FLB

EDUCATIONAL INSTITUTE FOR ACCOUNTANCY & MANAGEMENT

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Students are reminded that these notes **are not a substitute for prescribed textbooks.**

FIN3702 revision notes

Analyzing a firms cash flow

Module objectives:

- Explain tax depreciation procedures and effect on businessôcash flow
- Explain why cash flow statement is different to the income statement
- Prepare a cash flow statement
- Prepare and operating cash flows and free cash flows

Introduction to analyzing a firm's cash flow

1. Why is cash flow the lifeblood of a firm?
    - Managing day-to-day operations
    - Making strategic financial decisions and increasing shareholder value
    - Operating cash flow line is monitored closely by managerial decision making
    - Free cash flow is monitored by capital markets as ñcash pays the billsò
2. What are the key items affecting a firmôs cash flow?
    - Depreciation
    - Other non-cash items

Depreciation

Depreciation is to charge a portion of costs of fixed assets systematically against annual revenues. It allocates the historical cost over time.
Accounting: Depreciation of historical cost over time
Depreciable life of an asset is the time period which as asset is depreciated and can significantly affect the pattern of cash flows. How?
Tax purposes: the charge is regulated by SARS and may differ from the accounting charge (wear and tear allowance - WTA)
The WTA applies to both new and used assets
Method of calculation:

1. Determine depreciable value of an asset = The amount to be depreciated
    - 1.1 Initial cost of the asset R400 000
    - 1.2 Outlays for installation R20 000
    - 1.3 Minus: Expected salvage value (R5 000)
    - Depreciable value of the asset R415 000
2. Determine the recovery period and depreciate using the straight-line method
    - 2.1 Recovery period is the appropriate depreciable life of a particular asset as determined by WTA ï SARS rules
    - 2.2 Five broad recovery period categories ï 3, 4, 5, 10 and 20 years (excluding real estate) ï

Table 3.1 First four property classes under WTA

Property class (recovery period)	Definition
3 years	calculators, compressors. personal computers, debarking equipment, excavators, fork-lift trucks, front end loaders, graders, mobile cranes, mobile refrigeration units, motorised chain saws, portable concrete mixers, refrigerated milk tankers, television and advertising films, tractors, traxcavators and water tankers
4 years	aircraft: light passenger/commercial/helicopter, heavy trucks, passenger cars and delivery vehicles
5 years	adding machines, air conditioners, arc welding equipment, balers, cheque writing machines, cold drink dispensers, computer main frames, crop sprayers, demountable partitions, drills, electric saws, electrostatic copiers, fertilised spreaders, fitted carpets, furniture and fittings, gantry cranes, grass cutting equipment, gas heaters and cookers, gear shapers, grinding machines, guillotines, harvesters, heat dryers, heating equipment, incubators, ironing and pressing equipment, kitchen equipment, knitting machines, lathes, medical theatre equipment, milling machines, ovens and heating devices, ovens for heating food, perforating equipment, photographic equipment, planers, ploughs, refrigeration equipment, refrigerators, sanders, seed separators, sewing machines, shop fittings, spin dryers, spot welding machines, television sets, typewriters, vending machines, washing machines and water tanks
10 years	fishing vessels, lift installations (goods and passengers) pleasure craft, water distillation and purification plant

Figure 1 - Source Principles of Managerial FInance Lawrnece J. Gitman

Example:

ABC company acquired a new air conditioner system for an installed cost of R25 000 6 months into its financial reporting period. Management believes that the machineôs expected useful life is only 4 years. Calculate the depreciation and WTA for the machine for each year.

Year	Cost (R)	Depreciation rate	Depreciation (R)	WTA rate ï from tables	WTA
1	25 000	12.5%	3 125	10%	2 500
2	25 000	25%	6 250	20%	5 000
3	25 000	25%	6 250	20%	5 000
4	25 000	25%	6 250	20%	5 000
5	25 000	12.5%	3 125	20%	5 000
6	25 000	0%		10%	2 500
Total		100%	25 000	100%	25 000

Developing the statement of cash flows

Sources of inflows:

- Decrease in asset ï generally????
- Increase in liability
- Net profits

- Depreciation and other non-cash accounting charges
- Sale of shares

Sources of outflows:

- Increase in asset
- Decrease in liability
- Net loss
- Dividends paid
- Repurchase of shares

Format of cash flow statement

ABC Company	
Statement of Cash Flows for the year ended Dec 2013	
1. Cash flow from operating activities	**850**
Net profit before tax	1000
Elimination of items included in PBT which do not represent cash flow	
Plus: Depreciation	100
(Increase)/decrease in trade receivables	(100)
(Increase)/decrease in inventories	(300)
Increase/(decrease) in trade and other payables	150
2. Cash flow from Investing activities	**(400)**
-Additions in GROSS non-current assets	(1000)
-Replacement of equipment	0
+Proceeds on sale of equipment	500
Investment in equity investments/sale of equity investments	100
3. Cash flow from financing activities	**400**
Increase/(decrease) in short-term debt	-100
Increase/(decrease) in long-term debt	0
Changes in shareholderôs equity	300
-Dividends paid	200
Net increase in cash and marketable securities	**850**

Notes:

1. Operating cash flow
   - Cash flow from normal opertions
   - Remove interest and tax from operating cash flow to determine the ñtrueòcash flow from operations without the effect of interest and tax
   - To obtain net profit after tax (NOPAT) = EBIT x (1-T)
   - To convert NOPAT to OCF = NOPAT +depreciation

- Free cash flow is amount of cash available to investors ï both credit and equity providers

Financial Planning process

In the last session we explored how to prepare a cash flow statement ï backward looking In this lecture, we are going to explore planning and forecasting for the FUTURE. Entities require this for lending purposes (from lenders), and for internal financial planning. Financial planning usually begins with a long-term strategic plan (between 2-10 years) which generally flows through to short term plans and budgets. Long-term plans include outlays for non-current assets, research and development, major marketing, product development and major sources of financing. We are going to focus on short-term financial plans and budgets which involve:

1. Cash planning ï preparation of a cash budget
2. Profit planning ï preparation of pro-forma financial statements
    a. Pro-forma statement of comprehensive income
    b. Pro-forma statement of financial position

Short-term (operating) financial plans specify short-term financial actions and the anticipated impact on those actions (Principles of managerial finance pg. 105) and range between 1 and 2 years.

Note: Start with sales forecast. From this point lead times and estimates of raw materials and costs can be made including direct labour, factory overheads and other operating expenses. From here it is possible to compile cash budgets and pro-forma financial statements.

Cash planning: cash budget

The cash budget (cash forecast) is a statement of the firmôs planned inflows and outflows of cash and is used to estimate firmôs short-term cash requirements. Ask are the cash surpluses or shortages?

Steps in compiling a cash budget:

1. **Obtain monthly sales forecasts**
    - Usually prepared by marketing manager based on demand for a product
    - Usually prepared on a monthly basis
    - Also determines the level of non-current assets and finance required to support forecasted sales
    - Forecasts can be external or internal. External forecasts are based on relationships observed from external economic data eg. Gross domestic product (GDP), consumer confidence and disposable income. Internal forecasts are based on own sales channels
2. **Determine cash receipts**
    - Cash sales
    - Collections of accounts
    - Other cash receipts

    Example 1: Company ABC LTD has the following sales figures and forecast sales information

Month - Purely informational and use as a starting point!	August	Septemb er	October	Novemb er	Decemb er
Actual Sales (R) ï	1 000	2 000			
Forecast sales (R)			4 000	3 000	2 000

Historically, 20% of the firmôs sales have been for cash, 50% of trade receivables is usually collected after month one, and the remaining 30% trade receivables is usually collected in month two. The company also received a cash dividend of R300 in December. Prepare cash sales forecast

Solution:

Forecast sales	**August**	**Septembe r**	**October**	**November**	**December**
Cash sales (20%) (R)	200 (1000*20%)	400 (2000*20%)	800 (4000*20%)	600 (3000*20%)	400 (2000*20%)
Collections/receipts					
Lagged one month (50%)		500	1 000	2000	1500
Lagged two months (30%)			300	600	1200
Other cash receipts					300
Total cash receipts	**200**	**900**	**2 100**	**3 200**	**3 400**

3. **Calculate cash disbursements**
   - All outlays by the firm during a given financial period
   - NB remember depreciation and other non-cash charges are NOT included in cash budget
   - Depreciation in the form of a wear and tear allowance does however result in reduces CASH TAX

Example 2: Company ABC LTD has the following sales figures and forecast sales information

1. Purchases: The firmôs purchases represent 70% of sales. Of this amount, 10% is paid in cash, 70% is paid in the month immediately following month of purchase and the remaining 20% is paid two months following the month of purchase.
2. Rent payments: Rent of R 50 will be paid each month
3. Wages and salaries: Fixed salary costs for the year is R960, or R80 per month. In addition, variable wages are estimated at 10% per month.
4. Tax payments: Taxes of R250 must be paid in December
5. Non-current outlays: New machinery costing R 1 300 will be purchased and paid for in November.

6. Interest payments: An interest payment of R100 is due in December
7. Cash dividend payment: Cash dividends of R200 will be paid in October
8. Principle payments (loans): A R200 principle payment is due in December
9. No repurchases or retirement of shares is expected between October and December.

Purchases	August	September	October	November	December
Cash purchases (10%)	70	140	280	210	140
Payments					
Lagged 1 month (20%) (R)		490	980	1 960	1 470
Lagged 2 months (20%) (R)			140	280	560
Rent payment			50	50	50
Wages and salaries			480	380	280
Tax payments					250
Non-current asset outlay				1300	
Interest payments					100
Cash dividend payments			200		
Principle payments					200
Total cash disbursements			**2 130**	**4 180**	**3 050**

4. <u>Calculate net cash flow, ending cash, financing and excess cash</u>

Letôs look back at our example. We have calculated cash inflows and outflows. The firmôs net cash flow is cash inflow less cash outflow. We then add the balance of cash as at the beginning of the period to determine the ending cash flow.

Total cash receipts	October	November	December
Cash sales	2 100	3 200	3 400
Cash payments	(2 130)	(4 180)	(3 050)
Net cash flow	(30)	(980)	350
Cash at beginning of period	500	470	(510)
Ending cash	470	(510)	(160)
Minimum cash balance	250	250	250
Required financing		760	410
Excess cash	220		

SHORT-TERM FINANCIAL DECISIONS

CHAPTER 14 FINANCIAL PLANNING

The following section contains:

TOPIC OBJECTIVES

On completion of this topic you should be able to:

1. describe the financial planning process
2. prepare a cash budget
3. prepare a pro forma income statement
4. prepare a pro forma balance sheet
5. evaluate pro forma statements

The Financial Planning Process:

- Provides road maps for guiding, coordinating and controlling the firmôs actions in order to achieve their objectives
- Key aspects:
  - Cash Planning
  - Profit Planning
- Long Term financial plans: lays out the companies planned financial actions and the anticipated impact of those actions

- Short Term financial plans: specifies the ST financial actions and the anticipated impact. Three key statements:
    - Cash Budget
    - Pro Forma Income Statement
    - Pro Forma Balance Sheet

THE CASH BUDGET:

- Cash forecast
- Statement of a firmôs planned inflows and outflows of cash
- Used to estimate the ST cash requirements

GENERAL FORMAT OF A CASH BUDGET				
	Month 1	Month 2	Month 3	Month X
Cash Receipts Less: Cash Disbursements				
Net Cash Flows Add: Beginning Cash Balance				
Ending Cash Balance Less: Minimum Cash Balance				
Required Total Financing Excess Cash				

Example:

XYZ Ltd has the following sales
Month 1 R100 000
Month 2 R150 000
Month 3 R200 000
Month 4 R 90 000
They estimate that 30% of the turnover is cash sales and the balance is account receivable
They recover their account receivable as follows:
60% in the month after the sale
30% in the second month after the sale
5% in the third month after the sale
The balance is considered as bad debts

The Accounts Receivable Run Off Schedule:

	MONTH 1	**MONTH 2**	**MONTH 3**	**MONTH 4**
Total Sales	100 000	150 000	200 000	90 000
Total cash sales	30 000	45 000	60 000	27 000
Total credit sales	70 000	105 000	140 000	63 000

The Accounts Receivable will run off as follows: in Rands

	Month 1	Month 2	Month 3	Month 4			

Month 1		42 000	21 000	3 500			
Month 2			63 000	31 500			
Month 3				84 000			
Month 4				0			
Total receipts		42 000	84 000	119 000			

Input into the Cash Budget:

	Month 1	Month 2	Month 3	Month 4
Cash receipts	30 000	87 000	144 000	146 000
Cash sales	30 000	45 000	60 000	27 000
Receipts from accounts receivable	0	42 000	84 000	119 000

PRO FORMA STATEMENTS

- Projected financial statement = profit planning
- Profit planning relies on accrual concepts to predict overall profit and financial position
- Assumption = financial relationships of the past F/S will not change in coming period
- 2 inputs required:
    - Financial statements for the preceding year
    - Sales forecast for the coming year

Pro Forma Income Statement:

- Percentage-of-sales method
- Forecast sales and express COS, operating expenses and interest expenses as a % of projected sales
- This method assumes that all costs are variable but firms have fixed costs
- This method will understate profits when sales are increasing and overstate profits when sales are decreasing
- Therefore we can also break the costs down into fixed and variable components and adjust for fixed costs

Pro Forma Balance Sheet:

- Judgmental Approach ï the firm estimates the values of certain statements of financial position accounts and assumes that external financing will be the balancing figure
- If this value is positive then it means that the company does not have enough internal funds to support growth in sales
- If this value is negative it means that the company is generating sufficient internal funding to grow and would not need to look to external investment for funding. It means that the company is generating sufficient funds to repay debt or increasing dividends
- Values of certain balance sheet accounts are estimated and others are calculated

Weaknesses:

- Assumption that past financial conditions are an accurate predictor of the future
- Assumption that the values of certain variables can be forced to take on desired values
- Despite these weaknesses, analysts must understand them to make decisions. Financial managers and lenders can use pro-forma statements to analyse firms cash inflows and outflows as well as liquidity, activity, debt, profitability and market value. This can be done by means of ratio analysis. Thereafter the financial manager can take reactive steps.

Pro-forma statement of comprehensive income ï Principles of managerial finance pg 129
The marketing department of Metroline limited estimates that its sales in 2011 will be R1.5million. Interest expense is expected to remain unchanged at R35 000, and the firm plans to pay R70 000 in cash dividends during 2011. Metroline Manufacturingôs statement of comprehensive income for the year ended 31 December 2010 is given below, along with a breakdown of the firmôs cost of sales and operating expenses into their fixed and variable components.

Metroline Manufacturing Statement of comprehensive income for the year ended 31 December 2010	
Revenue	1,400,000
Cost of sales	910,000
Gross profit	490,000
Operating expenses	120,000
Operating profit	370,000
Finance cost	35,000
Net profit before tax	335,000
Income tax % (rate = 30%)	100,500
Profit for the year	134,500
Additional information	
Cash dividends	99,500

Metroline Manufacturing Breakdown of costs and expenses into fixed and variable components for the year ended 31 December 2010	
Cost of sales	
Fixed costs	210,000
Variable costs = 700,000/1,400,000=50%	700,000
Total costs	910,000
Operating expenses	
Fixed expenses	36,000
Variable expenses = 84,000/1,400,000 = 6%	84,000
Total expenses	120,000

a. Use the percent of sales method to prepare a pro-forma statement of comprehensive income for the year ended 31 December 2011

Step 1: Find percentages of sales for the items in the previous year such that:

Cost of sales = R910,000 = 65%
Revenue R1,400,000

Operating expenses = R120,000 = 8.6%
Revenue R1,400,000

Not applicable for this question but for completeness
Interest expense = xx%
Revenue

Step 2: Construct income statement based on the above calculated percentages

Metroline Manufacturing Statement of comprehensive income for the year ended 31 December 2011	
Revenue ï stated in question	1,500,000
Cost of sales = 1,500,000 x 65%	(975,000)
Gross profit	525,000
Operating expenses = 1,500,000 x 8.6%	(129,000)
Operating profit	396,000
Finance cost ï remains unchanged as stated	(35,000)
Net profit before tax	361,000
Income tax % (rate = 30%)	(108,300)
Profit for the year	252,700
Additional information	
Cash dividends	70,000

b. Use the fixed and variable cost data to develop pro-forma statement of comprehensive income for the year ended 31 December 2011

Metroline Manufacturing Statement of comprehensive income for the year ended 31 December 2011	
Revenue ï stated in question	1,500,000
Cost of sales = 210,000+(1,500,000 x 50%)	(960,000)
Gross profit	540,000
Operating expenses = 36,000+ 1,500,000 x 6%	(126,000)
Operating profit	414,000
Finance cost ï remains unchanged as stated	(35,000)
Net profit before tax	379,000
Income tax % (rate = 30%)	(113,700)
Profit for the year	265,300
Additional information	
Cash dividends	70,000

c. Compare and contrast the statements developed in a and b. Which statement most likely provides the better estimate of 2011 income? Why?

The percent of sales method may under-estimate actual 2011 pro-forma income assuming that all costs are variable. If the firm has fixed costs, which by definition would not increase as sales increase, the 2011 pro-forma income would probably be under-estimated.

Pro-forma statement of financial position

Peabody & Peabody has 2010 sales of R10million. It wishes to analyse expected performance and financing needs for 2012- two years ahead. Given the following information, respond to parts a and b.

1) The percent of sales for items may vary directly with sales are as follows:
   - Trade receivables, 12%
   - Inventory, 18%
   - Trade and other payables, 14%
   - Net profit margin, 3%
2) Marketable securities and other current liabilities are expected to remain unchanged.
3) A minimum of cash balance of R480,000 is desired
4) A new machine costing R650,000 will be acquired in 2011 and equipment costing R850,000 will be purchased in 2012. Total depreciation in 2011 is forecast at R290,000 and in 2012 R390,000 of depreciation will be taken.
5) Accruals are expected to rise to R500,000 by the end of 2012.
6) No sale or retirement of long-term debt is expected
7) No sale or repurchase of ordinary shares is expected.
8) The dividend payout of 50% of net profit is expected to continue.
9) Sales are expected to be R11 million in 2011 and R12 million in 2012.
10) The 31 December 2010 as below

Peabody & Peabody Statement of financial position as at 31 December 2010 (R000)	
ASSETS	
Non-current assets	4, 000
Current assets	
Inventories	1,800
Trade receivables	1,200
Cash and cash equivalents	600
Total current assets	3,600
Total assets	7,600
EQUITY AND LIABILITIES	
Share capital	3,720
Non-current liabilities	2,000
Current liabilities	
Trade and other payables	1,800
Other current liabilities	80
Total current liabilities	1,880
Total liabilities	3,880
Total equity and liabilities	7,600

a) Prepare the statement of financial position dated 31 December 2012
Solution:

Peabody & Peabody Statement of financial position as at 31 December 2010 (R000)	
ASSETS	
Non-current assets Note:1.	4,820
Current assets	
Inventories (12,000 x 18%)	2,160
Trade receivables (12,000 x 12%)	1,440
Cash and cash equivalents ï minimum of R480 desired	480
Total current assets	**4,080**
Total assets	**8,900**
EQUITY AND LIABILITIES	
Share capital Note 2	4,065
Non-current liabilities ï balancing figure (external finance required)	2,575
Current liabilities	
Trade and other payables (12,000 x 14%)	1,680
Other current liabilities (80+500)	580
Total current liabilities	**2,260**
Total liabilities	**4,260**
Total equity and liabilities	**8,900**

1. Opening balance 2011 R4000
   Plus: Addition of new machine R650
   Minus: Depreciation (R290)
   Closing balance 2011 R4360
   Plus: Addition of new machine R850
   Minus: Depreciation (R390)
   Closing balance 2011 R4820

2. Opening share capital 2011 R3720
   Profit for 2011 (11000x3%) R330
   Less dividend payout (50%) (R165)
   Closing balance 2011 R3885
   Profit for 2012 (12000x3%) R360
   Less dividend payout (50%) (R180)
   Closing balance 2012 R4065

WORKING CAPITAL AND SHORT TERM FINANCING

Net Working Capital Fundamentals:

- Balance sheet = structure of a firmôs investment against the structure of their financial sources
- Net Working Capital (NWC):
  - Current assets ï current liabilities
  - i.e. portion of CA financed with LT funds

The trade off between profitability and risk:

- Profitability = relationship between revenues and costs generated by the use of assets in activities
- Risk = probability that a firm will be unable to pay its financial obligations as they become due
- **The greater the NWC, the lower the risk**

Changes in Current Assets:

- Look at current assets / total assets

Ratio	Change in ratio	Effect on profits	Effect on risk
CA/TA	↑	↓	↓
	↓	↑	↑
CL/TA	↑	↑	↑
	↓	↓	↓

WORKING CAPITAL STRATEGIES

The firm's financing need:

- Permanent need: consists of fixed assets + the portion of permanent current assets
- Seasonal need: consists of the temporary portion of current assets

Calculating the firmôs seasonal funding requirements

Month	Current Assets	Fixed Assets	Total Assets	Permanent funds	Seasonal funds
Jan	4 000	13 000	17 000	13 800	3 200
Feb	3 000	13 000	16 000	13 800	2 200
Mar	2 000	13 000	15 000	13 800	1 200
Apr	1 000	13 000	14 000	13 800	200
May	800	13 000	13 800	13 800	0
Jun	1 500	13 000	14 500	13 800	700
Jul	3 000	13 000	16 000	13 800	2 200
Aug	3 700	13 000	16 700	13 800	2 900
Sep	4 000	13 000	17 000	13 800	3 200
Oct	5 000	13 000	18 000	13 800	4 200
Nov	3 000	13 000	16 000	13 800	2 200
Dec	2 000	13 000	15 000	13 800	1 200

Monthly average				13 800	1 950

Aggressive Financing Strategy:

- Firm will finance as least itõs seasonal requirements and possibly some of itõs permanent requirements with ST funds
- Seasonal requirements with short-term debt (short-term funds are less expensive)
- The balance will be financed with LT funds
- A conservative strategy the firm funds both its seasonal and permanent with long-term funds/debt
- **Cost:**
  - From the above example, assume that the cost of ST funds is 3% and LT funds is 11%
  - The total cost will therefore be:
  - Cost of ST financing: 3% x 1950 = 58.50
  - Cost of LT financing: 11% x 13 800 = 1518.00
  - Total cost (58.50 +1518.00) = 1576.50

Conservative Financing Strategy:

- Firm will finance all projected fund requirements with LT funds and uses ST financing only for emergencies or unexpected outflows
- **Cost:**
- If the average LT financing balance is R18 000 and the cost is 11%
- 11% x 18 000 = R1980.00

Aggressive vs Conservative Strategy:

- Conservative strategy requires the firm to pay interest on unneeded funds, costs more as interest rates are locked in
- The lower cost of the aggressive strategy therefore makes it more profitable then the conservative strategy
- The aggressive strategy does however involve more risk (company unable to pay short-term obligations when required)

How do companies manage cash conversion cycle?

- Company can set a target cash conversion cycle and then monitor actual against target
- A positive cash conversion cycle = company must get negotiated liabilities (eg bank laons) to fund operating assets THIS COSTS MONEY
- Therefore reduce cash conversion cycle
- Inventory ï turn over as quickly as possible without running out
- Collect trade receivables without losing sales from added pressure on customer
- Manage collections
- Pay payables as late as possible

ACCOUNTS RECEIVABLE AND INVENTORY

The following section contains:

	ACCOUNTS RECEIVABLE AND INVENTORY
	Topic Objectives
	Credit selection
	Credit standards
	Changes in credit terms
	Collection policy
	The relationship between accounts receivable and inventory
	Inventory management techniques

TOPIC OBJECTIVES

On completion of this topic you should be able to:

1. explain and apply credit selection
2. use the key variables to evaluate quantitatively the effects of relaxing or tightening a firmôs credit standard
3. review the effects of changes in each of the three components of credit terms on key financial variables and profits, and the procedure for quantitatively evaluating cash discount changes
4. describe the key features of collection policy
5. describe the relationship between inventory and accounts receivable
6. describe and apply the techniques for managing inventory, including the ABC system, the economic order quantity model, the reorder point, the materials requirement planning system and just in time system

1. TRADE RECEIVABLES MANAGEMENT

- Average collection period
- Time from sale on credit until payment
- Two parts:
  - Managing the amount of credit available and setting a standard
  - Collecting and processing payments
- Overall objective: collect credit as quickly as possible without losing sales from additional pressure

2. CREDIT SELECTION AND STANDARDS

CREDIT POLICY
The determination of credit selection, credit standards and credit terms (evaluating a clientôs creditworthiness and comparing to standards). A standard is the firmôs minimum requirements for extending credit to a customer

CREDIT SELECTION
The decision whether to extend credit to a customer and how much credit to extend

THE FIVE C'S OF CREDIT

CHARACTER
The applicants record of meeting past obligations

CAPACITY
The applicants ability to repay the requested credit

CAPITAL
The financial strength of the applicant as reflected by its ownership position

COLLATERAL
The amount of assets the applicant has available for use in securing credit

CONDITIONS
The current economic and business climate as well as any unique circumstances affecting either party to the credit transaction.

OBTAINING CREDIT INFORMATION

Financial statements
Credit bureauôs
Bank checks

3. CREDIT STANDARDS

Relaxing credit standards increases risk (bad debts) but may also increase returns and the increase in revenue may exceed the costs associated with the risks

KEY VARIABLES
The key variables to be considered when evaluating changes in credit standards are:

1. Sales Volume
2. Investment in accounts receivable
3. Bad debt expense

The basic changes and effects on profits expected to result from the relaxation of credit standards are summarised as follows

Sales volume

Investment in accounts receivable

Bad debt expense

EXAMPLE

Dodd Tool, a manufacturer of tools, is currently selling a product for R10 per unit.
Sales (all on credit) for last year were 60000 units
The variable cost per unit is R6
The firm total fixed costs are R120000
The firm is currently contemplating a relaxation of credit standards that is expected to result in a 5% increase in unit sales, to 63000 units, an increase in the average collection period from its current level of 30 days to 45 days, and an increase in bad debt expenses from the current level of 1% to 2%. The firmôs required return on equal risk investments, which is the firmôs opportunity cost of tying up funds in accounts receivable, is 15%

To determine whether to implement the proposed relaxation of credit standards, Dodd Tool must calculate the effect on the firmôs additional profit contribution from sales, the cost of the marginal investment in accounts receivable, and the cost of marginal bad debts

ADDITIONAL PROFIT CONTRIBUTION FROM SALES

Fixed costs are sunk and therefore form no part of the analysis.
What is relevant is the variable cost per unit and the addition to profit from sales will be the increase in sales volume multiplied by the marginal income per sales unit (defined as the selling price per unit minus the variable cost per unit)

Thus

3000 units x R4 (10 ï 6) = R12 000

COST OF MARGINAL INVESTMENT IN ACCOUNTS RECEIVABLE

The cost of the marginal investment in accounts receivable can be calculated by finding the difference between the cost of carrying receivables before and after the introduction of the relaxed credit standard. ï NB ONLY VARIABLE COSTS ARE RELEVANT

The average investment in accounts receivable can be calculated by using the following formula:

$$\text{Average investment in accounts receivable} = \frac{\text{total variable cost of annual sales}}{\text{turnover of accounts receivable}}$$

WHERE:

$$Turnover\ of\ accounts\ reveivable = \frac{360}{average\ collection\ period(ACP)}$$

The total variable cost of annual sales under the proposed and present plans can be found as follows:

TOTAL VARIABLE COST OF ANNUAL SALES

Under proposed plan (6 x 63000) = 378000
Under present plan (6 x 60000) = 360000

Implementation of the proposed plan will cause the total variable cost of annual sales to increase from 360000 to 378000

TURNOVER OF ACCOUNTS RECEIVABLE

Under proposed plan (360/45) = 8
Under present plan (360/30) = 12

AVERAGE INVESTMENT IN ACCOUNTS RECEIVABLE

Under proposed plan (378000/8) =47250
Under present plan (360000/12) = 30000

The marginal investment in accounts receivable as well as its cost are calculated as follows:

COST OF MARGINAL INVESTMENT IN ACCOUNTS RECEIVABLE:

Average investment under proposed plan	= 47250
- Average investment under present plan	= 30000
Marginal investment in accounts receivable	17250
X Required return on investment	.15
Cost of marginal investment in AR	2588

COST OF MARGINAL BAD DEBT

Under the proposed plan (.02 x 10 x 63000)	=	12600
Under the present plan (.01 x 10 x 60000)	=	6000
Cost of marginal bad debts		6600

THE EFFECTS ON DODD TOOL OF A RELAXATION OF CREDIT STANDARDS

Additional profit contribution from sales		
(3000 units x (10 - 6)		12,000
Cost of investment in AR		
Average investment under proposed plan		
(6 x 63000 / 8) = 378000/8	47,250	
Average investment under present plan		
(6 x 60000 / 12) = 360000/12	30,000	
Marginal investment in AR	17,250	
Cost of marginal investment in AR (0.15 x 17250)		(2,588)
Cost of marginal bad debts		
Bad debt under proposed plan (0.02 x 10 x 63000)	12,600	
Bad debt under present plan (0.01 x 10 x 60000)	6,000	
Cost of marginal bad debts		(6,600)
Net profit from implementation of proposed plan		2,812

NB- TO DECIDE WHETHER TO CHANGE/RELAX CREDIT TERMS THE FIRM MUST COMPARE ADDITIONAL PROFIT FROM SALES TO THE ADDED COST OF MARGINAL INVESTMENT IN TRADE RECEIVABLES AND MARGINAL BAD DEBTS.

Managing international credit – read page 583 of textbook

11.3 CHANGING CREDIT TERMS

CASH DISCOUNT

- Is the percentage deductions from the purchase price
- Example 2/10 net 30 means the customer can take 2% discount if payment is made within 10 days or can pay the full amount in 30 days without a discount

EFFECTS OF INCREASE IN CASH DISCOUNT

VARIABLE	DIRECTION OF CHANGE	EFFECT ON PROFITS
Sales volume	Increase	Positive
Investment in accounts receivable due to non discount takers paying earlier	Decrease	Positive
Investment in accounts receivable due to new customers	Increase	Negative
Bad debt expenses	Decrease	Positive
Profit per unit	Decrease	Negative

EXAMPLE

Assume that Dodd Tools is considering initiating a cash discount of 2% for payment within 10 Days after purchase. The firmôs current average collection period is 30 days (turnover of accounts receivable = 360/30 = 12), credit sales of 60000 are made at R10 per unit, and the variable cost per unit is R6. The firm expects that if the cash discount is initiated, 60% of its sales will be on discount, and sales will increase by 5% to 63000 units. The average collection period is to drop to 15 days (turnover of accounts receivable = 360/15 = 24). Bad debts are expected to drop from the current level of 1% to 0.5% of sales. The firmôs required return on equal risk investments remains at 15%

THE EFFECTS ON DODD TOOL OF INITIATING A CASH DISCOUNT

Additional profit contribution from sales		
(3000 units x (10 - 6)		12,000
Cost of investment in AR		
Average investment under proposed plan		
(6 x 63000 / 24) = 378000/24	15,750	
Average investment under present plan		
(6 x 60000 / 12) = 360000/12	30,000	
Marginal investment in AR	(14,250)	
Cost of marginal investment in AR (0.15 x 14250)		2,138
Cost of marginal bad debts		
Bad debt under proposed plan (0.005 x 10 x 63000)	3,150	
Bad debt under present plan (0.01 x 10 x 60000)	6,000	
Cost of marginal bad debts		2,850
Cost of cash discount (0.02 x 0.60 x 10 x 63000)		(7,560)
Net profit from implementation of proposed plan		9,428

CASH DISCOUNT PERIOD

The net effect of changes in the cash discount period is difficult to analyse because of the nature of the forces involved. If the cash discount period were increased, the changes noted in the table below could be expected and visa versa.

EFFECTS OF INCREASE IN CASH DISCOUNT PERIOD

VARIABLE	DIRECTION OF CHANGE	EFFECT ON PROFITS
Sales volume	Increase	Positive
Investment in accounts receivable due to non discount takers paying earlier	Decrease	Positive
Investment in accounts receivable due to discount takers still getting cash discount but paying later	Increase	Negative
Investment in accounts receivable due to new customers	Increase	Negative
Bad debt expenses	Decrease	Positive
Profit per unit	Decrease	Negative

CREDIT PERIOD

Changes in the credit period also affect the firmôs profitability. The following effects on profits can be expected in an increase in the length of the credit period.

EFFECTS OF INCREASE IN LENGTH OF CREDIT PERIOD

VARIABLE	DIRECTION OF CHANGE	EFFECT ON PROFITS
Sales volume	Increase	Positive
Investment in accounts receivable	Increase	Negative
Bad debt expenses	Increase	Negative

MONITORING OF CREDIT

COLLECTION POLICY

The procedures for collecting a firmõs accounts receivable when they are due. Slow payments lengthen cash conversion cycle ï think average collection period. Two methods of monitoring credit:

1. **Average collection period** which can indicate general problems within trade receivables

2. **Ageing Accounts Receivable**

A technique used to evaluate credit or collection policies by indicating the proportion of the accounts receivable balance that has been outstanding for a specified time

Age of account	Balance outstanding	Percentage of balance outstanding
0-30 days	1000 000	
31-60 days	500 000	
+61 days	300 000	
Total balance end of period	**1800 000**	100%

EFFECTS OF CHANGES IN COLLECTION EFFORTS

The changes and effects on profits that are expected to result from an increase in collection efforts are as follows:

EFFECTS OF INCREASE IN COLLECTION EFFORTS

VARIABLE	DIRECTION OF CHANGE	EFFECT ON PROFITS
Sales volume	None / decrease	None / negative
Investment in accounts receivable	Decrease	Positive
Bad debt expenses	Decrease	Positive
Collection expenditure	Increase	Negative

CASH MANAGEMENT TECHNIQUES: READ

Float:

- Funds that have been dispatched by a payer but not yet in a form that can be spent by the payee
- Types:

- **Collection float:** results from the delay between the time when the payer deducts a payment from his ledger and the time the payee actually receives the funds in a spendable form
- **Disbursement float:** results from the lapse in time between the time when the firm deducts the payment from his ledger and the time when it is actually withdrawn from the account
- Components:
  - **Mail Float:** delay in time when the payer places the payment in the mail and the time when it is received by the payee
  - **Processing Float:** delay in time between the receipt of a cheque by the payee and the deposit into the account
  - **Clearing Float:** delay between the deposit of the cheque by the payee and the actual availability of those funds

Speeding up collections:

- Firms want to stimulate customers to pay as quickly as possible and be able to convert payment into spendable form as quickly as possible
- Can use:
  - **Concentration Banking:** firms with numerous sales outlets often designate certain offices as collection centers for given geographic areas. This is used to reduce collection float by shortening the mail and clearing components
  - **Lockboxes:** the payer sends payment to a post office box that is emptied by the firmôs bank several times daily. This reduced collection float
  - **Direct Sends:** firm can arrange to present cheques directly for payment to the bank on which they were drawn. This reduces clearing float and applies to firms that receive large cheques drawn on distant banks
  - **Other Techniques:**
    - Preauthorised cheque (PAC)
    - Depository transfer cheque (DTC)
    - ACH debits (automated clearing house)

Slowing down disbursements:

- Firms want to pay accounts as late as possible and to slow down the availability of funds to suppliers and employees once the payment has been dispatched
- Maximise disbursement float
- Can use:
  - **Controlled disbursing:** involves the strategic use of mailing points and bank accounts to lengthen mail float and clearing float respectively.
  - **Playing the float:** anticipating the resulting float associated with the payment process. Can play the float by writing cheques against funds that are not currently in their bank accounts.
  - **Overdraft systems:** if the firmôs checking account balance is insufficient to cover all the cheques presented against the account, the bank will automatically lend the firm enough money to cover the amount of the overdraft

- **Zero balance accounts:** accounts where a zero balance is maintained. Each day, the bank will notify the firm of the total amount of cheques presented against the account. The firm then transfers only that amount.
- **ACH credits:** automated clearing house credits: used for making direct deposits of payroll into the payeesô accounts

11.5 THE RELATIONSHIP BETWEEN ACCOUNTS RECEIVABLE AND INVENTORY

Because the sale of a manufactured item causes it to move from inventory to accounts receivable, the two are closely related. Lengthening credit terms would tend to move goods from inventory to accounts receivable. Since carrying cost for inventory are generally higher than for accounts receivable, the effects on profits may be positive.

11.6 INVENTORY MANAGEMENT TECHNIQUES

THE BASIC ECONOMIC ORDER QUANTITY MODEL (EOQ)

Inventory management technique for determining an itemôs optimal order quantity, which is the one that minimises the total of its order and carrying costs.

Differing views exists in organisation
Financial manager = Low as possible
Marketing, Manufacturing and purchasing manager = high as possible

BASIC COSTS

ORDER COSTS
The fixed clerical costs of placing and receiving an inventory order, costs of writing purchase order, processing and receiving costs. Dercrease as the size of order increases
Metric:RANDS PER ORDER

CARRYING COSTS
The variable costs per unit of holding an item in inventory for a specified time period. Include storage, insurance, obsolescence and opportunity costs of having funds invested in inventory. Costs increases as order increases.
Metric: RANDS PER UNIT PER PERIOD

TOTAL COSTS (OF INVENTORY)
The total cost of inventory is defined as the sum of the order cost and carrying cost. Total cost is important in the EOQ model because the modelôs objective is to determine the order quantity that minimises it.

A MATHEMATICAL APPROACH

The EOQ is calculated as follows:

$$EOQ = \sqrt{\frac{2 \times S \times O}{C}}$$

WHERE:

S = usage in units per period
O = order cost per unit
C = carrying cost per unit
EOQ = order quantity in units

Step 1: Obtain cost functions
1.1 **Order costs**
The **total order cost** can be expressed as the product of the cost per order and the number of orders. Because the number of orders equals the usage during the period divided by the order quantity the order cost can be expressed as

$$\text{Total order cost} = O \times \frac{S}{EOQ}$$

1.**2 Carrying costs**
The **carrying cost** is defined as the cost of carrying a unit per period multiplied by the firm's average inventory. The average inventory is defined as the order quantity divided by 2, because inventory is assumed to be depleted at a constant rate.
The total carrying cost can be defined as:

$$\text{Total carrying cost} = C \times \frac{Q}{2}$$

Total cost is defined as total order cost + total carrying cost

Thus

$$\text{Total cost} = \left(O \times \frac{S}{Q}\right) + \left(C \times \frac{Q}{2}\right)$$

THE REORDER POINT

Once the firm has calculated the its economic order quantity, it must determine when to place its orders
Assuming a constant usage rate for inventory the reorder point can be determined as follows:

Reorder point = lead time in days x daily usage

Example:
It takes three days to place and receive an order and 15 units a day is used in manufacture then re reorder point in 3 x 15p/day =45units.
Some firms enjoy to keep safety stock = ADD safety stock to reorder point

ABC costing system – NB read page 575 in textbook
Just-in-time system – NB read page 578 of textbook
Computerised systems for resource control – NB read page 578 of textbook

KEY DEFINITIONS AND CONCEPTS

CREDIT POLICY
CREDIT SELECTION
FIVE C'S OF CREDIT
CREDIT ANALYSIS
CREDIT TERMS
COLLECTION POLICY
AGE ANALYSIS
ECONOMIC ORDER QUANTITY
ORDER COST
CARRYING COST
TOTAL ORDER COST
TOTAL CARRYING COST
TOTAL COST (OF INVENTORY)
MATERIALS REQUIREMENT PLANNING
JUST IN TIME

QUESTIONS

1. As credit standards are relaxed, sales are expected to é . and the investment in accounts receivable is expected to é
   1. increase; increase
   2. increase; decrease
   3. decrease; decrease
   4. decrease; increase

2. The major variables that should be considered when evaluating proposed changes in standards are all of the following except.
   1. sales volume
   2. the investment in accounts receivable
   3. bad debt expense
   4. level of liquid assets

3. If the firmôs cash discount period is decreased or cancelled, the sales volume can be expected to é , the bad debt expenses can be expected to é , and the profit cab be expected to ..
   1. increase, decrease, decrease
   2. increase, increase, decrease
   3. decrease, increase, increase
   4. decrease, decrease, increase

4. Sharon uses 35 baskets each day to pick apples for shipping. It takes 5 days to Receive a shipment of baskets after an order is placed and she would like a safety stock of 3 days in inventory. At what level of inventory should Sharon lace an order for baskets?
   1. 280
   2. 314
   3. 450
   4. 500

5. Calculate the economic order quantity given the following
   3600 units annually
   order cost is R100 per order
   carrying cost is R2 per unit per year.
   1. 360
   2. 600
   3. 849
   4. 1000

SPONTANEOUS SOURCES OF FINANCE

- Arise from normal operations of the business
- Two major sources: Accounts Payable and Accruals

Accruals:

- Liabilities for services rendered for which payment has yet to be made
- Taxes and wages

Accounts Payable:

- Major source of unsecured ST financing
- Look at from the purchasers point of view

Credit Terms:

- Credit period
- Size of discount
- Cash discount period
- Date on which the credit period begins
- 2/10 net 30 EOM
    - Length on credit period = 30 days
    - Cash discount = 2%
    - Cash discount period = 10 days
    - Date the credit period begins = EOM (end of month)
- This means: 2% discount if paid within 10 days from the end of the month but must be paid within 30 days of the end of the month

Credit Period:

- Number of days until full payment is required

Cash Discount:

- % deduction from the purchase price if the buyer pays within a specified time

Cash Discount Period:

- Number of days after the beginning of the credit period during which the discount is available

Analyzing Credit Terms:

Taking the cash discount:

- Should pay on the last day of the discount period
- No cost associated with taking the discount

Giving up the cash discount:

- Should pay on the last day of the credit period
- Cost of giving up the discount = implied rate of interest paid to delay payment of an account payable for an additional number of days
- $$\textbf{Cost} = \frac{\textbf{CD}}{\textbf{100 \% - CD}} \times \frac{\textbf{360}}{\textbf{N}}$$
- CD = stated cash discount in %
- N = number of days payment can be delayed by

- Approximate cost of giving up the discount:

= CD x 360/N

Example:
XYZ has a payment of R1 000 due at the end of February. The credit terms are 2/10 net 30 EOM
If XYZ gives up the cash discount, will pay at the end of March. The cost of giving up the discount is:
2/(100 ï 2) x 360/2 = 36,73%

Using the cost of giving up a cash discount in decision making:

Cash discounts and associated costs		
Supplier	**Credit terms**	**Cost of giving up the discount**
A	3/10 net 30 EOM	55.68%
B	1/10 net 55 EOM	8.01%
C	4/25 net 75 EOM	30%
D	5/10 net 60 EOM	37.9%

If the cost of ST financing from the bank is 13%, which of the above would be taken, which not and why?

Supplier	**Action**	**Why**
A	Do not give up discount	Borrowing from bank cheaper than giving up cash discount
B	Give up	Giving up cash discount cheaper than borrowing from bank
C	Do not give up discount	Borrowing from bank cheaper than giving up cash discount
D	Do not give up discount	Borrowing from bank cheaper than giving up cash discount

UNSECURED SOURCES OF FINANCE

- Obtained without pledging specific assets as collateral

Bank Loans:

- ST self-liquidating loan:
- The use to which the borrowed money is put provides the mechanism through which the loan is repaid
- Single payment notes:
- ST, one-time loan payable as a single amount at its maturity
- Revolving credit agreements:
- Line of credit guaranteed to a borrower by a bank for a stated period regardless of the scarcity of money
- Line of credit:
- Agreement specifying the amount of unsecured ST borrowing that the bank will make available to a firm for a given period of time
- Not guaranteed
- Commercial Paper:

- Form of financing consisting of ST, unsecured promissory noted issued by firms with high credit standing

Loan Interest Rates:

- Fixed/floating rates based on the prime rate of interest
- Prime = lowest interest rate charged by banks
- Methods of computing interest:
  - Nominal interest = stated interest
  - Once the nominal had been established, the method of computing interest is determined
  - Interest can either be paid when a loan matures or in advance
  - If paid at maturity:

$$\textbf{Effective rate} = \frac{\textbf{Interest}}{\textbf{Amount borrowed}}$$

  - When interest is paid in advance, it is deducted from the loan so that the borrower actually receives less money than requested

SECURED SOURCES OF FINANCE:

- Used when a company has exhausted its unsecured sources
- Specific asset is pledged as collateral
- Lenders recognize that holding collateral can reduce losses if the borrower defaults, but the presence of collateral has no impact on the risk of default
- A lender wants collateral to ensure recovery of some portion of the loan in the event of default

Pledging of accounts receivable:

- Used to secure ST loans
- Attractive because of liquidity

Factoring of Accounts receivable:

- Outright sale at a discount to the financial institution
- Factor = institution that specialises in purchasing accounts receivables from businesses
- The agreement states the exact conditions and procedures for the purchase of the accounts
- The factor chooses which accounts to purchase

Inventory as collateral

- Second to account receivable
- The market value as compared to the book value is used to establish the value as collateral
- Marketability is also an important consideration

Example:

Your firm has an average collection period of 48 days. Annual sales are R2 million. Current practice is to factor all receivables immediately. Your agreement with the factor

house allows for a 75% draw down on all invoices. The service fee is 1% and interest charged is 20%. What is the effective cost of borrowing in this case?

Average amount outstanding:
48 / 2 000 000 = 266 667
75% of 266 667 = 200 000
20% of 200 000 = 40 000

finance charge = 40 000
service charge = 20 000 (1% of 2 000 000)
total cost = 60 000

Example 2:
Your firm sells 90% of its production on credit terms of 60 days and the balance for cash, total sales are R12 000 000. The days receivable are 88 days. The factor associated with your banker has offered to advance you 75% of your invoices at an interest cost of prime plus 3%. Prime is currently 17% and your monthly sales are R1 million. You estimated that the annual cost of your receivables admin is R32 000 in salaries and R10 000 in other costs. Bad debts currently run at 2% of sales and you believe that this could be halved if the factor takes control of the receivables admin. The full services cost of factoring is quoted at 2% of sales. You can obtain a R2 million bank loan at prime plus 5%

a. What will you do? (factor or lend)
b. If your suppliers offer you a 2,5% discount for settlement in 30 days (you currently pay 60 days an average purchases of R5 million per year), would you factor or lend?

a.

Credit sales (90% of 12 000 000)	10 800 000
Amount outstanding (88/365 x 10 800 000)	2 603 836
Finance charge (20% of 75% of 2 603 836)	390 575
Service fee (2% of 10 800 000)	216 000
	606 575
Less savings:	
AR admin costs (32 000 + 10 000)	(42 000)
Bad debts saved (1% of 10 800 000)	(108 000)
	456 575
Cost of factoring (456 575 / 75% of 2 603 836)	22,87%
Therefore cheaper to take out the loan at 20%	

b.

Savings on purchases (2.5% of 5 000 000)	125 000
New cost of factoring (456 575 ï 125 000)/1 952 877	16,98%
Therefore cheaper to factor than to lend	

Questions

1. Net working capital is defined as
    1. a ratio measure of liquidity best used in cross sectional analysis
    2. the portion of the firms assets financed with short term funds
    3. current liabilities minus current assets
    4. current assets minus current liabilities

2. In general, the more working capital a firm has..
    1. the greater its risk
    2. the lower its risk
    3. the less likely creditors are to lend to the firm
    4. the lower its level of long term funds

3. 3/10 net 45 EOM translates as..
    1. a 10% discount may be taken if settled within 3 days; if no cash discount is taken, the balance is due in 45 days.
    2. a 10% discount may be taken if settled within 3 days; if no cash discount is taken, the balance is due in 45 days after the transaction has been completed
    3. a 3% discount may be taken if paid in 10 days; if no cash discount is taken, the balance is due 45 days after the end of month
    4. a 3% discount may be taken on 10% of the purchase if the account is paid within 45 days after the end of the month

4. A firm has a line of credit and borrows R25 000 at 9% interest for 180 days or half year. What is the effective interest on this loan if the interest is paid in advance?
    1. 4.7%
    2. 9.4%
    3. 9.9%
    4. 10.3%

5. A firm has arranged a 120 day bank loan at an annual rate of interest of 10%. If the loan is for R100 000, how much interest in Rands will the firm pay?Use 360 days
    1. R10 000
    2. R30 000
    3. R3 333
    4. R1 000

QUESTIONS

1. The least common motive for a firm to hold cash and marketable securities is
    1. the transaction motive
    2. the speculative motive
    3. the safety motive
    4. the liquidity motive

2. The basic strategies that should br employed by the business firm in managing cash include all of the following except.

1. paying accounts payable as late as possible without damaging the firms credit rating
2. turning over inventory as quickly as possible, avoiding stock-outs
3. operating in a fashion that requires maximum cash
4. collecting accounts receivable as quickly as possible without damaging customer rapport

3. A firm has an operating cycle of 120 days, and average collection period of 40 days and an average payment period of 30 days. Th firms average age of inventory is.
   1. 80 days
   2. 50 days
   3. 90 days
   4. 70 days

Question 1- Supplier discount

New Horizon Manufacturing has four possible suppliers, all of whom offer different credit terms. Except for the differences in credit terms, their products and services are virtually identical. The credit terms offered by these suppliers are shown in the following table

(i) Use 360 days a year
(ii) Round off all amounts to the nearest rand

Supplier	Credit Terms
A	1/10 net 30 EOM
B	2/20 net 80 EOM
C	1/20 net 60 EOM
D	3/10 net 55 EOM

1.1 Calculate the approximate cost of giving up the cash discount from each supplier
1.2 If the firm needs short term funds, which are currently available from its bank at 16%, and if each of the suppliers is viewed separately, which if any of the suppliers cash discounts should the firm give up?
1.3 What impact, if any, would the fact that the firm could stretch its accounts payable (net period only) by 30 days from supplier D have on your answer in part 1.2 relative to this supplier?

Question 1.1

$$Approximate\ \cos t = CD\,x\,\frac{360}{N}$$

Supplier J

$$Approximate\ \cos t = CD\,x\,\frac{360}{N} = 1x\,\frac{360}{20} = 18\%$$

Supplier K

$$Approximate\ \cos t = CD\,x\,\frac{360}{N} = 2\,x\,\frac{360}{60} = 12\%$$

Supplier L

$$Approximate\ \cos t = CD\,x\,\frac{360}{N} = 1x\,\frac{360}{40} = 9\%$$

Supplier M

$$Approximate\ \cos t = CD\,x\,\frac{360}{N} = 3\,x\,\frac{360}{45} = 24\%$$

Question 1.2

Supplier	Action	Reason
J	Not Taken	Bank cheaper than cost
K	Taken	Bank more expensive
L	Taken	Bank more expensive
M	Not Taken	Bank cheaper than cost

Question 1.3

$$Approximate\ \cos t = CD\,x\frac{360}{N} = 3\,x\frac{360}{75} = 14.4\%$$

Will now take the discount because it is cheaper than bank financing

Question 2

Miriam Tucker, a financial analyst for Tshwane Manufacturers, has prepared the following sales and cash disbursement estimates for the period August to December of the current year

Month	Sales	Cash Disbursements
August	R400	R300
September	R500	R500
October	R500	R700
November	R600	R400
December	R700	R500

90% of sales are cash, while the remaining 10% are collected one month later. All disbursements are on a cash basis. The firm wishes to maintain a minimum cash balance of R50. The beginning cash balance in September is R25. Prepare a cash budget for the month of September, noting any required financing or excess cash available.

Question 2

	September
August debtor receipts	40
September cash sales	450
Total Cash Receipts	**490**
Less disbursements	-500
Cash Deficit	**-10**
Balance B/F	25
Balance C/F	15
Cash Required	**50**
Funding requirement	**35**

Calculations
August receipts = 400 x 10% = 40
Sept Cash receipts = 500 x 90% = 450

Question 3

Ezweni Manufacturers currently has credit sales R180 million per year and an average collection period 60 days. Assume that the price of Ezweni products clothing is R30 per unit and that the variable costs are R27.50 per unit. The firm is considering an accounts receivable change that will result in a 20% increase in sales and a 20% increase in the average collection period. No change in bad debts is expected. The firm's equal risk opportunity cost on its investment on accounts receivable is 14%

1) **Calculate the additional profit contribution from new sales that the firm will realise if it makes the proposed change**
2) **What marginal investment in accounts receivable will result?**
3) **Calculate the cost of the marginal investment in accounts receivable**
4) **Should the firm implement the proposed change? What other information would be helpful in your analysis?**

Answer

1) **Calculate the additional profit contribution from new sales that the firm will realise if it makes the proposed change**

Number of units being sold currently

180 000 000 / 30 = 6 000 000 units

Number of units to be sold under proposed plan

6 000 000 x 1.2 (i.e. 20% increase) = 7 200 000

Therefore an increase in unit sales of 1 200 000

Increase in profit = 1 200 000 x (30 ï 27.50) = R3 000 000

2) **What marginal investment in accounts receivable will result?**

Under existing Plan

6 000 000 x 27.50 / (360 / 60) = 27,500,000

Under proposed plan

7 200 000 x 27.50 / (360/72) = 39,600,000

Therefore there is an increase in AR of R12,100,000

3) **Calculate the cost of the marginal investment in accounts receivable**

12,100,000 x 0.14 = 1,694,000 increase in cost of carrying AR

4) **Should the firm implement the proposed change? What other information would be helpful in your analysis?**

Yes they should implement the change because they will be better off by R 1,306,000 [3000000 ï 1694000]
Possible other information:

- What major competitor policy is
- Probabilities of outcomes to facilitate a comprehensive risk analysis
- Etc

Question 4
ABC Holdings is considering shortening its credit period from 30 days to 20 days and believes that, as a result of this change, its average collection period will decrease from 36 days to 30 days. Bad debt expenses are also expected to decrease from 1,2% to 0,8% of sales. The firm is currently selling 300 000 units but believes that as a result of the change, sales will decline to 275 000 units. On 300 000 units, sales revenues is R4 200 000, variable costs total R 3 300 000 and fixed costs are R 300 000. The firm has a required return on similar risk investment of 15%
Use a 360 day year
Round off amounts to the nearest Rand

Question 4.1
What additional profit contribution from sales will be realized from the proposed change?

$$\text{Selling Price per unit} = \frac{4200000}{300000} = \text{R}14.00$$

$$\text{Variable Cost per unit} = \frac{3300000}{300000} = \text{R}11.00$$

Unit sales before proposed change = 300000
Unit sales after proposed change = 275000
Net decrease in sales units = 25000
Therefore decrease in marginal income = 25000 x (14-11) = (R75,000)

Question 4.2
What is the cost of marginal investment in accounts receivable?

$$Average\ investment\ under\ present\ plan = \frac{11\ x\ 300000}{\frac{360}{36}} = 330000$$

$$Average\ investment\ under\ proposed\ plan = \frac{11\ x\ 270000}{\frac{360}{30}} = 247500$$

$$Therefore\ decrease\ in\ investment\ in\ AR = 330000 - 247500 = 82500$$

$$Cost\ of\ investment = 82500\ x\ 0.15 = 12375\ (Saving)$$

Question 4.3
What is the cost of marginal Bad Debts?
Under the present plan (14 x 300000 x 0.012) = 50400
Under the proposed plan (14 x 275000 x 0.008) = 30,800
Therefore a saving of 50400 ï 30,800 = 19,600

Question 4.4
Do you recommend this change in credit terms? Justify your answer

Decrease in marginal income	= (75 000)
Savings in AR investment	= 12 375
Savings in Bad Debt	= 19 600
Net loss	(43 025)

Because the company will be worse off I would recommend that the company reject the proposed change

Question 5
ABC purchased a new machine on 20 September 2005 for R1 million on credit. The supplier has offered ABC Company 2/10 net 45. The current rate the bank is offering is 16%
Use a 360 day year
Round off all amounts to the nearest Rand

Question 5.1
Calculate the cost of giving up the cash discount (3)

$$\text{Cost of giving up discount} = \frac{\text{CD}}{100\% - \text{CD}} \text{ x } \frac{360}{\text{N}}$$

$$= \frac{0.02}{0.98} \text{ x } \frac{360}{35} = 20.99\%$$

Question 5.2
Should the firm take or give up the cash discount? Why?

The firm should take the cash discount because the cost of giving up the discount is more than the cost of borrowing from the bank

Question 5.3
What is the effective rate of interest if the firm decides to take the cash discount by borrowing money on a discount basis?

Borrow R1 million at 16% = R156800 (i.e. interest)

$$\text{Cost of borrowing} = \frac{156800}{1000000} = 15.68\%$$

Question 7
ABC Holdings is considering shortening its credit period from 30 days to 20 days and believes that, as a result of this change, its average collection period will decrease from 36 days to 30 days. Bad debt expenses are also expected to decrease from 1,2% to 0,8% of sales. The firm is currently selling 300 000 units but believes that as a result of the change, sales will decline to 270 000 units. On 300 000 units, sales revenues is R4 200 000, variable costs total R 3 300 000 and fixed costs are R 300 000. The firm has a required return on similar risk investment of 15%
Use a 360 day year
Round off amounts to the nearest Rand

Question 7.1
What additional profit contribution from sales will be realized from the proposed change?

$$\text{Selling Price per unit} = \frac{4200000}{300000} = \text{R}14.00$$

$$\text{Variable Cost per unit} = \frac{3300000}{300000} = \text{R}11.00$$

Unit sales before proposed change = 300000
Unit sales after proposed change = 270000
Net decrease in sales units = 30000
Therefore decrease in marginal income = 30000 x (14-11) = (R90 000)

Question 7.2
What is the cost of marginal investment in accounts receivable?

$$\text{Average investment under present plan} = \frac{11 \text{ x } 300000}{\frac{360}{36}} = 330000$$

$$\text{Average investment under proposed plan} = \frac{11 \text{ x } 270000}{\frac{360}{30}} = 247500$$

$$\text{Therefore decrease in accounts receivable} = 330000 - 247500 = 82500$$

$$\text{Cost of investment} = 82500 \text{ x } 0.15 = 12375 \text{ (Saving)}$$

Question 7.3
What is the cost of marginal Bad Debts?
Under the present plan (14 x 300000 x 0.012) = 50400
Under the proposed plan (14 x 270000 x 0.008) = 30240
Therefore a saving of 50400 ï 30240 = 20160

Question 7.4
Do you recommend this change in credit terms? Justify your answer
Decrease in marginal income = (90 000)
Savings in AR investment = 12 375
Savings in Bad Debt = 20160

Net loss =(57 465)

Because the company will be worse off I would recommend that the compant reject the proposed change

Question 8

Best Bid (Pty) Ltd is analysing the performance of its cash management. On average the company holds inventory for 65 days, pays its suppliers within 35 days and collects its receivables within 15 days. The company has a current annual outlay of R1 960 000 on operating cycle investments. Best Bid currently pays 10% for its negotiated financing (assume a 360 day year)

Question 8.1
Calculate the companyôs cash conversion cycle (3)
CCC = AAI + ACP ï APP
CCC = 65+15-35
CCC= 45
Question 8.2
Calculate the companyôs operating cycle (3)
OC = AAI + ACP
OC = 65+15
OC = 80
Question 8.3
Calculate the daily expenditure and the companyôs annual savings if the operating cycle is reduced by 15 days? (4)

Daily expenditure = 1960000/360 = 544.44
544.44 X 15=8166.67 SAVING