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DATA ANALYSIS RESULT FROM COMMON WEALTH BANK

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Abstract:

Data representing through various visualizations depicts the easy way of understanding how the datasets are spread. Following report is about Commonwealth bank results presentation and investors discussion pack in 2017. Implementing the different techniques of sorting data for finding the insights and presenting the Bar charts, line graphs, pie charts, scatter graphs, ogives and tables and evaluating the written criteria on charts and graphs.

Keywords: Line graphs, pie charts, scatter graphs, ogives

PART-A (DEVELOP EVALUATING CRITERIA)

COMMON

1. Cross-checking the data: if dataset is weak, it doesn't make good graph. ignoring any Outliers and missing values that may affect the data results
2. Encodings: labelling the magnitude of curve, bars, lines, plot area with colors and proper legends
3. Tagging the axis: Irrespective of graphs and charts, need to classify precisely which variable should stand on horizontal and vertical axis
4. Mentioning units: If not supposed to mention the suitable units on charts, users may confuse to read it as percentages or any other unit
5. Geometry check: Using the correct sizes of bars, lines, colors and must have consistency throughout plotting
6. Considering viewers: No matter how great and graphic your visualization, people always look for what information can they extract, always make an effort to keep simple and understandable

BAR GRAPH

7.The representation of having rectangular bars on the categorical or qualitative data. Bar charts can be either horizontal or vertical. Simply, each bar is represented in values.
In horizontal bar graph, x-axis has the measuring of data and y-axis represents the categories. On the other hand, vertical bar graph, x-axis doesn't scale but has the categorical variables.
8. Bar graph can be grouped or stacked, A group bar graph contains the information about sub-groups of different categories, each sub-group is a bar of different color, and stacked bar graph contains subgroups are stacked on top of other.
9. An easy visualization of bar graph depicts by having a line over all bars of categories. Soonly, by having a glance to line, measuring data of categories would be easy.

LINE GRAPH A line graph is known as line chart, it visualizes the values over certain period of time. One or more lines can be used, which enable to compare between them

10.The x-axis must always tend towards time only, and y-axis should have numerical data, mostly having continuous, which gives the meaning of y-axis is dependent.

11.Trends may be continuously increasing or decreasing, that help to make predict about the results of data not yet recorded, for that data must be perfectly organized

12. It is very difficult to interpret the information when line graph is having more than 4 lines.

PIE CHARTS

Pie charts are usually representation of categorical variable, the graphical representation
Is circular form having slices, each slice is the category of variable, having different colors
And indicated with percentages, which gives the arc length

13. pie charts must have 360 degrees that indicates 100% of data is fitted in circle
14. The nature of data is nominal or ordinal variable, no slice can have same color
15. pie chart would be better, if its not exceeding 7 slices
16. Two or more pie charts are used to compare of the same Category

SCATTER GRAPHS

Scatter graphs or scatter plots which are similar to the line graphs, instead here, having graph consists dots. These used to compare two continuous variables and relationship. It means, variable is dependent.

17.The relation between two continuous variables is called co-relation, this would be either positive or negative co-relation

18. Scatter diagram could have no relationship, it means, randomly plotted dots on the graph which gives the meaning of no co-relation among variables.

OGIVES

Ogives are known as ogive graphs. The representation of cumulative frequencies of data set, by connecting the dots with straight line from left to right.

19.Ogive graph must have percentage scaling on y-axis and the upper-class boundaries on x-axis

20. The plotting line should start from ZERO, because always we start count from zero and line goes up by adding previous frequencies

21.While plotting, the line should be terminated with the number, it means sum of all frequencies or 100%

TABLES

Tables are the traditional way of representing the data by having rows and columns

22.More columns can be derived from consecutive columns which may be percentages, cumulative frequencies etc

23. To be called perfect table, every row posses the same number of columns

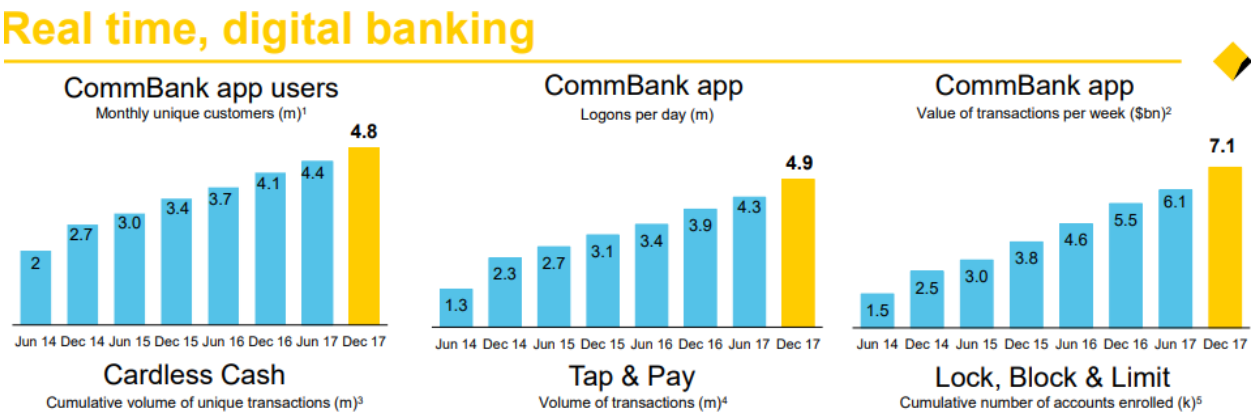
24. For continuous data, every column in table must produce six-point summary statistics i.e min, 1stQ, mean, median, 3rdQ, max.

PART-B (EVALUATING THE REPORT)

All of these following graphs and charts of common wealth bank are used to evaluate the common criteria and individual grouping criteria

BAR GRAPHS

1.



These 3 bar graphs describing about real time and digital banking of CommBank, which clearly depicts of bank app from June 14 to Dec 17. All type of digital transactions were dramatically increasing

Clearly, these bar graphs satisfying the common criteria like geometry, labelling the axes, keeping the audience and encodings understandable. From figures, we can say that these are vertical bar graphs and fulfilling my criteria 7, which is continuous data in millions and x-axis doesn't scale.

2.

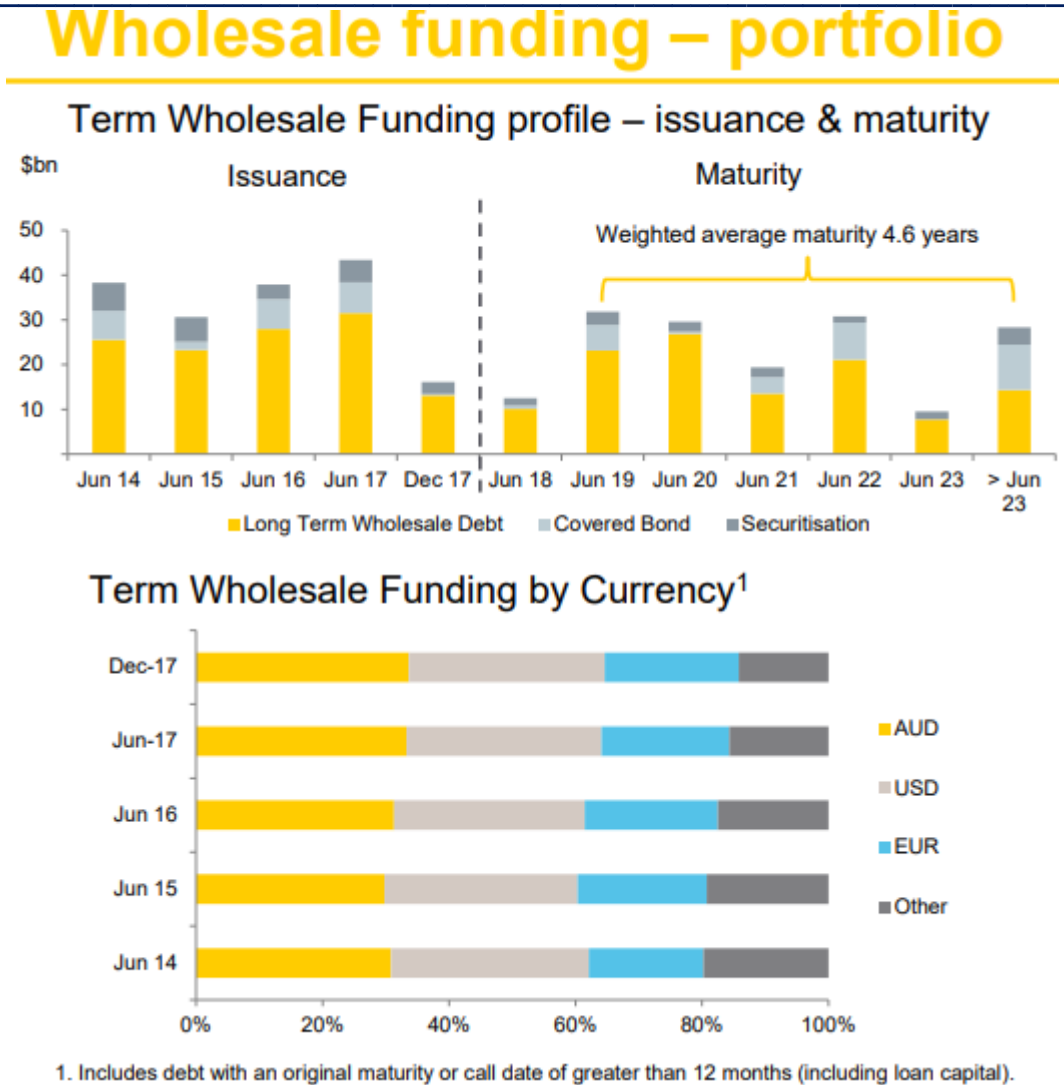
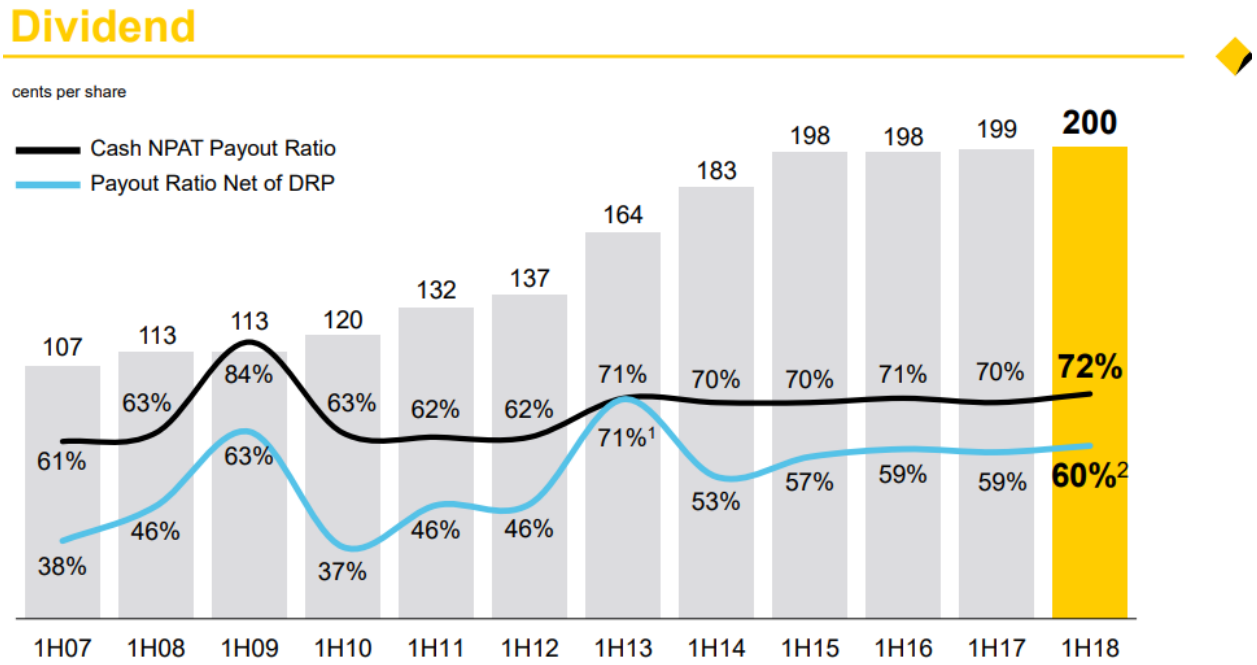


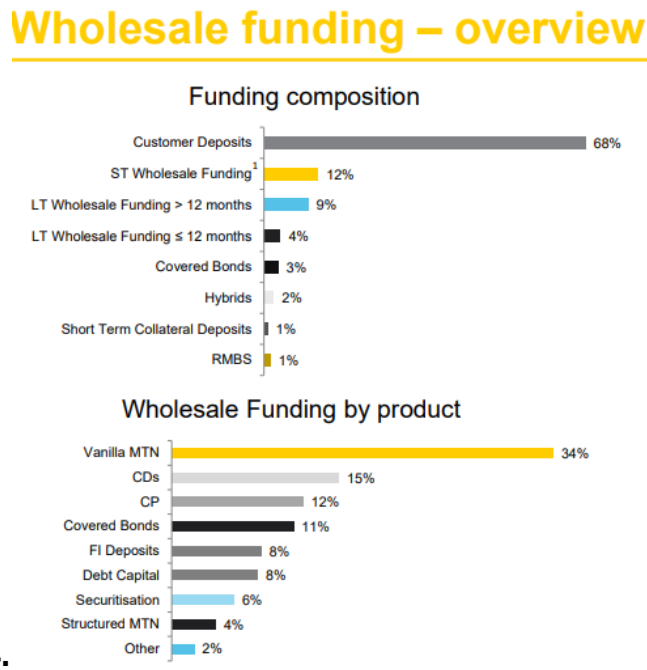
Chart 2 gives the information about funding across different portfolios using stacked bar graphs and other stack graph says about various currencies funding. These charts are suitable for Criteria 8, Having horizontal stacked bar charts along X-axis has scaling, so clearly rewarding criteria 7 and 8.



3.

This bar graph has lot of information to take and it supposed to qualify criteria 9, but it doesn't. from figure, it was no surprise to keep audience not understandable, because blue and black has meaning but the percentage number over the lines and x-axis description makes confusing to viewers. For any bar graph indicating the line over all bars should be simple.

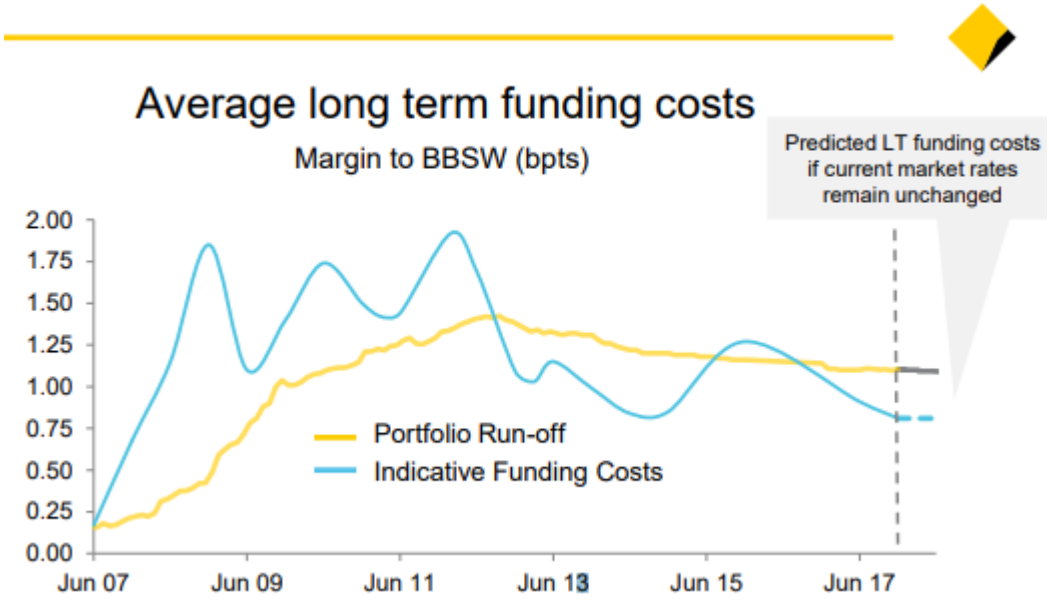
4.



This is the horizontal bar graph satisfying the criteria 7, though x-axis particularly not scaling but having categories along Y-axis.

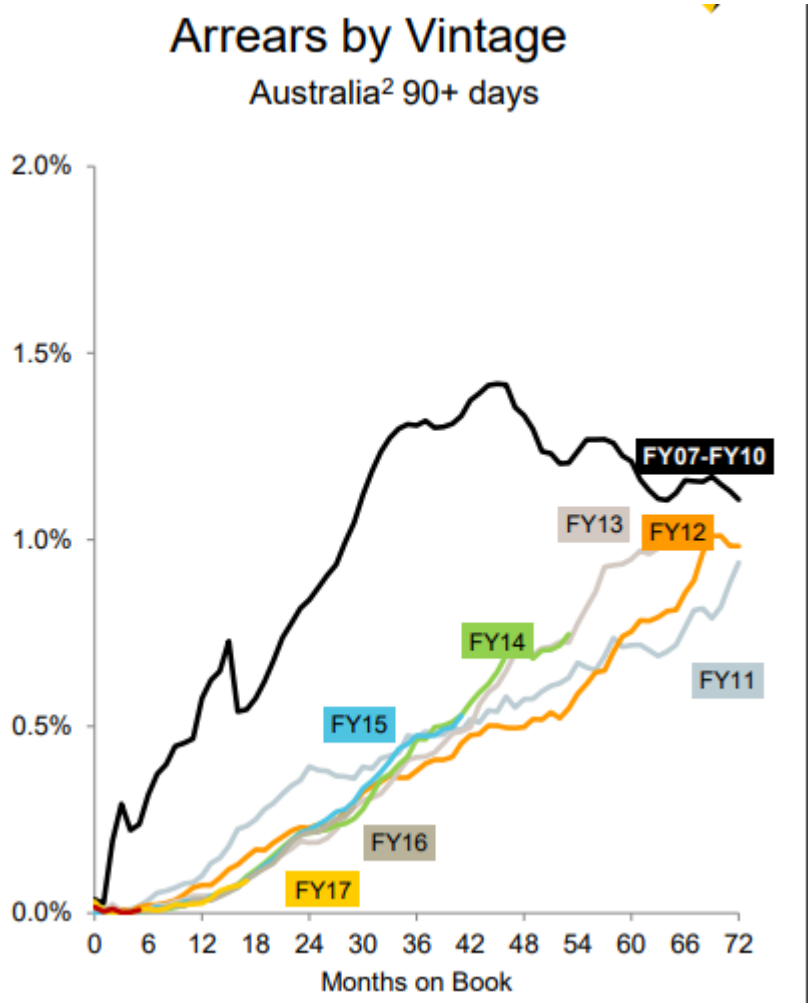
LINE GRAPHS

5.



This line graph is about funding costs and portfolio in the period of ten years consistently. This is the line graph having time trends consistently of two years and continuous data on y-axis, pleasing the common criteria and criteria 10. Because of trend lines is decreasing and increasing over 2 years consistently, which enable to forecast data of next upcoming years.

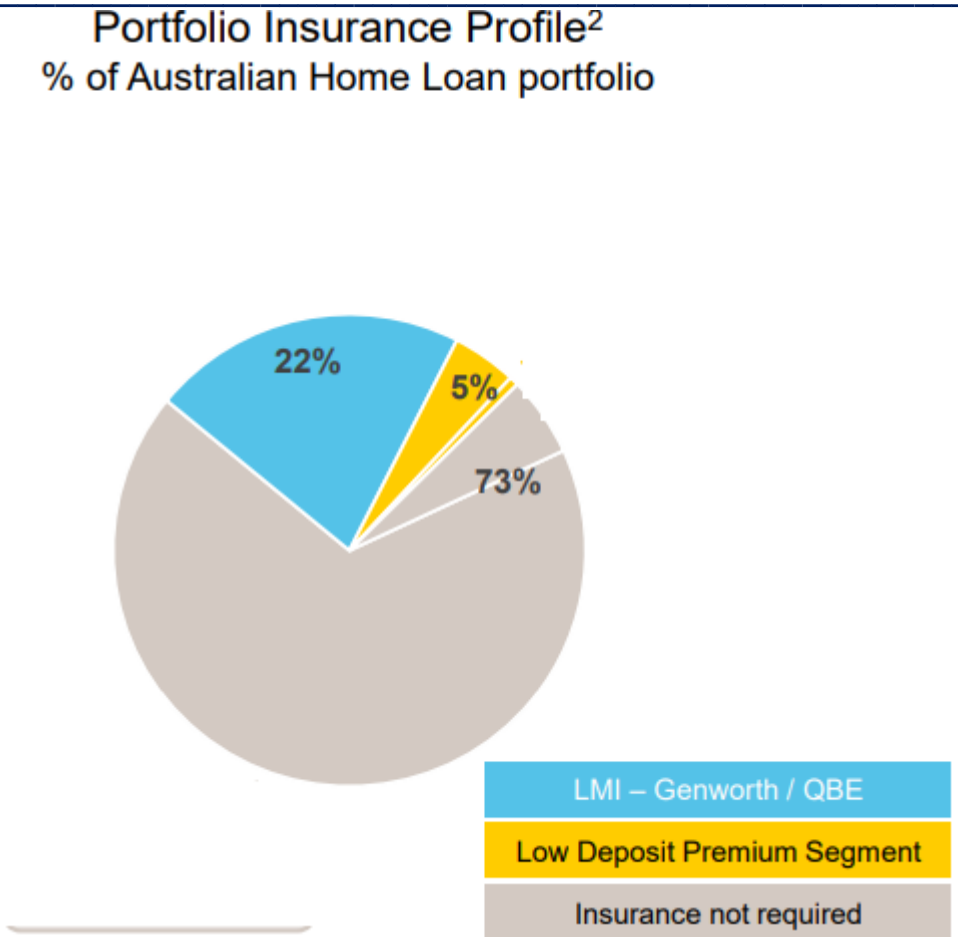
6.



This line graph is having consistent time trends on x-axis and continuous data on y-axis but it's not addressing the common criteria geometry and will be landing people with bewildering, more lines are coinciding most of the time, doesn't give the meaning which line are on what scale. However, there are more than 4 lines and it's addressing the criteria 12

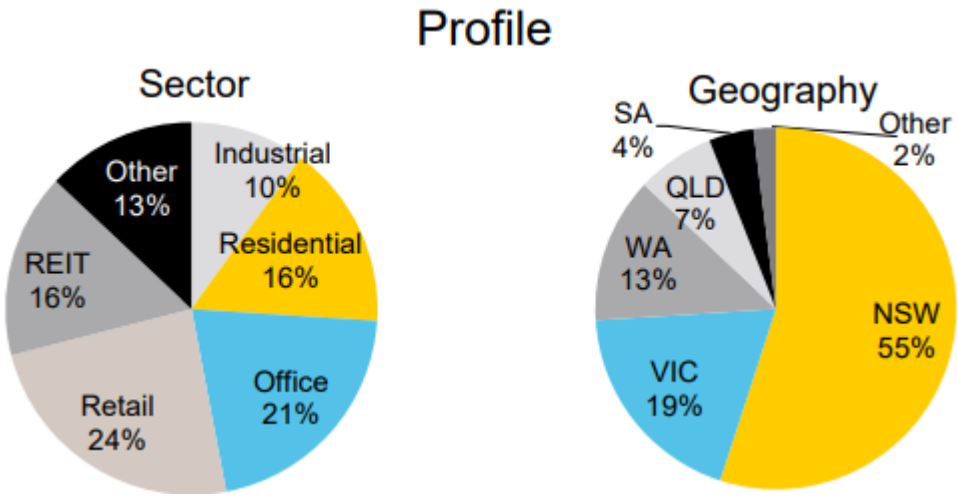
PIE CHARTS

7.



This pie chart is standard and regularly used in preparing the daily reports of categories. Here, Common wealth bank addressing the insurance profile portfolio using pie charts of 3 categories, where 73% of the people not require the insurance. it's possessing sum of all parts (360 degrees). However, chart is convincing to audience and pleasing the common criteria and satisfying criteria 13, 14, 15

8.



These two pie charts fail to explain the one common criteria, it doesn't have clear title of representation and users leads to confuse. Other than that, from figures we can infer bank properties is on different types of sectors (Industrial, residential, office, retail, REIT and other) indicated on first pie chart and second is the geography of Australian states. New south wales having the top properties holding 55%, south Australia and other has low (4% and 2% respectively).

However, these two appear on same category representation discussing the different type property sectors on geographic location and it gives the meaning of criteria 16.

TABLES

9.

Market share[1]

%	Dec 17	Jun 17	Dec 16
Home loans	24.6	24.8	25.0
Credit cards – RBA[2]	24.4	24.4	24.4
Other household lending[3]	27.0	26.6	26.1
Household deposits	28.5	28.8	29.0
Business lending – RBA	16.3	16.5	16.6
Business lending – APRA	18.4	18.6	18.6
Business deposits – APRA	20.4	20.3	19.8
Equities trading	4.0	3.9	4.0
Australian Retail – administrator view[4]	15.6	15.6	15.5
FirstChoice Platform[4]	10.8	10.7	10.8
Australia life insurance (total risk)[4, 5]	9.8	9.9	11.1
Australia life insurance (individual risk)[4, 5]	9.8	10.0	10.2
NZ home loans[6]	21.8	21.7	21.9
NZ customer deposits[6]	17.8	17.8	17.5
NZ business lending[6]	14.5	14.4	13.9
NZ retail AUM[7]	13.0	12.4	12.3
NZ annual inforce premiums[4,5]	26.8	27.9	28.0

This table is about market share of different categories of business and location (Home, deposits, lending, Australia and New Zealand) for Dec 16 to Dec 17. Table had the title but the values in cells are not having the units, it leads to difficult in understanding and it fails the one of the common criteria. Apart from that, every thing in the table is organized, having the accuracy to checking category of market share in given year and considered to be perfect table because of every row possess same number of columns

10.

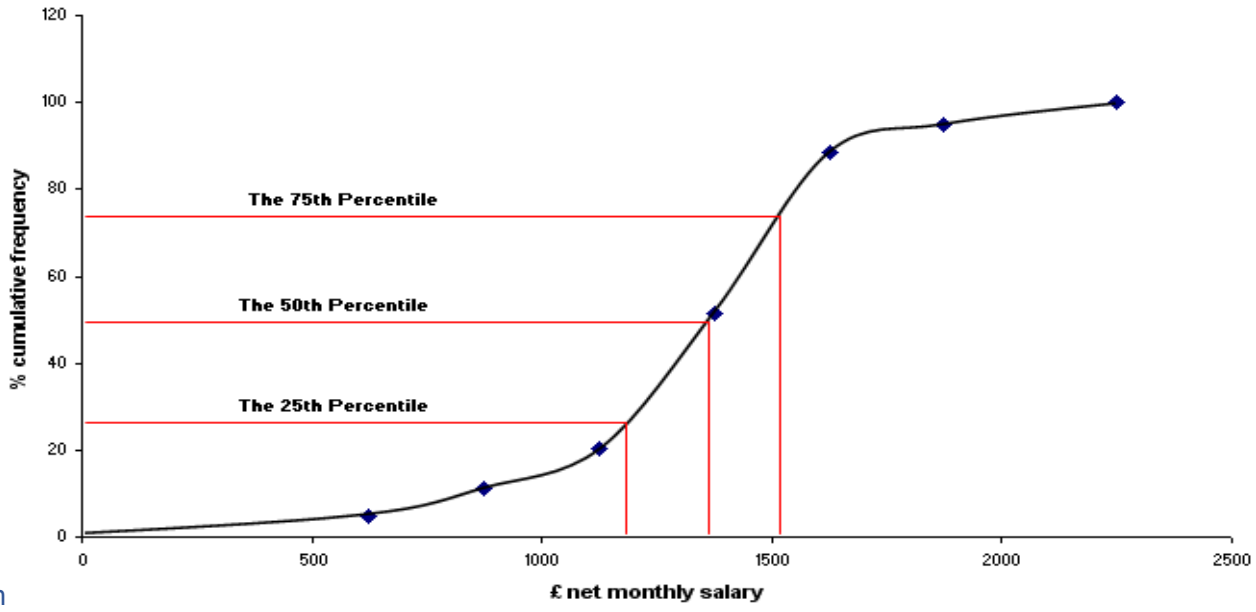
Regulatory exposure mix

Portfolio	Regulatory Credit Exposure Mix			
	CBA	Peer 1	Peer 2	Peer 3
Residential Mortgages	56%	41%	47%	57%
Corporate, SME, Specialised Lending	27%	31%	38%	29%
Bank	4%	5%	5%	2%
Sovereign	9%	15%	8%	8%
Qualifying Revolving	3%	3%	1%	2%
Other Retail	1%	5%	1%	2%
Total	100%	100%	100%	100%

These table explains about regulatory credit exposure mix across portfolio. This the example of perfect table, having the title, correct encodings and accuracy. And, derived the row(Total) by adding the respective column numbers and hence convincing to criteria 22

OGIVES

11.

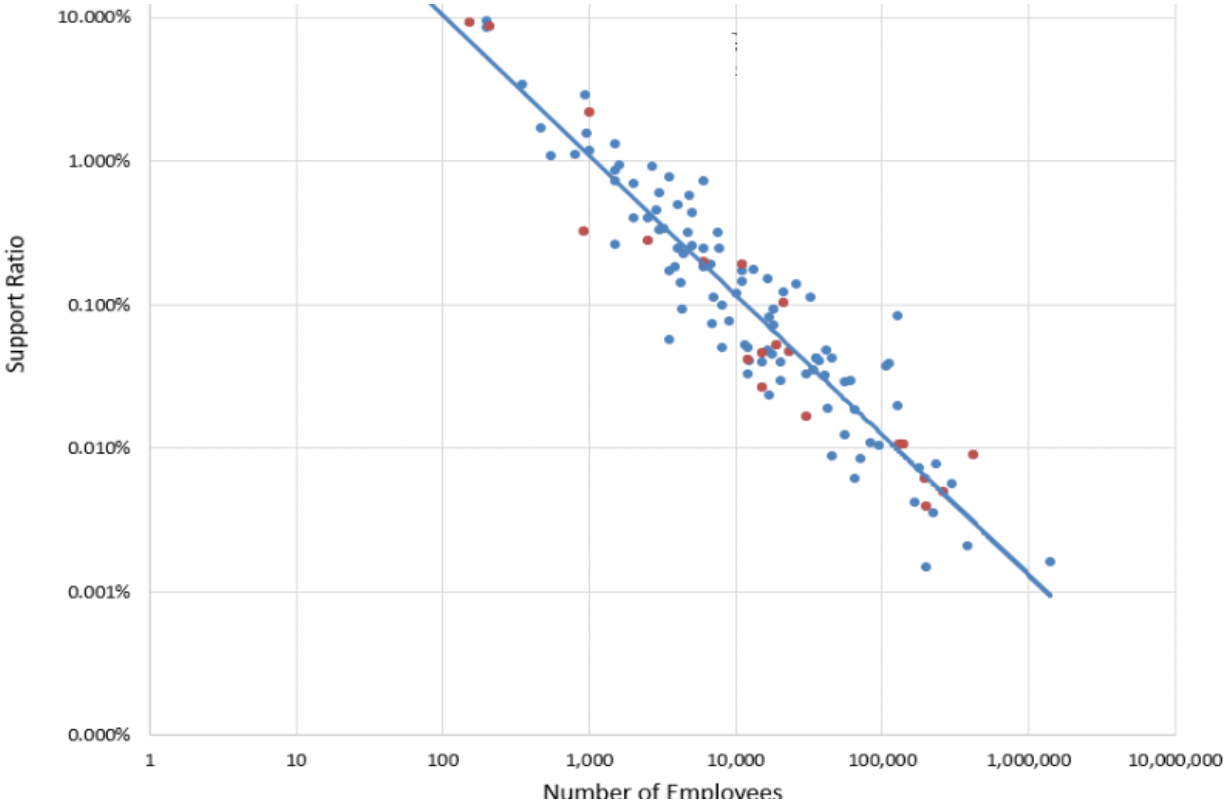


m

Above frequency curve showing that, monthly income. Ogive is clearly representing every criteria perspective and it frequency starts from value zero and it ends at 100% and assuring the criteria 20 and it also satisfy the criteria 19 because on x-axis it appears to have upper class boundaries and percentage measure on y-axis.

SCATTER GRAPHS

12.



This scatter plot has no title of representation and it pleases to have continuous variables on x-axis and y-axis that entitled to satisfy one of the criteria. From figure, we can clearly state that, scatter plot is co-related to dependent variable that means support ratio is negatively co-related to number of employees. Just mentioning, if there is a co-relation between two independent variables that might be a risk for analyzing the data and in contrast, if independent variable is negatively or positively co-related to target or dependent variable, then it is insight of the data.

CONCLUSION

Data presenting through various visualizations is something measuring the performance in certain levels of magnitude and making the strategies to improve the future. From this assignment, various graphs and charts have some type of meaning and context that associated with organization, but most important thing is how well data visualizations is depicted and evaluated with exclusive criteria to the end users and how valuable these visualizations make helpful for firm to make a decision for ahead

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