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SubjectName

Business Analytics

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Submitted by: **Submitted to:**

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1. Introduction

In today's competitive business environment, understanding sales patterns, customer behaviors, and profitability across regions is crucial for maintaining a competitive edge and fostering growth. This project involves a comprehensive analysis of sales data from a retail business to uncover trends, high-performing areas, and potential growth opportunities. The primary objective is to provide actionable insights based on detailed examination of various sales metrics, profit distributions, and customer data.

This dataset spans multiple years and includes granular details on monthly sales, product categories, customer preferences, and regional performance. It also highlights specific insights into the top 5 customers and their contribution to overall profit, which is valuable for shaping targeted marketing and customer retention strategies. Additionally, the dataset presents a breakdown of sales by state, enabling a geographically segmented analysis to identify regions that could benefit from targeted sales efforts.

Through this analysis, we aim to address the following questions:

- Which product categories are driving the most revenue and profit for the business?
- Are there specific months or seasons with higher sales, and how can these patterns be leveraged?
- Who are the top customers, and how significant is their contribution to profitability?
- Which states or regions show promising sales trends, and how can we enhance market presence in these areas?

The insights from this report will serve as a foundation for strategic recommendations aimed at enhancing the company's overall profitability. By understanding these patterns, the business can optimize its resources, target high-value customer segments, and allocate marketing efforts more efficiently across high-growth regions.

This project report will outline key tasks, provide strategic recommendations based on data-driven insights, and summarize learning outcomes that contribute to a better understanding of data analysis in a business context.

2. Tasks to Be Completed

- **Sales Analysis**:
    - Conduct a thorough analysis of sales data to identify high-performing and underperforming categories, months, and regions.
    - Examine monthly sales trends to find seasonal patterns or trends.

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- **Profit Assessment**:

  o Evaluate profits gained across different categories (e.g., Furniture, Office Supplies, Technology) by year to determine the most profitable sectors.

  o Highlight profit patterns across time to suggest areas for improvement.

- **Customer Analysis**:

  o Analyze the top 5 customers to understand characteristics of high-value clients.

  o Assess customer distribution across regions to help focus on growth in states with potential.

- **State-wise Sales**:

  o Analyze sales distribution across states to recommend areas for regional marketing efforts or expansion.

Software Used- MS Excel

DATA-

Order Date	Year	Month	Customer Name	State	Category	Sub-Category	Product Name	Sales	Quantity	Profit
03-01-2014	2014	1	Darren Powers	Texas	Office Supplie	Paper	Message Book, Wir	16.45	2	5.55
04-01-2014	2014	1	Phillina Ober	Illinois	Office Supplie	Labels	Avery 508	11.78	3	4.27
04-01-2014	2014	1	Phillina Ober	Illinois	Office Supplie	Storage	SAFCO Boltless Ste	272.74	3	-64.77
04-01-2014	2014	1	Phillina Ober	Illinois	Office Supplie	Binders	GBC Standard Plast	3.54	2	-5.49
05-01-2014	2014	1	Mick Brown	Pennsylvar	Office Supplie	Art	Avery Hi-Liter EverE	19.54	3	4.88
06-01-2014	2014	1	Lycoris Saunders	California	Office Supplie	Paper	Xerox 225	19.44	3	9.33
06-01-2014	2014	1	Jack O'Briant	Georgia	Office Supplie	Art	Dixon Prang Water	12.78	3	5.24
06-01-2014	2014	1	Maria Etezadi	Kentucky	Furniture	Chairs	Global Deluxe High	2573.82	9	746.41
06-01-2014	2014	1	Maria Etezadi	Kentucky	Office Supplie	Binders	Ibico Hi-Tech Manu	609.98	2	274.49
06-01-2014	2014	1	Maria Etezadi	Kentucky	Office Supplie	Art	Rogers Handheld B	5.48	2	1.48
06-01-2014	2014	1	Maria Etezadi	Kentucky	Technology	Phones	GE 30524EE4	391.98	2	113.67
06-01-2014	2014	1	Maria Etezadi	Kentucky	Technology	Phones	Wireless Extenders	755.96	4	204.11
06-01-2014	2014	1	Maria Etezadi	Kentucky	Office Supplie	Fasteners	Alliance Super-Size	31.12	4	0.31
06-01-2014	2014	1	Maria Etezadi	Kentucky	Office Supplie	Paper	Southworth 25% Co	6.54	1	3.01
07-01-2014	2014	1	Vivek Sundaresam	Texas	Furniture	Furnishings	Howard Miller 14-1/	76.73	3	-53.71
07-01-2014	2014	1	Vivek Sundaresam	Texas	Office Supplie	Binders	Acco Four Pocket P	10.43	7	-18.25
09-01-2014	2014	1	Melanie Seite	Texas	Office Supplie	Art	Newell 312	9.34	2	1.17
09-01-2014	2014	1	Melanie Seite	Texas	Technology	Accessories	Memorex Micro Tra	31.20	3	9.75
10-01-2014	2014	1	Anthony Jacobs	Virginia	Office Supplie	Labels	Avery 482	2.89	1	1.36
10-01-2014	2014	1	Anthony Jacobs	Virginia	Furniture	Furnishings	Howard Miller 11-1/	51.94	1	21.30
11-01-2014	2014	1	Seth Vernon	Delaware	Furniture	Furnishings	DAX Value U-Chanr	9.94	2	3.08
13-01-2014	2014	1	Chris Selesnick	Louisiana	Office Supplie	Envelopes	Staple envelope	11.36	2	5.34
13-01-2014	2014	1	Chris Selesnick	Louisiana	Office Supplie	Envelopes	Brown Kraft Recycl	50.94	3	25.47
13-01-2014	2014	1	Chris Selesnick	Louisiana	Technology	Accessories	Plantronics S12 Cor	646.74	6	258.70
13-01-2014	2014	1	Chris Selesnick	Louisiana	Office Supplie	Binders	3-ring staple pack	5.64	3	2.71
13-01-2014	2014	1	Chris Selesnick	Louisiana	Office Supplie	Storage	Fellowes Stor/Draw	572.58	6	34.35
13-01-2014	2014	1	Natalie DeCherney	South Caro	Furniture	Chairs	Global Highback Le	545.94	6	87.35
13-01-2014	2014	1	Brian Dahlen	California	Office Supplie	Storage	Tennsco 6- and 18-(	1325.85	5	238.65
13-01-2014	2014	1	Brian Dahlen	California	Furniture	Bookcases	O'Sullivan Elevatior	334.00	3	3.93
13-01-2014	2014	1	Brian Dahlen	California	Office Supplie	Art	4009 Highlighters b	19.90	5	6.57
13-01-2014	2014	1	Michael Moore	Ohio	Office Supplie	Paper	Xerox 1923	37.41	7	13.09
13-01-2014	2014	1	Michael Moore	Ohio	Office Supplie	Binders	Avery Metallic Poly	3.44	2	-2.52

3. Recommendations

Based on the data analysis, the following recommendations could be considered:

- **Focus on High-Profit Categories**: Categories like Technology show consistent profit. Targeting promotions or expanding product ranges in these categories could further boost revenue.
- **Expand in High-Growth States**: States with high sales volume, like Arizona, can be the focus for deeper market penetration efforts.
- **Engage Top Customers**: Special programs or rewards for top customers can enhance loyalty and sustain revenue.
- **Monthly Sales Optimization**: Identifying and preparing for peak months, as seen in high-sales months (like March), with special offers can optimize sales during these periods.

- **Sales by category-**

Row Labels	Sum of Sales			
Phones	330007.1		Phones	330007.1
Chairs	328167.76		Chairs	328167.8
Storage	223843.59		Storage	223843.6
Tables	206965.68		Tables	206965.7
Binders	203412.77		Binders	203412.8
Machines	189238.68		Machines	189238.7
Accessories	167380.31		Accessorie:	167380.3
Copiers	149528.01		Copiers	149528
Bookcases	114880.05		Bookcases	114880.1
Appliances	107532.14		Appliances	107532.1
Furnishings	91705.12		Furnishing:	91705.12
Paper	78479.24		Paper	78479.24
Supplies	46673.52		Supplies	46673.52
Art	27118.8		Art	27118.8
Envelopes	16476.38		Envelopes	16476.38
Labels	12486.3		Labels	12486.3
Fasteners	3024.25		Fasteners	3024.25

- **Profit Gained-**

Sum of Profit	Column Labels			
Row Labels	Furniture	Office Supplies	Technology	Grand Total
2014	5469.77	22593.4	21492.95	49556.12
2015	3015.17	25099.55	33503.97	61618.69
2016	6959.93	35061.24	39774.1	81795.27
2017	3018.44	39736.69	50684.64	93439.77

- **Monthly Sales**

Row Labels	Sum of Sales
1	94924.87
2	59751.26
3	205005.51
4	137480.79
5	155028.83
6	152718.72
7	147238.11
8	159043.99
9	307649.96
10	200323.03
11	352461.09
12	325293.54

Year		
2014		
2015		
2016		
2017		

- **Top 5 Customers-**

Row Labels	Sum of Profit			
Tamara Chand	8981.32		Tamara Chand	8981.32
Raymond Buch	6976.09		Raymond Buch	6976.09
Sanjit Chand	5757.42		Sanjit Chand	5757.42
Hunter Lopez	5622.43		Hunter Lopez	5622.43
Adrian Barton	5444.81		Adrian Barton	5444.81
Tom Ashbrook	4703.8			
Christopher Martinez	3899.91			
Keith Dawkins	3038.58			
Andy Reiter	2884.61			
Daniel Raglin	2869.08			
Tom Boeckenhauer	2798.37			
Nathan Mautz	2751.69			
Sanjit Engle	2650.67			
Bill Shonely	2616.06			
Harry Marie	2437.97			
Todd Sumrall	2371.73			
Brian Moss	2199.28			
Christopher Conant	2177.05			
Jane Waco	2173.71			
Helen Wasserman	2164.17			
Greg Tran	2163.42			
Laura Armstrong	2059.13			
Adam Bellavance	2054.6			
Fred Hopkins	2050.28			
Pete Kriz	2038.26			
Steven Roelle	1990.43			
Shirley Daniels	1985.19			
Clay Ludtke	1933.79			
Robert Marley	1902.55			
Alan Dominguez	1869.92			

- **Sales by State-**

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Row Labels	Sum of Sales			
Alabama	19510.64		Alabama	19510.64
Arizona	35282.02		Arizona	35282.02
Arkansas	11678.13		Arkansas	11678.13
California	457687.68		California	457687.7
Colorado	32108.12		Colorado	32108.12
Connecticut	13384.36		Connecticu	13384.36
Delaware	27451.07		Delaware	27451.07
District of Columbia	2865.02		District of (	2865.02
Florida	89473.73		Florida	89473.73
Georgia	49095.84		Georgia	49095.84
Idaho	4382.49		Idaho	4382.49
Illinois	80166.16		Illinois	80166.16
Indiana	53555.36		Indiana	53555.36
Iowa	4579.76		Iowa	4579.76
Kansas	2914.31		Kansas	2914.31
Kentucky	36591.75		Kentucky	36591.75
Louisiana	9217.03		Louisiana	9217.03
Maine	1270.53		Maine	1270.53
Maryland	23705.52		Maryland	23705.52
Massachusetts	28634.44		Massachus	28634.44
Michigan	76269.61		Michigan	76269.61
Minnesota	29863.15		Minnesota	29863.15
Mississippi	10771.34		Mississippi	10771.34
Missouri	22205.15		Missouri	22205.15
Montana	5589.35		Montana	5589.35
Nebraska	7464.93		Nebraska	7464.93
Nevada	16729.1		Nevada	16729.1
New Hampshire	7292.52		New Hamp	7292.52
New Jersey	35764.32		New Jersey	35764.32
New Mexico	4783.54		New Mexic	4783.54

- **Customer Count-**

Year	Customer Name		Row Labels	Count of Customer Name
2014	Darren Powers			
2014	Phillina Ober			
2014	Mick Brown			
2014	Lycoris Saunders			
2014	Jack O'Briant			
2014	Maria Etezadi			
2014	Vivek Sundaresam			
2014	Melanie Seite		Row Labels	Count of Customer Name
2014	Anthony Jacobs		2014	595
2014	Seth Vernon		2015	573
2014	Chris Selesnick		2016	638
2014	Natalie DeCherney		2017	693
2014	Brian Dahlen			
2014	Michael Moore			
2014	Brendan Sweed			
2014	Erica Hackney			
2014	Delfina Latchford			
2014	David Wiener			
2014	Toby Swindell			
2014	Hunter Lopez			
2014	Mark Van Huff			
2014	Xylona Preis			
2014	Muhammed MacIntyre			
2014	Tom Boeckenhauer			

- **Dashboard-**
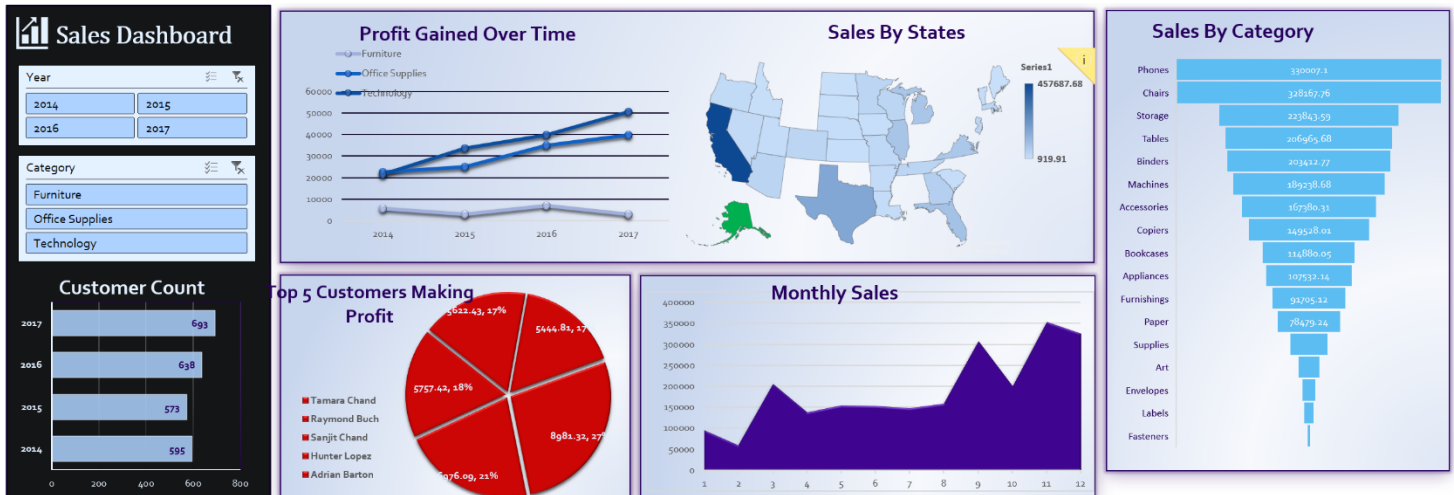
Learning Outcomes-

- **Data Analysis Skills**: Improved understanding of handling large datasets, analyzing sales patterns, and identifying trends in a business context.

- **Excel Proficiency**: Enhanced skills in using Excel for data aggregation, analysis, and visualization, essential for generating business insights.

- **Strategic Thinking**: Ability to interpret data insights and formulate strategic recommendations that align with business objectives.