



STRATHMORE UNIVERSITY BUSINESS SCHOOL

MASTER OF SCIENCE IN DEVELOPMENT FINANCE

END OF SEMESTER EXAMINATION

MDF 8101: MICRO ENTERPRISE FINANCE

Date: Thursday, 6th December 2018

Time: 3 Hours

Instructions

1. This examination consists of **FIVE** questions.
2. Answer Question **ONE** and ANY OTHER **TWO** Questions.
3. Marks will be awarded on the basis of clear exposition of your ideas, precision in the use of language and the validity of your logic.
4. Where relevant, show all your workings on the answer sheet provided.

Question 1 (Compulsory) (40 Marks)

- a) When a business venture reaches maturity, it is advisable to seek ways of harvesting it away. A number of harvesting options have been put forth depending on the nature, type and circumstances surrounding the venture.

Required: In light of the statements above:

- (i) Define what initial public offer (IPO) is and describe the process which occurs to achieve the “IPO status”. **(5 Marks)**
 - (ii) Additional harvesting options include “acquisitions” and “managed buy-outs”. Explain the difference between the two options. **(5 Marks)**
- b) Study the case provided “**Butler Lumber Company**” provided and answer the following questions:
- (i) Ascertain why the Butler Company is so short of funds despite its record of profitable operations and in this connection, develop the distinction between profit

and cash requirements of the company. *Hint:* Use a statement showing the sources and uses of cash. **(10 Marks)**

- (ii) Using a projected statement of profit or loss and statement of financial position for the year ending 31 December 1991, evaluate Mr. Butler's estimate of his *real* loan requirements. Determine the amount of loan the company needs and when it can expect to repay the loan. **(15 Marks)**

- (iii) Explore the wisdom of proceeding with a rapidly expanding level of operations despite the heavy financial pressure such a policy would place on Mr. Butler. **(5 Marks)**

Question 2 (25 Marks)

- a) In working capital management (WCM), the determinants of WCM can be modelled as:

$$WCM_{it} = \beta_0 + \beta_1 Nature_{it} + \beta_2 Size_{it} + \beta_3 Prod.Policy_{it} + \beta_4 OpCycle_{it} + \beta_5 CreditPolicy_{it} + \varepsilon_i$$

Where: *Nature* refers to the nature of the business, *Size* is a measure of the size of the business, *Prod.Policy* refers to production policy, *OpCycle* refers to the operating cycle of the business, *CreditPolicy* refers to the credit policy of the business.

Required: Using this model, answer the following questions, operationalize each of the variables represented in the model **(6 Marks)**

- b) Forde Company is a wholesale distributor of professional equipment and supplies the company's sales have averaged \$900,000 annually for the 3-year period 2006-2008. The firm's total assets at the end of 2008 amounted to \$850,000. A report has been prepared to summarize the financial aspects of the company's operations to be presented to the Board of Directors at the next meeting.

The following ratios have been calculated:

	2016	2017	2018
Current ratio	1.80	1.89	1.96
Acid test	1.04	0.99	0.87
Accounts receivable turnover	8.75	7.71	6.42
Inventory turnover	4.91	4.32	3.42
Payables deferral turnover	3.21	3.22	4.01
Total debt to total assets	51.0%	46.0%	41.0%
Long-term debt to total assets	31.0%	27.0%	24.0%
Fixed asset turnover	1.58	1.69	1.79
Sales as a percent of 2016 sales	1.00	1.03	1.07
Gross profit margin	36.0%	35.1%	34.6%

Net income margin	6.9%	7.0%	7.2%
Return on total assets	7.7%	7.7%	7.8%
Return on stockholders' equity	13.6%	13.1%	12.7%

- (i) Calculate the cash conversion cycle (in days) for Forde Company using the information above (assume a 365-day year) **(4 Marks)**
- (ii) The following groups are able to see these ratios and will base their decision on the analysis. Refer to at least TWO relevant ratios and indicate what their decision might be.
- (a) First Citizens' Bank needs to decide on a loan application. **(5 Marks)**
- (b) The working capital management committee is reviewing the company's credit policy with regards to suppliers and customers. **(5 Marks)**
- (c) The Pacific Venture Capital Fund is evaluating the application for equity. **(5 Marks)**

Question 3 (25 Marks)

- a) When forecasting the revenue for an new or established venture:
- (i) Discuss FIVE demand considerations should be borne in mind. **(10 Marks)**
- (ii) Discuss TWO supply considerations should be borne in mind. **(4 Marks)**
- b) The following information relates to Avocado Limited, a Kenyan venture that has been exporting avocados to China for the last 6 years.

Year	2013	2014	2015	2016	2017	2018
Sales (\$ millions)	2.00	2.40	2.70	2.60	2.60	2.90
Inflation		0.03	0.06	0.07	0.04	0.02
Change in real gross domestic product (GDP)		0.03	0.02	0.01	0.01	0.02

Required: Using the information provided, forecast the sales for 2019 under the following scenarios:

- (i) Use historical nominal growth rate in sales. **(2 Marks)**
- (ii) Use historical real growth rate in sales. **(2 Marks)**
- (iii) Use weighted historical growth rate in sales. **(2 Marks)**
- (iv) Use exponential smoothing (constant $(\alpha) = 0.2$). **(2 Marks)**
- (v) Use the economic fundamentals (Assume a target GDP rate of 5.2% in 2019). **(3 Marks)**

Question 4 (25 Marks)

What are the ideal options of finance for the following types of businesses? Explain your reasoning.

- a) An information technology (IT) firm which has developed a new software package for educational purposes. The system now needs to be tested. **(2.5 Marks)**
- b) An entrepreneur plans to open a day care center in a property which is owned by her family. **(2.5 Marks)**
- c) A small construction firm has signed a number of Government contracts and needs a measure of financing to cover them until Government pays the firm for work completed. **(2.5 Marks)**
- d) A group of farmers decide to open a business together to sell their produce. **(2.5 Marks)**
- e) A group of pilots require finance so that they can increase the number of planes used in their airline business. **(2.5 Marks)**
- f) A trade union plans to open a Club. **(2.5 Marks)**
- g) An electrician plans to offer electrical plans to a variety of architects with whom she has previously worked. **(2.5 Marks)**
- h) A group of community workers plan to start a fish festival to be based at one of the fishing villages on the Kenyan coast. **(2.5 Marks)**
- i) A part time musician plans to quit his job and start a music school. **(2.5 Marks)**
- j) A scientist has devised a way to recycle cane trash into food receptacles and needs finance to implement the project. **(2.5 Marks)**

Question 5 (25 Marks)

- a) Perform a proof that the present value of an annuity, PV_A , receivable at the beginning of time (annuity due), t is derived as follows:

$$PV_{A_{\text{due}}} = A \left[\frac{1 - \frac{1}{(1+r)^n}}{r} \right] [1+r]$$

(4 Marks)

- b) A number of approaches have been advanced to value businesses.

Required: In light of this statement:

- (i) Describe THREE methods of valuing a business.

(6 Marks)

- (ii) With an initial investment of \$ 2million, a business expects net cash flows over the next five years as follows: Year 1: \$ 0.9 million; Year 2: \$ 1.5 million; Year 3: \$ 1.6 million; Year 4: \$ 1.6 million; Year 5: \$ 1.6 million. Using an opportunity cost of capital of 13.5% per annum, determine the net present value of the firm's cash flows and comment on the result. **(10 Marks)**
- (a) In their research paper, Quartey, P., Turkson, E., Abor, J. and Iddrisu, A.M. (2017). Financing the growth of SMEs in Africa: What are the constraints to SME financing within ECOWAS? *Review of Development Finance*, 7, 18-28, attempt to examine the similarities and/or differences in the determinants of SMEs access to finance across countries in Sub-Saharan Africa.
- Required:**
Briefly discuss the key findings from the study by Quartey et al. (2017) alongside the aim stated above. **(5 Marks)**