

Sola Systems

Sola Systems, a company focussed on clean, energy products assembles and sells two types of solar panels, Panel A and Panel B. The company's sales occur in two regions – One is called Northern and incorporates Queensland, New South Wales and the Northern Territory. The other is called Southern and incorporates Victoria, Tasmania, South Australia, and Western Australia.

Sola Systems has used a cost and performance measurement system based on monthly profit reports for each product and for each region as described below. These two reports are analysed and decisions are made based on the information contained in them.

The first report is a product profitability statement which is prepared showing sales by panel less costs per panel giving a gross profit per panel. Factory overheads are allocated to panels on the basis of direct labour hours. Period expenses are classified using the sub headings shown in Exhibit 1. These expenses are deducted from gross profit on the basis of the total sales dollars per panel to give net profit per panel. Finally, additional information is calculated in the form of both gross and net profit rates for each panel.

A second profit report calculates the profitability for each region (Northern and Southern). To produce this report, Sola Systems calculates the sales of both panels less production costs that each region incurs to determine the gross profit per region and then the period expenses are classified as shown in Exhibit 1 and then allocated to each region on the basis of total sales dollars per region to give net profit per region. Finally, additional information is calculated in the form of both gross and net profit rates for each region.

Eva Green, the chief executive officer of Sola Systems has been very concerned at the performance of Sola Systems because the reporting system consistently shows that solar Panel A has a gross profit rate of 69% compared to solar Panel B of 60%. As a consequence, of this information much of the marketing effort had been directed towards increasing the sales of Panel A as every \$1.00 of sales contributes 69 cents towards net profit compared to only 60 cents for Panel B. However, although the marketing program has been a success and sales of Panel A have been trending upwards over recent months, Eva had expected that total net profit would be also trending upwards whereas in fact the net profit trend is consistently downwards.

Eva calls in the Management Accountant of Sola Systems, Sunny Power for whom she had recently approved expenses to attend a conference to study contemporary costing and performance systems including Activity Based Costing.

Eva tells Sunny,

“I am most concerned with the trend in net profits. It seems to me that there are two possible reasons for this, one is that there is unethical behaviour and the second one is that the figures produced by the performance reports are incorrect.”

Sunny was shocked and told Eva,

“I am sure it is not unethical behaviour so there must be something wrong with the current costing and reporting system. The conference that I recently attended included case studies that showed how product, upstream and downstream costs can be distorted by conventional costing systems along with associated decision making. I will provide you with a business report on an alternative costing system that we studied at the recent conference.”

In order to prepare his report, Sunny decides to call in the Production Manager Ed Ake and the Marketing and Distribution Manager Con Vince to determine how the various costs were determined. Ed told Sunny,

“Production costs are simple. Prime costs of direct material and direct labour are traced directly to each panel and overhead costs being only assembly, set-up and inspection costs are allocated by a plant-wide rate based on direct labour hours.”

Con explained to Sunny,

“We allocate warehousing and handling costs along with all other period expenses to Panel A and Panel B by using sales revenue.”

Next Sunny then summarised cost data for a month as shown in Exhibit 1 on the next page.

EXHIBIT 1

Monthly Cost and Expense related Data for Solar Panel A and Solar Panel B.

Production Information

	Panel A	Panel B
Direct Labour hours	200	800
Unit sales price	\$47.58	\$75.00
Unit Prime cost	\$8.00	\$12.00
Units Manufactured	400	600

Manufacturing Overhead Costs

Assembly costs are \$4.50 per direct labour hour.

Set-up costs for month 60 batches at \$100 per batch

Inspection costs for month 60 batches at \$50 per batch

Warehousing and Handling Information

Receiving 180 shipments at \$58.00 per shipment

Pricing and tagging of 350 panels at \$12.00 per panel

Packing 160 customer's order at \$5.00 per order

Depreciation of shipping equipment at \$900.00 per month (fixed cost)

Distribution and Transportation Information

Rent \$600.00 per region per month (fixed cost)

Transportation 180 shipments at \$11.11 per shipment plus \$250.00 per region per month (fixed cost)

Administration Information

Credit control, account collection and supplier payment:

- (a) 100 accounts receivable customers sold to Squeezers Account Settlers at \$9.00 per accounts receivable customer.
- (b) Supplier order, processing & payment costs of \$300.00 per month (fixed cost) are incurred by Sola Systems.

Marketing Information

General marketing 160 customer orders at \$2.00 per order (a discretionary cost used for advertising) plus \$800 per month (fixed advertising space related cost).

Finally, Sunny also gathered some additional information to assist him with his regional and contemporary cost calculations as detailed in Exhibit 2.

EXHIBIT 2

Other Monthly Data

	Panel A	Panel B		Southern Region	Northern Region
Number of batches	30	30			
Shipments	120	60		90	90
Panels tagged	150	200		200	150
Customer's orders	100	60		65	95
Panels sold	400	600	Panel A	350	50
			Panel B	400	200
Accounts receivable customers	20	80		30	70
Supplier order, processing & payment related transactions	50	40		25	65
Advertising space	300 square centimetres	200 square centimetres		400	100

Please note that Exhibit 2 above is not to be used to allocate any **period costs** in the current cost system. The basis for these allocations is described elsewhere in this case study.

Required

You are Sunny Power and you are to write a **research report** to Ms. Eva Green to assist her in understanding Sola Systems costing systems, problems and alternatives as outlined below.

- a) Using the current costing system, calculate the product cost of each panel.
- b) Using the current costing system, prepare a classified profit statement by product.
- c) Using the current costing system, prepare a classified profit statement by region.
- d) Why does Panel A have higher gross and net profit rates than panel B? Make sure to use the case study and your profit statements to support your discussion.
- e) Using Activity Based Costing, calculate the product cost of each panel.
- f) Using Activity Based Costing, prepare a classified profit statement by product.
- g) Using Activity Based Costing, prepare a classified profit statement by region.
- h) Using the case study and your profit statements, explain to Ms. Eva Green giving three specific reasons (examples) why the ABC system results in more accurate costing of the products and better information for decision making. Do not repeat any part of your answer for d) above.
- i) Giving two specific reasons (examples), discuss what “wrong” decisions could be made by the management as a consequence of its current costing system? Make sure to use the case study and your profit statements to support your discussion.
- j) Using the case study, discuss some limitations of Sunny Power’s proposed system and give one specific example of how it can be improved.
- k) What recommendations would you make to Eva Green. These recommendations should follow logically from your discussion in previous answers above.

Note that all supporting calculations should be contained in appendixes (appendices).