Sales Analytics:

Case study: ==Blunder Pifflin==

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Tools Used: Excel

Scenario:

Dataset Description:

Based on the provided information, here are some inferences:

Dataset Overview:

The dataset contains 796 rows and 9 columns.
The columns include information such as S.No., Customer Name,
Sector, City, State, Postal Code, Region, Sales person assigned,
and Lead date.
The dataset is stored as a pandas DataFrame.
Data Quality:

There are ==no duplicate rows== in the dataset.
There are ==no missing values== in any of the columns.
Customer Analysis:

The dataset contains a total of 796 unique customers.
The customers are distributed across 7 sectors, with Financial
having the highest number of customers (135) followed by Service
(130), Manufacturing (118), Technology (111), Healthcare (103),
Retail (102), and Wholesale (97).
There are 252 unique cities in the dataset.
The top 10 cities with the most customers are New York City (68),
Los Angeles (58), Philadelphia (46), San Francisco (42), Seattle
(31), Houston (28), Columbus (22), Chicago (20), Dallas (13), and
San Diego (13).
State Analysis:

There are 41 unique states in the dataset.
The states with the highest number of customers are California
(162), New York (87), Texas (77), Pennsylvania (50), and Illinois
(42).

Postal Code Analysis:

There are 314 unique postal codes in the dataset.
The top 10 postal codes associated with the majority of customers
are 10035, 10009, 94110, 10024, 94122, 19134, 90036, 90045, 19140,
and 98115.
Region Analysis:

The dataset contains customers from four regions: South, West,
Central, and East.
The West region has the highest number of customers (256),
followed by East (220), Central (185), and South (135).
Salesperson Analysis:

The dataset includes information about salespersons, but the
specific details about their analysis or distribution are not
provided.
Overall, this analysis provides insights into the customer
distribution across sectors, cities, states, postal codes, and
regions, which can be useful for understanding the sales landscape
of Blunder Pifflin and identifying potential areas for improvement
or further analysis.

DASHBOARD

About the Dataset:

There are <mark>796</mark> rows in dataset

Following are column names:
 Index(['S.No.', 'Customer Name', 'Sector', 'City', 'State',
'Postal Code','Region', 'Sales person assigned', 'Lead date'],
      dtype='object')

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 796 entries, 0 to 795

Data columns (<mark>total 9 columns</mark>):
```
 #   Column                 Non-Null Count   Dtype
---  ------                 --------------   -----
 0   S.No.                  796 non-null     int64
 1   Customer Name          796 non-null     object
 2   Sector                 796 non-null     object
 3   City                   796 non-null     object
 4   State                  796 non-null     object
 5   Postal Code            796 non-null     int64
 6   Region                 796 non-null     object
 7   Sales person assigned  796 non-null     object
 8   Lead date              796 non-null     datetime64[ns]
dtypes: datetime64[ns](1), int64(2), object(6)
memory usage: 56.1+ KB
```
Summary of data:
 None

Are There any duplicate rows: False
<mark>no. of duplicate rows: 0</mark>
<mark>Are there any Missing Values: False</mark>
Column wise missing value: S.No.   0
Customer Name   0
Sector   0
City   0
State   0
Postal Code   0
Region   0
Sales person assigned   0
Lead date   0

```
dtype: int64
```

Sector wise distribution of customers

Out[62]:

```
Financial       135
Service         130
Manufacturing   118
Technology      111
Healthcare      103
Retail          102
Wholesale        97
Name: Sector, dtype: int64
```

['Henderson' 'Los Angeles' 'Fort Lauderdale'
'Concord' 'Seattle'
 'Fort Worth' 'Madison' 'West Jordan' 'San Francisco' 'Fremont'
 'Philadelphia' 'Orem' 'Houston' 'Richardson' 'Naperville' 'Melbourne'
 'Eagan' 'Westland' 'Dover' 'New Albany' 'New York City' 'Troy'
'Chicago'
 'Gilbert' 'Springfield' 'Memphis' 'Decatur' 'Durham' 'Rochester'
 'Minneapolis' 'Portland' 'Saint Paul' 'Aurora' 'Charlotte' 'Orland
Park'
 'Urbandale' 'Columbus' 'Bristol' 'Wilmington' 'Bloomington' 'Phoenix'
 'Roseville' 'Independence' 'Pasadena' 'Newark' 'Franklin' 'Scottsdale'
 'San Jose' 'Edmond' 'Carlsbad' 'San Antonio' 'Monroe' 'Fairfield'
 'Grand Prairie' 'Redlands' 'Hamilton' 'Westfield' 'Akron' 'Denver'
 'Dallas' 'Whittier' 'Saginaw' 'Medina' 'Dublin' 'Detroit' 'Columbia'
 'Santa Clara' 'Lakeville' 'San Diego' 'Brentwood' 'Chapel Hill'
 'Cincinnati' 'Inglewood' 'Tamarac' 'Colorado Springs' 'Lakewood'
 'Arlington' 'Arvada' 'Hackensack' 'Saint Petersburg' 'Long Beach'
 'Hesperia' 'Murfreesboro' 'Lowell' 'Manchester' 'Harlingen' 'Tucson'
 'Quincy' 'Taylor' 'Pembroke Pines' 'Des Moines' 'Peoria' 'Las Vegas'
 'Warwick' 'Miami' 'Huntington Beach' 'Lawrence' 'Jackson' 'New
Rochelle'
 'Gastonia' 'Jacksonville' 'Auburn' 'Park Ridge' 'Lindenhurst'
 'Huntsville' 'Fayetteville' 'Parker' 'Atlanta' 'Gladstone' 'Lakeland'
 'Montgomery' 'Mesa' 'Green Bay' 'Tampa' 'Marysville' 'Richmond'
'Salem'
 'Laredo' 'Grove City' 'Dearborn' 'Warner Robins' 'Mission Viejo'
 'Rochester Hills' 'Vancouver' 'Cleveland' 'Tyler' 'Burlington'
 'Waynesboro' 'Chester' 'Cary' 'Palm Coast' 'Mount Vernon' 'Hialeah'

'Austin' 'Oceanside' 'Evanston' 'Trenton' 'Cottage Grove' 'Bossier
City'
 'Lancaster' 'Asheville' 'Lake Elsinore' 'Santa Ana' 'Milwaukee'
 'Belleville' 'Louisville' 'Lorain' 'Linden' 'Salinas' 'New Brunswick'
 'Norwich' 'Riverside' 'Round Rock' 'Virginia Beach' 'Murrieta'
 'Saint Peters' 'Toledo' 'Brownsville' 'Oakland' 'Clinton' 'Roswell'
 'La Porte' 'Lansing' 'Escondido' 'Buffalo' 'Gulfport' 'Fresno'
 'Greenville' 'Florence' 'Providence' 'Pueblo' 'Deltona' 'Murray'
 'Middletown' 'Pico Rivera' 'Smyrna' 'Costa Mesa' 'Parma' 'Mobile'
 'Irving' 'Vineland' 'Niagara Falls' 'Thomasville' 'Coppell'
 'Laguna Niguel' 'Bridgeton' 'Everett' 'Allen' 'El Paso' 'Grapevine'
 'Olympia' 'Kent' 'Lafayette' 'Tigard' 'Washington' 'Skokie'
 'North Las Vegas' 'Suffolk' 'Indianapolis' 'Greensboro' 'Kenosha'
 'Olathe' 'Tulsa' 'Raleigh' 'Macon' 'Bowling Green' 'Spokane'
 'Charlottesville' 'Watertown' 'Broomfield' 'Perth Amboy' 'Ontario'
 'Baltimore' 'Boynton Beach' 'Stockton' 'College Station' 'Saint Louis'
 'Manteca' 'Salt Lake City' 'Marion' 'Littleton' 'Sioux Falls'
 'Fort Collins' 'Clarksville' 'Albuquerque' 'Elmhurst' 'Jamestown'
 'Mishawaka' 'La Quinta' 'Carrollton' 'Amarillo' 'Vallejo'
'Tallahassee'
 'Las Cruces' 'Encinitas' 'Hoover' 'Lake Charles' 'Glendale'
 'Lincoln Park' 'Apple Valley' 'Highland Park' 'Conroe' 'Plano'
'Mesquite'
 'Mcallen' 'Rockford' 'Daytona Beach' 'Oklahoma City' 'Lehi' 'Omaha'
 'Cranston' 'Arlington Heights']

==Top 10 cities with most customers:==

```
New York City    68
Los Angeles      58
Philadelphia     46
San Francisco    42
Seattle          31
Houston          28
Columbus         22
Chicago          20
Dallas           13
San Diego        13
Name: City, dtype: int64
```

==There are 41 States in dataset==

==States:==
['Kentucky' 'California' 'Florida' 'North Carolina' 'Washington'
'Texas'
 'Wisconsin' 'Utah' 'Nebraska' 'Pennsylvania' 'Illinois' 'Minnesota'

```
 'Michigan' 'Delaware' 'Indiana' 'New York' 'Arizona' 'Virginia'
 'Tennessee' 'Alabama' 'Oregon' 'Colorado' 'Iowa' 'Ohio' 'Missouri'
 'Oklahoma' 'New Mexico' 'Louisiana' 'Connecticut' 'New Jersey'
 'Massachusetts' 'Georgia' 'Nevada' 'Rhode Island' 'Mississippi'
 'Arkansas' 'Maryland' 'District of Columbia' 'Kansas' 'New Hampshire'
 'South Dakota']
```

<mark>State wise Distribution of customers</mark>

Out[57]:

```
California              162
New York                 87
Texas                    77
Pennsylvania             50
Illinois                 42
Washington               38
Ohio                     38
North Carolina           30
Florida                  24
Arizona                  21
Colorado                 20
Georgia                  17
Michigan                 16
Virginia                 15
Kentucky                 14
Minnesota                13
Tennessee                13
Indiana                  12
New Jersey               10
Massachusetts            10
Alabama                   9
Wisconsin                 9
Connecticut               7
Delaware                  6
Utah                      6
Missouri                  6
Louisiana                 6
Mississippi               5
Rhode Island              5
Maryland                  4
New Mexico                4
Oregon                    3
Oklahoma                  3
Iowa                      3
Nevada                    2
Arkansas                  2
Nebraska                  2
New Hampshire             2
District of Columbia      1
```

```
Kansas                    1
South Dakota              1
```

```
[42420 90036 33311 90032 28027 98103 76106 53711 84084 94109 68025
19140
 84057 90049 77095 75080 77041 60540 32935 55122 48185 19901 47150
10024
 12180 90004 60610 85234 22153 10009 38109 35601 94122 27707 60623
55901
 55407 97206 55106 80013 28205 60462 10035 50322 43229 37620 19805
61701
 85023 95661 64055 91104 43055 53132 85254 95123 98105 98115 73034
90045
 19134 88220 78207 77036 62521 71203  6824 75051 92374 45011  7090
19120
 44312 80219 75220 37064 90604 48601 44256 43017 48227 38401 95051
55044
 92037 77506 94513 27514 45231 94110 90301 33319 80906  8701 22204
80004
  7601 33710 19143 90805 92345 37130  1852 31907  6040 78550 85705
62301
  2038 48180 33024 98198 61604 89115  2886 33180 92646  1841 39212
10801
 28052 32216 77070 47201 13021 94521 60068 11757 92024 77340 14609
72701
 80134 30318 64118 48234 33801 36116 85204 60653 54302 45503 28403
33614
 90008 98270 40475 97301 78041 75217 43123 10011 48126 31088 92691
48307
 98661 60505 75081 44105 75701 27217 22980 19013 27511 32137 10550
33012
 78745 11572 60201 48183 55016 71111 50315 93534 28806 92530 92105
92704
 53209  7109 40214 44052  7036 93905  8901 17602 21044 49201  6360
92503
 78664 92054 80027 23464 92563 63376 43615 78521 94601 20735 30076
46350
 48911 92025 14215 39503 93727 27834 35630  2908 81001 94533 32725
42071
  6457 28540 90660 30080 24153 92627 44134 36608 75061  8360 14304
27360
 75019 92677  8302  2149 11561 75002 79907 76051 98502 98031 70506
97224
 20016 60076 89031 23434 46203 27405 53142 66062 74133 27604 31204
42104
```

```
  99207 22901 13601 76017 80020 36830  8861 91761 21215 33437 95207
 3820
  77840 63116 95336 44240 84106 35810 43302 80122 28110 85345 57103
 80525
  37042 87105 60126 28314 14701 46544 92253 75007 65807 79109 43130
 94591
  32303 84107 88001 35244 70601 85301 48146 92307 60035 77301 75023
 75150
  19711  2169 78501 61107 38301 32114 73120 84043 44107 68104  3301
 2920
  52601 60004]
```

Top 10 postal codes associated with majority no. of customers

```
10035    21
10009    20
94110    18
10024    17
94122    17
19134    15
90036    14
90045    13
19140    12
98115    12
Name: Postal Code, dtype: int64
```

Following are regions: ['South' 'West' 'Central' 'East']

```
Region-wise Customer distribution:
West       256
East       220
Central    185
South      135
```

```
The following are sales persons:
['Michael' 'Andy' 'Angela' 'Meredith' 'Toby' 'Jim' 'Ryan' 'Dwight'
 'Pam''Kelly']
```
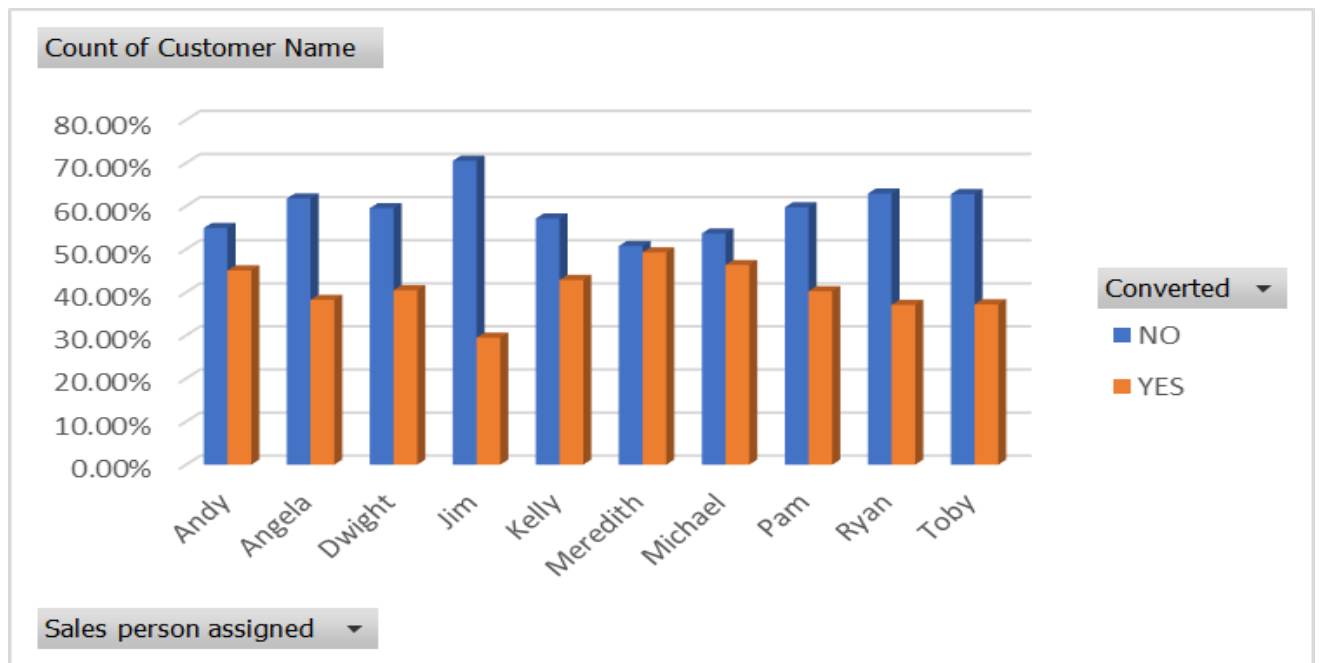
Customers associated with each salesperson

```
Jim        95
Ryan       89
Toby       86
Dwight     84
Michael    82
Pam        77
```

```
Kelly       77
Andy        71
Angela      68
Meredith    67
Name: Sales person assigned, dtype: int64
```
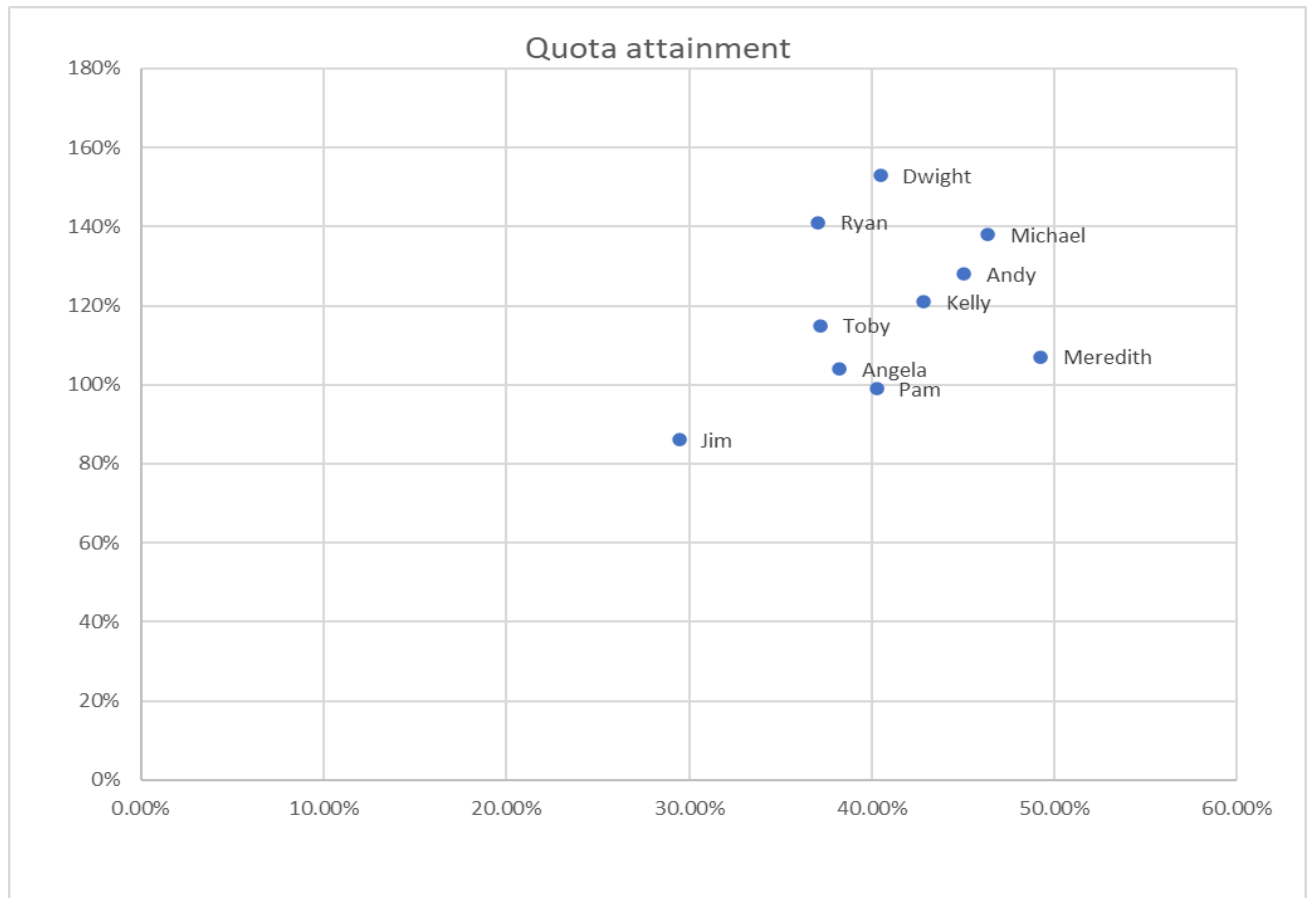
To measure the effectiveness of the solution, the following key performance indicators (KPIs) were used:

>Win Rates: Percentage of leads successfully converted into sales by each salesperson.

>Quota Attainment: Percentage of the assigned sales target achieved by each salesperson.

Quota attainment

>Average Sales: Average value of sales achieved for each product category.

Category wise average sales
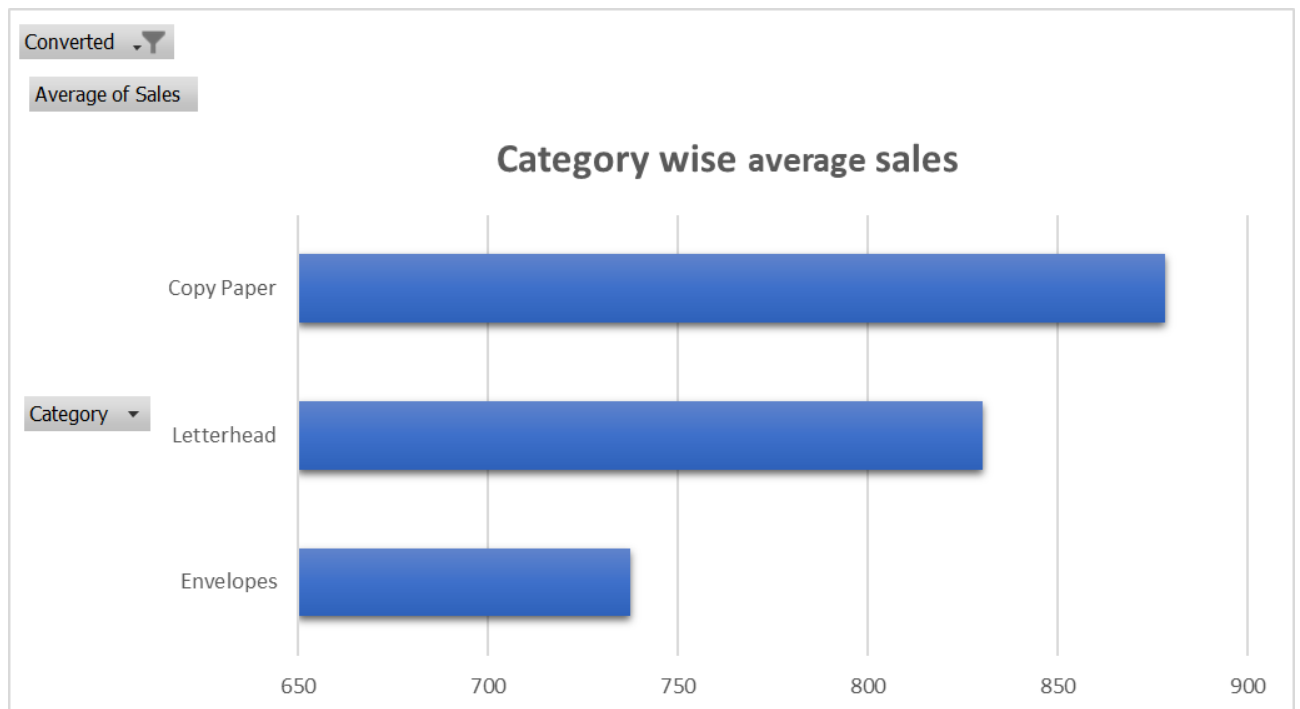
These KPIs provide valuable insights into sales performance, help identify areas for improvement, and enable effective resource allocation