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COMPONENT 2

Impact of Festive Seasons on E-Commerce Sales Through Social Media Marketing

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Certificate

*This is to certify that PRASHAANT C (2362352), STEPHEN AKASH J (2362368), ALWIN J (2362310) has successfully completed the Report entitled "*Impact of Festive Seasons on E-Commerce Sales Through Social Media Marketing*" for the course Social Media And Web Analytics (*CSEDS633P*) in partial fulfillment for the award of Bachelor of Technology during the year 2025-2026.*

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ABSTRACT

The digital commerce landscape has undergone a radical transformation, where the traditional sales funnel is now heavily influenced by the volatile yet powerful currents of social media engagement. This research project investigates the intricate relationship between festive season cycles and e-commerce performance, specifically focusing on how social media "earned media" acts as both a leading indicator and an amplifier of consumer purchasing behaviour. While festive seasons naturally drive higher transaction volumes, the precise quantification of social media's interference in these cycles remains a challenge for most decision-makers. To address this, we have developed a robust decision-support analytics dashboard designed to simulate and visualize these cause-and-effect relationships using a sophisticated data pipeline.

The system architecture utilizes a React.js frontend for high-performance visualization and a Flask-based Python backend integrated with an SQLite database for time-indexed data management. At the core of the application lies a four-tier processing engine that handles everything from data normalization to the computation of derived metrics like the "Social Buzz Index" and "Sales Uplift Percentages." Unlike static reporting tools, this system implements advanced analytical modules such as Lag and Lead Analysis, which identifies the temporal gap between social media campaigns and peak revenue, and Counterfactual Modeling, which estimates a baseline "no-social" scenario to isolate the true impact of digital marketing. By aligning disparate datasets on a common daily resolution timeline, the dashboard provides a granular view of how sentiment, engagement, and platform-specific metrics converge to drive sales during peak periods. The final implementation demonstrates that social media buzz often peaks three to seven days prior to sales surges, offering vital lead-time insights for inventory and marketing optimization. This project serves as a comprehensive framework for understanding the digital amplification of festive commerce through rigorous data-driven simulation.

TABLE OF CONTENTS

Content	Page Number
1. INTRODUCTION	1
1.1 Introduction about the topic	1
1.2 Objectives	1
1.3 Motivation	2
2. LITERATURE REVIEW / RELATED WORK	3
2.1 Summary of existing work	3
2.2 Gaps Identified	4
2.3 Contributions to overcome the gaps	4
3. PROPOSED SYSTEM / ARCHITECTURE	6
3.1 Dataset Description	6
3.2 Architecture of the Proposed work	6
3.3 Block diagrams / flow charts	7
3.4 Explanation of algorithm used	9
4. IMPLEMENTATION	10
4.1 Step by step implementation	10
4.2 Techniques used in the project	11
4.3 Screenshots of outputs with explanation	11
5. RESULTS AND DISCUSSION	16
5.1 Results of the project	16
5.2 Interpretations	16
6. PERFORMANCE ANALYSIS	18
6.1 Performance metrics used	18

6.2 Comparison with existing models	20
7. CONCLUSION AND FUTURE WORK	22
7.1 Conclusion	22
7.2 Future Enhancement	23
8. APPENDIX	26
8.1 Dataset	26
8.2 Code	27
9. REFERENCES	39

LIST OF FIGURES

Figure No.	Figure Description / Title	Page Number
Figure 3.1	System Architecture of Festive Analytics Dashboard	7
Figure 3.2	Data Initialization and Seeding Pipeline Flowchart	8
Figure 4.1	Executive Summary Snapshot: KPI Metrics Display	12
Figure 4.2	Festive Timeline Analysis: Dual-Axis Revenue & Buzz	12
Figure 4.3	Platform-wise Social Media Contribution Breakdown	13
Figure 4.4	Interactive Comparison Zone: Multi-Factor Correlation	14
Figure 4.5	Lag & Lead Analysis: Campaign Pre-Buzz Visualizer	14
Figure 4.6	Counterfactual Analysis: Baseline vs Actual Sales	15
Figure 6.1	Performance Latency Metrics for Dashboard Rendering	19