

Home Trends (Dr. R. Mattimoe, Dublin City University Business School)

Home Trends sells kitchenware, wooden flooring and cane furniture at a single store location in trendy Kinvara, Co. Galway, mainly to customers living in apartments, townhouses and holiday homes. With regard to cane furniture, rapidly changing consumer taste in furniture has seen a decline in sales and rising inward transportation costs from the Far East causing larger order quantities to be purchased with ensuing problems in finding space for slow-moving stock have depressed margins. Recent figures for the last quarter were:-

| | Kitchenware Department € | Wooden flooring Department € | Cane Furniture Department € | Total € |
|--|-----------------------------|---------------------------------|--------------------------------|------------|
| Sales | 120,000 | 170,000 | 150,000 | 440,000 |
| Variable costs | (72,000) | (109,000) | (90,000) | (271,000) |
| Separable fixed costs (staffing, display units and stock-holding costs, excluding central costs) | (30,000) | (40,000) | (95,000) | (165,000) |
| Total costs | (102,000) | (149,000) | (185,000) | (436,000) |
| Departmental profits | 18,000 | 21,000 | (35,000) | 4,000 |
| Advertising | | | | (2,000) |
| Part-time Accounts | | | | (15,000) |
| Total operating profit /(loss) | | | | (13,000) |

Management are evaluating whether to drop cane furniture because of changing consumer trends and accompanying losses and replace it with a selection of artisan products, made by the local community. If the cane line is dropped, the following changes are expected to occur:

-The vacated space will be re-modelled at a cost of €2,500 and some of this space will be devoted to artisan gift products, made by the local community. These products are expected to generate extra sales revenues of €25,000 and an incremental contribution (before re-modelling cost) of €15,000 per annum.

- The remaining vacated space will be given to some new product ranges in wooden flooring and more space for customers to walk around the display stands. These changes are expected to increase sales of wooden flooring by €35,000, and the line's overall average contribution to sales ratio will rise by 5% on all sales.

-Home Trends will save 70% of the separable fixed costs of cane furniture (not counting the re-modelling cost), having been replaced with new artisan products which are small, require less floor space, cheaper display and junior sales staff. The separable fixed costs of kitchenware and wooden flooring will continue to be incurred at the same level.

-The firm will increase advertising expenditures by €2,500 to promote the artisan products.

Requirements :

Draft a report to the commercial director of Home Trends giving your calculations and recommendations for the following questions:-

- (i) Should Home Trends close its cane furniture department? Show your relevant costing calculations and state your advice.

- (ii) Compute the weighted average break even point, for the existing three product lines. Compute the new weighted average break-even point with the new total sales revenues of €350,000 and the substitution of €25,000 sales of artisan products and an extra €35,000 of sales from new wooden floor lines, into the overall mix. Interpret this information for the commercial director.

- (iii) Irrespective of whether the cane furniture department is closed or not, management are considering providing a "mornings only" interior design consultant. A new studio would be set up in the foyer of the store; a van with a logo would be hired for home visits, some new display fixtures would be installed. The total cost of running the interior design consultancy would be a mixed cost. The consultation fee is projected at €75 per hour per customer (per service unit) for the next month. The sales and associated total costs of the service projected for the next month are as follows:-

| | | | | | | | |
|----------------------------------|-------------------|----------------|-----|----|----|----|----|
| <i>Projected</i> consultation | interior hours | design sold | per | 40 | 50 | 60 | 70 |
|----------------------------------|-------------------|----------------|-----|----|----|----|----|

| | | | | |
|--|--------|-----|--------|---------|
| month | | | | |
| Average mixed cost per consultation hour | €39.25 | €33 | €28.83 | €25.857 |
| Consultation fee per customer hour | €75 | | | |

Use the high low method to estimate the cost equation for the interior design service. Compute the projected break-even point for the interior design service and the total profit from 50 consultations (most likely level) for the next month. Advise the management re this new proposed development.

Solution:

- (i) Home Trends will be worse off by if it discontinues cane furniture. Re-casting into contribution format:-

| | Kitchenware | Wooden flooring | Cane furniture |
|---------------------|-----------------|-----------------|-----------------|
| Sales | €120 000 | €170 000 | €150 000 |
| Variable costs | <u>72 000</u> | <u>109 000</u> | <u>90 000</u> |
| Contribution margin | <u>€ 48 000</u> | <u>€ 61 000</u> | <u>€ 60 000</u> |

If wallpaper is closed, then:

| | | |
|---|--|-----------------|
| Loss of cane furniture contribution margin..... | | €(70,000) |
| Remodelling cost | | (2,500) |
| Added profitability from flooring sales*..... | | 22, 804 |
| Fixed cost savings (€95 000 × 70%)..... | | 66,500 |
| Extra contribution margin from artisan products (€25 000 × 60%) | | 15 000 |
| | | |
| Increased advertising..... | | <u>(2 500)</u> |
| Profit from closure of cane department | | <u>€29, 304</u> |

- The current contribution margin ratio for wooden flooring is 35.88% (€61, 000 ÷ €170 000). This ratio will increase to 40.88%, producing a new contribution for the line of €83, 804 [(€170 000 + €35 000) × 40.88%]. The end result is that flooring's contribution margin will rise by €22,804 = (€83, 804- €61 000), boosting firm profitability by the same

amount.

- Advice: It is best to close the wooden flooring department, provided the artisan products can earn the high contribution to sales ratio of 60%, despite occupying less space etc. and provided the fixed cost savings of such a high ratio of 70%, can be realised on the closure of cane department.

(ii)

Solving for total fixed costs and weighted average C/S ratio:

$$\text{Total FC} = \text{€}30,000 + 40,000 + 95,000 = \text{€}165,000 + \text{€}17,000 = \text{€}182,000$$

$$\text{Total Contribution} = \text{€}440,000 - \text{€}271,000 = \text{€}169,000$$

$$\text{W. Average C/S ratio} = \text{€}169,000 / \text{€}440,000 = 38.4\%$$

$$\text{So current weighted average B/E point} \\ = \text{€}182,000 / .384 = \underline{\underline{\text{€}473,958}}$$

If the artisan products replace the cane furniture department, we get:-

| | € |
|-------------------------------------|----------------|
| Kitchenware sales: | 120,000 |
| Wooden flooring sales : 170k+35,000 | 205,000 |
| Artisan sales : | <u>25,000</u> |
| <u>Total sales:</u> | <u>350,000</u> |

| | |
|----------------------------|----------------|
| Contribution: | |
| Kitchenware: | 72,000 |
| Wooden flooring: | 83,804 |
| Artisan: | <u>15,000</u> |
| <u>Total contribution:</u> | <u>170,804</u> |

$$\text{New weighted average c/s ratio} = 170,804 / 350,000 = \underline{\underline{48.8\%}}$$

$$\text{New fixed costs} = 165,000 + 2500 + 2500 - 66,500 + 17,000 \\ = \text{€}120,500$$

$$\text{New break-even point} = \text{€}120,500 / 0.488 = \underline{\underline{\text{€}246,926}}$$

Thus, the proposed change reduces the break even point because of the enrichment of the average contribution margin by the presence of artisan products in the mix and the reduction in fixed costs.

(iii) Solving for the fixed and variable elements of cost:

High low method :

$$= \frac{\text{Difference in costs} = 70 * \text{€}25.857 - 40 * \text{€}39.25}{\text{Difference in activity} = 30}$$

$$= \frac{\text{€}240}{30} = \text{€}8$$

This is the variable cost component, so we solve for the fixed cost component :

$70 * \text{€}25.857 = \text{€}1,810$ total cost, so substituting in:-
 $\text{€}1,810 = \{70(\text{€}8) - \text{FC}\}$ so, $\text{FC} = \text{€}1,250$ per month

Break even point = $\text{€}1,250 / (\text{€}75 - \text{€}8)$ or
a C/S ratio of $75 - 8 / 75 = 89.33\%$

= 18.65 consultation hours
= €1,400 of consultation sales

Advice:

The proposal is a good one, since it has a much higher C/S ratio than the existing departments and is supportive of sales of those departments.

The projected new profits at maximum sales
= $50 * \text{€}67 - \text{€}1,250 = \text{€}2,100$ per month or €6,300 per quarter which is an improvement on the current situation.

Advice to management:

Should sales increase a lot, there is a high upside potential, in that the C/S ratio of the new interior design consultancy service is very high. However, will customers pay €75 an hour? Does this involve a home visit and are all costs properly estimated? . Market research needs to be conducted to establish the likely no of consultations booked by customers. The fixed cost of €1250 may not cover all of the expected costs- it assumes a part time consultant who will cost €600 per month with the rest of the cost being insurance and depreciation of fixtures and the hire of a van per month.