Organizational Decision-Making: The Case of CoolToys Inc.

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Abstract. Decision-making in organizations is fraught with different perspectives. Business students typically specialize in individual business areas by taking a sequence of courses primarily related to specific areas. While such discipline-specific education usually follows a focused approach, students also need to understand the organization level strategic perspective. Moreover, integrating these perspectives and constraints can bring in the use of spreadsheet-based decision aids. This teaching case presents students with a simplified problem that integrates some multiple perspectives and includes an opportunity to use spreadsheet tools in decision-making. Students begin by working in phases to analyze data from the operational perspectives and make recommendations. Students provide a final recommendation by including strategic aspects to arrive at a more holistic solution that would benefit the entire organization.

Keywords: spreadsheets, strategy, decision-making, strategic considerations, product choice decisions.

1. Introduction

You are the Chief Executive Officer (CEO) of the fictional CoolToys Inc., a large toy manufacturer that operates in a competitive market. CoolToys follows a cost leadership strategy.[1] Though the organization is interested in profitability, management takes risks and is willing to forgo profitability in the short term for future growth opportunities. CoolToys needs to decide on the product mix in the upcoming year based on various operational considerations and strategic needs.

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1. Cost leadership strategy: creating competitive advantage by having the lowest costs among competitors.

The list of products that are under consideration are: AceTruck (toy truck), BirdX (remote-controlled helicopter), ChopperX (smart helicopter), DPlane (toy plane), EPlay (eco-friendly play yard equipment), FunBlocks (building blocks), and GRobot (toy robot).

2. Deliverables

Analyze the given data using MS Excel to answer Questions 1 through 7. Also, create a two-page report on the final decision (Question 8) and discuss the differences in decisions based on operational and strategic considerations. Before attempting the case, familiarize yourself with *sumproduct* function and *solver* an MS Excel add-in tool. The *sumproduct* function sums the products of corresponding cells in multiplies ranges. The *solver* tool helps you determine the optimum value of a cell by recommending values in other cells subject to specific constraints.

3. Important Considerations

Important considerations detailed at various places in the case, specify the financial and operational constraints for this decision-making problem: hours available per year with machine MC963: 2,500 hours; raw material (RM1236) available: 20,000 units; time horizon: 7 years; required rate of return: 5%. The strategic needs of the organization are presented separately as product priority evaluation form in Table 6.

4. Product Selection with Costing and Machine Data

The costing department provides you with the prime cost[2] and price of each product in Table 1. You are also given the time taken in minutes by machine MC963 – their primary workhorse – to make each product. The total machine hours available is 2,500 hours. MC963 is a resource constraint, as it is expensive. Use the contribution margin approach to make your selection of products to be manufactured.

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2. Prime costs: material and labor costs to manufacture items

Table 1: Product Selection with Costing Data

Product	Prime cost ($)	Price ($)	The time required to produce one unit (in minutes)
AceTruck	5	30	15
BirdX	10	30	20
ChopperX	20	43	12
DPlane	10	34	15
EPlay	35	44	60
FunBlocks	40	67	30
GRobot	40	39	20

Question 1. Based on only contribution margin (Price – Prime Costs), rank the product(s) recommended by you (in the order of preference).

Question 2. Based on the additional information (machine hours available) and the time taken to produce one unit (in minutes), how many units of each product will you manufacture?

5. Product Selection with Manufacturing Data

The manufacturing department also reveals that, while other raw materials are readily available, raw material RM1236 (a special type of plastic resin used in manufacturing eco-friendly products) is limited to 20,000 units. Table 2 shows the number of RM1236 required for each unit of the products. Add data from Table 2 to previous data (Table 1) to make your decision.

Table 2: List of Raw Material RM1236 Required for Each Product

Product	Raw material: RM1236 needed (per unit)
AceTruck	2
BirdX	4
ChopperX	8
DPlane	4
EPlay	14
FunBlocks	16
GRobot	16

Question 3. Based on this additional information, how many units of each product will you manufacture? (Hint: Use MS Excel's Solver – with solving method Simplex LP – for this task. This feature can be enabled by adding "Solver Add-in" through the Options menu under the *File* menu. After Solver is enabled,

Solver can be seen in the Data tab; Maximize total contribution margin under time and raw material constraints).

6. Product Selection with Marketing Data

The marketing department gives you the demand data for the products (Table 3). It is your organization's policy not to exceed demand. Add data from Table 3 to previous data (Tables 1 and 2) to make your decision. (Hint: Maximize total contribution margin under time, raw material, and demand constraints).

Table 3: Product Selection with Marketing Data

Product	Demand (in units)
AceTruck	9,000
BirdX	650
ChopperX	600
DPlane	400
EPlay	560
FunBlocks	500
GRobot	20

Question 4. Based on this additional information, how many units of each product will you manufacture?

7. Product Selection with Finance Data

Payback Period
The corporate finance department recommends that the original investment is to be recovered in, at most, seven years. Future cash flow for various product options is given in Table 4. Use this data separately (without additions from earlier tables). For this task, the non-discounted payback method[3] is used.

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3.   Non-discounted payback ignores the time value of money