Spend Analysis on Cosmetic Products Using Anaplan

Swati Muralidhar Iyer[1], Mr. C. M. Patil[2]
[1]*M. Tech Student, Department of Electronics & Telecommunication Engineering, Padmabhooshan Vasantraodada Patil Institute of Technology, Budhgaon, Sangli, Maharashtra, India*
[2]*Assistant Professor, Department of Electronics & Telecommunication Engineering, Padmabhooshan Vasantraodada Patil Institute of Technology, Budhgaon, Sangli, Maharashtra, India*

***Abstract*—Spend analysis plays a significant role in procurement and financial management by helping organizations monitor expenditures, identify inefficiencies, and optimize operational costs. The cosmetics industry involves complex procurement activities due to the large variety of products, suppliers, and distribution channels. Traditional spend tracking methods based on spreadsheets and disconnected systems often result in fragmented data, poor visibility, and ineffective decision-making. This paper presents a centralized spend analysis system for cosmetic products using Anaplan, a cloud-based connected planning platform. The proposed system integrates procurement records, vendor information, and product category data into a unified analytical environment. The developed model supports real-time spend monitoring, vendor comparison, category-wise expenditure analysis, and dashboard-based reporting. The system also incorporates automated email notifications for real-time communication and operational updates. The implementation of Anaplan improves procurement transparency, enables efficient vendor management, and helps identify cost-saving opportunities. The proposed solution enhances financial control, reduces operational inefficiencies, and supports strategic procurement planning within the cosmetics industry.**

***Index Terms*—Spend Analysis, Anaplan, Procurement Analytics, Cosmetics Industry, Vendor Management, Dashboard Reporting, Financial Management.**

I. INTRODUCTION

The cosmetics industry is rapidly growing due to increasing customer demand for skincare, haircare, makeup, and beauty products. Organizations operating in this sector manage large volumes of procurement transactions involving raw materials, packaging materials, transportation services, vendor contracts, and inventory management. Managing such procurement activities using traditional systems often leads to fragmented data, duplicate purchases, poor supplier visibility, and inaccurate financial reporting.

Spend analysis is a procurement management technique used to collect, cleanse, classify, and analyze organizational expenditure data. It helps organizations understand spending behavior, identify procurement inefficiencies, evaluate supplier performance, and optimize operational costs. Modern organizations are increasingly adopting digital platforms to centralize procurement information and support real-time decision-making.

Anaplan is a cloud-based connected planning platform that enables organizations to integrate procurement data, automate analytical processes, and generate interactive dashboards for business intelligence. The platform supports multidimensional analysis, real-time reporting, and collaborative planning across departments.

The objective of this work is to develop a spend analysis model for cosmetic products using Anaplan. The proposed system provides category-wise expenditure analysis, vendor comparison, trend analysis, KPI dashboards, and automated communication features. The implementation aims to improve procurement transparency, optimize spending, and enhance financial decision-making.

II. LITERATURE REVIEW

A. Spend Analysis and Strategic Sourcing

Kirit Pandit and Harry Marmanis explained spend analysis as a strategic procurement methodology used to improve sourcing decisions through expenditure classification and supplier analysis. Their work highlighted procurement visibility, supplier consolidation, and cost optimization through proper data standardization and categorization.

B. Digital Spend Management Systems

Ibrahim (2025) studied modern spend management tools and identified the importance of cloud-based procurement platforms in improving organizational efficiency. The research emphasized real-time expenditure monitoring, predictive analytics, and procurement transparency.

C. Spend Analytics in Supply Chains

Omoegun et al. (2024) analyzed category management and spend analytics within engineering supply chains. Their research concluded that spend analytics improves supplier collaboration, procurement planning, and inventory optimization.

D. Procurement and Financial Performance

Georgino et al. (2021) investigated procurement processes and financial performance. The study found that organizations implementing spend analytics achieved improved budgeting accuracy, procurement efficiency, and supplier relationship management.

E. Indirect Procurement Analysis

Israel and Curkovic (2020) discussed challenges associated with indirect procurement management and identified spend analysis as an effective approach for improving expenditure visibility and cost control.

III. OBJECTIVES

The objectives of the proposed system are as follows:

1. To study spending behavior in the cosmetics industry.
2. To implement a centralized, spend analysis system using Anaplan.
3. To enable real-time monitoring and reporting of procurement activities.
4. To analyze vendor performance and category-wise expenditure.
5. To integrate automated email communication for operational updates.

IV. PROBLEM STATEMENT

Organizations in the cosmetics industry face several operational and financial challenges due to fragmented procurement systems and lack of centralized expenditure monitoring. Procurement, finance, and inventory departments often maintain separate records, making it difficult to obtain consolidated spending information. The absence of real-time spend visibility results in duplicate purchases, inefficient supplier management, delayed procurement decisions, and increased operational expenses. Organizations also face difficulties in identifying cost-saving opportunities due to poor analytical capabilities and inconsistent procurement data. Therefore, there is a need for an integrated spend analysis system capable of centralizing procurement information, improving supplier evaluation, and supporting data-driven financial decision-making.

V. PROPOSED METHODOLOGY

A. Data Collection

Procurement and financial data are collected from organizational databases, ERP systems, spreadsheets, and vendor management systems. The collected data includes purchase orders, invoices, payment records, vendor information, and procurement transactions.

1) Procurement Data

Procurement data includes:

1. Purchase orders
2. Invoices
3. Payment transactions
4. Contract records
5. Goods receipt information

2) Vendor Details

Vendor information includes:

1. Supplier names
2. Vendor IDs
3. Pricing agreements
4. Delivery schedules
5. Supplier ratings

3) Product Categories

Procurement items are categorized into:

1. Skincare products
2. Packaging materials
3. Logistics services
4. Office supplies
5. Raw materials

B. Data Preparation

1) Data Cleaning and Validation

Duplicate records, missing values, and inconsistent transaction formats are corrected to improve data

quality and analytical accuracy.

2) Categorization and Structuring
Procurement records are categorized based on vendor type, product category, department, and spending period to support analytical processing.

C. Model Development
1) Creation of Anaplan Modules
Separate Anaplan modules are developed for:
1. Procurement transactions
2. Vendor management
3. Product categories
4. Budget analysis
5. Spend summaries

2) KPI and Dashboard Design
Interactive dashboards are designed to display:
1. Total organizational spend
2. Vendor-wise expenditure
3. Category-wise spending
4. Procurement trends
5. Supplier performance indicators

D. Analysis
1) Trend Analysis
Historical procurement data is analyzed to identify monthly and yearly spending patterns.

2) Vendor Comparison
Suppliers are evaluated based on:
1. Procurement volume
2. Pricing
3. Delivery performance
4. Service quality

3) Cost Distribution
Expenditure distribution across departments, product categories, and suppliers is analyzed to identify major cost drivers.

VI. SYSTEM FEATURES

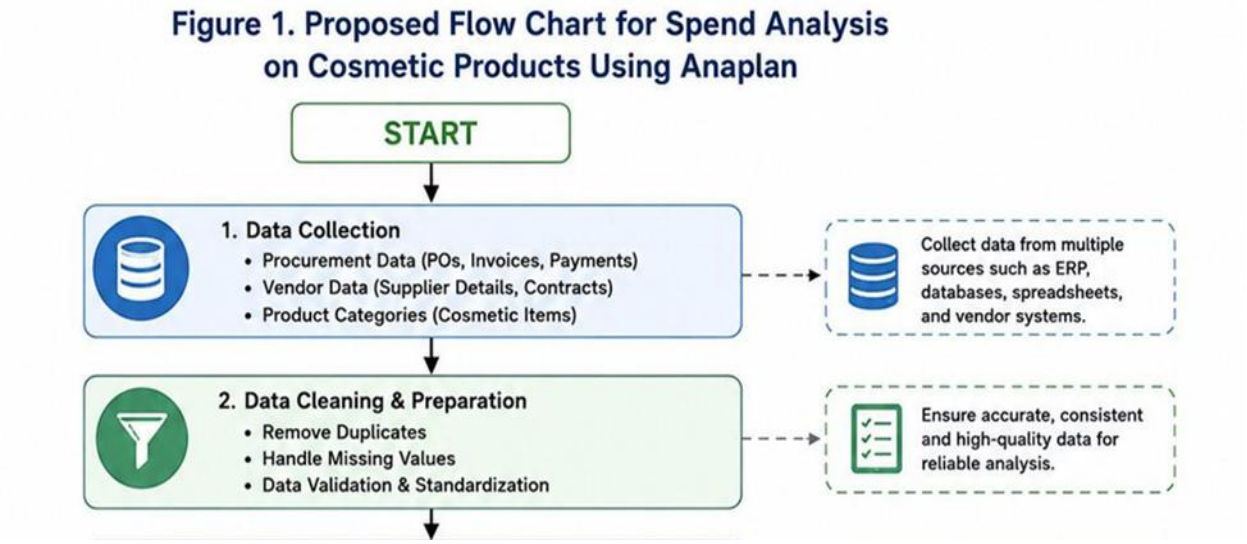
A. Data Hub
The centralized data hub stores:
- Product data
- Vendor data
- Procurement records
- Transaction history

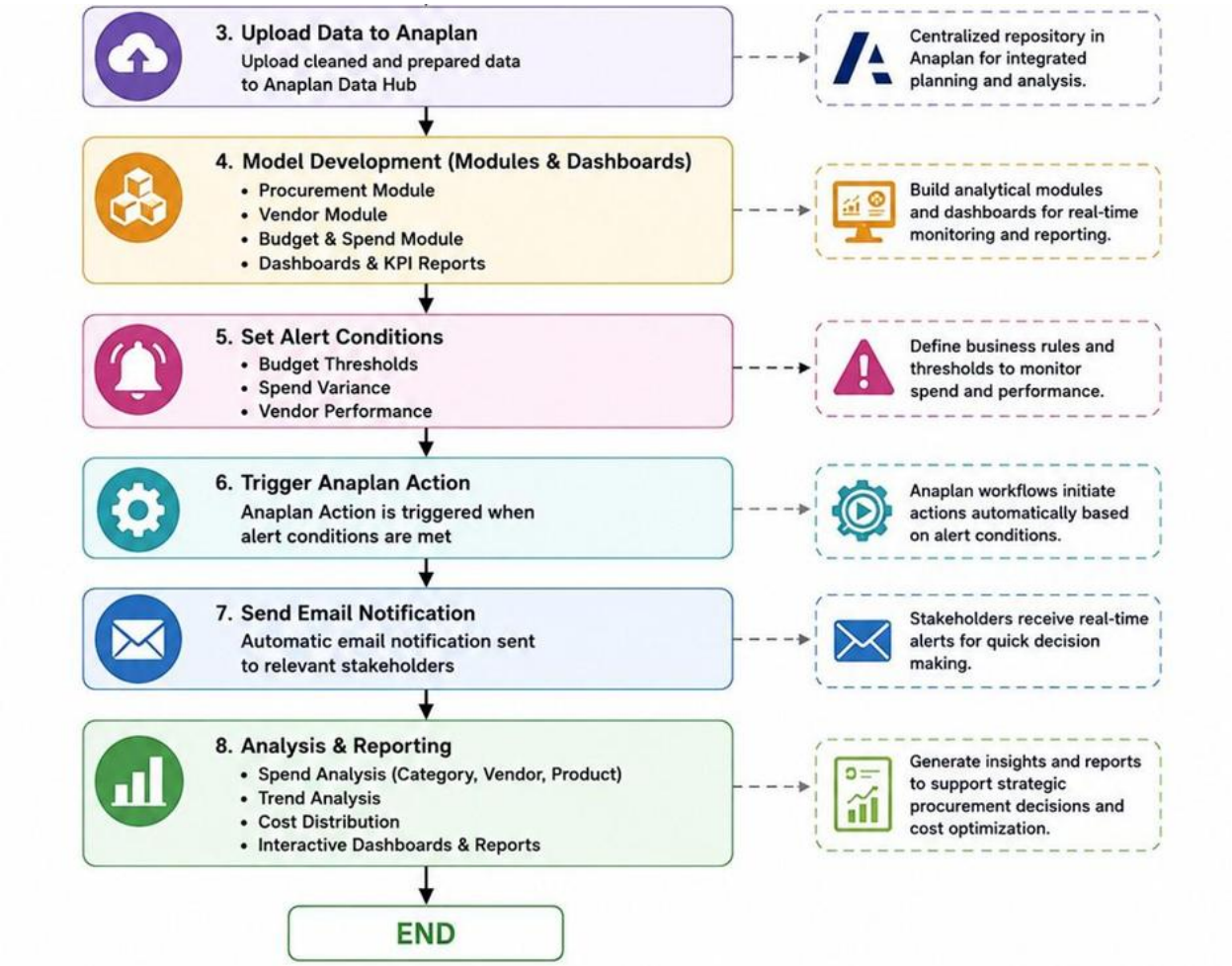
B. Dashboard Features
The developed dashboards provide:
- Real-time updates
- Interactive filtering
- Drill-down analysis
- KPI visualization

C. Automated Communication
Automated email notifications are integrated through Anaplan actions for procurement alerts and operational communication.

VII. PROPOSED FLOW CHART

Figure 1. Proposed Flow Chart for Spend Analysis on Cosmetic Products Using Anaplan





VIII. CONCLUSION

This paper presented a spend analysis system for cosmetic products using Anaplan. The proposed solution integrated procurement records, vendor information, and expenditure data into a centralized analytical platform. The developed model enabled real-time reporting, vendor analysis, trend analysis, and automated communication.

The implementation improved procurement transparency, enhanced supplier management, and identified opportunities for cost optimization. The proposed system supports efficient procurement planning and contributes to improved financial decision-making within the cosmetics industry. Future work may include artificial intelligence-based forecasting and predictive procurement analytics for advanced decision support.

ACKNOWLEDGMENT

The author expresses sincere gratitude to Mr. C. M. Patil for his valuable guidance and continuous support throughout the research work. The author also thanks the Department of Electronics & Telecommunication Engineering, Padmabhooshan Vasantraodada Patil Institute of Technology, Budhgaon, Sangli, for providing necessary facilities and encouragement.

REFERENCES

[1] P. Chowdhary, M. Ettl, A. Dhurandhar, S. Ghosh, G. Maniamchari, B. Graves, W. Schaefer, and Y. Tang, “Managing procurement spend using advanced compliance analytics,” *IEEE International Conference on e-Business Engineering (ICEBE)*, 2011.

[2] S. Mukherjee, D. Fradkin, and M. Roth, “Classifying spend descriptions with off-the-shelf

learning components," IEEE International Conference on Tools with Artificial Intelligence (ICTAI), 2008.

[3] M. Singh, J. Kalagnanam, S. Verma, and A. Shah, "Automated cleansing for spend analytics," ACM CIKM Conference, 2005.

[4] O. M. Filani, G. C. Nwokocha, and O. B. Alao, "Digital spend analysis model enabling supplier consolidation," International Journal of Multidisciplinary Research and Growth Evaluation, 2020.

[5] X. Li, V. Culmone, B. De Reyck, and O. S. Yoo, "Automating procurement practices using artificial intelligence," INFORMS Journal on Applied Analytics, 2025.

[6] M. Langseth and M. Haddara, "Spend analytics in Norwegian public procurement: adoption status and influencing factors," International Journal of Information Systems and Project Management, 2024.

[7] G. Omoegun et al., "Systematic review of category management and spend analytics in engineering supply chains," International Journal of Scientific Research in Science, Engineering and Technology, 2024.

[8] K. Pandit and H. Marmanis, "Spend analysis: The window into strategic sourcing," Supply Chain Management Review, 2008.

[9] R. M. Monczka et al., Purchasing and Supply Chain Management. McGraw-Hill Education, 2016.

[10] A. J. Van Weele, Purchasing and Supply Chain Management. Cengage Learning, 2018.

[11] D. Israel and S. Curkovic, "Indirect procurement: A literature review and study of trends," *Journal of Supply Chain Management Research*, 2020.