

Example of shelby shelves case case study

[Business](#), [Company](#)



Statement of the Problem: Shelby Shelves which produces two varied shelves meant to be used in the grocery stores is concerned about changing its next month's production plan. The two different shelves produced are S and LX. Shelby Shelves is a small time company which due to the fierce competition that is prevalent in the market needs to think twice before offering its product at a costlier price. The company by revising its production plan for next month wants to augment its profit volumes. Since, pricing the products at a higher range is not an option for the company, Shelby Shelves is considering to come up with a different production volume for each product so that its profitability increase.

Executive Summary: The Company wishes to increase its profits while not causing any change in the pricing of the resources and the end products. With the available resources, the company wants to employ a product volume mix for its two products namely S and LX which ensures increased profitability of the business. The production consists of three different stages where two stages for both products are executed by the same machines whereas the third and final stage of production is served by individual departments that take care of each part's final assembling stages. The two initial stages include Stamping and Forming while the third stage is called Assembling. There are certain limitations to the number of hours that the stamping and forming machines can inexhaustibly work for. While the stamping machine requires 0.3 hours per unit of product S and 0.3 hours per unit of product LX; the forming machine needs 0.25 hours to work on each unit of product S and 0.5 hours to work on each unit of product LX. The assembling department has a limited capacity of producing 1900 units of

product S and 1400 units of product LX. Keeping in mind all the above constraints, what is the need of the hour is to make the best possible use of available resources and plan a production plan for both the products to increase the profits by a considerable level. At present the company produces, 400 units of product S and 1400 units of product LX. With the current production volumes, the company is making a loss on product S which is being covered by the profit that it earns of product LX. The company loses \$39 ($\$1800 - \1839) on every unit sold of product S. Though the company manages to record profits at the end but the controller of the company believes that the production process of product S is capable of generating more profits provided the volume of production for the product is also increased.

Analysis: As per the understanding of the controller of the company, the production of the product S is capable of generating more profits than what product LX is capable of generating. The only problem that is deterring this capability of product S is the production volume of the product. Though the maximum production volume available in the assembly department for product S is 1900, currently only 400 units of the product are being produced. And in the process, the overhead costs in the production of product S are being absorbed in an efficient manner. Assuming that we can produce 1900 units of product S we need to also reduce the production of product LX due to the constraint of the number of machine hours available for the stamping and forming stages of production. Therefore the production of product LX shall be reduced from 1400 units to 650 units. When we

calculate the fixed overhead costs that are incurred at the current volume of production, the segregation between the two products is as follows:

Product S Product LX

Fixed Overhead for forming - \$11, 875 (= 95, 000 x 0. 125) \$83, 125 (= 95. 000 x 0. 875)

Fixed overhead per unit - \$29. 69 (= 11, 875/400) \$59. 38 (= 83, 125/1400)

Total overhead cost - \$149. 69 (= 29. 69 + 120) \$229. 38 (= 59. 38 + 170)

The calculations above give a gist of the \$95, 000 fixed overhead for the forming department. Since 100 hours out of 800 available hours are used for forming product S the percentage usage is 12. 5% while 700 hours of forming is spent on product LX which is 87. 5%. Similarly the fixed overhead per unit of output is calculated at \$29. 69 for S and \$59. 38 LX. The fixed and variable costs are clubbed to reach the standard overhead cost.

Per the calculations seen in the excel file attached, the profitability of the company increases considerably when as per the version of the controller of the company, the product S is produced to the maximum limit. In such situation the production of product LX is being reduced to 650 units to effectively utilize the machine hours. With an increased production of product S, the variable profit of the product increases thus showing a considerable profit of \$268250. Therefore the production of product S shall be increased rather than closing the production.