



Research School of Accounting

BUSN2011
Management Accounting

Due Date:

10 a.m. Wednesday 8 May 2019

TEAM MEMBERSHIP

This Team Assignment **must be submitted in teams of either THREE or FOUR members**. The final submission will be assessed on its merits irrespective of the number of members in a team.

Individual assignments will NOT be accepted unless there are exceptional circumstances and prior approval. All requests for completing the assignment as an individual MUST be made in writing, with reasons, to the course coordinator by 20 September 2019.

LEARNING OUTCOMES

The primary objectives of the assignment are to examine your ability to:

- (a) apply techniques associated with costing systems;
- (b) evaluate the adoption of cost management systems;
- (c) search relevant scholarly papers or business articles to support your argument;
- (d) learn within teams – to cooperate with team members, to assume leadership and to manage differences and conflicts; and

Consequently, you should be able to analyse complex issues, make well-reasoned and coherent arguments, and reach well-considered conclusions.

MARKS ALLOCATION - REPORT

Requirements 1 to 6	90 marks
Overall format, language and presentation	<u>10 marks</u>
TOTAL MARKS	<u>100 marks</u>

NOTE: All submissions are assessed on a team basis, i.e., **all members of the team will receive the same score.**

SUBMISSION

This group assignment is due **no later than 10 a.m. Wednesday 8th May 2019**. Each assignment is submitted in two ways. One is to be placed in the assignment submission box, which is located in the school's foyer (Room 2037, Pap Moran Building) under the main counter. A group assignment cover sheet should be attached to the assignment. Another is to submit through Turnitin in Wattle. Please do not hand your assignment to your tutor or lecturer. Assignments delivered in this manner may be deemed non-submissions. Non-submission of an assignment will preclude you from qualifying for further assessments.

POLICY ON EXTENSIONS

All requests for assignment extensions must be made in advance of the due date to the course coordinator. Significant reasons must exist for an extension and supporting medical evidence may need to be provided.

LATE ASSIGNMENT

Late assignments attract a 5% penalty per working day or part thereof and are not accepted after the tenth working day after the due date. Late assignments are to be placed in the assignment submission box with a note on the cover sheet to stipulate the due date and actual date of submission.

GENERAL INSTRUCTIONS

- This assignment can be completed in teams of either 3 or 4 students. It is expected that each team will manage the tasks required for the assignment in a way that ensures all members contribute fully and effectively to the completion of the assignment. **All members of the team will receive the same score.**
- Only **ONE assignment** is required to be submitted per team. The hard copy of the assignment should be placed in the assignment submission box with a signed cover sheet. The electronic version of the assignment should be submitted through Turnitin by one student in the team.
- The assignments are marked and returned through Turnitin. For each assignment, the student who submitted the assignment will receive the marked assignment and be responsible for the distribution of the marked assignment to the group members.
- Please retain the original computer file (**including the completed cover page**) for your own reference and as insurance in the event that a copy of your assignment is requested.

FORMAT AND PRESENTATION REQUIREMENTS

- Please use the Group Assignment Cover Sheet (available from Wattle) when submitting your assignment.
- Font: the Times New Roman font size 12 (or equivalent).
- Line spacing: at least a line and a half.
- Page Margin: a minimum page margin 2.5 cm on all sides.
- Round figures to 2 decimal points where necessary.
- Include the derived tables in the report while you use Microsoft Excel or equivalent to answer the requirement due to its mathematical nature.

QUERIES

All the necessary information you require to complete this assignment is provided in this document, the case study itself, and the attached article. Please do not approach individual staff with queries about how to address requirements. Should it be necessary to ask a question about the information in the assignment, you should email your question to the course convenor with a Title "BUSN2011 assignment". **Please note that any queries received after 12pm Sunday 28 April 2019 will not be answered.** This is to ensure you start your assignment before **28 April 2019**.

INTRODUCTION

You are part of a team of consultants employed by Arron Consultants. You receive two tasks this month. The first task relates to a client called Akia. The second task relates to the adoption of an activity-based-accounting system in an university.

Task one: Akia ¹

Akia Ltd. is a subsidiary of Crystal Group, a large manufacturer of glass products headquartered in Europe. Although originally established as an industrial-glass producer, Crystal reinvented itself after the Second World War as a producer of fine glass and crystal ware, including tableware and other similar products. The company enjoys an international reputation as a high quality producer of glass at affordable prices owing to the skills of its master craftsmen, as well as the application of innovative technology in the manufacturing process. Crystal-ware is used in fine restaurants, hotels, and residences throughout the world.

Several years ago, management at Crystal Group recognised that the growth in the glass tableware market was beginning to slow, forcing the company to search for other growth opportunities. After extensive research, management concluded that expanding into glass ornaments would allow the company not only to continue to grow, but also to take advantage of Crystal Group's unique capabilities and capitalise on its high quality reputation and innovative technology. The company started Akia Ltd and leased a small manufacturing facility in Australia. Akia Ltd produces three products at this manufacturing facility: small glass ornaments, large glass ornaments, and specialty glass ornaments. Some basic information about the three products is provided in Table 1.

Table 1: Product Information

Product	Number of ornaments (Planned Production)	Ornaments per Box	Selling Price per Box
Small ornaments	960,000	10	\$17.00
Large ornaments	540,000	4	\$19.00
Specialty ornaments	150,000	1	\$19.00

Costing at Akia

Currently, the sales department sets Akia's prices for the three products after benchmarking against the prices of similar products available in the marketplace. The General Manager of Akia, Dean Smith, wonders if the prices set are sufficient to ensure that the individual product lines are profitable. He thinks that the company needs to prepare an analysis of unit-product costs for each of Akia 's three products. He thinks this might be helpful in determining whether any adjustments in the product prices are warranted.

Nathan is currently gaining work experience as an intern at Akia. Dean thinks that this is a

¹ Adapted from a case by Allen et. al. (2005).

great opportunity for Nathan to learn about cost accounting and asks him to collect as much information as he can about the manufacturing processes and costs at the company.

Nathan has collected quite a bit of information, including the information on each of the three products (Table 2) and the factory's annual overhead cost (Table 3). He presents these tables to Dean.

Table 2: Additional Information for each Product

Product	Number of batches	Machine Operations per Ornament	Inspections per Box	Factory Area per Box (m ²)	DM & DL per Box
Small ornaments	800	3	1	0.07	\$8.00
Large ornaments	1,200	4	2	0.07	\$10.00
Specialty ornaments	1,000	9	6	0.03	\$10.00

Table 3: Factory's Annual Overhead Costs

Item	Annual Cost
Production Scheduling	\$150,000
Machine Setups	\$300,000
Equipment depreciation	\$340,000
Factory depreciation	\$200,000
Quality inspection	\$140,000
Packaging	\$570,000
Factory administration	\$300,000
Total	\$2,000,000

Dean praises Nathan for the good work in collecting the information. He thinks Nathan now needs to go and speak to the manufacturing department and the book-keeper to gather more insights into the manufacturing process and the costing of the products.

First, Nathan decides to speak to Joyce, the book-keeper. Joyce tells him that the cost per box of each product is calculated using a volume-based costing system. Specifically, budgeted overhead costs have been allocated to each product line based on the planned production of ornaments. However, Joyce believes that a better approach is to allocate budgeted overhead costs to each product based upon the total of direct material and direct labour costs.

After meeting with Joyce, Nathan speaks to John, the head of the manufacturing department. Nathan learns that, while all three ornaments are made on the same production lines, specialty ornaments require an additional painting process. In the specialty-painting department, 24 workers are fully utilised for hand-painting intricate designs on the inside of each specialty ornament. John also discusses the types of overhead at Akia and the specific activities that

could be generating the company's overhead costs. From these discussions, Nathan discovers that both production scheduling and machine-setup costs appear to be driven primarily by the number of batches required for the annual production volume. Because the number of batches varies by product type, John concludes that total yearly batches might be an appropriate means of allocating production-scheduling and machine-setup costs to the different product lines. However, John has some difficulty ascertaining the cause of equipment depreciation as it is unclear whether this depreciation occurs because of the number of machine operations performed or because of the number of hours of machine use. After much deliberation, John decides that the number of machine operations performed per ornament is the better indicator of equipment depreciation. John also thinks that factory depreciation could reasonably be based on the factory area used to manufacture, paint, and store each box. Furthermore, John says that the number of inspections performed drives inspection costs, while the number of boxes used drives packaging costs. However, factory administration costs (which include other overheads such as facilities management, clerical costs, warehouse personnel and activities, and security costs) appear to be problematic. John is not able to decide how best to allocate these costs but is able to provide Nathan with some historical data that may help with this conundrum (Tables 4 and 5).

Table 4: Historical Data on Possible Allocation Bases

Months	Total Factory Administration cost	Factory Personnel	Ending Inventory Cost	Number of Customers	Total Direct Labour Costs	% of Factory Capacity Used
1	\$25,250	11	\$8,998	101	\$43,767	71
2	\$24,830	11	\$9,781	106	\$43,346	76
3	\$23,988	10	\$5,392	93	\$46,713	66
4	\$23,567	12	\$5,892	68	\$45,450	81
5	\$24,409	10	\$6,292	51	\$42,084	86
6	\$24,750	11	\$7,910	99	\$42,900	71
7	\$24,338	10	\$6,643	104	\$42,488	74
8	\$23,513	10	\$5,982	95	\$45,788	84
9	\$23,100	9	\$5,363	66	\$44,550	91
10	\$23,925	10	\$9,405	50	\$41,250	84
11	\$25,742	10	\$9,545	107	\$45,955	75
12	\$24,410	10	\$7,216	50	\$42,080	75

Table 5: Factory-related Data

	Small	Large	Specialty	Total
Ending Inventory Cost	\$51,300	\$21,600	\$12,600	\$85,500
Factory Personnel				
Non-specialty	-	-	-	98
Specialty	-	-	24	24
Number of Customers	500	320	80	900
Total Direct Labour Costs	\$80,200	\$93,600	\$243,200	\$417,000
% of Factory Capacity Used				70%

Nathan returns to his uncle's office in a state of confusion. Dean calms him down and says because they do not know what to do with all this data, he will enlist outside help. Dean recalls playing golf with Axel Arron, the principal of Arron Consultants. After rummaging around to find Axel's business card, he calls him to set up a meeting to discuss Akia's situation.

REQUIREMENTS

Your team is required to write a **report**, responding to Akia's requirements and other issues listed below. Ensure that you follow the format and presentation guidelines outlined on page 3 and 10. The report is **no more than 1,500 words**.

1. Provide the following calculations in suitable report format (Use schedules to show your calculations): (32 marks)
 - a. Total manufacturing cost per box for each product using planned production as the allocation base for indirect costs;
 - b. Total manufacturing cost per box for each product using the total of direct material and direct labour costs as the allocation base for indirect costs;
 - c. Total manufacturing cost per box for each product using Axel's suggestion of Activity-Based Costing. As part of this calculation, you will need to ascertain the most appropriate base to allocate factory administration cost, using *simple* regression. You may use Excel or a statistical software package. As part of your deliberations, you must evaluate the suitability of each base using the following criteria to evaluate the regressions:
 - economic plausibility
 - goodness of fit
 - significance of independent variable (use a t-critical value of 2.228)
 - specification analysis: linearity.

In your report, discuss the evaluations for each of the five possible allocation bases suggested by John. Based on your discussion, indicate the allocation base that you think is most appropriate among the five options.

2. Calculate the profitability of the three products using (i) planned production volume, (ii) the total of direct material and direct labour costs, and (iii) activity-based costing. Discuss what drives the differences in total manufacturing **costs and profitability** of the three

- products using three allocation methods. Indicate the best allocation method and explain your reasons. (8 marks)
3. Based on the information derived from the activity-based accounting system, propose the possible decisions that Akia can consider in order to improve its profit. (15 marks)

Task two: UNS University

The principal of UNS University, David Smith, saw an article regarding adopting activity based costing systems in an Australian university (The article is in a separate document under the assignment section). UNS University has not yet adopted an activity based costing system. David consults Axel Arron for more ideas of adopting an activity based costing system in universities and recommendations of what to be done in order to use an activity based costing system.

REQUIREMENTS

Your team is required to write a **report, responding to** UNS University's requirements. Ensure that you follow the format and presentation guidelines outlined on page 3 and 10. The report is **no more than 1,500 words**.

4. Discuss the advantage and disadvantages of implementing activity based costing systems in an university setting. You are required to search for relevant scholarly papers or business articles to support your discussion. (10 marks)
5. Discuss the signs in an university setting suggesting that activity based costing systems are likely to provide benefits. You are required to search for relevant scholarly papers or business articles to support your discussion. (10 marks)
6. Draw on your experience in Australian National University to discuss the possible activities that relate to teaching, if an activity based costing system is adopted in UNS University. For example, think through the activities that support your study and learning, from course enrolment to taking examination, and to receive course grade. Structure your discussion of these activities using hierarchies of activities. (15 marks)

ASSESSMENT CRITERIA

Your assignment will be assessed based upon the following criteria:

- compliance with relevant management accounting principles and internal accounting practices.
- depth and breadth of coverage, critical elements and structure (e.g., level of analysis, level of research, relevance of discussion), and language and conventions (e.g., consistency with a professional presentation). *See Grade Related Descriptors below.* **Note:** A well written, structured, and organised report will receive low assessments if it is not relevant to the given problem and circumstances.

The criteria listed above are not mutually exclusive but are complementary in the overall assessment of the assignment.

Grade Related Descriptors

Grades	Depth and Breadth of Coverage	Critical Elements	Structure, Language and Conventions
High Distinction 80% - 100%	All aspects of the issue(s) were covered in a thorough way.	The report shows great depth of thought, excellent development of discussion, logical analysis and insight into the subject.	All aspects of the report conform to a high professional standard.
Distinction 70% - 79%	Most aspects of the issue(s) were addressed in great depth.	The report shows some evidence of analysis, supported by logical discussion and insight into the subject.	Most aspects of the report conform to a high professional standard.
Credit Pass 60% - 69%	Most aspects of the issue(s) were addressed adequately.	The report shows evidence of elementary analysis and the development of discussion.	Most aspects of the report conform to an acceptable professional standard.
Pass 50% - 59%	Key aspects of the issue(s) were addressed adequately.	The report demonstrates basic understanding of the topic.	The report displays basic report structure.
Fail <50%	Responses were superficial and / or inadequately addressed the issue(s).	The report demonstrates limited understanding of the topic.	The report is not of a professional standard.

Referencing

You are expected to consult and reference scholarly papers and business articles (please note that Wikipedia is not a good source to find reference papers and you are highly recommended to use Google Scholar instead). All sources (including websites) must be acknowledged in accordance with the principles of academic honesty and integrity to which the ANU subscribes. Your report should be referenced in accordance with the Harvard system e.g. <http://guides.is.uwa.edu.au/harvard>.