### Project Report

### Int 217

**Project**

#### LOVELY PROFESSIONAL UNIVERSITY PHAGWARA, PUNJAB

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**A Data-Driven Dashboard of Interactive Sales for Multinational Product Performance Analysis**

**SUBMITTED BY -** Soumendra Brahmapada

**Registration Number:** 12322618

**Section** – K23GW

**Roll no**- 18

#### DECLARATION

I, Soumendra Brahmapada, hereby declare that the work done by me on “Excel Project” is a record of original work for the partial fulfilment of the requirements for the award of the degree of Bachelor of Technology in Computer Science - Data Science, Lovely Professional University, Phagwara.

Signature Signature

Name: Soumendra Brahmapada Mam Baljinder Kaur

Reg: No: 12322618 UID: 27952

# ACKNOWLEDGMENT

First and foremost, I would like to express my deepest gratitude to my college for providing me with the opportunity and resources to undertake this project.

I extend my sincere thanks to my Teacher, **Mam Baljinder Kaur,** for his invaluable guidance, constructive feedback, and constant encouragement throughout the project. His expertise and support were instrumental in achieving the objectives of this work.

Thank you all

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1. **Introduction** :- This project focuses on designing an interactive Excel-based sales dashboard that provides a holistic view of product performance across different regions, countries, and sales channels. The dataset captures key metrics such as units sold, unit price, revenue, and cost across a variety of product types and global markets. Through effective visualization tools like bar charts, pie charts, and time-series analysis, the dashboard enables users to track high-performing regions, compare online vs offline sales efficiency, identify top-selling countries, and monitor category-wise unit costs. With slicers and pivot tables enhancing interactivity.
2. Source of Dataset:-

<https://excelbianalytics.com/wp/downloads-18-sample-csv-files-data-sets-for-testing-sales/>

### **Dataset Preprocessing :-**

### Before building the dashboard, several preprocessing steps were carried out:

### Handling Missing Values NA or NAN Missing numerical values were replaced with the average value of the respective column.

### Data Cleaning Removed unnecessary columns and standardized text formatting such as location names.

### Column Selection Selected key columns relevant for analysis such as Region, Country, Sales Channel , Order Date, Order ID , Ship Date, Units Sold , Units Price , Units Cost , Total Revenue , Total Cost

### Data Type Fixing Ensured numeric columns were formatted correctly for accurate aggregation.

### Linkedin Post Link:-<https://www.linkedin.com/posts/soumend12_exceldashboard-lovelyprofessionaluniversity-activity-7316714596747079681-8Kdz/?rcm=ACoAAEc1GKYBR9ckh3hPMMZK7rFC8bYoY0KLWQE>

1. Analysis on Dataset:-

**Objective 1:-**

**Regional Sales Overview**  
i ) General Description: Analyze the total units sold across different regions to understand geographical demand distribution. C

ii) Specific Requirements:  
Create a pivot table with **Region** as rows and **Sum of Units Sold** as values. Use a bar chart for visualization.

iii) Analysis Results:  
Regions like **Asia** and **Australia and Oceania** have the highest number of units sold, indicating strong sales activity in these markets.

iv) Visualization:  
A **Bar Chart** titled “Units Sold by Region” with values represented along the Y-axis and regions on the X-axis.

**Objective 2:**

**Sales by Product Type**  
General Description**:**  
Understand which product categories contribute most to unit sales and assess their corresponding unit costs.

Specific Requirements**:**  
Use Item Type as rows and both Sum of Units Sold and Sum of Unit Cost as values in a pivot table.

Analysis Results**:**  
Although sample data showed only the “Household” category, this analysis would typically help identify top-selling products and those with higher associated costs.

Visualization:  
A Dual-Axis Bar Chart or Clustered Bar Chart showing both metrics side-by-side for comparison.

### Objective 3:

### ****Sales Channel Performance**** General Description: Compare unit sales performance between online and offline sales channels.

Specific Requirements:  
Create a pivot table with Sales Channel as rows and Sum of Units Sold as values.

Analysis Results:  
Offline sales slightly outperform online, indicating a greater volume of sales through physical or direct channels.

Visualization:  
A Pie Chart or Bar Chart titled *“Order Status”*, clearly showing the distribution between online and offline channels.

#### Objective 4:

**Top Performing Countries**

General Description:  
Identify the countries with the highest unit sales to focus on high-performing markets.

Specific Requirements:  
Create a pivot table with Country as rows and Sum of Units Sold as values. Filter to show the top 5 countries.

Analysis Results:  
Countries such as Nepal, Egypt, and Czech Republic lead in unit sales, indicating significant market potential.

Visualization:  
A Horizontal Bar Chart titled *“Sales: Top 5 Countries ”* with sorted values for better clarity.

**Objective 5**

**Monthly Sales Trend Analysis:-**

i. General Description:-  
This objective analyzes how sales volume, measured in units sold, fluctuates over time..

ii Specific Requirements:-  
Extract Order Date from the dataset and convert it to a Year-Month format. Group the data by this new time period.

iii Analysis Results  
The dataset spans multiple years and months, showing monthly variation in sales.

iv Visualization  
Line Chart or Area Chart enhanced with data labels and color codes.

1. **Conclusion :-**  
   The interactive sales dashboard provides a dynamic and insightful view of product performance across various dimensions such as region, item type, sales channel, and country. By converting raw transactional data into visually engaging charts and pivot tables, the dashboard simplifies complex datasets and enables users to make informed business decisions.
2. **Future Scope**  
   **Time-Based Sales Analysis:**  
   Incorporate monthly or yearly trends to observe seasonality or growth over time using line or area charts.

**Profitability Metrics:**Extend analysis to include profit margins by subtracting total cost from revenue to prioritize high-profit products.

**Customer Segmentation (if data available):**  
Include demographic or behavioral segmentation to tailor marketing strategies.

**Dynamic Filters and Automation:**  
Add dropdowns, macros, or slicers to make the dashboard fully interactive for non-technical users.

**7. References :**

1. **Excelbianalytics–Sales Data Analysis Projects**  
Community-driven insights on sales forecasting and dashboarding  
<https://excelbianalytics.com/wp/downloads-18-sample-csv-files-data-sets-for-testing-sales/>

2. Microsoft Excel Official Documentation  
<https://support.microsoft.com/en-us/excel>

3. **Excel Easy – Pivot Tables and Chart Tutorials**  
Step-by-step tutorials on Excel charts and pivot table creation

<https://www.excel-easy.com>