Excel Formula Documentation

Retail Budget, Sales and Profit Forecasting Model

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Developed as a professional portfolio project to demonstrate practical data analytics skills to recruiters and hiring managers.

A reference to the financial logic, worksheet formulas and Dashboard dependencies in the supplied workbook.

Power Query calculated fields

Field	Logic
Unit_Profit	Product_Price - Product_Cost
Unit_Margin	Unit_Profit / Product_Price; null when price is zero
Sales_Revenue	Units x Product_Price
Total_Cost	Units x Product_Cost
Gross_Profit	Sales_Revenue - Total_Cost
Profit_Margin	Gross_Profit / Sales_Revenue; null when revenue is zero
Inventory_Value	Stock_On_Hand x Product_Cost
Potential_Retail_Value	Stock_On_Hand x Product_Price (project methodology)
Potential_Inventory_Profit	Potential_Retail_Value - Inventory_Value (project methodology)
Year_Month	Date.ToText([Date], "yyyy-MM")
Year_Month_Sort	Year x 100 + Month_Number

Sales/product/calendar fields are supported by screenshots and saved outputs. Inventory Value is supported by its model, PivotTable and KPI output. Potential retail/profit fields reflect the project methodology; their full applied steps were not separately supplied. Inventory values must not be added to realised sales or profit.

Data Model measures

Displayed measure	Documented calculation logic
Total Sales	Sum Sales_Clean[Sales_Revenue]
Total Cost	Sum Sales_Clean[Total_Cost]
Gross Profit	Sum Sales_Clean[Gross_Profit]
Profit Margin	Gross Profit / Total Sales
Units Sold	Sum Sales_Clean[Units]
Transaction Count	Distinct count of Sales_Clean[Sale_ID] (project design); saved result 829,262
Inventory Value	Sum Inventory_Clean[Inventory_Value]

Measure names and results are present in PivotTables. The table describes their supported/project calculation logic; it is not an extraction of the exact native DAX definitions from the binary model.

Scenario selection and budget targets

Assumptions!B3 is the editable scenario selector. B4 selects growth and B5 selects cost change from the three scenario rows.

```
=IFERROR(INDEX($B$8:$B$10,MATCH($B$3,$A$8:$A$10,0)),0)

=IFERROR(INDEX($C$8:$C$10,MATCH($B$3,$A$8:$A$10,0)),0)
```

The formulas use exact-match MATCH. A missing scenario would fall back to zero because of IFERROR; select a valid dropdown entry so an invalid label does not silently behave like a zero-growth case.

Budget formulas: first data row (row 7)

Cell / field	Saved formula or equivalent row formula
C7 Prior_Year_Sales	=SUMIFS(tblMonthlyActuals[Sales_Revenue],tblMonthlyActuals[Month_Start],EDATE($A7,-12),tblMonthlyActuals[Product_Category],$B7)
D7 Growth_Target	=IFERROR(INDEX(tblCategoryTargets[Budget Growth Target],MATCH(tblBudget[[#This Row],[Category]],tblCategoryTargets[Category],0)),0)
E7 Budgeted_Sales	=C7*(1+D7)
F7 Actual_Sales	=SUMIFS(tblMonthlyActuals[Sales_Revenue],tblMonthlyActuals[Month_Start],$A7,tblMonthlyActuals[Product_Category],$B7)
G7 Sales_Variance	=F7-E7
H7 Sales_Variance_Pct	=IFERROR(G7/E7,0)
I7 Status	=IF(G7>=0,"Above Budget","Below Budget")
J7 Budgeted_Profit	=E7*Assumptions!$I$8
K7 Actual_Profit	=SUMIFS(tblMonthlyActuals[Gross_Profit],tblMonthlyActuals[Month_Start],$A7,tblMonthlyActuals[Product_Category],$B7)
L7 Profit_Variance	=K7-J7

Budget rows 7:51 cover 45 combinations. The date/category generation uses ROW, INT, MOD, DATE and INDEX. Positive sales variance is favourable; zero is labelled Above Budget by the implemented status formula.

Forecast formulas: first data row (row 7)

Cell / field	Saved formula or equivalent row formula
C7 Baseline_Sales	=SUMIFS(tblMonthlyActuals[Sales_Revenue],tblMonthlyActuals[Month_Start],EDATE($A7,-12),tblMonthlyActuals[Product_Category],$B7)
D7 Selected_Growth	=Assumptions!$B$4
E7 Forecasted_Sales	=C7*(1+D7)
F7 Baseline_Cost	=SUMIFS(tblMonthlyActuals[Total_Cost],tblMonthlyActuals[Month_Start],EDATE($A7,-12),tblMonthlyActuals[Product_Category],$B7)
G7 Cost_Change	=Assumptions!$B$5
H7 Forecasted_Cost	=F7*(1+D7)*(1+G7)
I7 Forecasted_Profit	=E7-H7
J7 Forecasted_Margin	=IFERROR(I7/E7,0)
K7 Scenario	=Assumptions!$B$3

Summary formulas

Forecast!A4 sums E7:E21 (sales), C4 sums H7:H21 (cost), E4 sums I7:I21 (profit), and G4 calculates E4/A4 with IFERROR. Budget!B2, D2, F2, J2 and L2 sum the corresponding tblBudget columns. Budget!H2 divides total sales variance by total budgeted sales.

Dashboard links

Dashboard cell	Source
C4	Assumptions!B3 scenario label
A13, J13, M13, A18	GETPIVOTDATA from Analysis!P3: Total Sales, Gross Profit, Profit Margin, Total Cost
D13	Budget!O2: Jan-Sep budget sales
G13	Budget!N5: Jan-Sep sales variance
D18 / H18	Forecast!A4 / Forecast!E4
L18	GETPIVOTDATA Inventory Value from Analysis!K60

GETPIVOTDATA reads the current supporting PivotTable context. Historical KPI slicers must connect to the Business KPIs PivotTable. The forecast chart reads its own PivotTable at Analysis!X55 and can remain stale until refreshed, even while directly linked forecast KPI cells already show the new scenario.