

Blinds R U – A Case Study On Activity Based Costing

Yvonne P. Shanahan, (Email: yvonne.shanahan@.canterbury.ac.nz), University of Canterbury, New Zealand

ABSTRACT

This paper presents a teaching case study on the application of Activity Based Costing. The purpose of the case is for participants to develop an ABC system for Blinds R U Limited, particularly in relation to administrative expenses. Blinds R U IS is manufacturing firm which produces a range of window treatments. A report is to be written which explains ABC principles to Blinds R U management, including an analysis of product profitability and recommendations. Presentations could also be used instead of a written report.

INTRODUCTION

Activity Based Costing (ABC) became very popular in the late 1980's and early 1990's, becoming widely recognised as a costing system which could significantly improve product costing accuracy. The initial impetus for its development lay in the manufacturing sector where the direct labour content of manufacturing was reducing, due to increases in the use of technology, for example, robotics. As a result, direct labour became less useful for the application of overheads to product.

The purpose of this paper is to describe a case study which extends the application of ABC principles to selling and administrative expenses, while remaining in the manufacturing sector. The structure of this paper is as follows. Firstly, there is a brief literature on ABC. Secondly, the case is described. The teaching strategy with assignment questions and teaching notes concludes the paper.

ACTIVITY BASED COSTING – BRIEF LITERATURE REVIEW

Activity Based Costing is a management accounting information system that identifies the various activities performed in an organisation, collects costs on the basis of the underlying nature and extent of those activities, and assigns costs to cost objects such as products and services, based on those activities (see Cooper and Kaplan, 1988).

ABC focuses on activities which are the major tasks performed in an organisation. In manufacturing firms, there are typically four levels of activities namely, unit and batch levels – and product and facility sustaining (Shanahan, 1993). Unit level activities are performed every time a unit is produced; batch level for every batch; product sustaining activities support the production of the product and facility level activities support the production site.

ABC uses the cost of these activities as the basis for assigning costs to cost objects. The distinctive feature of ABC is that it focuses on activities, whereas traditional costing focuses on the product or service. Under traditional costing the assumption is made that products/services consume resources (Hansen and Mowen, 2005). Under ABC, products/services consume activities and activities consume resources. Typical examples of resources are labour, materials, rent, depreciation, power, travel and entertainment, insurance, supplies and repairs and maintenance. A resource driver measures the amount of resources used by an activity. Examples include the number of cubic metres for space and number of employees for salaries and wages.

In the first stage of an ABC system, the costs of the activities are calculated then the costs of those activities are traced to cost objects using a relevant cost driver. A cost driver has a direct and positive relationship

with the cost which is being driven to the cost object. The cost object is what management wishes to make a decision about and can include products, services, customers and divisions. An increase in volume of the cost driver increases the cost allocated to the cost object. An example of a cost driver is labour hours. As labour hours increase so does labour cost.

It is relatively easy to determine cost and cost drivers for direct costs such as labour and direct materials. However, it is more subjective to identify cost drivers for driving overhead costs. For overhead, cost pools are used which represent accumulations of expenditure under a category which describes a particular activity (Hansen & Mowen, 2005). For example, a cost pool titled quality assurance is managed by personnel from operations, sales and administration. The cost of all quality assurance activities are assigned to the cost pool, regardless of the department in which the activities are carried out, and then driven to the cost object with a relevant driver.

ABC should improve the quality of management accounting information in situations where conventional overhead allocation methods are inappropriate (Cooper and Kaplan, 1988; Hansen & Mowen, 2005; Shanahan, 1993).

THE CASE STUDY

The purpose of this case study is to develop an ABC system for Blinds R U Limited, particularly in relation to administrative expenses. Blinds R U are a manufacturing firm which produces a range of window treatments. A report is to be written which explains ABC principles to Blinds R U management, including an analysis of product profitability and recommendations. The case can also be undertaken using presentations rather than a written report.

The learning outcomes are:

1. Maintain currency of technical skills through the application of ABC principles in a timely manner.
2. Apply critical thinking through linking these new ideas and evaluating the consequences to the firm of the system's implementation.
3. Other competencies, ancillary to the above include, working in teams, written and oral communication skills.

BLINDS R U LIMITED - A CASE STUDY ON ACTIVITY BASED COSTING¹

Blinds R U Limited is a manufacturer of blinds, and other types of window treatments. The company was founded in 1968 by the Fowler family and the Chief Executive and principal shareholder is William Fowler of Coolangatta, Queensland. The company manufactures and sells a wide selection of window treatments, including Venetians, Roller Blinds, Vertical Blinds, Solar Curtains, Awnings, and Shutters.

The entire range of Blinds R U products is manufactured in the Gold Coast-based, purpose built plant. Blinds R U's mission statement emphasises that the company is dedicated to customer service. State-wide, the company employs about 50 customer service representatives. In all, there are company representatives at 14 locations throughout the state.

Employing about 40 full-time staff, the firm's manufacturing plant is a purpose built complex in Coolangatta. The company assembles a large proportion of the components used throughout the product range, and many of these have been designed in-house. A stable local work force allows the firm to manufacture their products to the highest quality yet remain flexible to meet increasingly tight customer deadlines. At present they manufacture

¹ This case study was written by William Cotton under the terms of an exclusive Memorandum of Understanding between Advanced Business Education Limited and a real company. The name and details of the company have been changed at the request of the management. However the situations and material described in the case reflect the real company. Copyright Advanced Business Education Limited 2006 -reproduced with permission. Slight changes have been made by the author of this paper.

approximately 1,000 blinds per week, however, they have the ability to triple this level of production when necessary. The company also makes Solar Curtains, which are a popular product in the sunny Queensland climate. The window treatment manufacturing process is quite labour-intensive, although some sophisticated machinery is used in part of the process.

Some of the firm's products require painting and the paint department employs the latest technology to achieve the high quality finish for which Blinds R U is renowned. A specially constructed spray booth and a large capacity drying kiln enable the firm to handle the smallest single blind orders to the largest commercial orders, while maintaining finish and quality without compromise. Currently, they offer over 20 different standard rail colours for Venetians, with the ability to create virtually any colour for large commercial production orders. Blinds R U joinery department employs four specialist craftsmen to meet the growing requirement for wooden shutters and cedar blinds. Wood products are all created from western red cedar. The cedar is imported from Canada, where it is grown in sustainable, managed plantation forests specifically for the furniture and building industry. All products are finished and available in untreated or treated finish. Treated options include: lacquered, painted or stained. The wooden shutters and wooden blinds produced by Blinds R U are two of their most popular products.

The company markets their products in a variety of ways including: radio and television, print media, trade shows, contacts with the building trade and word of mouth. Upon receipt of a customer enquiry or potential order, field representatives at the nearest of the 14 locations around the State, visit the customer's premises to quote the order. This entails measuring the windows and agreeing the type of blinds or other window treatments required. There is a certain amount of "selling" involved in this process. The prices quoted rely initially on a set of "quote sheets" which provide standard prices for a wide variety of blinds types and sizes.

One aspect of this system has been bothering company management. The field representatives are compensated partly on the basis of commission on sales revenue. Since the company has a discount structure based on the number of blinds or curtains in each order, the field representative is motivated to push the customer towards larger orders and offering the customer maximum discounts to increase their chances of getting a sale. Clearly, this also offers the field representative the maximum dollar sales revenue, and therefore maximum commission. For one item the maximum discount is 5%; for two to five items it is 10%; for 6-11 items 15% and for 12 and more the discount is 20%.

Company management believes that if the field representative's commission could be based on product profitability rather than sales revenue, representatives' motivation would be to sell the most profitable product mix and minimise the level of discounting. However, the current management accounting system does not provide this information. The field representatives are crucial to the company's business since they are the "face" of the company to the customer, and the measuring of the blinds or other window treatments is critical to the quality of the final product. For blinds, it is vital to have accurate measurements of the width and "drop" (length), as well as such other features as the number of "ladders" on Venetian blinds, or the special aspects of roller blinds. For such sophisticated products as shutters, awnings, and some types of solar curtains, one of the company's field technicians will be employed to assess requirements.

When a customer order is finalised it is transmitted as soon as possible to the Coolangatta factory for manufacture and despatch. The firm prides itself of having a turnaround of five working days wherever possible. The blinds or other treatments are freighted to the appropriate field location, and then taken to the customer's premises for installation. The installations are normally carried out by the field technicians.

The manufacturing process depends on the type of window treatment being manufactured. As an example, consider Venetian Blinds. The raw materials for Venetians are sourced from a variety of vendors, many of whom are domiciled overseas. Some raw materials are used without additional processing, but many require extra preparation, e.g. cedar slats are processed in the joinery department and then are sent to the paint department for staining or other forms of treatment, and plastic slats require special colourisation in the paint division. After this, materials for the Venetians are cut to size (often by a semi-automatic process), slotted for the drawstrings, then assembled with appropriate componentry and tested on frames by skilled employees. They are then packaged in specially designed

containers for delivery to customers. Other types of window treatments require different processes. For example window shutters have different raw materials, componentry, and construction requirements, but are still labour intensive.

The current product costing system is relatively unsophisticated. It is essentially a job costing system, since all products are made to customer order. Orders for blinds are costed by tracing direct materials directly to the job, and all other costs are mark-up are charged a \$60 per direct labour hour. The price that results from the application of this formula is then compared with market prices and may be adjusted in the light of this comparison.

About one year ago Kevin Sole was appointed CFO, and among his projects was the revamping of the product costing system. He soon realised that this was a major task, given the large number and variety of product types and sizes. He appointed a Cost Accountant, Daniel Chan, to assist with this and other management accounting responsibilities. Daniel set about the redesign of the costing system by first assessing the breakdown of the production costs in the Coolangatta factory. He determined that the approximate breakdown of manufacturing costs was: direct materials 67%, direct labour 11% and factory overhead the remaining 11%.

This suggested to Daniel that close attention needed to be paid to the tracing of direct material (especially) and direct labour, but that a sophisticated system of allocating factory overhead would not be justified. Kevin and Daniel also decided that the costing system would not be integrated with the financial accounting system, but would be developed on Excel spreadsheets. This was appropriate, since the main use of the costing system would be to assess the relative profitability of the firm's various product lines, and to provide a basis for revamping the commission structure for field representatives. The system would not be used to value finished goods inventory. Indeed, because the company made products to customer order there was virtually no finished goods inventory to value.

Daniel spent a great deal of time investigating the direct material costs and devising a system to trace these to product lines in a defensible fashion. Among other things this involved analysing the costs of raw materials supplies, many of which were sourced from overseas. He also developed an accurate system of standard costing for the direct labour component of product cost. As a basis for this, Daniel timed the activities involved in the various manufacturing processes and prepared a number of matrices of the labour time involved in making the various products. An example of one of these matrices (for a type of Venetian) is contained in Appendix A. This provided the basis for allocating direct labour costs to products.

The final piece of the product costing puzzle was to decide what to do with factory overhead costs. Daniel had observed that the manufacturing process was quite labour intensive, and therefore decided that some type of labour-based factory overhead rate should be used. Since he had relatively accurate labour timings for each product he computed a budgeted factory overhead rate using by dividing the budgeted factory overhead by the budgeted direct labour hours converted to minutes, giving a rate of \$0.34 per direct labour minute.

On the basis of this product costing system, Daniel and Kevin were able to devise an appropriate mark-up factor to apply to the various product types. In turn this formed the basis for some draft "quote sheets", which the field representatives could potentially use for pricing purposes. For example, retail prices for Venetian Blinds could be quoted based on the materials of which they were constructed, their width, and their drop. An example of this is shown in Appendix B. The company's financial accounts were prepared along traditional lines, and were not particularly helpful for product costing and decision making purposes without further detailed analysis. A copy of the firm's summarised Statement of Financial Performance for the year ended 31 March 2006 is shown in Appendix C. Kevin and Daniel were particularly concerned about the almost \$6 million of "Expenses" shown below the "Gross Margin". They knew that this included wages and salaries of all types, as well as factory overheads, selling expenses, and administrative expenses. They suspected that some product lines used more of these expenses than others. They wondered whether some form of Activity Based Costing might be useful for assigning the "Expenses" to the product lines.

APPENDIX A

45 millimetre Standard Venetian Blinds: Labour Minutes versus Blind Sizes

Drop (Metres)	Width (Metres)																
	0.600	0.750	0.900	1.050	1.200	1.350	1.500	1.650	1.800	1.950	2.100	2.250	2.400	2.550	2.700	2.850	3.000
0.900	34	34	39	39	39	49	50	50	50	49	49	50	50	57	57	57	58
1.050	34	34	39	39	39	50	50	50	50	50	50	50	50	58	58	58	58
1.200	35	35	39	39	39	50	50	50	50	50	50	50	50	58	58	58	58
1.350	35	35	40	40	40	50	50	50	50	50	50	50	51	58	58	59	59
1.500	35	35	40	40	40	50	51	51	51	51	51	51	51	59	59	59	59
1.650	35	35	40	40	40	51	51	51	51	51	51	51	51	59	59	59	59
1.800	35	35	40	40	40	51	51	51	51	51	51	51	51	59	59	59	60
1.950	35	36	40	41	41	51	51	51	52	51	51	52	52	60	60	60	60
2.100	36	36	41	41	41	51	52	52	52	52	52	52	52	60	60	60	60
2.250	36	36	41	41	41	52	52	52	52	52	52	52	52	60	60	60	61
2.400	36	36	41	41	41	52	52	52	52	52	52	53	53	61	61	61	61
2.550	36	36	41	41	41	52	52	52	53	52	53	53	53	61	61	61	61

APPENDIX B

45 millimetre Venetian Blinds: Retail Price (NZ\$)

Drop Metres	Width (Metres)															
	0.6	0.75	0.9	1.05	1.2	1.35	1.5	1.65	1.8	1.95	2.1	2.25	2.4	2.55	2.7	2.85
0.9	153	177	203	221	245	266	293	312	329	353	372	389	407	426	443	464
1.05	165	192	219	239	267	288	318	339	360	386	407	428	444	465	474	495
1.2	182	212	242	266	299	321	356	380	402	434	456	480	504	528	543	564
1.35	195	227	260	285	321	347	383	408	434	467	494	519	545	572	590	614
1.5	207	243	278	306	344	371	410	438	467	501	530	558	585	617	638	662
1.65	221	258	296	326	366	396	437	468	498	536	566	596	626	660	686	710
1.8	233	273	314	345	389	420	465	497	530	570	602	635	666	705	732	759
1.95	246	288	332	366	411	446	492	527	561	603	638	674	708	749	780	807
2.1	258	303	348	386	434	470	519	555	593	638	675	711	749	792	828	867
2.25	272	318	366	405	456	495	546	585	624	672	711	750	789	837	875	915
2.4	284	335	384	425	479	519	573	615	656	707	747	789	830	881	923	965
2.55	297	350	402	446	501	545	600	644	687	740	783	827	870	914	957	1,001

APPENDIX C

Blinds R U Limited

For the Period Ended 31/03/2006

Sales	\$ 10,000,000
Total Sales	\$10,000,00
Opening Stock	\$900,000
Opening Work in Progress	70,000
Purchases	3,500,000
Customs	15,000
Freight	22,000
Subcontractors	28,000
Less Closing Stock	(950,000)
Less Closing Work in Progress	(75,000)
Cost of Sales	\$3,510,000
Gross Profit	\$6,490,000
Less Expenses	\$5,990,000
Net Profit Before Tax	\$500,000

TEACHING NOTES: ASSIGNMENT QUESTIONS

Activity One: Allocation Of Expenses

As part of an exercise to undertake an Activity Based Costing (ABC) approach to the allocation of expenses, you are required to analyse the detailed list of expenses in the Table One. This table provides the basis for allocating the expenses into four categories:

1. Direct Labour (D)
2. Factory Overhead (F)
3. Selling Expenses (S)
4. Administrative Expenses (A)

Secondly, in Table Two, perform the allocations. Undertake this analysis in teams and where possible an excel spreadsheet should be used.

Table One

Schedule of Expenses	Amount	Alloc. Code*	Notes re Allocation
ACC Levy	\$42,313		
Accountancy	8,710	A	
Advertising	639,397		
Bad Debts	3,370		
Bank Charges	45,810		
Business Development	6,494		
Cleaning	6,246		
Commission	2,874		
Computer Expenses	12,022		
Consultancy	114,642		
Courier	23,832		
Depreciation	130,029		
Entertainment	2,316		
Freight	149,082	S	
Fringe Benefit Tax	5,764		
General Expenses	1,863		
Goodwill Amortisation	48,801		
Guarantee Fee	30,770		
Hire Charges	8,849		
Insurance	74,659		
Interest Paid	159,741		
Lease Expenses	7,826		
Legal Fees	17,667		
Loss on Sale of Assets	52,223		
Marketing	40,063		
Motor Vehicle – Fuel	120,934		
Motor Vehicle – Repairs & Maintenance	58,278		
Motor Vehicle – Registration, Warrant of Fitness, Road User Charges	15,232		
Motor Vehicle – Lease	27,219		
Payroll Preparation	9,018		
Power	33,721		
Printing, Postage & Stationery	44,734		
Protective Clothing	8,441		
Rates	17,026	F, S	
Rent	273,965		
Repairs & Maintenance	85,401		
Rubbish Disposal	10,030		
Security	5,964		
Staff Amenities & Welfare	23,434		
Staff Recruitment	7,989		
Staff Training	4,309	F, S, A	
Subcontractors	19,302		
Subscriptions	12,078		
Telephone & Tolls	149,810		
Travel & Accommodation	90,048		
Wages – Factory	1,181,436	D	
Wages - Admin Staff	854,842		
Wages – Sales Staff	797,365		
Wages – Technicians	504,062		
Total Expenses	\$5,990,000		

* D = Direct Labour, F = Factory Overhead, S = Selling Expenses, A = Admin Expense

Table Two

Expense Category	Total	Code	Dir Lab	Fact OH*	Selling*	Admin*
ACC Levy	\$42,313					
Accountancy	8,710					
Advertising	639,397					
Bad Debts	3,370					
Bank Charges	45,810					
Business Development	6,494					
Cleaning	6,246					
Commission	2,874					
Computer Expenses	12,022					
Consultancy	114,642					
Courier	23,832					
Depreciation	130,029					
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Subscriptions	12,078					
Telephone & Toll calls	149,810					
Travel & Accommodation	90,048					
Wages – Factory	1,181,436					
Wages – Administration Staff	854,842					
Wages - Sales Staff	797,365					
Wages – Technicians	504,062					
Total Expenses	\$5,990,000					

Activity Two: Product Profitability Calculations

Case participants are now given the following additional information: An interview transcript re the selling expenses and financial information re the products. They should read this information then:

Required:

1. Perform product profitability analysis for the four categories of products. Use the template provided.
2. Prepare a report to management which addresses the following:
 - a. A discussion on the relative profitability of the different product lines and what needs to be done in relation to the apparently unprofitable product lines.
 - b. Consideration of how administrative expenses should be dealt with.
 - c. An outline of the advantages and shortcomings of ABC type analysis for selling and administrative expenses.

Additional Information:

Blinds R U: Interview re Selling Expenses

Having analysed the almost \$6 million of "Expenses", Daniel Chan wanted to develop a basis for allocating the approximately \$2.8 million of "Selling Expenses" to the firm's products. He felt that this was needed because he had a sense that some products absorbed more of the selling expenses than other products.

Upon investigation he found that there was very little information in the firm's database about the activities of the field representatives and technicians. He was aware that the company was about to trial the use of hand-held electronic devices that staff could use in the field to enter the customers' requirements on-line. He knew that when this system was up and running, it would provide some valuable data about the field activities associated with quoting, selling and installing products for customers. However the system had not yet been trialled, let alone used for any time at all the firm's branches. He could not afford to wait that long to develop some costings.

He decided to interview Shirley Jones, the Field Service Manager in the Coolangatta office, and ask her questions about the activities involved with the firm's products. Here is an edited transcript of the interview:

- Daniel* Thank you for agreeing to chat to me - I know that you are busy at the moment.
- Shirley* That's fine. I have allocated a couple of hours to this.
- Daniel* Great, but with luck it might not take that long. What I want to do is to try to get some indication of the activities involved in the quoting, selling and installation of our various window treatment products. I have a gut feeling that some products are more difficult and time consuming than others.
- Shirley* Yes, I think that you are correct. For example, Awnings are a specialised product and need the input of one of our expert technicians, as well as taking quite long to install correctly.
- Daniel* Are there any other products that are time more time consuming than our mainstream products like Venetian blinds?
- Shirley* Yes. I would say that Shutters and Solar Curtains fall into that category.
- Daniel* What about Roller blinds and Vertical blinds?
- Shirley* They are usually not particularly troublesome, as they are somewhat of a "standard" product, like Venetians.
- Daniel* OK. For the moment let's concentrate on the standard products, the Venetians, the Verticals, and the Rollers. What is the main factor that drives the time spent on quoting and installing these? Is it the size of the window?
- Shirley* Not particularly. It usually takes about the same time to measure up and install blinds for a small window as it does for a large window. The main driver would be the number of windows for which blinds are required.

- Daniel* So in effect, it is the number of blinds rather than the size of the blinds that is the driver?
- Shirley* That's right.
- Daniel* Let's get back to the Awnings, Shutters, and Solar Curtains. What is the main driver of those?
- Shirley* Mmmm. What do you mean?
- Daniel* Why might they take longer to quote and install than Venetians, Verticals, and Rollers?
- Shirley* Well, they are more complicated and expensive products, and require quite a bit of technical expertise to "sell" the customer and to actually install the blinds.
- Daniel* So they take longer. How much longer?
- Shirley* Well, it depends. Awnings can be quite complex and many are motorised these days. Shutters are available in a variety of sizes and styles and it can be quite time-consuming dealing with customers for these. Solar Curtains are not so bad, but the fitting of these can sometimes be troublesome.
- Daniel* So what you are saying is that "time" is the main driver of these product lines.
- Shirley* Yes, I suppose that I am.
- Daniel* Can you give me an indication of the extra time that it might take to deal with Awnings, Shutters and Solar Curtains; as compared with Venetians, Verticals, and Rollers?
- Shirley* Let's go and have a look at my files relating to some recent installations.
- Daniel and Shirley spent about half an hour digging out and making notes from some recent files relating to selling and fitting products, including Solar Curtains, Awnings and Shutters. At the conclusion of this time they resumed their conversation.*
- Daniel* Let me see whether I have got this right. We found that to quote and fit an Awning to one window took an average of about five hours at the customer's premises, whereas to quote and fit a Venetian, Vertical, or Roller to one window took about half an hour.
- Shirley* Yes. It looked like that. Also Shutters appeared to take about two hours per window, and Solar Curtains took about one hour.
- Daniel* Would you be comfortable if we used these times in costing out the selling and fitting expenses relating to these products?
- Shirley* Well, it would not be perfect, but it would be better than nothing.
- Daniel* What about travel times? Some of your customers in country areas must take much longer to get to than city customers.
- Shirley* That is right, but I do not think we can charge "travel time" to customers who live in more remote locations. We might lose the sale to our competitors.
- Daniel* Servicing the customers in remote locations does cost more, so we may need to take that into account when assessing the profitability of those customers.
- Shirley* I see what you mean
- Daniel* What about freight? It appears to me that the freight costs for the heavy and bulky Shutters and Awnings are likely to be more than for such lighter products as Venetians and Roller blinds.
- Shirley* I am sure that is correct, but often a mix of all products are freighted at the same time, so it may be difficult to separate out the freight on particular product lines.
- Daniel* Well, thank you Shirley. That gives me something to go on. I will get back to my office and have a play with the numbers.

When he returned to the office, Daniel discussed with Kevin the results of the interview with Shirley. They decided that something had to be done to reflect the extra costs apparently caused by Awnings, Shutters and Solar Curtains.

They agreed to allow for the extra time involved in quoting and installing the Awnings, Shutters and Solar Curtains. However there appeared to be no data available about travel times to various customer locations, and the issue of the freight costs on different product lines seemed intractable at the moment.

After some thought they decided to choose a representative product from each of the lines they wish to analyse, and prepare some costings of those products.

As a basis for this, Daniel gathered the following data:

	Representative Product From Each Line			
	Awnings	Shutters	Solars	All Other
Selling price: representative product	\$800	\$500	\$300	\$300
Factory cost: representative product				
• Direct Materials	\$310	\$180	\$89	\$77
• Direct Labour	\$80	\$60	\$22	\$16
• Factory overhead (New Rate)	\$120	\$90	\$33	\$24

The next step is to calculate the profitability of the representative products both before and after the allocation of the selling expenses, and then to decide what to do with the administrative expenses.

Template for Product Profitability Calculations

Gross Margin	Representative Product From Each Line			
	Awnings	Shutters	Solars	All Other
Selling price: representative product				
Factory cost: representative product				
• Direct Materials				
• Direct Labour				
• Factory overhead (New Rate)				
Total Factory Cost				
Gross margin				
Product Margin after Selling Exes				
Gross Margin				
Allocate Selling Expenses				
Product Margin Before Administrative Expenses				

TEACHING NOTES: SOLUTIONS

Activity One: Blinds R U Expenses Allocations

	Total	Code	Dir Lab	Fact OH*	Selling*	Admin*
Accident Compensation Levy	\$42,313	F S A		\$14,810	\$16,502	\$11,001
Accountancy	8,710	A				8,710
Advertising	639,397	S			639,397	
Bad Debts	3,370	A				3,370
Bank Charges	45,810	A				45,810
Business Development	6,494	A				6,494
Cleaning	6,246	A				6,246
Commission	2,874	S			2,874	
Computer Expenses	12,022	A				12,022
Consultancy	114,642	A				114,642
Courier	23,832	A				23,832
Depreciation	130,029	FSA		45,510	50,711	33,808
Entertainment	2,316	A				2,316
Freight	149,082	S			149,082	
Fringe Benefit Tax	5,764	A				5,764
General Expenses	1,863	A				1,863
Goodwill Amortisation	48,801	A				48,801
Guarantee Fee	30,770	A				30,770
Hire Charges	8,849	S			8,849	
Insurance	74,659	FSA		26,131	29,117	19,411
Interest Paid	159,741	A				159,741
Lease Expenses	7,826	S			7,826	
Legal Fees	17,667	A				17,667
Loss on Sale of Assets	52,223	A				52,223
Marketing	40,063	S			40,063	
Motor Vehicle – Fuel	120,934	S			120,934	
Motor Vehicle – Repairs and Maintenance	58,278	S			58,278	
Motor Vehicle – Registration, Warrant of Fitness, Road User Charges	15,232	S			15,232	
Motor Vehicle – Lease	27,219	A				27,219
Payroll Preparation	9,018	A				9,018
Power	33,721	FSA		33,721		
Printing, Postage & Stationery	44,734	A				44,734
Protective Clothing	8,441	FS		4,052	4,389	
Rates	17,026	FS		8,173	8,854	
Rent	273,965	FS		131,503	142,462	
Repairs & Maintenance	85,401	FS		40,992	44,408	
Rubbish Disposal	10,030	FS		4,815	5,216	
Security	5,964	FS		2,863	3,101	
Staff Amenities & Welfare	23,434	FS		11,248	12,185	
Staff Recruitment	7,989	FSA		2,796	3,116	2,077
Staff Training	4,309	FSA		1,508	1,680	1,120
Subcontractors	19,302	S			19,302	
Subscriptions	12,078	A				12,078
Telephone & Tolls	149,810	AS			89,886	59,924
Travel & Accommodation	90,048	AS			54,029	36,019
Wages – Factory	1,181,436	DL	1,181,436			
Wages - Admin Staff	854,842	A				854,842
Wages - Sales Staff	797,365	S			797,365	
Wages – Technicians	504,062	S			504,062	
Total Expenses	\$5,990,000		\$1,181,436	\$328,121	\$2,828,922	\$1,651,522

* Note: Multiple allocations based on wages in Factory, Sales, and Administration. Factory wages \$1,181,436; Sales Wages (sales people and technicians) \$1,301,427; Administrative wages \$854,842; Total \$3,337,705. This makes the allocation percentages 35%; 39%; and 26%.

Activity Two: Product Profitability Calculations And Report To Management**Allocation Of Selling Expenses**

	Selling Expenses	Allocation of Selling Expenses*			
	Total	Awnings	Shutters	Solars	Other
Accident Compensation Levy	\$16,502	\$1,650	\$1,650	\$1,650	\$11,551
Advertising	639,397	63,940	63,940	63,940	447,578
Commission	2,874	287	287	287	2,012
Depreciation	50,711	5,071	5,071	5,071	35,498
Freight	149,082	14,908	14,908	14,908	104,358
Hire Charges	8,849	885	885	885	6,194
Insurance	29,117	2,912	2,912	2,912	20,382
Lease Expenses	7,826	783	783	783	5,478
Marketing	40,063	4,006	4,006	4,006	28,044
Motor Vehicle – Fuel	120,934	12,093	12,093	12,093	84,654
Motor Vehicle – Repairs & Maintenance	58,278	5,828	5,828	5,828	40,795
Motor Vehicle – Registration, Warrant of Fitness, Road User Charges	15,232	1,523	1,523	1,523	10,662
Protective Clothing	4,389	439	439	439	3,072
Rates	8,854	885	885	885	6,198
Rent	142,462	14,246	14,246	14,246	99,723
Repairs & Maintenance	44,408	4,441	4,441	4,441	31,086
Rubbish Disposal	5,216	522	522	522	3,651
Security	3,101	310	310	310	2,171
Staff Amenities & Welfare	12,185	1,219	1,219	1,219	8,530
Staff Recruitment	3,116	312	312	312	2,181
Staff Training	1,680	168	168	168	1,176
Subcontractors	19,302	1,930	1,930	1,930	13,512
Telephone & Toll calls	89,886	8,989	8,989	8,989	62,920
Travel & Accommodation	54,029	5,403	5,403	5,403	37,820
Wages - Sales Staff	797,365	79,736	79,736	79,736	558,155
Wages – Technicians	504,062	168,021	168,021	168,021	
Total Expenses	\$2,828,922	\$400,507	\$400,507	\$400,507	\$1,627,402
*Common Selling Expenses allocated 10:10:10:70, except Wages of technicians, allocated pro-rata to Awnings, Shutters and Solars.					
Unit Sales of Product Lines	Total	Awnings	Shutters	Solars	Other
Unit Sales	30,450	660	1,180	2,510	26,100

Product Profitability Calculations

Calculation of Costing Rates	Total	Awnings	Shutters	Solars	All Other
Unit Sales of Product Lines	30,450	660	1,180	2,510	26,100
Field Representatives' time per blind (hours)		5.00	2.00	1.00	0.50
Total hours per product		3,300	2,360	2,510	13,050
Total Selling Expenses	\$2,828,922	\$400,507	\$400,507	\$400,507	\$1,627,402
Selling Expense rate per hour		\$121.37	\$169.71	\$159.56	\$124.71
Times hours per product		5.00	2.00	1.00	0.50
Selling Expense rate per product		\$607	\$339	\$160	\$62

Gross Margin	Representative Product From Each Line			
	Awnings	Shutters	Solars	All Other
Selling price: representative product	\$800	\$500	\$300	\$300
Factory cost: representative product				
Direct Materials	\$310	\$180	\$89	\$77
Direct Labour	\$80	\$60	\$22	\$16
Factory overhead (New Rate)	<u>\$120</u>	<u>\$90</u>	<u>\$33</u>	<u>\$24</u>
Total Factory Cost	<u>\$510</u>	<u>\$330</u>	<u>\$144</u>	<u>\$117</u>
Gross margin	\$290	\$170	\$156	\$183

Product Margin after Selling Expenses	Awnings	Shutters	Solars	All Other
Gross Margin	\$290	\$170	\$156	\$183
Allocate Selling Expenses	\$607	\$339	\$160	\$62
Product Margin after Selling Expenses	(\$317)	(\$169)	(\$4)	\$121

Feedback To Management In The Report

Comments on profitability of product lines: Awnings and Shutters are clearly unprofitable and Solar Curtains are just under break-even. Only the "Other Products", the Venetians, Verticals and Rollers, appear to be profitable. This is due to the disproportionate amount of resources absorbed by the specialty lines. Although the analysis is based on a number of crude assumptions and allocation criteria, the important point is that the "sign" is clearly negative for Awnings and Shutters. This sign is unlikely to change to positive, no matter how sophisticated the analysis.

What to do about unprofitable product lines: Clearly something has to be done about such unprofitable product lines as Awnings and Shutters, and possibly Solar Curtains as well. Possible actions include: differentiate the product and increase prices where possible; charge different prices according to the number of window treatments ordered by each customer; attempt to reduce manufacturing and selling costs for these products; drop the products altogether.

How to deal with Administrative Expenses: Some Administrative Expenses may be driven by the activity in specific product lines. This may include such expenses as consultancy, depreciation, telephone and tolls, and travel. Others such as bank charges, interest, and business development, are likely to be purely administrative and defy any attempt at allocation. The issue to be resolved is whether any attempt to allocate Administrative Expenses to product lines is likely to be fruitful. An alternative is to try and assess product contribution towards Administrative Expenses and Net Profit. That is, avoid any spurious attempt to allocate Administrative Expenses.

Advantages and shortcomings of ABC analysis of Selling and Administrative Expenses: The major advantage of such an analysis is to gain a clearer indication of the relative profitability of the company's product lines. Among other things this may inform the method of calculating the commissions for field representatives. The shortcomings include the possibility of misleading allocations, and the cost of performing the analysis relative to the benefits gained.

TEACHING NOTES: ASSESSMENT**Assessment Criteria**

Criteria	Possible Marks	Actual Marks
Performed Product Profitability Analysis (Technical Skill)	10	
Commented on the profitability of products and gave advice to management on what to do with the product lines (Critical Thinking)	15	
Discussion on how to deal with Administrative Expenses (Critical Thinking)	5	
Discussion on the advantages and shortcomings of ABC-type of analysis for Selling and Administrative Expenses (Critical Thinking)	5	
Total Content	35	
Writing Style – language appropriate to audience	5	
Spelling/Punctuation/Grammar	5	
Presentation/headings/logical flow etc	5	
Total Presentation	15	
Overall Total	50	

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