Supply Chain & Operations Management

Written exam

26 June 2019

**Exercise no. 1**

The companies B-Pack and Green Juice have recently approved their Strategic Plan and a series of Operational plans aimed at implementing the main strategic orientations.

First, select one of the two companies.

Write which role you had in the classroom exercise (write \*\*\* in the cell)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Marketing manager** | **Operations manager** | **Supply chain manager** | **Finance manager** |
| **B-Pack** |  |  |  |  |
| **Green Juice** |  |  |  |  |
| **Italy Software** |  |  |  |  |
| **Hooli** |  |  |  |  |

Second, write at least two of the following documents such that they:

* fall in two different business functions
* do not fall in the business function for which you were manager in the classroom exercise

**Marketing**

* Positioning map
* Targeting
* Product life cycle modeling
* Pricing policy

**Operations**

* Layout
* Production capacity planning
* Inventory management
* Economic order quantity

**Supply chain**

* Make or buy analysis in the long run (= with investment in additional capacity)
* Make or buy analysis in the short run
* Supplier development plan
* Supplier involvement into new product development

**Finance**

* Profit and loss under two scenario with respect to total sales
* Analysis of financial structure
* WACC
* Discounted Cash Flow

All documents must include detailed numbers, if necessary with simulated values. Do NOT use the same numbers used in the classroom exercise but do the exercise again.

**Exercise no. 2**

Consider the following table listing the activities to be completed for a certain project, their relationships and their duration:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Activity | Duration (weeks) | Predecessors (FS) | ES | EF | LS | LF | TF | FF | DF |
| Start | 0 |  |  |  |  |  |  |  |  |
| A | 6 | Start |  |  |  |  |  |  |  |
| B | 4 | Start |  |  |  |  |  |  |  |
| C | 8 | B |  |  |  |  |  |  |  |
| D | 10 | A |  |  |  |  |  |  |  |
| E | 4 | B |  |  |  |  |  |  |  |
| F | 8 | C, D |  |  |  |  |  |  |  |
| G | 12 | F |  |  |  |  |  |  |  |
| H | 12 | E |  |  |  |  |  |  |  |
| Finish | 0 | G, H |  |  |  |  |  |  |  |

1. Fill in the table above
2. Draw the network diagram and identify the critical path
3. By how much would you need to crash the project as a minimum for a new critical path to appear? Which activities would you need to crash for that to happen?

**Exercise no. 3**

1. How does the stage-gate process work? Which are the key roles? List three benefits and three typical failures
2. What are increasing returns to scale? Give a formal definition and a graphical representation. Discuss the main reasons for increasing returns to scale
3. Suppose you are a company in an industry dominated by relevant economies of scale. Give a concrete example of the company (although with simulated data) and identify the key points of a good competitive strategy.

Check for consistency of the strategy adopted.