

ACCA PM 习题解析方法讲解和分享

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分享内容

1. 常见题型汇总
2. March/June 2018 Q31 PGC
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5. 提分技巧

1. 常见题型汇总 (Section C)

题型一 Calculate the total annual profits of each division and the group as a whole

- ① 真题: March/June 2018 Q31 (a); March/June 2016 Section B Q4 (b)
- ② 思路: 分别计算出selling division, buying division 和 group的利润
- ③ 常见错误:
 - ✓ 格式
 - ✓ 集团利润中的transfer price的处理
 - ✓ 审题: sales and costs figures should be split into external sales and inter-divisional transfers; 对内对外的价格; 对内对外的销量 (最大产能, 需求量, 政策); 对内对外的成本 (cost savings)

1. 常见题型汇总 (Section C)

题型二 Calculate the incremental profit/(loss) for the group if buying division accepts the new supplier's offer

- ① 真题： March/June 2016 Section B Q4 (a)
- ② 思路：
 - ✓ Cost of making vs cost of buying
- ③ 常见错误：
 - ✓ Cost of making中不包含内部转移可以节约的成本
 - ✓ Fixed cost of selling division

1. 常见题型汇总 (Section C)

题型三 Calculate the number of goods which buying division should buy from selling division OR selling division should supply to buying division in order to maximize group profits

- ① 真题： March/June 2018 Q31 (b); March/June 2016 Section B Q4 (a); June 2015 Section B Q2
- ② 思路：
 - ✓ Lost contribution from external sales
 - ✓ Saved cost (cost of making vs cost of buying)
 - ✓ Saved cost $>$ Lost contribution \rightarrow profit, selling division应优先满足内部需求
 - ✓ Saved cost $<$ Lost contribution \rightarrow loss, selling division应优先满足外部需求
- ③ 常见问题：要站在整个集团的角度来思考问题，也就是目的是要最大化整个集团的利润，并非站在某个部门的角度。

1. 常见题型汇总 (Section C)

题型四 Calculate and discuss the maximum / minimum / suitable transfer price

① 真题： March/June 2018 Q31 (c); June 2015 Section B Q2; June 2014 Q3 (b)

② 思路：

✓ Maximum: Market price - Cost savings

✓ Minimum:

■ Spare capacity: minimum transfer price = marginal cost

■ No spare capacity: minimum transfer price = marginal cost + opportunity cost

1. 常见题型汇总 (Section C)

题型四 Calculate and discuss the maximum / minimum / suitable transfer price

- ✓ Suitable transfer price, 这种题目一般得站在三个角度来作答, 即
 - Buying division: 一般是去讨论buying division能接受的maximum transfer price
 - Selling division: 一般是去讨论selling division能接受的minimum transfer price
 - What is best for the company as a whole
- ③ 常见错误
 - ✓ 答题结构
 - ✓ 不解释原因, 直接给出maximum / minimum transfer price的结果

2. March/June 2018 Q31 PGC

The Portable Garage Co (PGC) is a company specializing in the manufacture and sale of a range of products for motorists. It is split into two divisions: the battery division (Division B) and the adaptor division (Division A). Division B sells one product – portable battery chargers for motorists which can be attached to a car's own battery and used to start up the engine when the car's own battery fails. Division A sells adaptors which are used by customers to charge mobile devices and laptops by attaching them to the car's internal power source.

Recently, Division B has upgraded its portable battery so it can also be used to rapidly charge mobile devices and laptops. The mobile device or laptop must be attached to the battery using a special adaptor which is supplied to the customer with the battery. Division B currently buys the adaptors from Division A, which also sells them externally to other companies.

2. March/June 2018 Q31 PGC

The following data is available for both divisions:

Division B

Selling price for each portable battery, including adaptor	\$180
Costs per battery:	
Adaptor from Division A	\$13
Other materials from external suppliers	\$45
Labour costs	\$35
Annual fixed overheads	\$5,460,000
Annual production and sales of portable batteries (units)	150,000
Maximum annual market demand for portable batteries (units)	180,000

2. March/June 2018 Q31 PGC

Division A

Selling price per adaptor to Division B	\$13
Selling price per adaptor to external customers	\$15
Costs per adaptor:	
Materials	\$3
Labour costs	\$4
Annual fixed overheads	\$2,200,000
Current annual production capacity and sales of adaptors – both internal and external sales (units)	350,000
Maximum annual external demand for adaptors (units)	200,000

In addition to the materials and labour costs above, Division A incurs a variable cost of \$1 per adaptor for all adaptors it sells externally.

2. March/June 2018 Q31 PGC

Currently, Head Office's purchasing policy only allows Division B to purchase the adaptors from Division A but Division A has refused to sell Division B any more than the current level of adaptors it supplies to it.

The manager of Division B is unhappy. He has a special industry contact who he could buy the adaptors from at exactly the same price charged by Division A if he were given the autonomy to purchase from outside the group.

After discussions with both of the divisional managers and to ensure that the managers are not demotivated, Head Office has now agreed to change the purchasing policy to allow Division B to buy externally, provided that it optimises the profits of the group as a whole.

2. March/June 2018 Q31 PGC

Required:

(a) Under the current transfer pricing system, prepare a profit statement showing the profit for each of the divisions and for The Portable Garage Co (PGC) as a whole. Your sales and costs figures should be split into external sales and inter-divisional transfers, where appropriate. (9 marks)

2. March/June 2018 Q31 PGC

(a)

① 题目要求:

- ✓ profit statement
- ✓ each of the divisions and for The Portable Garage Co (PGC) as a whole
- ✓ split into external sales and inter-divisional transfers

② 解题思路: 分别计算出selling division, buying division 和 group的利润 (Revenue-VC=Contribution-FC=Profit)

③ 常见错误:

- ✓ 格式
- ✓ 审题

2. March/June 2018 Q31 PGC

Solution:

(a) Profit statement for current position:

	Division B \$'000	Division A \$'000	PGC Co \$'000
Sales revenue:			
External sales (150,000 x \$180/200,000 x \$15)	27,000	3,000	30,000
Internal transferred sales (150,000 x \$13)		1,950	
Total revenue	<u>27,000</u>	<u>4,950</u>	<u>30,000</u>
Variable costs:			
External material costs	6,750	1,050	7,800
Internal transferred costs	1,950		
Labour costs	5,250	1,400	6,650
Other costs of external sales		200	200
Total variable costs	<u>13,950</u>	<u>2,650</u>	<u>14,650</u>
Contribution	13,050	2,300	15,350
Less fixed costs	<u>5,460</u>	<u>2,200</u>	<u>7,660</u>
Profit	<u>7,590</u>	<u>100</u>	<u>7,690</u>

2. March/June 2018 Q31 PGC

Required:

(b) Assuming that the new group purchasing policy will ensure the optimization of group profits, calculate and discuss the number of adaptors which Division B should buy from Division A and the number of adaptors which Division A should sell to external customers.

Note: There are 3 marks available for calculations and 3 marks for discussion. (6 marks)

2. March/June 2018 Q31 PGC

(b)

① 题目要求:

- ✓ optimization of group profits
- ✓ the number of adaptors...

② 解题思路:

- ✓ Total capacity of selling division: 350,000
- ✓ Total demand: (external 200,000 + internal 180,000) = 380,000
- ✓ Shortfall: 300,000

2. March/June 2018 Q31 PGC

(b)

② 解题思路：

- ✓ Lost contribution from external sales: \$7 ($\$15 - \$3 - \$4 - \1).
- ✓ Saved cost (cost of making vs cost of buying) : \$6 ($\13 external cost less the \$7 cost of making them in-house).
- ✓ Saved cost < Lost contribution → loss, selling division应优先满足外部需求
- ✓ 即： Division A continues to sell Division B 150,000 adaptors but Division B then buys the remaining 30,000 adaptors from an external supplier

③ 常见错误：要站在整个集团的角度来思考问题，也就是目的是要最大化整个集团的利润，并非站在某个部门的角度。

2. March/June 2018 Q31 PGC

Solution

(b) If Division B can buy adaptors from outside the group at \$13 per unit, then the optimum position is for Division A to sell as many adaptors as possible to external customers at \$15 each and then sell the remainder to Division B at a price to be agreed between them.

This would mean that Division A continues to sell Division B 150,000 adaptors but Division B then buys the remaining 30,000 adaptors from an external supplier. This is because the contribution per unit for Division A's external sales is \$7 ($\$15 - \$3 - \$4 - \1). This means that for every external sale it loses, it forfeits \$7 for the group. However, the incremental cost for the group of Division B buying adaptors from outside the group is only \$6 ($\13 external cost less the \$7 cost of making them in-house). So, it makes sense for Division A to satisfy its external sales first before selling internally.

2. March/June 2018 Q31 PGC

Required:

Assume now that no external supplier exists for the adaptors which Division B uses.

(c) Calculate and discuss what the minimum transfer price per unit would be for any additional adaptors supplied above the current level by Division A to Division B so that Division B can meet its maximum annual demand for the new portable batteries.

Note: There are 2 marks available for calculations and 3 marks available for discussion. (5 marks)

2. March/June 2018 Q31 PGC

① 题目要求:

- ✓ Calculate and discuss what the minimum transfer price per unit
- ✓ For any additional adaptors supplied above the current level
- ✓ Division B can meet its maximum annual demand

② 解题思路:

- ✓ Division B - maximum annual demand: 180,000
- ✓ Additional adaptors: $180,000 - 150,000 = 30,000$
- ✓ No spare capacity → minimum transfer price = marginal cost + opportunity cost
- ✓ Marginal cost = \$7 (\$4 + \$3)

2. March/June 2018 Q31 PGC

② 解题思路:

- ✓ Opportunity cost = Lost contribution = $\$15 - \$3 - \$4 - \$1 = \$7$ per unit
- ✓ The transfer price for the additional 30,000 units would need to be \$14

③ 常见错误:

- ✓ 审题不仔细
- ✓ 只给出最终结果，没有解释理由
- ✓ 只记住了公式，不会应用

2. March/June 2018 Q31 PGC

Solution:

(c) In order for Division A to supply Division B with 180,000 adaptors, it would have to reduce its external sales from 200,000 units to 170,000. This is because it only has enough spare capacity to supply Division B with 150,000 units at present after it has supplied adaptors to its external customers.

The minimum transfer price in situations where there is no spare capacity is marginal cost plus opportunity cost. In this case, contribution is lost by not selling 30,000 units to the external customers. As the marginal cost for Division A's internal sales is \$7 ($\$4 + \3) and the contribution per unit for external sales is \$7 per unit ($\$15 - \$3 - \$4 - \1), the transfer price for the additional 30,000 units would need to be \$14.

3. March/June 2016 Section B Q4 Man Co

A manufacturing company, Man Co, has two divisions: Division L and Division M. Both divisions make a single standardised product. Division L makes component L, which is supplied to both Division M and external customers.

Division M makes product M using one unit of component L and other materials. It then sells the completed product M to external customers. To date, Division M has always bought component L from Division L.

3. March/June 2016 Section B Q4 Man Co

The following information is available:

	Component L	Product M
	\$	\$
Selling price	40	96
Direct materials:		
Component L		(40)
Other	(12)	(17)
Direct labour	(6)	(9)
Variable overheads	(2)	(3)
Selling and distribution costs	(4)	(1)
	<u>16</u>	<u>26</u>
Contribution per unit before fixed costs		
	<u>16</u>	<u>26</u>
Annual fixed costs	\$500,000	\$200,000
Annual external demand (units)	160,000	120,000
Capacity of plant	300,000	130,000

3. March/June 2016 Section B Q4 Man Co

Annual fixed costs	\$500,000	\$200,000
Annual external demand (units)	160,000	120,000
Capacity of plant	300,000	130,000

Division L charges the same price for component L to both Division M and external customers. However, it does not incur the selling and distribution costs when transferring internally.

Division M has just been approached by a new supplier who has offered to supply it with component L for \$37 per unit. Prior to this offer, the cheapest price which Division M could have bought component L for from outside the group was \$42 per unit.

It is head office policy to let the divisions operate autonomously without interference at all.

3. March/June 2016 Section B Q4 Man Co

Required:

(a) Calculate the incremental profit/(loss) per component for the group if Division M accepts the new supplier's offer and recommend how many components Division L should sell to Division M if group profits are to be maximized. (3 marks)

3. March/June 2016 Section B Q4 Man Co

① 题目要求:

问题一: Calculate the incremental profit/(loss) per component for the group if Division M accepts the new supplier's offer

问题二: Recommend how many components...group profits are to be maximized

② 解题思路:

问题一: Calculate the incremental profit/(loss) per component for the group if Division M accepts the new supplier's offer

✓ Component L – Capacity of plant: 300,000 units

✓ Total demand: (external 160,000+internal 120,000) = 280,000

3. March/June 2016 Section B Q4 Man Co

- ✓ Division L has enough capacity
- ✓ Cost of making \$20 vs cost of buying \$37
- ✓ Incremental loss: \$17

问题二： how many components Division L should sell to Division M if group profits are to be maximized

- ✓ Lost contribution = 0
- ✓ Saved cost \$17
- ✓ All 120,000 units of component L should be transferred internally

3. March/June 2016 Section B Q4 Man Co

Solution:

(a) Maximizing group profit

Division L has enough capacity to supply both Division M and its external customers with component L.

Therefore, incremental cost of Division M buying externally is as follows:

Cost per unit of component L when bought from external supplier: \$37

Cost per unit for Division L of making component L: \$20.

Therefore incremental cost to group of each unit of component L being bought in by Division M rather than transferred internally: \$17 ($\$37 - 20$).

From the group's point of view, the most profitable course of action is therefore that all 120,000 units of component L should be transferred internally

4. June 2015 Section B Q2

Mobe Co manufactures electronic mobility scooters. The company is split into two divisions: the scooter division (Division S) and the motor division (Division M). Division M supplies electronic motors to both Division S and to external customers. The two divisions run as autonomously as possible, subject to the group's current policy that Division M must make internal sales first before selling outside the group; and that Division S must always buy its motors from Division M. However, this company policy, together with the transfer price which Division M charges Division S, is currently under review.

Details of the two divisions are given below.

Division S

Division S's budget for the coming year shows that 35,000 electronic motors will be needed. An external supplier could supply these to Division S for \$800 each.

4. June 2015 Section B Q2

Division M

Division M has the capacity to produce a total of 60,000 electronic motors per year. Details of Division M's budget, which has just been prepared for the forthcoming year, are as follows:

Budgeted sales volume (units)	60,000
Selling price per unit for external sales of motors	\$850
Variable costs per unit for external sales of motors	\$770

The variable cost per unit for motors sold to Division S is \$30 per unit lower due to cost savings on distribution and packaging.

Maximum external demand for the motors is 30,000 units per year.

4. June 2015 Section B Q2

Required:

Assuming that the group's current policy could be changed, advise, using suitable calculations, the number of motors which Division M should supply to Division S in order to maximise group profits. Recommend the transfer price or prices at which these internal sales should take place.

Note: All relevant workings must be shown.

(10 marks)

4. June 2015 Section B Q2

① 题目要求:

问题一: the number of motors...to maximize group profits

问题二: Recommend the transfer price

4. June 2015 Section B Q2

② 解题思路：

问题一：（思路同 March/June 2018 Q31 (b)）

- ✓ Total capacity of Division M: 60,000
- ✓ Total demand: (external 30,000 + internal 35,000) = 65,000
- ✓ Shortfall: 5,000
- ✓ Lost contribution from external sales: \$80 (\$850 – \$770).
- ✓ Saved cost (cost of making vs cost of buying) : \$60 per unit (\$800 – [\$770 – \$30])
- ✓ Saved cost < Lost contribution → loss, Division M应优先满足外部需求
- ✓ 即： Division M's total capacity is 60,000 units. Given that it can make external sales of 30,000 units, it can only supply 30,000 of Division S's demand for 35,000 motors.

4. June 2015 Section B Q2

② 解题思路:

问题二: Recommend the transfer price

- ✓ Buying division: 讨论Division S能接受的maximum transfer price, 即 external supplier - \$800
- ✓ Selling division: 讨论Division M能接受的minimum transfer price, 即 marginal cost of making these units, which is \$740 per unit
- ✓ What is best for the company as a whole: the total group profit will be the same irrespective of where in this range the transfer price is set. It is important that divisional managers and staff remain motivated. Given the external sales price which Division M can achieve and the fact that Division S would have to pay \$800 for each motor bought from outside the group, the transfer price should probably be at the higher end of the range.

4. June 2015 Section B Q2

Solution:

From the group's perspective

For every motor sold externally, Division M generates a profit of \$80 ($\$850 - \770) for the group as a whole. For every motor which Division S has to buy from outside of the group, there is an incremental cost of \$60 per unit ($\$800 - [\$770 - \$30]$).

Therefore, from a group perspective, as many external sales should be made as possible before any internal sales are made.

Consequently, the group's current policy will need to be changed. This does, however, assume that the quality of the motors bought from outside the group is the same as the quality of the motors made by Division M.

4. June 2015 Section B Q2

Division M's total capacity is 60,000 units. Given that it can make external sales of 30,000 units, it can only supply 30,000 of Division S's demand for 35,000 motors. These 30,000 units should be bought from Division M since, from a group perspective, the cost of supplying these internally is \$60 per unit cheaper than buying externally. The remaining 5,000 motors required by Division S should then be bought in from the external supplier at \$800 per unit. .

In order to work out the transfer price which should be set for the internal sales of 30,000 motors, the perspective of both divisions must be considered.

From Division M's perspective

Division M's only buyer for these 30,000 motors is Division S, so the lowest price it would be prepared to charge is the marginal cost of making these units, which is \$740 per unit. However, it would ideally want to make some profit on these motors too and would consequently expect a significantly higher price than this.

4. June 2015 Section B Q2

From Division S's perspective

Division S knows that it can buy as many external motors as it needs from outside the group at a price of \$800 per unit. Therefore, this will be the maximum price which it is prepared to pay.

Overall

Therefore, the transfer price should be set somewhere between \$740 and \$800. From the perspective of the group, the total group profit will be the same irrespective of where in this range the transfer price is set. However, it is important that divisional managers and staff remain motivated. Given the external sales price which Division M can achieve and the fact that Division S would have to pay \$800 for each motor bought from outside the group, the transfer price should probably be at the higher end of the range.

5. 提分技巧

- 仔细阅读材料，勾出关键词，切勿遗漏关键信息
- 明确考官的问题，问什么答什么
- 确认每一问的分值，提前做好答题规划
- 提前熟悉机考界面和spreadsheet的各种功能
- 不要在一道题停留太久时间，优先完成有把握的题目