

EMBA(STUT)管理會計期末考試 (950611)

1. 簡答題 (請按順序作答, 本大題有 6 小題, 每小題 12 分至 16 分, 共 90 分)

1. 藍海策略(Blue Ocean Strategy)書中提到價值曲線(Value Curve)：
- (1). 請簡述並繪製價值曲線圖。(以你服務的公司或傳統馬戲團為例, 繪示橫軸與縱軸各代表什麼?)
 - (2). 你服務的公司或太陽馬戲團(Cirque du Soleil)如何 Eliminated, Raised, Reduced or Created, ? 請重繪新價值曲線(New Value Curve)? (本題 16 分)

2. 請簡述或繪圖說明以下幾點理由為何 (本題 16 分)

- (1) 經濟訂購量是持有成本(Carrying Cost)與訂購成本(Ordering Cost) 的 Trade off
- (2) 最適的安全存貨量是持有成本與缺貨成本(Shortage Cost) 的 Trade off
- (3) 最低的品質成本(Quality Cost)是預防、鑑定成本與失敗成本(Failure Cost) 的 Trade off
- (4) 教學醫院的臨床醫師最適的薪資制度是按件計酬與固定薪酬的 Trade off

3. 經濟部於 1999 年花費 1 億 5 千萬, 推出產業自動化及電子化推動方案, 至 2005 年陸續完成 A、B、C、D 及 E 計畫。請就供應鏈管理(Supply Chain Management)及金流計畫(C 計畫)簡述有否提升產業競爭力。(Hint: 從供應商, 中心廠及銀行三方面切入申論之) (本題 15 分)

C 計畫對於供應商, 中心廠能提供下列諸多效益, 因此, 吾人預期該金流計畫 (C 計畫) 與供應鏈管理的結合實有助於提昇產業競爭力。

C 計畫		
	對供應商的效益	對中心廠的效益
信用	只要維持供貨能力信用評等, 即可獲得 信用額度	利用應收帳款承購服務, 信用交易零風險
流動資金	使用財務管理, 加速企業流動資金的 週轉率	財務管理服務, 改善企業流動資金的管理 多曾遠距離授權安控服務, 有效控管公司財務
融資服務	線上 融資 服務, 更快速且全程取得所需資金 多行, 多樣化 商品選擇, 取得合理融資成本 在交易流程任一 階段 都能即時取得融資	由於供應商可取的 交易融資 , 供貨穩定性與能力增強, 中心廠生產可更加順暢 隨時掌控全球 各地 帳戶, 金留台灣, 運籌全球 利用 線上國際貿易 服務, 提高產銷效率
降低成本	金融商品價格 機動調整 , 可挑選最適用之融資商品 降低 成本	可與內部企業 ERP 系統整合, 降低作業成本

4. 請簡述使用 ABC (Activity-Based Costing)的條件。又, ABC 與 ABM (Activity-Based Management)有何關係? (本題 12 分)

ABC 是以作業活動為基礎的二階段分攤, 亦即將成本先分攤或直接歸屬至作業活動, 再將作業成本分攤到成本標的。此制度最大功能在正確計算產品成本, 避免傳統成本之誤導, 能提供決策者及時且有效, 精確的成本資訊, 有助於成本規劃與控制, 能幫助企業提高競爭優勢。同時可以協助管理者了解成本發生之原因, 及探討各項作業附加價值的高低。在企業管理上可運用在定價決策, 生產及產能決策, 產品管理, 顧客管理及企業策略上。

ABC 的條件: (1977 Kaplan & Cooper)

- (1) The Willie Sutton rule (張錫銘條款): Focus on areas with large and growing expenses in indirect and support resource.
- (2) The high diversity rule: Focus on a situation where there is a large variety in products, customers, and processes.

ABM 則是以 ABC 為基礎及最終消費者的觀點出發, 尋找個別的作業活動, 以達附加價值最大化及成

本最小化，注重效率及作業流程的管理。

在 Raffish & Tourney 的模式 **ABC/ABM cross** 可以說明關係，ABC 著重成本精確評估；ABM 注重流程及作業活動的管理。

		成本觀點 (ABC)	
		資源 (利用什麼)	
流程觀點 (ABM)	成本動因 (為什麼)	作業活動	績效評估 (做得多好)
		成本標的	

5. 管理大師 Michael Porter 認為企業要達到目標(Goal)可採下列 3 種策略: (a) Cost Leadership (b) Product Differentiation and (c) Market Niche,
- (1) 請繪製策略地圖(Strategic Maps)說明若採 Product Differentiation 策略的公司如何達到企業設定的目標
- (2) Product Differentiation 策略和 Blue Ocean Strategy 有何不同? (Hint: 從 Willingness to Pay (WTP) and Cost 的角度來分析) (本題 16 分)

	Product Differentiation	Blue Ocean Strategy
Author	Michael Porter	Kim and Maugorgne
Focus	市場內互相競爭	顧客觀點，創造新市場
策略	競爭導向	與競爭無關
分析工具	Porter's five forces Value chain	New value curve Six paths
降低成本	全面性強調	選擇性
差異化	市場內專注	價值化，New value curve
定價策略	客製化	策略化，目標是利潤
執行力	進一步細分市場	Eliminate, Reduce, Raise, Create
產業結構	市場沒成長，零和遊戲	顧客最大效益，產業最高獲利
R&D	很強	不一定
WTP	上升，Cost 也上升	上升，Cost 不變或減少

6. 請解釋以下名詞: (本題 15 分)

(1) Agency Theory 發揮題

委託人 (Principal, Owner 或 President) 雇用了代理人 (代理人)，以代理經營整個公司，雙方訂定一套獎勵計畫，以誘使代理人採行符合委託人最大利益的行動。鼓勵委託人與代理人間目標一致的可行方法，就是允許代理人分享來自代理人決策所獲取的利潤。但當代理的報酬存有不確定時，資訊不對稱，則利潤分享仍可能導致潛在的衝突。代理理論是由 Jensen and Meckling (1976) 發展而來，主要討論委託人和代理人雙方的利益衝突問題。也是 Incentive, Risk 及 Cost of measuring performance 的 Trade Off。

1. Incentive 報酬愈高，愈具有激勵作用
2. Risk 不確定因素會影響 Manager 的報酬
3. Cost of measuring performance 績效衡量也要付出代價的

(2) Target Costing

(3) Qualitative Factors and Quantitative Factors

(4) Cost Management

(5) Dysfunctional Behavior

(6) WACC 平均加權資金成本率 (Weighted Average Cost of Capital)

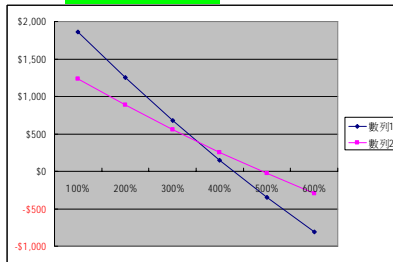
2. 觀念題 (本題 15 分)

大成公司有 A、B 兩個互斥之設備投資方案，其原始投資金額 A 方案 12,000、B 方案 6,732，使用年限均為 4 年，且 A 方案每期收益 4,000、B 方案每期收益 2,300。下表為不同折現率下兩個方案的淨現值(net present value；NPV)。

RRR	6%	8%	10%	12%	14%	16%
A 方案	\$1,860	\$1,249	\$679	\$149	\$(345)	\$(807)
B 方案	\$1,238	\$886	\$559	\$254	\$(30)	\$(296)

試根據上述資料請回答下列各小題

(1) 試繪出 X 軸為 RRR (Required Rate of Return)、Y 軸為 NPV 的圖，並計算 Fisher Rate?



Fisher rate = 11%

(2) 圖中 Fisher Rate 之意義為何？如果公司資金之加權平均成本(Weighted Average Cost of Capital; WACC)為 12%，則應選擇那一個投資方案？

在兩個互斥方案下，不同利率 RRR 對 NPV 作圖，在 NPV 相同的利率值就是 Fisher Rate。WACC=12，選擇 B 方案

3. Morse 教授等人合著的 Management Accounting a Strategic Approach 書中每章章前都有 Opening Scenarios, 請簡述第 1,2,4,5,9 及第 10 章這 6 章的重點。(本題 20 分)

4. 管理會計(EMBA)課程共上了 54 個小時,試問;

- (1) 印象最為深刻的 Topics；試舉出兩個以上的例子；
- (2) 對你的工作有最大助益的 Topics；試舉出兩個以上的例子及
- (3) 對本課程的建議 (本題 15 分)

5. 英文題 (請按順序作答，本大題共 5 題，請任選 4 題作答，每小題 15 分，共 60 分)

(1)、ABC 【5-15】

Midwest Foundry, a large manufacturer of heavy equipment components, has determined the following activity cost pools and cost driver levels for the year:

<u>Activity Cost Pool</u>	<u>Activity Cost</u>	<u>Activity Cost Driver</u>
Machine setup.....	\$6,000,000.....	12,000 setup hours
Material handing	\$120,000.....	2,000 tons of materials
Machine operation.....	\$500,000.....	10,000 machine hours

The following data are for the production of single batches of two products, J26 Cams and Z43 Shafts:

	<u>J26 Cams</u>	<u>Z43 Shafts</u>
Units produced.....	500	300
Machine hours.....	3	5
Direct labor hours.....	200	400
Direct labor cost	\$5,000	\$10,000

Direct materials cost	\$25,000	\$18,000
Tons of materials	12.5	9
Setup hours	3	7

Required: Determine the batch and unit costs of J26 Cams and Z43 Shafts using ABC.

The first stage: costs are assigned to activities

Activity cost pool	Activity Cost	Activity cost driver	Cost/unit activity 分攤率
Machine setup	600,000	12,000 (hours)	50
Material handling	120,000	2,000 (tons)	60
Machine operation	500,000	10,000 (hours)	50

The second stage: cost objectives based on activities

	J26 Cams	Z43 Shafts
Units produced	500	300
Machine hours	3	5
Direct labor hours	200	400
Direct labor cost	5,000	10,000
Direct material cost	25,000	18,000
Tons of material	12.5	9.0
Setup hours	3	7

Required: Determine the batch and unit costs of both objectives using ABC

	J26 Cams	Z43 Shafts
Manufacturing Overhead		
<i>Machine setup</i>	$50 \times 3 = 150$	$50 \times 7 = 350$
<i>Material handling</i>	$60 \times 12.5 = 750$	$60 \times 9 = 540$
<i>Machine Operation</i>	$50 \times 3 = 150$	$50 \times 5 = 250$
Total	1,050	1,140
Direct material	25,000	18,000
Direct labor	5,000	10,000
Batch cost	31,050	29,140
Unit produced	500	300
Unit cost	$=31,050/500=62.10$	$=29,140/300=97.13$

(2) Absorption and Variable Costing [8-4]

Hammond Catsup Company manufactures and sells 15,000 cases of catsup each quarter. The following data are available for the third quarter of 2004.

Total fixed manufacturing overhead	\$40,000
Fixed selling and administrative expensed.....	\$10,000
Sales price per case.....	\$25
Direct materials per case.....	\$12
Direct labor per case.....	\$4
Variable manufacturing overhead per case	\$3

Required:

- Compute the cost per case under both absorption costing and variable costing.
- Compute net income under both absorption costing and variable costing.
- Reconcile any differences in income. Explain.

Catsup manufactures and sells 15,000 cases each quarter. 3rd quarter of 2004

Total fixed manufacturing overhead	40,000
Fixed selling and administrative expenses	10,000
Sales price per case	25
Direct materials per case	12
Direct labor per case	4

Variable manufacturing overhead per case	3
--	---

Required:

a. Cost per case under both AC and VC

	Absorption costing 歸納成本法 Functional format	Variable costing 變動成本法 Contribution format
Direct materials	12	12
Direct labor	4	4
Variable manufacturing overhead	3	3
Fixed manufacturing overhead	40,000/15,000=2.67	0
Total	\$21.67	\$19

b. Net income under both AC and VC

Absorption costing 歸納成本法 Functional format

Sales	25*15,000=375,000
-Cost of good sold	21.67*15,000=(325,050)
Gross profit	49,950
-Selling and administrative	(10,000)
Net income	\$39,950

Variable costing 變動成本法 Contribution format

Sales	25*15,000=375,000
Variable costs	
Cost of good sold	19*15,000=(285,000)
Contribution margin	90,000
Fixed costs	
Manufacturing overhead	30,000
Selling and administrative	10,000 (40,000)
Net income	\$50,000

c. Reconcile net income. Sale= There is no difference in income because sales and production are not the same. When this situation is maintained, the two methods yield the same net income.

(3) 、ROI、RI、EVA【13-12】

Watkins Company with three divisions: Trucking, Seafood, and Construction. Assume that the company uses return on investment, residual income, and economic value-added residual income as three of the evaluation tools for division managers. The company has a minimum desired rate of return on investment of 12 percent and a weighted average cost of capital of 10 percent with a 30 percent tax rate.

Selected operating data for three divisions of the company follow.

	<u>Trucking</u>	<u>Seafood</u>	<u>Construction</u>
Sales	\$600,000	\$750,000	\$900,000
Operating assets	300,000	250,000	350,000
Net operating income	51,000	56,000	59,000
Current liabilities	20,000	10,000	30,000

Required:

- Compute the return on investment for each division. (Round answers to three decimal places.)
- Compute the residual income for each division.
- Compute the economic value-added residual income for each division.
- Which divisional manager is doing the best job based on ROI? Based on residual income? Based on economic value-added residual income? Why?

	Trucking	Seafood	Construction
Sales	600,000	750,000	900,000
Operating assets	300,000	250,000	350,000
Net operating income	51,000	56,000	59,000

Current liabilities	20,000	10,000	30,000
ROI (return on investment) =Net operating income/Operating assets =Invest turnover*Return-on-sales	51,000/300,000 =0.170 =2*0.085	56,000/250,000 =-0.224 =3*0.075	59,000/350,000 =0.169 =2.57*0.066
Investment turnover	600,000/300,000 =2	750,000/250,000 =3	900,000/350,000 =2.57
Return-on-sales ratio(Margin)	51,000/600,000 =0.085	56,000/750,000 =0.075	59,000/900,000 =0.066
RI(Residual income) =Net Operating income -(Operating assets*Desired rate of return)	51,000 -(300,000*0.12) =15,000	56,000 -(250,000*0.12) =-26,000	59,000 -(350,000*0.12) =17,000
EVA(Economic Value Added) =(Income after tax) - (Cost of capital employed)	(51,000*0.7) -(300,000-20,000)*0.1 =7,700	(56,000*0.7) -(250,000-10,000)*0.1 =-15,200	(59,000*0.7) -(350,000-30,000)*0.1 =9,300

*EVA 與 RI 有三點不同：After-tax income, Net assets and WACC (instead of desired rate of return)

*CEO 喜好用 RI 而不用 ROI 來評估公司投資，EVA 更有經濟效益評估；但是在 RI 和 EVA 都是比較主觀，而在不同大小的投資方案之間不易比較，所以投資大眾仍然喜好 ROI

(4) Make or buy 【4-11】

Fresh Air Limited manufactures a line of room air fresheners. Management is currently evaluating the possible production of an air freshener for automobiles. Based on an annual volume of 10,000 units, the predicted cost per unit of an auto air freshener follows.

Direct materials.....	\$ 8.00
Direct labor.....	\$ 2.00
Factory overhead.....	\$ 8.00
Total.....	\$ 18.00

These cost predictions include \$50,000 in facility-level fixed factory overhead averaged over 10,000 units.

One of the component parts of the auto air freshener is a battery-operated electric motor. Although Fresh Air does not currently manufacture these motors, the preceding cost predictions are based on the assumption that Fresh Air will assemble such a motor.

Mini Motor Company has offered to supply an assembled battery-operated motor at a cost of \$4.00 per unit, with a minimum annual order of 5,000 units. If Fresh Air accepts this offer, it will be able to reduce the variable labor and variable overhead costs of the auto air freshener by 50 percent. The electric motor's components will cost \$3.00 if Fresh Air assembles the motors.

Required:

(a) Determine whether Fresh Air should make or buy the electric motor.

Annual volume=10,000 unit facility-level fixed factory overhead = \$50,000 over 10,000units

Direct materials	8.00
Direct labor	2.00
Factory overhead	8.00
Total	18.00

	Cost to Make	Cost to Buy	Difference
Purchase		4*10,000=40,000	
Make costs			
Direct materials	3*10,000=30,000		
Direct labor	2*0.5*10,000=10,000		
Variable overhead	(8*10,000-50,000)*0.5=15,000		
Totals	55,000	40,000	-15,000

Fresh air should buy the electric motor, save \$15,000

(b) If Fresh Air could otherwise rent the motor-assembly space for \$9,000 per year, should it make or buy this component?

Cost to make = 55,000 + 9,000 = 64,000

Should buy the electric motor to save \$24,000

(c) What additional factors should Fresh Air consider in deciding whether it should make or buy the electric motors?

閒置，策略聯盟等關係

(5) Cost-Volume-Profit Analysis [3-22]

Siberian Ski Company recently expanded its manufacturing capacity to allow production of up to 15,000 pairs of the Mountaineering or the Touring models of cross-country skis. The sales department assures management that it can sell between 9,000 and 13,000 of either product this year. Because the models are very similar, Siberian Ski will produce only one of the two models.

The Accounting Department compiled the following information:

	Mountaineer	Touring
Selling price/unit	88.00	80.00
Variable costs/unit	52.80	52.80

Fixed costs will total \$369,600 if the Mountaineering model is produced but only \$316,800 if the Touring model is produced. Siberian Ski Company is subject to a **40 percent income tax rate**.

Required:

(1) If Siberian Ski Company desires an after-tax profit of \$24,000, how many pairs of Touring model skis will the company have to sell? (Round answer to the nearest unit.)

Before-tax profit = After-tax profit / (1 - tax rate) = 24,000 / (1 - 0.4) = 40,000

Target unit sales volume = (Fixed costs + Desired profit) / Unit contribution margin

$(316,800 + 40,000) / (80 - 52.8) = 13117.6 \rightarrow \boxed{13118 \text{ pairs}}$

(2) Determine the dollar sales volume at which Siberian Ski Company would make the same before-tax profit or loss regardless of the ski model it decides to produce. Also determine the resulting before-tax profit or loss.

(Hint: Work with contribution margin ratios.)

contribution margin ratio M = $(88 - 52.8) / 88 = 0.4$ T = $(80 - 52.8) / 80 = 0.34$

$0.4X - 369,600 = 0.34X - 316,800$ $X = 880,000$ & profit = \$-17,600

(3) Determine the new unit break-even point of the Touring model if its variable costs per unit decrease by 10 percent and its fixed costs increase by 10 percent. (Round answer to nearest unit.)

Break-even unit sales volume = Fixed costs / Unit contribution margin

New BEP(Touring) = $(316,800 * 1.1) / (80 - 52.8 * 0.9) = 10729.064 \rightarrow \boxed{10729 \text{ pairs}}$