

# Index

## A

AND() function, 87  
AVERAGEIF() function, 58

## B

Back-office operations model, 28  
Bottom-up model, 119  
Business process outsourcing (BPO), 5

## C

Capital budgeting, 109  
CHOOSE() function, 73  
Comma-separated values (CSV), 196  
COUNTIF() function, 57  
COUNTIF() statement, 58

## D

Date and time functions  
  DATEDIF() function, 76  
  DATE() function, 82  
  DAYS360() function, 82  
  EOMONTH() function, 80  
  NETWORKDAYS.INTL() function, 75  
  WORKDAY() function, 78  
DATEDIF() function, 76  
DATE() function, 82  
DAYS360() function, 82  
Depreciation methods, 193

## Documentation

boredom factor, 141  
cell comments, 143  
final user guide, 141  
project/organization, 141  
spot checks, 142  
structures, 142  
  assumptions and inputs, 142  
  compatibility issues, 143  
  elasticity effects, 143  
  macros handling, 142  
  output sheets, 143  
  performance issues, 143  
  scope and goal, 142  
  worksheets, 144

## E

EFFINDEX() function, 97  
Environment tests, 134  
EOMONTH() function, 80

## Excel

AVERAGEIF() function, 58  
CHOOSE() function, 73  
COUNTIF() function, 57  
COUNTIF() statement, 58  
date and time functions  
  (see Date and time functions)  
IF() function, 52  
INDEX() function, 69  
logical (see Logical functions)  
Lookup functions, 59  
MATCH() function, 65

Excel (*cont.*)

- OFFSET() function, 71
- SUMIF() function, 55
- SUMIFS() function, 59
- SUMPRODUCT() function, 91
- UDFs (see User-defined functions (UDFs))
- VLOOKUP() (see VLOOKUP() function)

## Excel 2010/13, 145

**F, G, H**

## Feasibility assessment

- financial model tool
  - assessment, 177
  - assumptions, 179
  - description, 177
  - issues, 179
  - result, 178
  - risks, 178
- process, 173
- ranking, 179
- result, 180
- software package
  - assessment, 175
  - assumptions, 177
  - description, 174
  - issues, 176
  - results, 175
  - risks, 175

## Financial-based calculations

- calculating asset depreciation
  - asset life, 192
  - expected seven-year asset life, 192
  - functions formulas, 194
  - in Excel 2007, 192
  - inputs for calculation, 192
  - methods, 193
  - value of assets
    - after depreciation, 195
- calculating net present value (NPV)
  - corrected version, 202
  - discounted cash flows, 201
  - Excel NPV function, 202
  - initial investment, 202
  - time periods, 201
- calculating time periods
  - calculation mask, 190
  - include quarters, 190–191

- include years, 191

- pivot tables, 190

- calculations worksheet, 184–185

- database calculations

- CSV files, 196

- data base functions, 198

- data tables, 195

- DFUNCTIONNAME function, 198

- DSUM() database function, 199

- indices calculations

- base year times, 203

- growth data, 204–205

- historical data or forecast data, 203

- index table layout, 206

- visual representations, 203

- inputs worksheet, 184–185

- layout, 182

- pointing error, 186

- SUMPRODUCT() function, 183–184

- three-dimensional formula, 185

- whole range calculations

- efficient calculation method, 186

- highlight full range, 188

- inputs and calculations, 188–189

- range names, 188

- single cell link, 187

- whole range link, 187

## Financial modeling

- best practice model

- annual outputs, 47

- monthly outputs, 47

- best practices

- assumption register, 19–20

- automatic error checks, 29–30

- back-office operations model, 28

- constants inside formulas, 17–18

- duplicating assumption inputs, 20

- entire model, 28

- implicit assumptions, 16

- inconsistent formulas, 26

- inputs, calculations,

- and outputs separation, 12–13

- logical circularity, 22–24

- measurement unit, 21

- split complex calculation

- into smaller pieces, 29

- use consistent formulas, 24

- BPO, 5

- commercial bid model, 5

- corporate finance, 4
  - definition, 1
  - essential aspects, 43
  - governments and institutions, 5
  - insurance, 4
  - investment banking, 4
  - microsoft excel
    - design and build models, 2
    - dominant spreadsheet tool, 2
    - Excel 5.0 (Version 5), 3
    - Excel 95 (Version 7), 3
    - Excel 97 (Version 8), 3
    - Excel 2000 (Version 9), 3
    - Excel 2002 (Version 10), 3
    - Excel 2003 (Version 11), 3
    - Excel 2007 (Version 12), 4
    - Excel 2010 (Version 14), 4
    - Excel 2013 (Version 15), 4
    - functional spreadsheet applications, 2
    - modeler's tool, 2
    - software programs, 2
  - model building
    - accounting principles, 121
    - assumptions validation, 120–121
    - benchmark comparisons, 121
    - cash flow statement, 118
    - feasibility assessment, 122
    - financial information, 118
    - scenario and sensitivity analyses, 119
    - scope, 123
  - specification (see Model specification)
  - non-best practice model, 44–45
  - non-best practice vs. best practice model, 48
  - objectives and goals
    - corporate finance, 5
    - investments, 5
    - joint venture, 5
    - project financing, 5
    - transactions, 5
  - retail banking, 4
  - role of, 8
  - spreadsheet errors
    - (see Spreadsheet errors)
- Financial modeling life cycle
- definition, 116
  - key development stages, 116
  - model audit, 116
- Fudge factor, 160
- FV() function, 112
- ## I, J, K
- IF() function, 52
- INDEX() function, 69
- Inflation rates, 16
- International Financial Reporting Standards (IFRS), 121
- IRR() function, 111
- ISDATE() function, 102
- ISERROR() function, 90
- ## L
- LinkAddress() function, 95
- Logical and structural-based calculations
- ABS() function, 222
  - array calculations
    - average function, 210
    - closest match, 212
    - crosstab calculations, 213
    - OLAP cubes, 212
    - single values to more cells, 209
    - singular value to single cell, 209
    - with conditions, 211
  - BODMAS, 219–220
  - calculations linking, 219
  - condition function, 215
  - count functions, 221
  - dates and times function, 215
  - financial checks, 222
  - logical functions, 218–219
  - lookup functions, 214–215
  - mathematical
    - functions, 216–217
  - MOD() function, 223
  - PEMDAS, 220
  - precise situations function, 216
  - text functions, 218
- Logical functions
- AND() function, 87
  - ISERROR() function, 90
  - OR() function, 89
- Lookup functions, 59

**M**

- Macros test, 135
- MATCH() function, 65
- Math functions
  - MOD() function, 83
  - PRODUCT() function, 84
  - SUM() function, 86
- Model design
  - bottom-up method, 153
  - errors, planning for
    - displaying errors, 165–166, 168
    - template creation, 164
  - financial model
    - assessment, 170
    - business environment, 170
    - business information, 170
    - business opportunity, 172
    - business problem, 171
    - business technologies, 171
    - business vision, 170
    - current business unit, 170
    - definition, 168
    - feasibility assessment
      - (see Feasibility assessment)
    - feasibility study, 169
    - global business location, 170
    - organization needs/goals, 172
  - inputs, 158
  - managing complexity
    - data-flow table, 150
    - Excel models, 148
    - functions, 149
    - high-level design model, 149
    - model-fixed inputs template, 151
  - model calculations, 159–161
  - outputs, 154, 161–162
  - principles and action, 162–163
  - requirements, 147
  - styles/templates, 156–157
  - time scales, 155–156
  - tools, 152
  - top-down approach, 153–154
  - workbook structure, 158
- Modeling issues, 105
- Model specification
  - benefits, 127
  - business logic, 126

- defining calculations, 128
- defining inputs, 129
- defining outputs, 127–128
- requirements, 125
- sponsor's requirements, 125
- stakeholder sign off, 124
- VBA programming, 124

MOD() function, 83

**N**

NETWORKDAYS.INTL() function, 75

**O**

- OFFSET() function, 71
- Online analytical processing
  - (OLAP) cubes, 211
- OR() function, 89

**P, Q**

PRODUCT() function, 84

**R**

Robustness tests, 134

**S**

- Scenario analysis, 119
- Sensitivity analysis, 119
- Spreadsheet errors
  - absolute and relative
    - cell referencing, 38–39
  - critical aircraft
    - system management, 36
  - error checks
    - visual error checking, 39–40
  - logical errors, 35
  - Panko, Ray paper, 30–31
  - real-life errors, 34–35
  - reasons
    - data and recycling, 32
    - intrusions, 33
    - lack of planning, 32
    - unskilled users, 32
  - reviewer, 33–34
  - structural error, 37
  - trap errors, 36

SUMCOLOR() function, 99

SUM() function, 86  
UDFs, 93

SUMIF() function, 55

SUMIFS() function, 59

SUMPRODUCT() function, 91

SUMTB() function, 101

## T

Testing models

errors, types of

common mistake  
functions, 138

formula, 136

lookup and reference  
functions, 138

relative and absolute  
references, 137

unit errors, 138

wrong cell reference, 137

wrong range, 137

macros, 135

model audit, 132

numeric tests, 134

robustness tests

boundary tests, 135

environment tests, 134

role of, 140

specification tests, 136

technical skills, 132

test file, 139

testing commence, 133

unique formulas tests, 136

value of testing, 132

## U

User-defined functions (UDFs)

design and use, 95

EFFINDEX() function, 97

ISDATE() function, 102

LinkAddress() function, 95

SUMCOLOR() function, 99

SUMTB() function, 101

WORKSHEETSTATS(), 103

## V

VLOOKUP() function

Band, 64

catch errors, cell E21, 111

cell E7, 61

data, 64

formula, 61

Index\_number, 60

Not\_exact\_match, 60

salary determination, 61

table\_array, 60

WEEKDAY() function, 62

## W, X, Y, Z

WEEKDAY() function, 62

WORKDAY() function, 78

WORKSHEETSTATS() function, 103