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***Overview:***

The BEL123 model projects the human resources needed to sustain the operations of BEL INC and forecasts the company’s financial data over a three-year period. Data is entered into the parameter and input worksheets to form a quarterly Net Income statement, ultimately projecting the financial performance of BEL INC. All of the other sheets are linked to the Profit and Loss statement so that changes to the parameter and input worksheets ripple throughout the entire workbook. The developers of this model assume that the user has financial and operational experience so the assumptions are reasonable according to the standards of a clothing company.

**Sample Only**

This document was submitted by students in a previous class. Their requirements were different from yours. We offer it only as a sample of what a project was for that class. Copying this document, in whole or in part, and submitting the result as your own work, would be a violation of the honor code.

The user guide is divided in four Sections.

1. Info
2. Parameters
3. Inputs
4. Understanding the output sheet “P&L”

***Info:***

In this sheet the user will find all the information regarding the developers of the model, copyright, as well as the version and contact information for further questions.

***Parameters:***

In order to start using this model the user must know the parameters used on it. All parameters are located in the sheet called “parameters” and are highlighted in “light turquoise”. The user must be aware that any change made in this sheet will affect the sheets that use the parameter in order to provide an analysis, ultimately affecting the “P&L” output sheet. There are several parameters in the model and some of them are self-explanatory. Above, there is a list with all the parameters used in the model. Note that the parameters in “BOLD ITALIC” are the ones used to forecast the two scenarios.

Self explanatory parameters:

* ***Cost of Cotton (Square Meter)***
* Cost of Computer
* Cost of Machine
* Cost of Office Supply per Package -

Remaining parameters:

* Square Meters Per Hat - This parameter indicates how many square meters of cotton are necessary to produce a single hat
* Square Meters Per Shirt - This parameter indicates how many square meters of cotton are necessary to produce a single shirt
* Hat Makers Per Machine – The number of hat makers required to operate a machine.
* Shirt Makers Per Machine - The number of shirt makers required to operate a machine.
* Engineers Per Machine - The number of engineers required to operate a machine.
* Hats Per Quarter - The maximum number of hats a machine can produce in a quarter.
* Shirts Per Quarter - The maximum number of shirts a machine can produce in a quarter.
* Depreciation Term - The number of periods necessary to depreciate the equipment.
* Corporate Tax Rate – The tax bracket used to compute the taxes in the “P&L” sheet.
* ***Lease Rate*** – The interest rate given to calculate the payments on the computers purchased
* ***Sales and Marketing*** – The expected expenses in sales in marketing as a percentage of total sales in each term.
* Cost of Services - The expected expenses in cost in services as a percentage of total sales in each term.
* General Administrative - The expected expenses in general and administrative as a percentage of total sales in each term.
* Office Supply Order Cost – The cost of ordering a single office supply package.
* Office Supply Holding Cost – The cost of holding a single office supply package.
* Office Supply Cases PQ – The demand of office supplies per quarter.

***Inputs***

The BEL 123 model has 3 input sheets:

1. Production analysis

In this sheet the user will set the quantity to be produced in each quarter. Note, due to the ripple principle, a change in production in a current quarter will effect the rest of the workbook. As with the others sheets, the cells the user is allowed to change are highlighted in “yellow.”

**The user has to be aware that changes in any of the other cells that are not highlighted in “yellow” will cause errors in the model. This in turn will affect the formulas created by the developers and also the other sheets according to the ripple principle.**

In this worksheet the user will find a row named “TOTAL”, which returns the total numbers of hats and shirts produced in the respective quarter.

2. Inflation analysis (changed in scenario 2)

In this sheet the user must provide the expected inflation per quarter in the row named “INFLATION PQ”. The row following this row, the “INFLATION ANALYSIS”, returns the cumulative inflation up to the determined quarter. Note that in this sheet the user will find cell named “AVERAGE INFLATION RATE” that returns the average inflation rate in the 12 periods. This provides the user with a value of his/her own estimates over the 12 periods so that he/she can change accordingly. As with the others sheets all the cells the user is allowed to change are highlighted in “yellow.”

**The user has to be aware that changes in any of the other cells that are not highlighted in “yellow” will cause errors in the model. This in turn will affect the formulas created by the developers and also the other sheets according to the ripple principle.**

3. Price analysis (changed in scenario 2)

In this sheet the user will find two rows, one row for the price of hats and the other for the price of shirts. The user must enter the prices of the two products for each quarter, which will eventually lead to the results found in the “P&L” output sheet. The 2x12 Matrix is called “PRICE ANALYSIS.”As with the others sheets all the cells the user is allowed to change are highlighted in “yellow.”

**The user has to be aware that changes in any of the other cells that are not highlighted in “yellow” will cause errors in the model. This in turn will affect the formulas created by the developers and also the other sheets according to the ripple principle.**

***Outputs:***

***How to interpret the outputs streams***

1. Profit & Loss

The Profit & Loss sheet is the summary sheet for all of the data streams in the model. The purpose of the Profit and Loss sheet is to see, in aggregate, the financial performance of the company over the 12 quarters that the model is projecting .The data on this sheet is derived from the figures of the rest of sheets in the workbook via the ripple principle. Changes made to any sheet will be reflected on the Profit and Loss sheet.

The user will find in this sheet a Breakdown in revenues from each product, the cost of goods sold as well as the Gross margin, operating expenses, interest expenses, depreciation, income before taxes, Taxes and Net income. Note that all the information is provided on a quarterly basis. The user must be aware that this is an output sheet and as a result cannot be changed since each value is derived from somewhere else in the workbook. If the user feels that the numbers do not reflect what he expected, he should go back and review the parameters and input sheets. The sheet also provides the maximum, minimum and average net income

1. Hiring stream

The ordering schedule sheet represents a human resource analysis of BEL. As the user will notice the sheet gives a hiring breakdown in the several types of employees. The sheet forecasts the number of employees that will be hired per quarter in order to meet the production analysis. Also above this table the user will find a cumulative hiring stream analysis that gives the cumulative number of employees in each quarter.

* + Janitor
	+ Hat Maker
	+ Shirt Maker
	+ Engineer
	+ Supervisors
1. Ordering schedule

 In order to meet the predetermined production figures derived from the production analysis matrix, the manager will have to purchase the necessary equipment. In this sheet the user will find the number of machines needed per quarter. In addition the sheet provides the exact number of machines that will have to be purchased in each quarter. A “raw material analysis” is also provided, giving the quantity of cotton to be purchased in square meters.