MONASH University

MONASH BUSINESS SCHOOL

ACC/ACF2400 Accounting Information Systems

Semester Two 2019

Individual Assignment

Creating a Business Dashboard

Overview

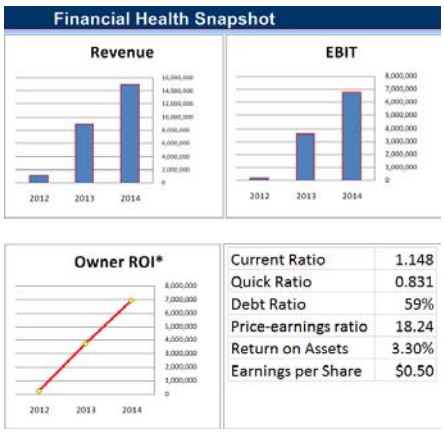
Business dashboard is an analytical tool that provide at-a-glance visualisation of business performance. The design varies considerably from one application to another, and even between businesses, but a common feature of a dashboard is that it uses graphs, coloured text, and symbols to highlight key information of the business such as trends, risks, performance, analyses. Dashboards are designed to be interactive to present clear and relevant information at management meetings, enable navigation of detailed information when required. A non-interactive dashboard can be cluttered making it difficult to show the important information or not possible to show every important information at once, not able to drill down for detail.

When designing a business dashboard, start with the end in mind. In doing so, you must identify the information you wish to present on it. Think from a business perspective. For example, what relevant information do you need to know to understand your current business status? What information do you need to strategise for improvement of business performance? Once you have outlined what you want to know, then you can work on the data required and the formulae needed for calculation, which will be useful in building your business dashboard.

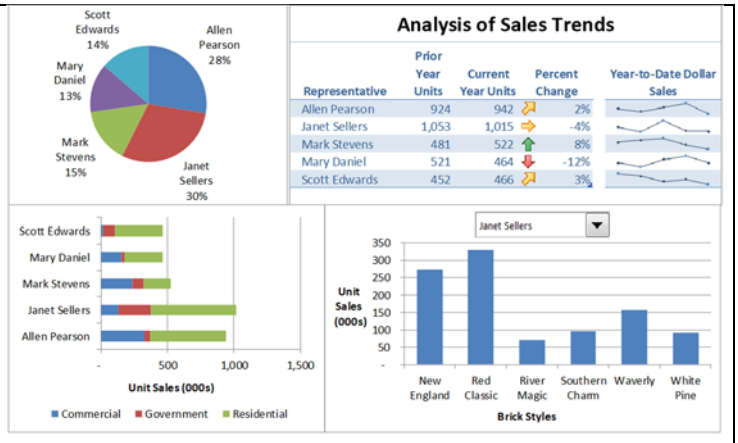
Instructions on how to build dashboards are available in different journals, magazines and online resources. For example, the ***Journal of Accountancy*** published an article that discusses how to create complex dashboard reports using Microsoft Excel 2007 and Excel 2010 (http://www.journalofaccountancy.com/issues/2011/feb/20092427.html).

The table below contrasts 2 different approaches to dashboard reporting. The example on the left shows seven (7) ratios in a non-interactive dashboard, with 3 graphs and 1 panel of numbers. The design features in the dashboard would earn a low Pass (P) - if other requirements are acceptable. The example on the right is from the *Dashboard your Scorecard* article from the ***Journal of Accountancy***. This is an interactive dashboard, the design incorporated the following features and will be awarded with higher marks:

- It is interactive (note the drop-down box in the bottom right panel to select the person shown);
- It uses appropriate graph to display proportions and performance (pie charts, bar charts, stack bar charts) with clear description of title and legends
- It uses conditional formatting icons (arrows) in the top right panel to indicate the direction of change and so makes the data easier to digest at a glance;
- It uses spark lines in the top right panel (within cell graphs) to show historical changes;



Low Pass



Distinction or High Distinction

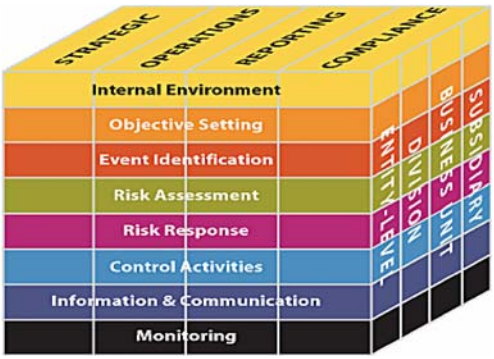
Learning Objectives Assessed

The purpose of this assignment is for you to practice designing and developing a management report using good spreadsheet design practice. You will need to conduct some independent research to find out how to create different elements of your dashboard, particularly if you are attempting to achieve High Distinction (HD) requirements.

Specific objectives addressed by this assignment include:

Objective 4: Synthesise design principles to develop financial models that assist in decision-making.
Objective 5: Apply critical thinking, problem solving and communication skills to analyse, evaluate and interpret business processes and the accounting data that is

In terms of the unit content, this assignment is based on a set of practice guidelines that are used widely, usually referred to as the COSO ERM framework, and shown below. This assignment focuses on the last two components of the framework.



Information & Communication:
What information you need and how should it be communicated?
Monitoring:
How will you monitor what is happening?

General Instructions

You have recently been appointed as a graduate accountant at GBI Group, USA. Sam Johnson, the Business Controller of the GBI Group (USA), has handed to you an Excel spreadsheet with the company's sales data (**ACC_ACF2400_Ind_Assignment_GBI_Group.xlsx**) to prepare a business dashboard that presents sales analysis for 2018. Sam reminded you that the sales recognition adopted by the GBI Group is based on Invoice Date. The first step when designing your dashboard is to decide which information will be useful to conduct the 2018 sales analysis. Sam advised to include ratios that are relevant for business performance analysis. Sam suggested to include the following ratios:

- Monthly sales revenue trend (E.g.: by product group description)
- Monthly sales revenue growth rate (E.g.: by city)
- Best-performing product by gross profit within each product group description by sales organisation description
- Average days outstanding (E.g.: by customer)

This assignment is designed to be completed using Microsoft Excel for Windows, which is available in the computer labs. If you use Mac, open your file using one of the lab computers (where you have your tutorial) before submitting your assignment and make sure that all features included work properly. Bear in mind that the teaching team will be using Excel for Windows to mark the assignment.

Most of the Excel features and command you will use are available in lecture notes. There are considerable amount of information available on the Internet. For example, a simple Google search generated these results:

- Conditional formatting: 1,850,000 results for Excel 2016
- Conditional formatting data bars or icons: 306,000 results for Excel 2016
- Sparklines: 120,000 results for Excel 2016
- Slicers: 407,000 results for Excel 2016
- Excel 2016 Form controls/Active X controls: 31,000,000 results (a very popular topic)
  Note, Excel's form controls are available on the Developer tab, which is hidden until you right click on the top menu, select Customize the Ribbon, and the check the Developer option.

This is a major assignment in which you are expected to put in a substantial amount of work to obtain higher grades. You can ask the teaching team for guidance about the dashboard if it does not work properly. However, do not expect us to give you the answer directly, but we will try to help you to work out why your model is not working properly. The teaching team will not be impressed if you ask a basic question, such as "What is conditional formatting?" or "Where can I find form controls in the menu?" That type of question suggests a lazy intellectual approach that is not consistent with university-level study.

This is an **individual** assignment. You are required to use the data set (**ACC_ACF2400_Ind_Assignment_GBI_Group.xlsx**) supplied with this guide under ***Assessment Task 4: Individual Assignment*** section on Moodle.

Submission Date/Time & Procedures

Submission Date/Time: ***Sunday 20 October 2019, 5pm***. Penalties apply for late submission.

Submit the Excel file via the **Individual Assignment** link under ***Assessment Task 4: Individual Assignment*** section on Moodle.

Marks

The assignment is worth **18%** of the total marks for this unit (see Marking Rubric below to understand how your assignment will be assessed).

Mark breakdown per task	
Task	**Marks**
Instruction	20
Calculation worksheets	35
Dashboard	30
Reflection	15
Total	**100**

Required

Save your file as **ACC_ACF2400_<Your Name_StudentID>_Dashboard.xlsx.** The completed assignment must contain the following 7 worksheets:

- Instruction (note 1)
- Report (note 2)
- Data GBI_Group
- Calculation worksheets (note 3):
    - (i) Cal1_RevTrend_PdtGp
    - (ii) Cal2_RevGrowthRate_City
    - (iii) Cal3_Top3_Pdt_PdtGp_SO
    - (iv) Cal4_Rev_AvgDaysOut_Customer

Notes:

1. Prepare an **Instruction** worksheet that explains how to use your model. Instructions should be brief. Include the following information:
    - Your name and name of the company
    - Dashboard objective: Explain the purpose of the dashboard you created and based on your analysis of the data, identify one area of business improvement as recommendation to Sam Johnson
    - Indicate **location** and explain **purpose** of **key sales analysis for 2018** to be presented at the management meeting:
        - **Key Analysis 1**: Monthly sales revenue trend by product group description
        - **Key Analysis 2**: Monthly sales revenue growth rate by city [HINT: Growth rate is the difference between current period revenue and previous period revenue divided by previous period revenue]
        - **Key Analysis 3**: Top 3 best-performing product by gross profit within each product group description by sales organisation description
        - **Key Analysis 4**: Average days outstanding by customer [HINT: Average Days Outstanding is the sum of days difference between Payment Receipt Date and Invoice Date divide by the count of number of invoices]
    - **Reflection** on your own learning experience while working on the assignment and preparing your dashboard (700-800 words). Think broadly. There is no right or wrong answer. You will be graded on the depth of reflection, personal ideas and conceptualisation (see rubric for more details). Although the reflection must be pasted into the **Instruction** worksheet, it will be marked separately. Below are some guidance on how to write a reflective piece:
        - **You MUST review the below links!**
        - https://www.monash.edu/rlo/assignment-samples/education/education-reflective-writing/reflective-writing-structure
        - https://www.monash.edu/rlo/assignment-samples/education/education-reflective-writing
2. Construct an interactive professional Dashboard in the **Report** worksheet (see marking rubric for more details). [Hint: PivotCharts and Slicers are copied from respective Calculation worksheets while Form Control is generally created in the Report worksheet]
3. Perform all the necessary data processing for each of the key analysis in the **Calculation** worksheets provided (see below). Data processing may include PivotTables, PivotCharts, Excel Table, Slicers, formulae, and so on. You need to decide on the appropriate type of PivotCharts, Charts to use, and Slicers and Form Control to include.
    - Cal1_RevTrend_PdtGp → Key Analysis 1
    - Cal2_RevGrowthRate_City → Key Analysis 2
    - Cal3_Top3_Pdt_PdtGp_SO → Key Analysis 3
    - Cal4_Rev_AvgDaysOut_Customer → Key Analysis 4

Marking Rubric

	High Distinction	Distinction	Credit	Pass	Unsatisfactory
Instructions (20 marks)	Meets All **Basic Requirements PLUS:** Professional quality Concise, but well-explained Error free (e.g. no grammatical mistakes) Structure of the spreadsheet is very clear (e.g. headings) Followed all instructions as indicated in note 1 above	All **Basic Requirements**, but few errors Instructions and headings mostly clear, and suitable for distribution to a professional audience Followed most instructions as indicated in note 1 above	All **Basic Requirements** but some errors Instructions and headings could be clearer, but the instructions are understandable Followed some instructions as indicated in note 1 above	Meets **Basic Requirements** (see below), but some elements were not explained well Should not be distributed without editing (e.g. poor grammar, structure of workbook or some variable definitions not explained well) **Basic requirements** Shows: ✓ Author & company name ✓ Objective of dashboard ✓ Justified recommendation ✓ Location of specific information (and other requirements) as indicated in note 1 above ✓ Explain purpose of each key analysis	Does not meet basic requirements Instructions missing or hard to understand AND/OR no headings Document contains many errors Cannot be distributed to a professional audience

	High Distinction	Distinction	Credit	Pass	Unsatisfactory
Calculation (35 marks)	Values are from formulas or pivot tables, not hard-coded including full use of absolute/relative/mixed references (whenever necessary). Used four Pivot Tables (included calculated field where appropriate) and applied proper formatting Professional layout of calculations (e.g. easy to follow), very-well presented All four key analyses calculated correctly Good choice of PivotCharts (include combined charts) and/or Charts and/or sparklines/icons/databars for all 4 key analyses. Good choice of slicers and they are working properly	Values are from formulas or pivot tables, not hard-coded including full use of absolute/relative/mixed references (whenever necessary) Used three Pivot Tables (included calculated field where appropriate) and applied proper formatting Good layout of calculations (e.g. easy to follow) Three key sales analysis are calculated correctly Mostly good choice of PivotCharts (include combined charts) and/or Charts and/or sparklines/icons/databars for all 4 key analyses. Appropriate choice of slicers but they are working properly	Values are from formulas or pivot tables, not hard-coded including some use of absolute/relative/mixed references (whenever necessary) Used two Pivot Tables (included calculated field where appropriate) and applied proper formatting Reasonable layout of calculations (e.g. easy to follow) Two key sales analyses calculated correctly Minor mistake with choice of PivotCharts and/or Charts and/or sparklines/icons/databars for key analyses. Some error in choice of slicer and it works	Some data in calculations sheet is hard-coded (not from formulas or pivot tables) Reasonable layout of calculations (e.g. easy to follow) One key analysis calculated correctly Inappropriate choice of PivotCharts and/or Charts for key analyses. Did not include slicer or included slicer but it does not work	Data in calculation sheets is hard-coded Chaotic layout of calculations No graphs

	High Distinction	Distinction	Credit	Pass	Unsatisfactory
Dashboard Report **(30 marks)**	Meets **Pass** requirements **Plus** Distinction and both of the Credit requirements (e.g. interactive graph/table from a slicer and spark lines) **Plus** Slicer connection to more than one charts (try to limit the number of slicers) Highly creative and attractive dashboard design **For High-HD** Meets above requirements **Plus** One graph/table is interactive with the use of a form control	Meets **Pass** requirements Creative and attractive dashboard design **Plus** Both of the Credit requirements (e.g. interactive graph/table from a slicer and spark lines)	Meets **Pass** requirements. Somewhat creative and attractive dashboard design **Plus** 1 of the 2 following requirements: ✓ One graph/table is interactive with the use of a slicer. A pivot table on its own is not sufficiently interactive ✓ Spark lines/data bars/conditional formatting in a table	Title of Dashboard included. Decent dashboard design All four key sales analysis included: Your choice on your presentation (pivotcharts/charts/sparklines/databars/icons/table) Dashboard report is referenced from calculation sheet (e.g. no hard-coded numbers in the report) Dashboard report prints legible on one page	Does not meet basic (**Pass**) requirements (e.g. less than 2 key sales analysis shown, too large, not enough charts/table, or report based on hard coded numbers) Hard to follow

	High Distinction	Distinction	Credit / Pass	Unsatisfactory	Zero (0)
Reflection (15 marks)	Response demonstrates an in-depth reflection on, and personalization of, the concept/understanding of dashboard, including feelings and thoughts Viewpoints and interpretations are insightful and well supported with **at least one reference using APA** Clear, detailed examples are provided, as applicable Writing is clear and very well-structured	Response demonstrates a general reflection on, and personalisation of, the concept/understanding of accounting, including feelings and thoughts Viewpoints and interpretations are supported with **at least one reference using APA** Appropriate examples are provided, as applicable Writing is mostly clear and easy to follow	Response demonstrates a minimal reflection on, and personalisation of, the concept/understanding of accounting, including feelings and thoughts Viewpoints and interpretations require greater attention, but include **at least one reference using APA** Examples used require greater relevance. Writing is clear with some errors	Response demonstrates a lack of reflection on, or personalisation of, the concept/understanding of accounting, including feelings and thoughts Viewpoints and interpretations are missing, inappropriate, and/or unsupported Examples are not provided Writing and structure is difficult to understand and follow	No attempt