data, I would select the dropdown menu on “get data”, then select Excel workbook, because these specific sets of data are presented in excel.

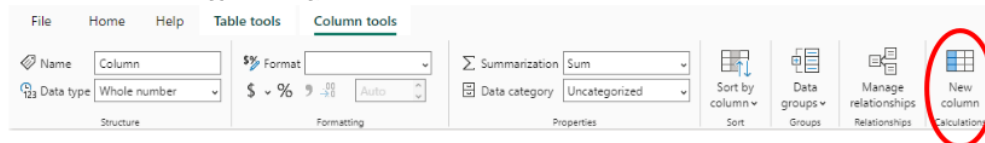


This is the popup that I get after selecting an excel sheet that I would like to import. I have either the option to load the data as it is, or I can transform the data, as sometimes the data may not be formatted correctly, or missing records, transforming it allows me to fix these mistakes before loading.



These are all of the Excel sheets loaded into Power BI.

ii) From the AircraftType Query, add extra columns at the end.



When adding a new column to a query, I would click “new column”, and then use the DAX expression bar to write a formula that would transform other columns into a new one.

Column1	Column2	Column	Column 2
British Aerospace BAe 146/Avro RJ	T006		
De Havilland Canada DHC-8 Dash 8	T007		
Airbus A310	T008		
Airbus A330	T009		
Airbus A350	T010		
Antonov An-124	T011		
Antonov An-148/An-158	T012		
Boeing 747	T013		
Boeing 767	T014		
Boeing 777	T015		
Boeing 787	T016		
Ilyushin Il-62	T017		
Ilyushin Il-96	T018		

In the AircraftType Query, I have added two extra columns but because of the lack of information, I am unable to fill the columns, if they had numerical values (airline expenses and profit for example) I would be able to create a new column possible finding out the average profit of each airline.

Task 2

i) In the Airline query, make first row as header.

A ^B _C Parent Airline	A ^B _C Airline	A ^B _C Flight Number
--	-------------------------------------	---

In the query editor, I am able to change the name of the column, just by clicking on the current heading to change it to its proper title.

×

Remove Top Rows

Specify how many rows to remove from the top.

Number of rows

OK

Cancel

To now remove the top row from the query as it is no longer needed, I select “remove rows” at the top ribbon, and then because it is the top first row, I only need to specify the first row.

A ^B _C Parent Airline	A ^B _C Airline	A ^B _C Flight Number
Aegean Airlines	Aegean Airlines	A001
Aegean Airlines	Olympic Air	A002
Aeroflot	Aeroflot	A003
Aeroflot	Rossiya Airlines	A004
Aeroflot	Aurora Airlines	A005
Aeroflot	Pobeda	A006
Aerolineas Argentinas	Aerolineas Argentinas	A007
Aerolineas Argentinas	Austral Líneas Aéreas	A008
Air Algerie	Air Algerie	A009

The query is now correct, with the proper headings and the data starting at the first record.

ii) In the OrderCost Query, Replace null with 0.

×

Replace Values

Replace one value with another in the selected columns.

Value To Find

Replace With

OK

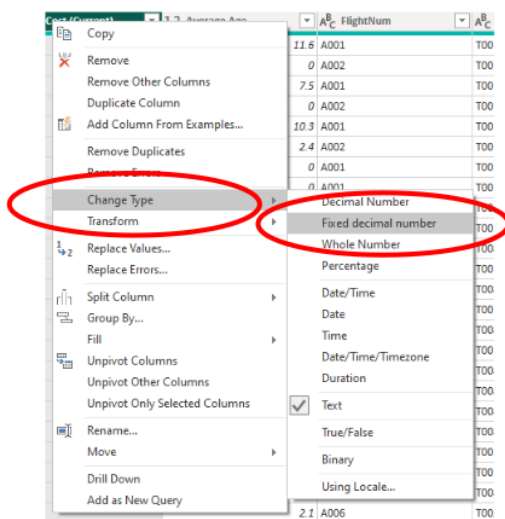
Cancel

To change the fields showing null to 0, I would right click the column, and then select replace values, this box will then pop up. Then I input the values I'd like to replace (null) with what I would like it to be replaced by (0).

1.2 Orders
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
11
0

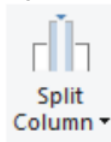
The records are now showing 0 instead of null, I have done this for the rest of this sheet.

iii) In the orderCost query, change the datatype of Total Cost to Fixed Decimal Number.

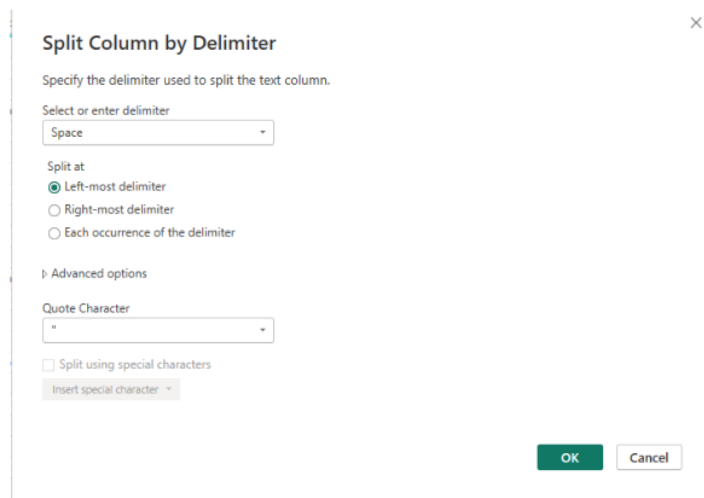


To change the type, I would right click the change type button, and then select fixed decimal number. But in this case, because it was formatted as currency, I had to first remove the \$ sign, as it was unable to convert it.

iv) In the Airline_port_country, split the Airline column.



To split the column, I would select the split column section, and then I chose to split it by a space, so I would click “by delimiter”

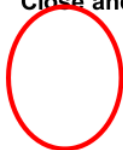


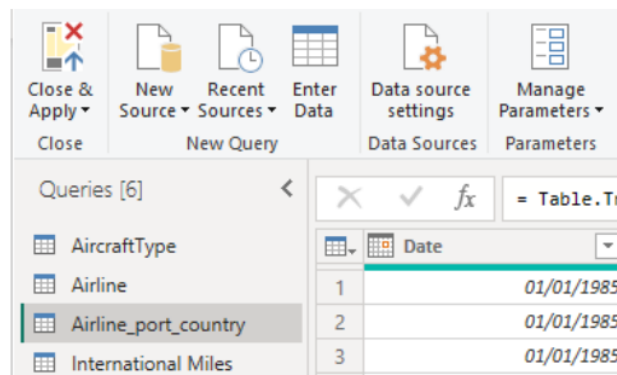
When this box pops up, I would click space because that is the delimiter that I want to split the columns by, and then “left most” so it would only split the columns by the first space in each record.

A ^B _C Airline.1	A ^B _C Airline.2
Air	China
Air	India
Air	India
Air	New Zealand
Alitalia	null
Alitalia	null
Alitalia	null
Alitalia	null
British	Airways
British	Airways
British	Airways
British	Airways
British	Airways
British	Airways

After splitting the column, you can see that airlines with two names have been split into their first and last parts, whilst airlines with only one name are still only put into one box.

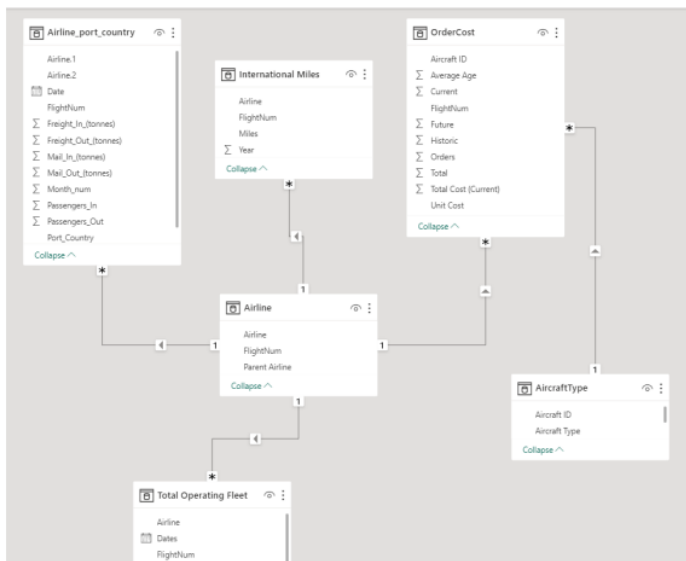
v) **Close and Apply to load the data in Power BI.**





When I've finished, I would click close and apply so that the edited data can be shown in the report and table view.

Task 3

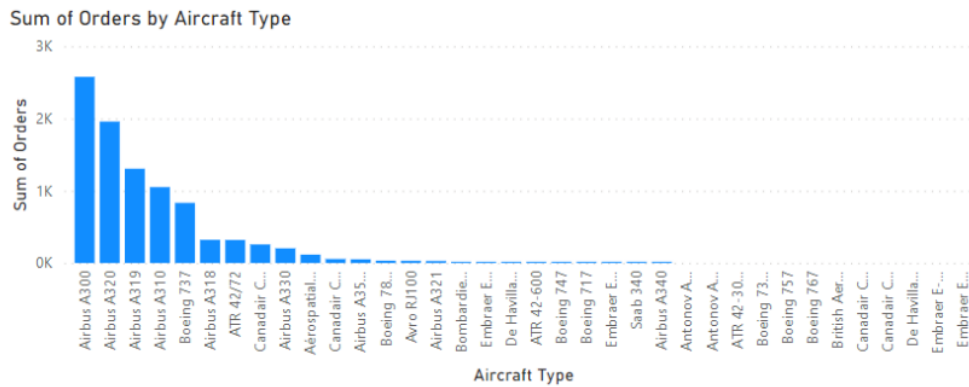


After inspecting the relationships with the tables, I managed the relationships between them so I could use the data from different tables, this would be needed in the future tasks where I would need to take data from the "airlines" and "Order Cost" tables.

Here I used the Auto detect for the system to find relationships between the tables automatically, initially this didn't work, as it was only showing three relationships, when I knew that there were more. I later found out that the reason why it wasn't showing all the relationships because the columns weren't named the same in the excel sheets, for example, the 'FlightNum' column was named 'Flight Number' in a different sheet, therefore the system couldn't tell that they were the same piece of data. After changing all the columns to the same thing, the relations worked, as seen in the image above.

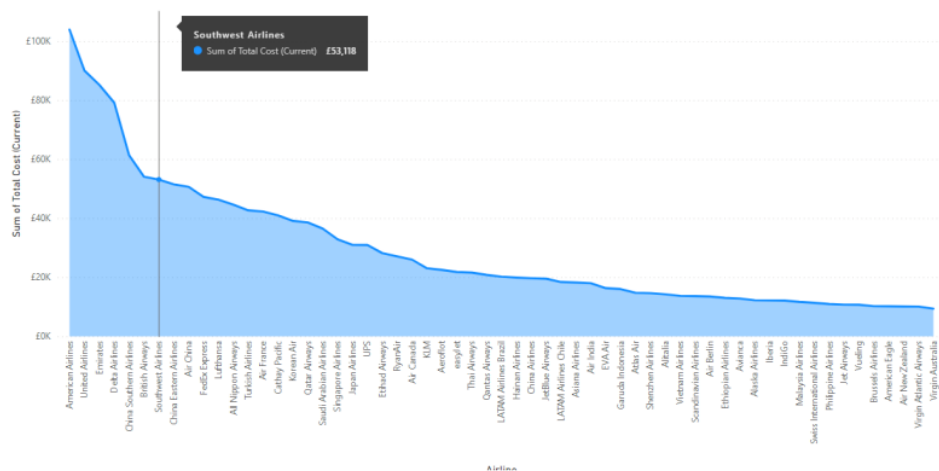
Task 4

- i) **Create a bar chart to analyse Orders by various Aircraft types.**



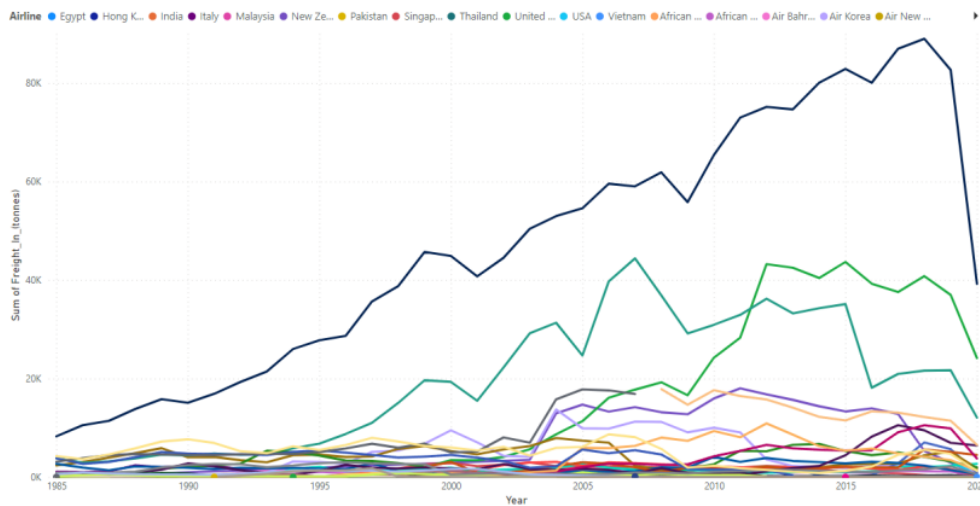
This is the bar graph that I produced that shows the sum of the orders by each aircraft type, as you can see by the graph, the Airbus line orders the most parts. As they are the four highest number of orders out of everyone.

- ii) **Create a stacked area chart to show the total cost incurred by various Airlines. Which Airline is incurring the highest cost?**



This is a stacked area chart that shows the total cost incurred by each airline. In this graph, you can see that the airline that has incurred the highest cost with the company is American airlines, with £103,892, this makes sense when comparing it with the last graph where the first four highest orders were from American airline aircrafts.

- iii) **Show the yearly trend of Freight In information for different airlines.**



This is the yearly trend for the freight In for each airline. The largest import by a large majority is airline singapore, which peaked at 89,000 tonnes. Initially, I wasn't sure how to complete this task, as I wasn't sure how to show both the year and each airline at the same time. My first thought was to create a scatter plot, as that is able to show each airline, but is unable to show the trend. Eventually, I found that you could use the legend tab on the line graph to show all of the airlines at the same time.

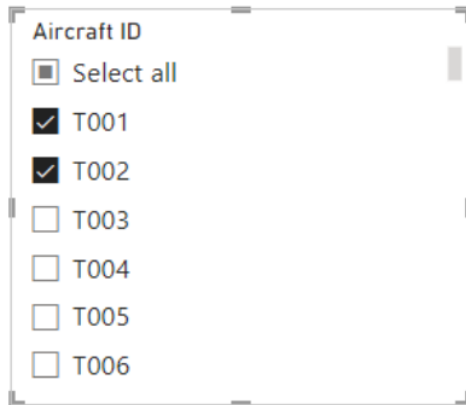
- iv) **What is the total number of orders? Create a card visual to show the same. Add a border and a title Total Orders to the card visual.**



This is the card visual, which displays the total amount of orders. I have added a border and title to this visual. I have done this by clicking on the visual, and then navigating to the format visual tab on the right side of the screen. For the border, I enabled the visual border, and I chose black for now, as I do not have a set colour scheme for the final summary report. For the title, I just had to enable the title, and then I could set it to whatever I wanted. For this visual, I have also removed the category label, as there was no need for two descriptors.

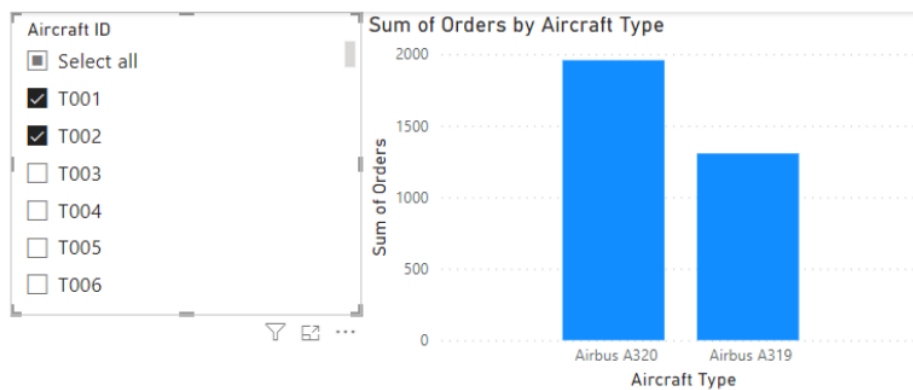
Task 5

- i) **Add a slicer for Aircraft Type so that the users can slice the report according to their selections.**



A screenshot of a slicer control titled "Aircraft ID". It features a "Select all" button at the top, followed by a list of aircraft IDs: T001, T002, T003, T004, T005, and T006. The checkboxes for T001 and T002 are checked, while the others are unchecked.

This is the Slicer function, it allows people to split the data into entries that they would like to see, this is useful if someone might want to compare two data sets in an already made bar or line graph. I have added the 'select all' button. I have also added the feature that allows the user to select more than one record at a time.



This is what it looks like to compare two different aircraft types, in the full graph, these entries may be hard to find as there are many of them, but it is easy to compare the sum of orders between the two when they are sliced.

- ii) **In the slicer, also add Select All option.**

Aircraft ID

☐ Select all
 ☒ T001
 ☒ T002
 ☐ T003
 ☐ T004
 ☐ T005
 ☐ T006

Here I have added the 'select all' option. I have done this by enabling it via the format visual tab on the side of the page. This allows the user to view the full graph when all of the records are selected.

Task 6

- i) Help the business identify top 5 Airlines by Total Cost

Airline	Sum of Total Cost (Current)
American Airlines	£103,892
United Airlines	£90,037
Emirates	£85,191
Delta Airlines	£79,171
China Southern Airlines	£61,370
British Airways	£54,074
Southwest Airlines	£53,118
China Eastern Airlines	£51,511
Air China	£50,660
Total	£2,329,173

For this task, I have chosen a table to help show the airlines total cost. I have done this because I felt that it was by far the easiest way to visualise this because of the number of airlines in the data set. Initially, I wanted to do a tree graph, but over half of the airlines weren't viewable, and it looked cluttered compared to the table. Here you are able to identify the four largest airlines, and the table works well with the slicer when you need to compare multiple airlines.

Task 7

- i) Create a map visual to show the count of airlines for different countries.



This is the map visual to show the count of the airlines for each country. I created this by giving the country a geo ID in the table view, this allows the visual to identify where each country is on the map, and how many airlines are from each country.

Task 8

- i) **Create a calculated measure Total_In_Out to calculate the total number of IN and Out for the ports.**

```
1 Total_In_Out = SUM(Airline_port_country[Freight_In_(tonnes)]) + Sum(Airline_port_country[Freight_Out_(tonnes)])
```

This is the function I used to calculate the total in and out. I have summed both of the columns using the SUM function, and then added both of them.

- ii) **Create a matrix visual to show the Total ins and Outs for different ports.**

Port_Country	Total_In_Out
Zimbabwe	10,964.46
Yugoslavia	127.72
Western Samoa	88.88
Vietnam	136,604.18
Vanuatu	2,499.78
USA	1,116,902.20
Total	17,515,146.63

Here is the matrix visual to show the total Ins and Outs for different ports. It also shows the complete total for all ports.

Task 9

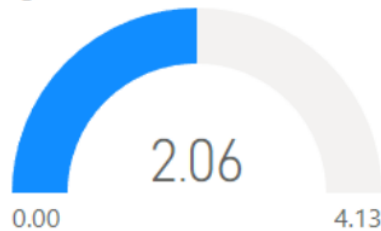
- i) **Create a calculated measure to get the variance of Freight_Out**

```
1 Freight out variance = VAR.P(Airline_port_country[Freight_Out_(tonnes)])
```

This is the formula that I have used to calculate the variance of the freight out column.

- ii) **Create a gauge chart to show the Freight_Out variance.**

Freight out variance



This is the gauge chart that displays the variance for freight out.

- iii) **Give a title Freight_Out Variance to the visual.**

Freight out variance



I have also given the gauge chart a title to label what it is showing.

Task 10

- i) **Add a page title Executive Summary Report.**



Here on the document I have added the title executive summary report. I have made the title bold. And decided to use different shades of blue for the colour scheme of the report.

- ii) **Align the visuals as shown in the below screenshot.**

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GRADEMARK REPORT

FINAL GRADE

87 / 100

GENERAL COMMENTS

Task 1 :	10
Task 2 :	5
Task 3 :	3.5
Task 4 :	18.5
Task 5 :	10
Task 6 :	2
Task 7 :	5
Task 8 :	10
Task 9 :	14
Task 10 :	9

Hi Cai,

Good attempt. Thank you for submitting the assignment well ahead of submission time. Much appreciated.

The following are the comments for your tasks:

A
clear introduction of the tasks to be performed is described. Well done

Task 1: ---10

All the necessary tables were imported to the Power BI application

Task 2: ---5

Data preparation was done excellently making all the necessary changes before loading the data

Task 3: --3.5

What kind of relationship exists between the tables?

Task 4: ----18.5

clear visuals are created.

Good attempt to mention about the high orders, it would have added credits if you have mentioned the other end as well. This time I am not deducting marks but you can remember this for later assignments.

In stacked area chart mentions about higher airline but the screenshot doesn't match the textual description.

Task 5: -10

A good representation of a slicer is included in the visual

Task 6: --2

Tree map is the best to represent top 5 airlines and their corresponding cost, the rest of the airlines need not be shown.

Task 7:---5

Right visual was chosen and differentiating the count of airline by size of bubble is an

excellent choice.

Task 8: ---10

Good attempt to show the DAX expression, in addition the screenshot representing the calculated measure in data pane could have been shown

The third section in this task has not been attempted.

Task 9: ---14

Right choice of DAX expression to calculate variance.

Task 10:---- 9

The report was very well formatted with clear differentiation between all the visuals

Introduction and Conclusion:

A clear introduction was given.

conclusion could also have explained how the dashboard can help analyze Delta fast company based on different parameters to achieve business profitability.

I hope these comments will be of help in your future assignments.

Please let me know if you need any further clarification.

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