

Business Finance

Session 10: Budgeting and Planning



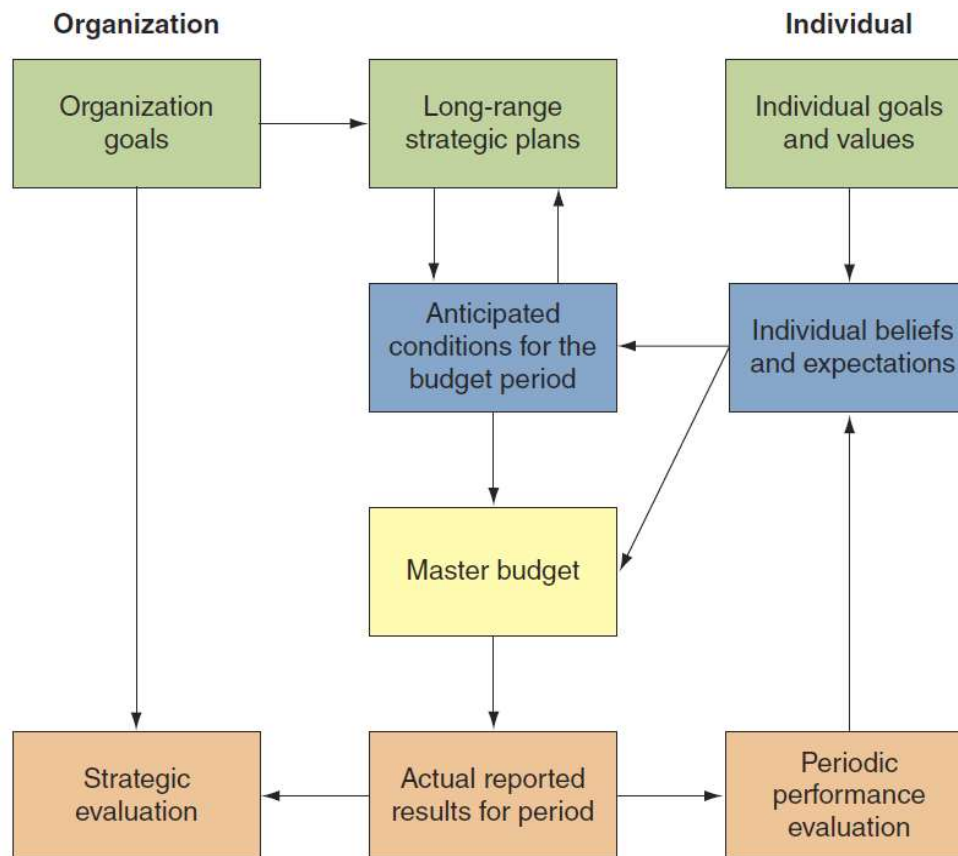
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Organizational and Individual Interaction: Developing the Master Budget



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Human Element in Budgeting



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LO 13-2 Understand the importance of people in the budgeting process.



Participative Budgeting

Use of input from lower- and middle-management employees; also called ***grass roots budgeting***

Sales Forecasting



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LO 13-3 Estimate sales.

Forecasting sales is the most difficult aspect of budgeting.

How do we forecast sales?

Sales staff

Market researchers

Delphi technique

Trend analysis

Econometric models

Artificial Intelligence



Case Study



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Nomzi's Fabubags



Forecasting by Sales Staff



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After evaluating the sales forecasts derived from **various sources**, the budgeting task force at Nomzi's Fabubags arrived at the following sales budget for the next budget year:

	Units	Price (R) per Unit	Total Sales Revenue (Rands)
Estimated sales	12,000	400	4,800,000



Production Budget



Rearranging for required production:

Budgeted sales	+	Units in ending inventory	–	Units in beginning inventory	=	Required production
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- Nomzi's Fabubags' sales budget is 12,000 units
- Management estimates that there will be 500 units in beginning inventory and 1,700 in ending inventory.

12,000 units	+	1,700 units	–	500 units	=	13,200 units
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Production Budget



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Nomzi's Fabubags				
Production Budget				
For the Budget Year Ended 31 December 2018				
(in units)				
Expected Sales				12,000
Add desired ending inventory of finished goods				1,700
Total needs				13,700
Less beginning inventory of finished goods				500
Units to be produced				13,200

Demo 1



Demo problem



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Solution:

East Mountain Bike
Production Budget
For the budget year ended December 31
(in units)

Expected sales	25,000
Add: Desired ending inventory of finished goods	<u>3,500</u>
Total needs	28,500
Less: Beginning inventory of finished goods	<u>(2,000)</u>
Units to be produced	<u><u>26,500</u></u>

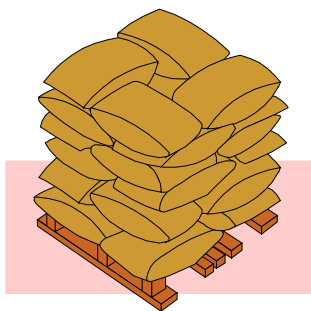


Production Costs



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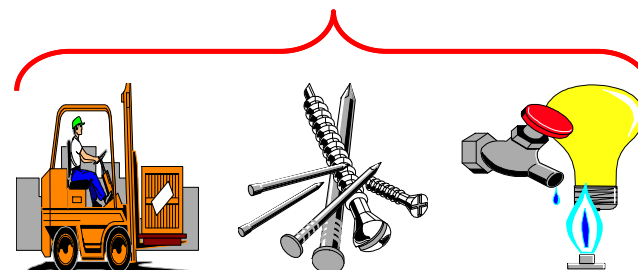
Direct
materials



Direct
labor



Manufacturing
overhead



Indirect
labor

Indirect
materials

Other

LO 13-4 **Direct Materials Example**



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	Estimated Production Materials Data			
	Leather		Thread	
	2 metres		0.7 metres	
Beginning Inventory	3,000 metres		1,200 metres	
Ending Inventory	4,000 metres		1,600 metres	
Cost	35 R/per metre		15 R/per metre	



LO 13-4 **Direct Materials Example**

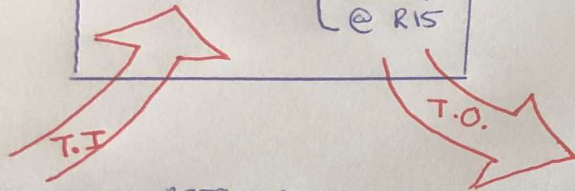
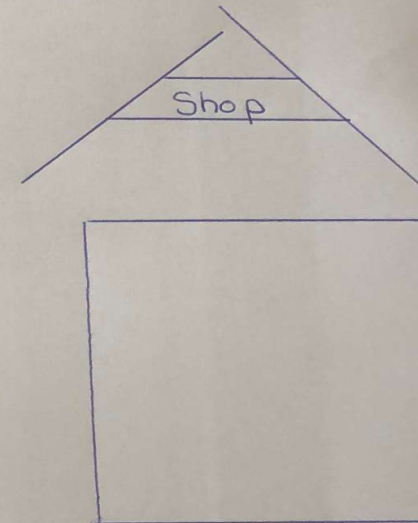
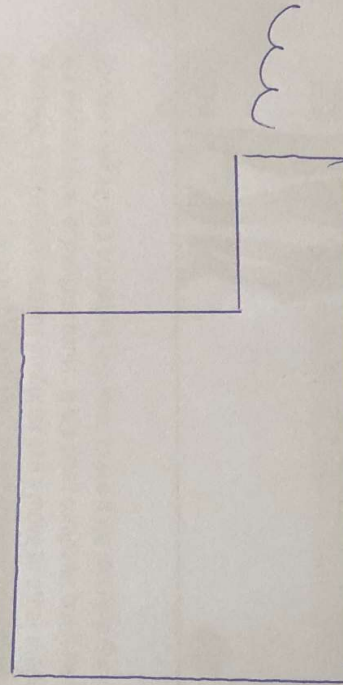
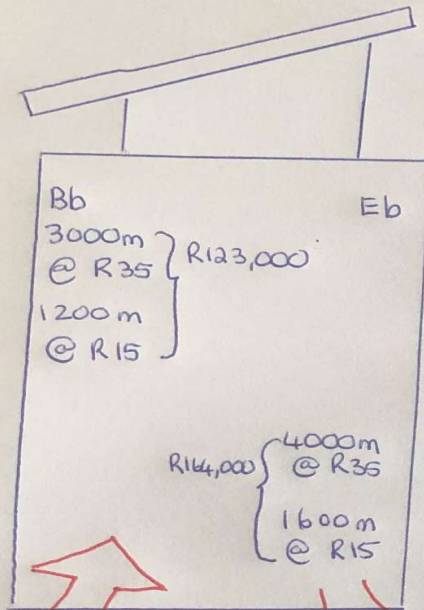


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Nomzi's Fabubags
Estimated Production
Materials Data
Metres needed:

Leather	$= (13,200 \times 2) + 4,000 - 3,000$		
	$= 27,400$	metres	
Thread	$= (13,200 \times 0.7) + 1,600 - 1,200$		
	$= 9,640$	metres	





$$27\,400 \times R35 = R959,000$$

$$9\,640 \times R15 = R144,600$$

$$R1,103,600$$

$$Bb + T.I - Eb = T.O.$$

Demo 2

LO 13-4 **Direct Materials Example**



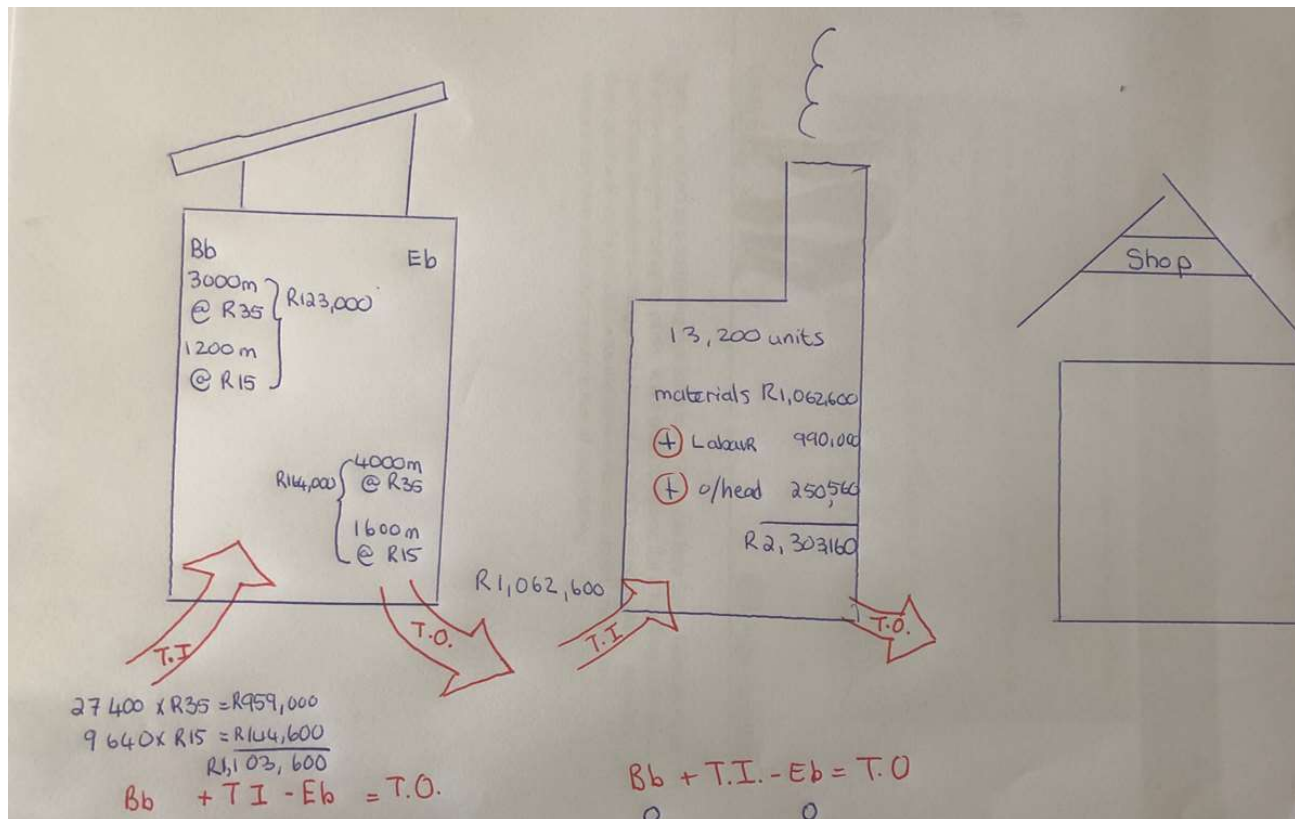
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Nomzi's Fabubags Direct Materials Budget For the Budget Year Ended 31 December 2018				
Units to be produced (from production budget)	13,200			
		Leather		Thread
Direct materials needed per unit	2	metres	0.7	metres
Total production needs (amount per unit times 13,200 units)	26,400		9,240	
Add desired ending inventory	4,000		1,600	
Total direct materials needs	30,400		10,840	
Less beginning inventory of materials	3,000		1,200	
Direct materials to be purchased	27,400		9,640	
Cost of materials, per metre	35	rands	15	rands
Total cost of direct materials to be purchased	959,000	rands	144,600	rands
Sum of materials (leather and thread) to be purchased (R959,000 + R144,600) =			1,103,600	rands





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Solution:

East Mountain Bike
Direct Materials Budget
For the budget year ended December 31

Units to be produced next year (from the production budget above): 26,500

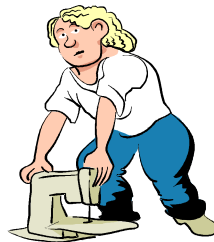
	Frame	Tyres
Direct material needed per bike	1	2
Total production needs	26,500	53,000
Add: Desired ending inventory	2,500	3,200
Total direct materials needs	29,000	56,200
Less: Beginning inventory	(1,100)	(2,000)
Direct materials to be purchased	27,900	54,200
Unit cost	R900	R30
Total cost of direct materials to be purchased	R25,110,000	R1,626,000
Total materials cost	R26,736,000	

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Direct Labor Example



Nomzi's Fabubags Direct Labour Budget For the Budget Year Ended 31 December 2018			
Units to be produced (from production budget)			13,200
Direct labour time per unit (in hours)			1.5
Total direct labour hours needed			19,800
Direct labour cost per hour			X R50
Total direct labour cost			990,000



LO
13-4

Overhead Example



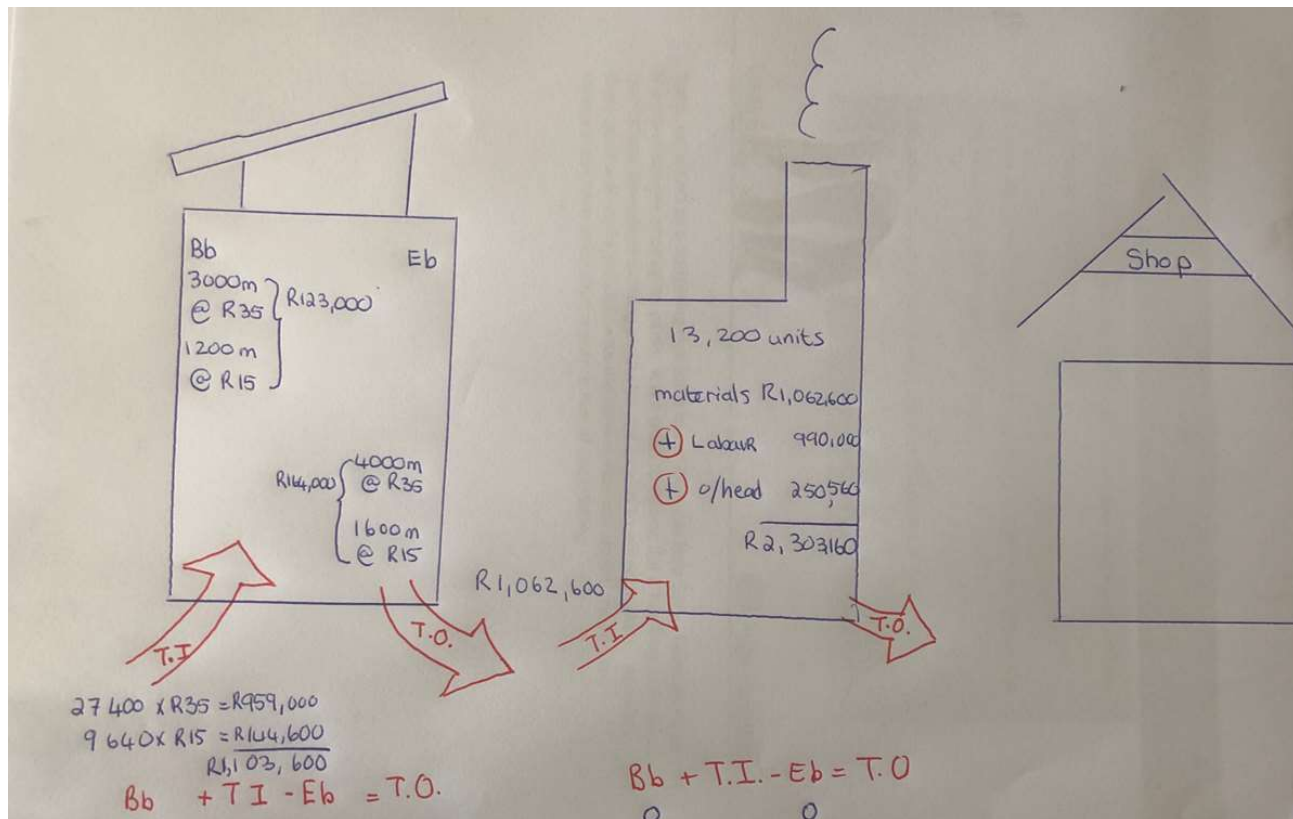
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Nomzi's Fabubags				
Overhead Cost Budget				
For the Budget Year Ended 31 December 2018				
				Rands
Variable overhead needed to produce 13,200 units				10,560
Indirect materials an supplies @ 50c per unit				6,600
Materials handling @ 30c per unit				3,960
Total variable overhead				
Fixed manufacturing overhead				240,000
Factory rent				80,000
Insurance				10,000
Supervisory labour				150,000
Total manufacturing overhead				250,560





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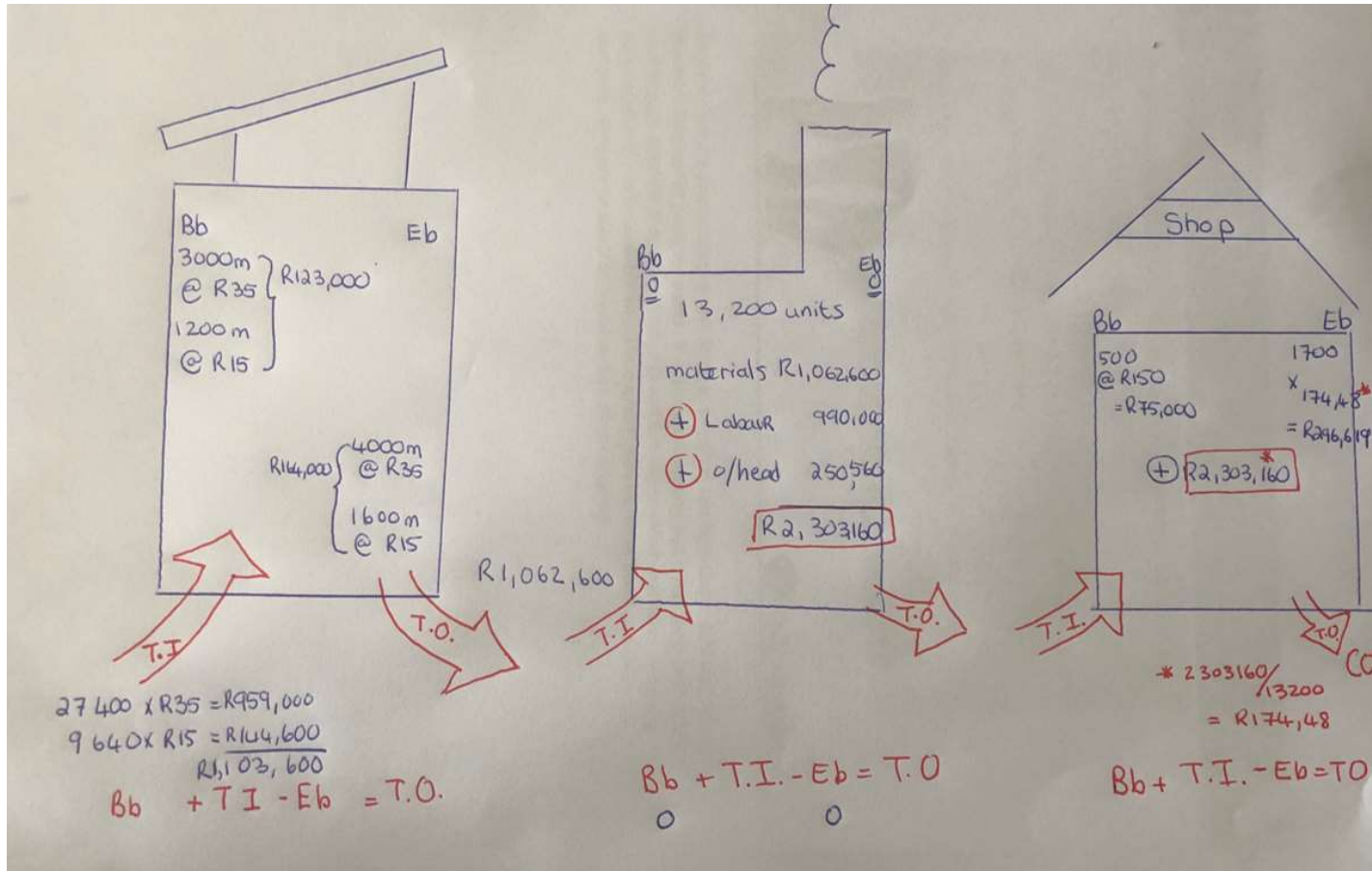


Cost of Goods Sold Example



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Nomzi's Fabubags			
Budgeted Statement of Cost of Goods Sold			
For the Budget Year Ended 31 December 2018			
	R	R	R
Beginning Work in process inventory			0
Manufacturing costs			
Direct materials			
Beginning inventory (3,000 x R35 + 1,200 x R15)	123,000		
Purchases (from materials budget)	1,103,600		
Materials available	1,226,600		
Less ending inventory (4,000 x R35 + 1,600 x R15)	164,000		
Total direct materials cost	1,062,600	1,062,600	
Direct Labour (from labour budget)		990,000	
Manufacturing overhead (from overhead budget)		250,560	
Plus: Total manufacturing costs		2,303,160	2,303,160
Less: ending Work in process inventory			0
= Cost of Goods MANUFACTURED			2,303,160
Add: Beginning finished goods inventory			75,000
500 x R150 (from prior year cost sheet provided by management)			
Less: Ending finished goods inventory			296,619
(1,700 x (R2,303,160/13,200))			
= Cost of Goods SOLD			2,081,541



Income Statement Example



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Nomzi's Fabubags		
Budgeted Income Statement		
For the Budget Year Ended 31 December 2018		
		R
Budgeted Sales		4,800,000
	(from sales budget)	
Less: Cost of goods sold		2,081,541
	(from cost of goods sold budget)	
Budgeted Gross Profit		2,718,459
Less: Marketing and administrative costs		919,000
	(from marketing & admin budget)	
Budgeted operating profit		1,799,459
Less: Budgeted Income taxes (28%)		503,849
Budgeted net profit after tax		1,295,611



Marketing and Administrative Budget Example



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Nomzi's Fabubags						
Marketing & Administrative Costs Budget						
For the Budget Year Ended 31 December 2018						
				For Total Sales		
				12,000	units	
				R	R	R
Marketing Costs			R/unit			520,000
Variable					300,000	
	Sales commission	20		240,000		
	other	5		60,000		
Fixed					220,000	
	Sales salaries			120,000		
	Advertising			100,000		
Administrative Costs						399,000
Variable					24,000	
	Data processing	2		24,000		
Fixed					375,000	
	Legal and accounting staff			225,000		
	Depreciation			80,000		
	Other			70,000		
Total budgeted marketing and administrative costs						919,000

Alternative Budgeting Scenarios



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Nomzi's Fabubags Alternative Budget Scenarios

Sales Price	Sales Quantity	Revenue	Cost of Goods Sold	Gross Margin	Marketing & Admin	Operating profit
400	11,000	4,400,000	1,908,079	2,491,921	892,000	1,599,921
450	11,000	4,950,000	1,908,079	3,041,921	892,000	2,149,921
500	11,000	5,500,000	1,908,079	3,591,921	892,000	2,699,921
400	12,000	4,800,000	2,081,541	2,718,459	919,000	1,799,459
450	12,000	5,400,000	2,081,541	3,318,459	919,000	2,399,459
500	12,000	6,000,000	2,081,541	3,918,459	919,000	2,999,459
400	13,000	5,200,000	2,255,003	2,944,997	946,000	1,998,997
450	13,000	5,850,000	2,255,003	3,594,997	946,000	2,648,997
500	13,000	6,500,000	2,255,003	4,244,997	946,000	3,298,997



Cash budget

Case Study: Santiago Pants



WATCH:
Learning Hub
video where I
narrate the
cash budget

“Last year was a tough one. My question is – how much cash will we need to get us through next year?”

We have high levels of debt already. I just don’t know if our sales will bring in enough cash to get us through.

I am especially concerned about the first 3 months of next year.”



Gary Adams, CFO of Santiago Pants



Cash Budget



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Santiago Pants Cash Budget For the Budget Year Ended December 31

Cash balance beginning of period		\$ 830,000
Receipts:		
Collections on accounts	\$6,840,000	
Collections employee loans	<u>100,000</u>	
Total receipts		6,940,000
Less: Disbursements:		
Payments for accounts payable	1,694,000	
Direct labor	1,870,000	
Manufacturing overhead less noncash depreciation charges	540,000	
Marketing and administrative costs less noncash charges	1,422,000	
Payments for federal income taxes	350,000	
Dividends	30,000	
Reduction in long-term debt	23,000	
Acquisition of new assets	<u>1,470,000</u>	
Total disbursements		<u>7,399,000</u>
Budgeted ending cash balance		\$ 371,000



Cash Collections Example



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Santiago Pants Monthly Collection Experience Sales on Credit

Cash collected from current month's sales	20%
Cash collected from last month's sales.	75
Cash discounts taken (percentage of gross sales).	2
Written off as bad debt	3
Total disposition of credit sales in current month	<u>100%</u>

Expected Sales for Three Months

January sales	\$500,000
February sales	450,000
March sales	600,000



Cash Collections Example



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Santiago Pants Multiperiod Schedule of Cash Collections For the Quarter Ended March 31

	Month			Total for Quarter
	January	February	March	
Beginning accounts receivable, January 1, \$540,000	\$540,000			\$ 540,000
January sales, \$500,000 ^a	<u>100,000</u>	\$375,000		475,000
February sales, \$450,000 ^b		<u>90,000</u>	\$337,500	427,500
March sales, \$600,000 ^c			<u>120,000</u>	<u>120,000</u>
Total cash collections	\$640,000	\$465,000	\$457,500	\$1,562,500

^a 20% collected in January, 75% collected in February, and 5% not collected

^b 20% collected in February, 75% collected in March, and 5% not collected

^c 20% collected in March, 75% collected in April, and 5% not collected



Cash Disbursements Example



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Santiago Pants Monthly Disbursements for Purchases Experience

Cash disbursement for current month's purchases	50%
Cash disbursement for prior month's purchases	48
Cash discounts taken	<u>2</u>
Total cash disbursement for purchases	100%

Expected Purchases for Three Months

January sales	\$120,000
February sales	\$200,000
March sales	\$250,000



Cash Disbursements Example



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Santiago Pants Multiperiod Schedule of Cash Disbursements For the Quarter Ended March 31

	Month			Total for Quarter
	January	February	March	
Beginning accounts payable, January 1, \$256,000	\$256,000			\$ 256,000
January purchases, \$120,000 ^a	60,000	\$ 57,600		117,600
February purchases, \$200,000 ^b		100,000	\$ 96,000	196,000
March purchases, \$250,000 ^c			125,000	125,000
Additional cash payments	<u>250,000</u>	<u>250,000</u>	<u>250,000</u>	<u>750,000</u>
Total cash disbursements	\$566,000	\$407,600	\$471,000	\$1,444,600
Compare: Total cash collections	\$640,000	\$465,000	\$457,500	

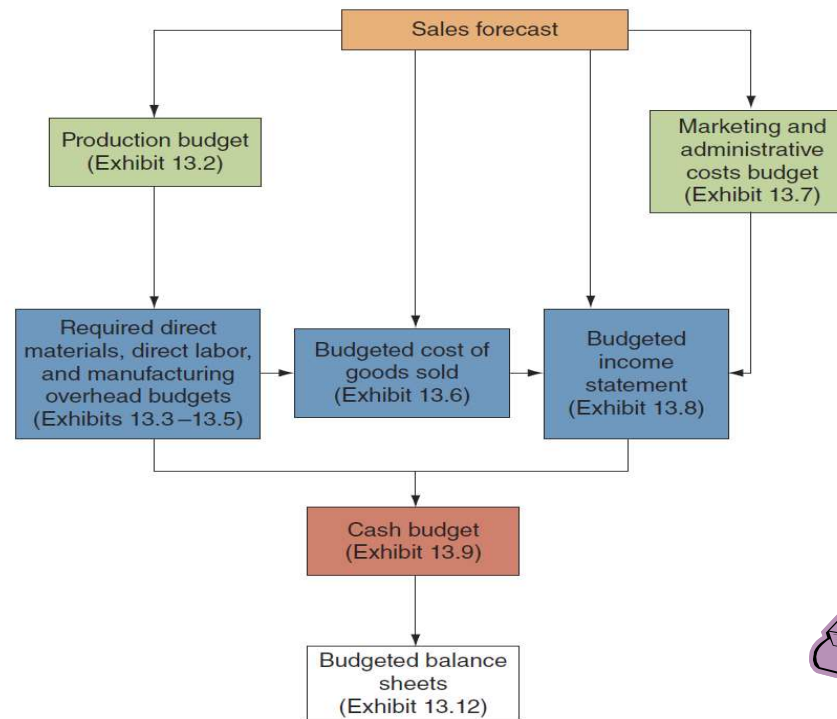
^a 50% paid in January, 48% paid in February, and 2% discounts taken

^b 50% paid in February, 48% paid in March, and 2% discounts taken

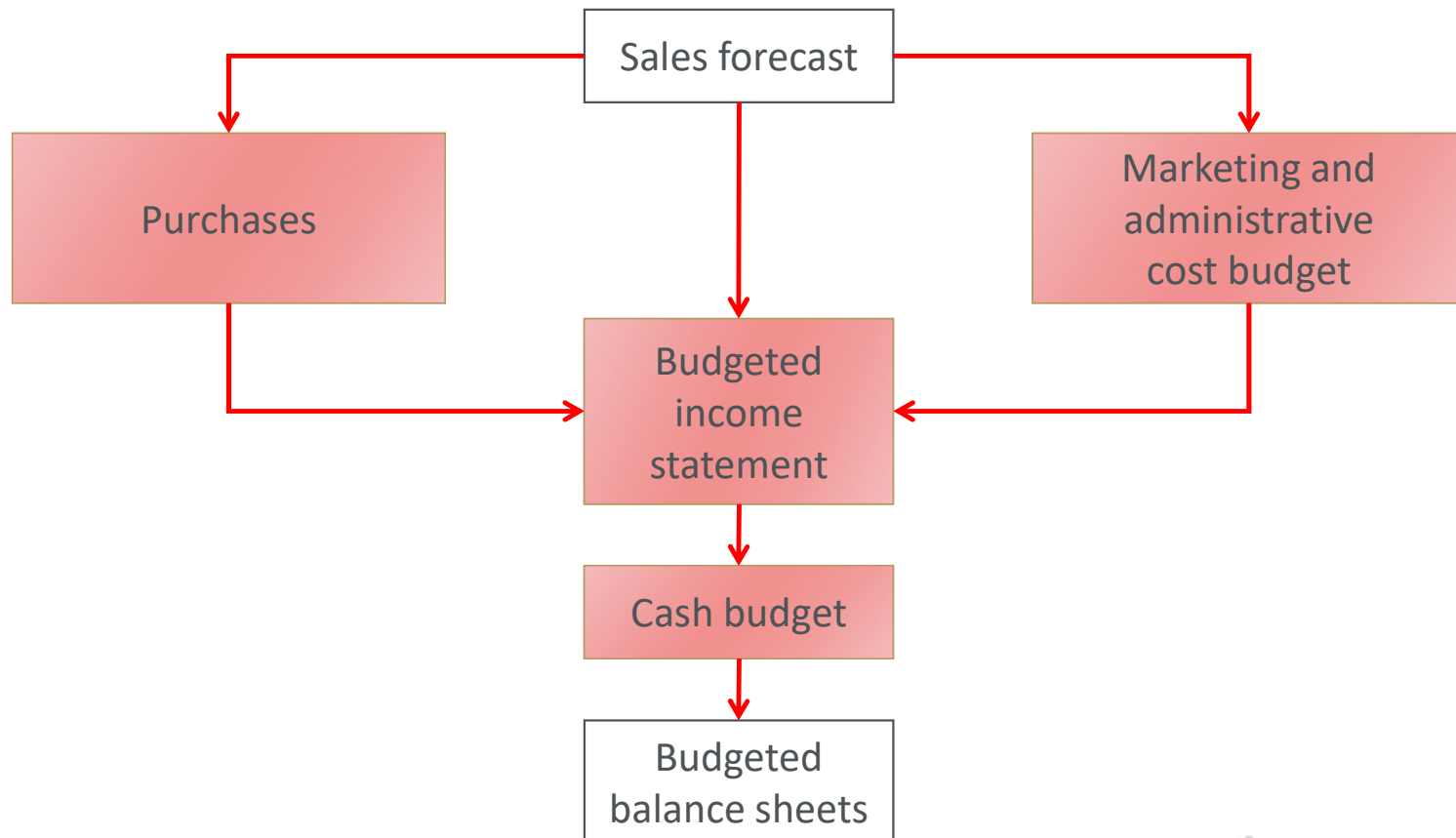
^c 50% paid in March, 48% paid in April, and 2% discounts taken



Assembling the Master Budget for a Manufacturing Firm



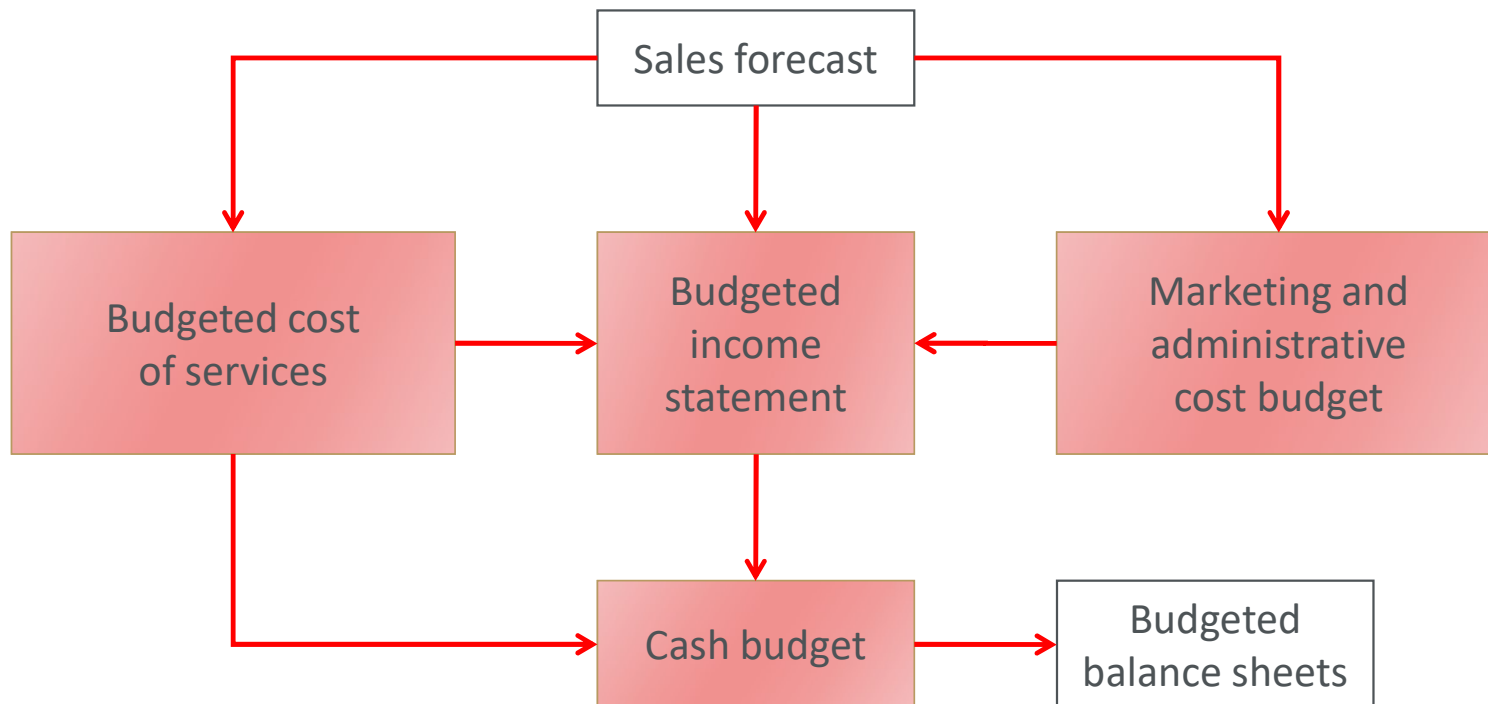
Budgeting Retail and Wholesale Organizations



Budgeting in Service Organizations



LO 13-7 Explain budgeting in merchandising and service organizations.





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**Thank you
Enkosi
Dankie**

