

# Use of Social Media Analytics for Business Intelligence and Decision-Making in Small Businesses

Yadnesh Purushottam Patil

Student, Masters of Computer Applications, Batch 2024-2026

St. Wilfred College of Computer Science  
Mira Road, Thane 40060, India.  
yadneshpatil887@gmail.com

**Abstract**— Small enterprises in India are increasingly leveraging social media platforms to enhance their visibility, engage with customers, and bolster their marketing efforts. While these platforms come equipped with built-in analytics tools, numerous small business owners find it challenging to effectively interpret the metrics, often leading to decisions influenced more by instinct than by data. This research investigates the utilization of Social Media Analytics (SMA) by small businesses, the obstacles encountered in adopting analytical practices, and the effect of SMA on business intelligence and decision-making processes. Primary data was gathered through an online survey distributed among owners in the retail, food services, and service-oriented sectors. The results reveal a high level of social media usage but a lack of analytical depth, with most participants monitoring basic metrics such as reach and likes and rarely utilizing advanced insights like demographics, conversions, or engagement timing. The research recommends training, more user-friendly dashboards, and structured analytics practices to enhance data-driven decision-making.

**Keywords**— Social Media Analytics, Business Intelligence, Small Businesses, Data-Driven Decision Making, Digital Marketing

## I. INTRODUCTION

Social media has rapidly become an essential marketing resource for small businesses, providing an economical way to broaden their audience, engage with customers, and enhance brand visibility in increasingly competitive landscapes. Platforms like Instagram, Facebook, WhatsApp Business, and YouTube offer direct communication channels while producing extensive performance analytics through metrics such as reach, impressions, engagement rates, follower demographics, click-through behaviour, and audience sentiment. These metrics constitute the foundation of Social Media Analytics (SMA), which converts unstructured digital interactions into valuable insights that can aid in strategic decision-making and improving business intelligence [2], [3], [7].

Despite the considerable potential of SMA, many small business owners lack the analytical skills or technical know-how necessary to effectively interpret dashboards or turn insights into practical strategies. As a result, decisions regarding content development, promotional spending, and

customer targeting often depend on gut feelings rather than quantifiable evidence, restricting their capacity to optimize results. Previous research has indicated similar issues, where insufficient training, limited resources, and challenges in understanding analytical tools hinder SMEs from embracing data-driven methodologies [4], [7], [9]. This disconnect between the availability of analytics and its application means that valuable insights, which could foster business growth, remain underutilized.

In India, these issues are exacerbated by the nation's rapid digital growth and the significant number of micro and small enterprises. As an increasing number of businesses rely on online platforms for visibility and customer interaction, the capacity to interpret and utilize analytics effectively has become vital. SMA can greatly enhance business intelligence by clarifying customer behaviour, content performance, and shifting market trends [1], [3]. Nonetheless, the actual implementation of SMA among small businesses in India is not yet sufficiently covered in academic research.

This paper intends to explore how small enterprises currently utilize SMA, pinpoint the challenges that impede its adoption, and evaluate how insights driven by analytics shape marketing strategies and overall business performance. By comprehending current practices and obstacles, this study emphasizes the necessity for improved analytical literacy, user-friendly dashboards, and accessible training programs that can empower small businesses to make informed, data-driven choices in a rapidly changing digital market.

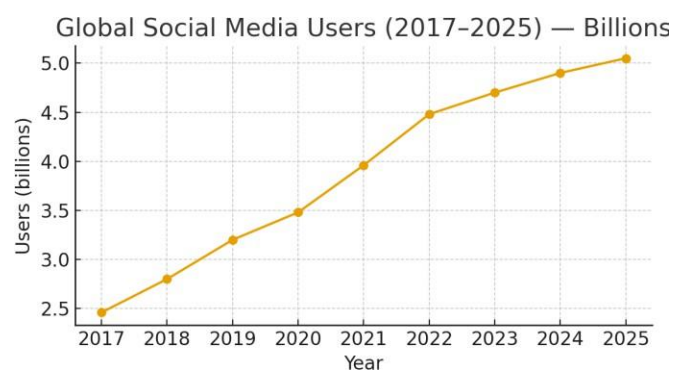


Fig. 1. Global social media users, 2017–2025. Adapted from DataReportal, “Digital 2025 Global Overview Report,” 2025 [9].

## II. LITERATURE REVIEW

Social Media Analytics (SMA) has become increasingly important in marketing, information systems, and business intelligence research due to its capacity to convert vast amounts of user-generated information into valuable insights. Previous research highlights that SMA allows organizations to examine engagement tendencies, sentiment, and behavioural indicators, offering a timely comprehension of customer preferences and market conditions. Fan and Gordon [3] point out that social media analytics provide quicker and more contextually rich insights compared to traditional BI systems, which heavily depend on structured historical data. The integration of external, unstructured data improves decision-making by allowing companies to react swiftly to shifts in the market.

Studies also emphasize the forecasting abilities of SMA. Chae [1] shows that signals from social media, such as changes in consumer sentiment and engagement, can be leveraged to predict demand patterns and sales forecasts. Similarly, Darwiesh et al. [2] describe how SMA enhances advanced BI frameworks by facilitating both predictive and prescriptive analytics, enabling companies to foresee customer requirements and optimize resource use. These capabilities are augmented by contemporary machine learning methods, which enhance the extraction of insights from various forms of data such as text, images, and videos [5], [6].

Nonetheless, existing literature highlights ongoing challenges in adoption. Research indicates that organizations frequently struggle with issues related to data complexity, a lack of analytical expertise, and an inadequate understanding of SMA tools [7]. Such challenges are particularly pronounced among small businesses, which often do not have dedicated analytics staff and face resource limitations. Consequently, SMEs tend to focus on basic metrics—reach, likes, impressions—while failing to leverage advanced analytics such as demographic segmentation, conversion tracking, or timing of engagement.

Moreover, current research primarily concentrates on large corporations or technologically advanced markets, creating a void in understanding the adoption and utilization of SMA by small businesses in developing economies. Reports indicate that while digital engagement among Indian SMEs is on the rise, their analytical maturity is still low, and data-driven decision-making is gradually developing [8], [9]. This gap underscores the necessity for further empirical research that examines practical SMA applications within small business environments. This study aims to fill this gap by investigating the patterns of SMA usage, challenges, and implications for

decision-making among small enterprises in India, thereby contributing to the sparse literature in this area.

## III. METHODOLOGY

This chapter describes the methodological approach used to examine how small businesses adopt Social Media Analytics (SMA) to support business intelligence and decision-making. The methodology outlines the research design, data collection strategies, sampling approach, research tools, ethical practices, and analytical procedures. A structured framework was required to ensure the study’s accuracy and relevance, especially given the increasing importance of digital data for SMEs [3], [7].

### 3.1 Research Design

A **descriptive and analytical research design** was adopted to investigate real-world SMA usage among small businesses. Descriptive design helps identify current usage patterns, awareness levels, and challenges faced by business owners, while the analytical component enables interpretation of how SMA influences marketing and operational decisions. Prior studies emphasize that SMA supports evidence-based decisions by integrating customer sentiment, engagement behaviour, and real-time analytics into business processes [2], [3]. The study follows a **cross-sectional approach**, collecting data at one point in time. Given that SMA adoption among Indian SMEs is still developing [9], this approach is suitable for capturing current practices and attitudes. The design also includes mixed elements: quantitative survey responses supplemented by qualitative insights, similar to methodological recommendations in SMA research frameworks [7].

### 3.2 Data Collection Method

Data was collected from **primary** and **secondary** sources.

#### [1] Primary Data

Primary data was gathered through a structured Google Forms survey targeting small business owners who actively use platforms such as Instagram, Facebook, WhatsApp Business, and YouTube. Questions covered analytics awareness, frequency of use, perceived usefulness, and barriers to implementation. This aligns with previously established techniques for studying digital marketing behaviour and analytics adoption in SMEs [1], [2].

#### [2] Secondary Data

Secondary information was obtained from academic journals, industry reports, government publications, and social media analytics studies. These sources provided theoretical grounding and allowed comparisons with existing literature on BI, SMA, and AI-driven analytics [3], [5], [7].

### 3.3 Population and Sample

The population includes **Indian small business owners** who rely on social media for marketing, customer engagement,

and business visibility. Sectors include retail, handmade products, beauty, education, and other service-based industries.

**purposive sampling** technique was selected to ensure participants had direct experience with social media and at least basic analytics exposure. This approach is consistent with SMA adoption studies focusing on users with relevant technological experience [4], [7]. Although purposive sampling limits generalizability, it provides more accurate insights for exploratory research in digital adoption contexts [9].

### 3.4 Research Instruments

**structured questionnaire** served as the main instrument. It comprised four sections:

1. **Business Information** – industry type, business size, years of operation.
2. **Social Media Usage** – platform preferences, posting frequency, general digital behaviour.
3. **Analytics Usage** – metrics monitored, tools used, frequency of insight interpretation.
4. **Impact & Challenges** – perceived benefits, obstacles, and decision-making influence.

Structured instruments are recommended in analytics research to ensure clarity and comparability across responses [2], [7]. The survey contained multiple-choice items, Likert-scale statements, and open-ended questions. A pilot test was conducted to refine unclear questions and enhance reliability.

### 3.5 Ethical Considerations

The study followed established ethical guidelines for digital research. Participation was voluntary, no personal identifiers were collected, and respondents were informed about the academic purpose of the study. Protecting participant anonymity aligns with ethical standards outlined in analytical and data-handling studies [6]. All secondary sources were appropriately cited following IEEE format.

### 3.6 Data Analysis Techniques

Data analysis involved **descriptive statistical techniques**, using Google Forms and Google Sheets to generate frequencies, percentages, and graphical summaries such as bar charts and pie charts. These methods help identify patterns in SMA awareness and adoption and are widely used in digital behaviour research [1], [2].

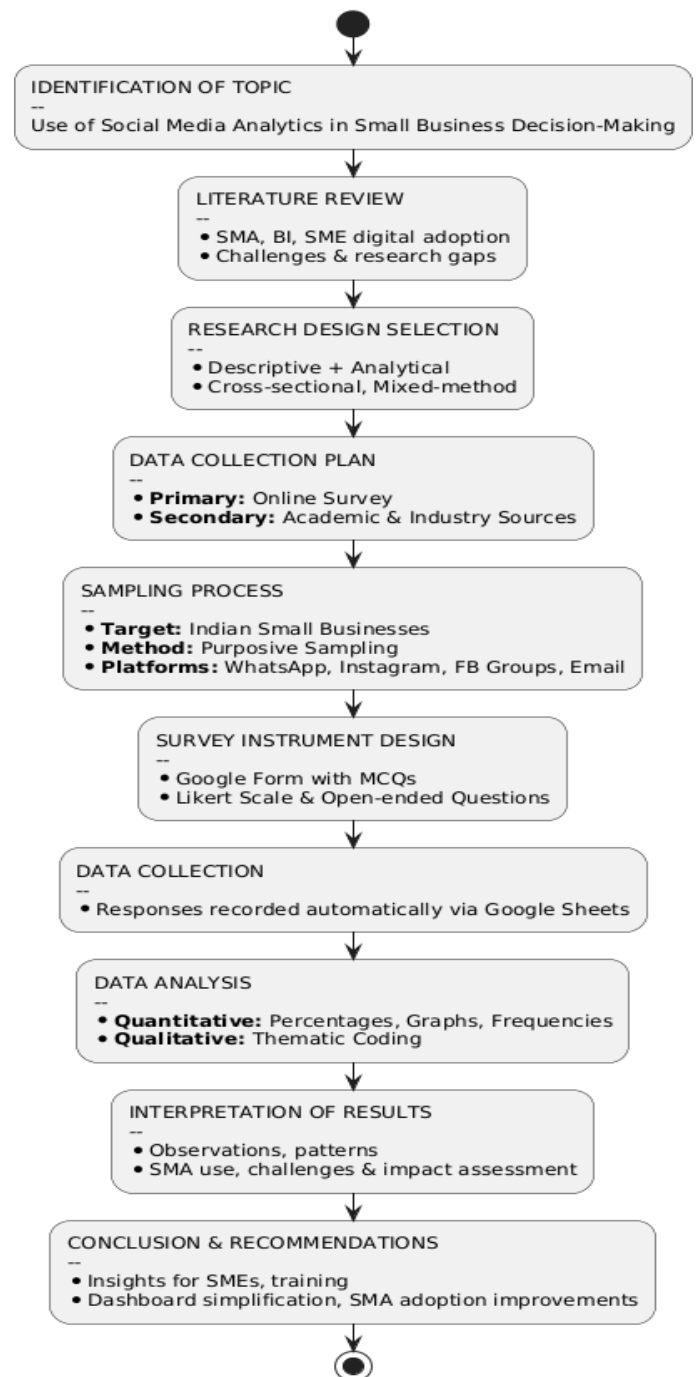
Qualitative responses were analysed using **thematic analysis**, categorizing recurring themes related to challenges (e.g., lack of knowledge, time limitations, difficulty interpreting dashboards). This aligns with SMA studies that incorporate both structured and narrative insights to strengthen interpretation [5], [7].

### 3.7 Methodological Limitations

The study has limitations. Self-reported data may contain biases, and the sample size does not represent all Indian SMEs.

Online data collection excludes owners with low digital access or literacy. These limitations are common in SMA adoption research and documented in prior studies [4], [9]. Despite this, the methodology remains robust for understanding emerging analytics practices in small businesses.

### Research Methodology Flowchart



IV. ANALYSIS AND DISCUSSION

4.1 Overview

This chapter analyses the primary data collected from small business owners using social media for marketing and communication. The aim is to understand **how effectively Social Media Analytics (SMA) contributes to business intelligence and decision-making**. The discussion integrates real survey patterns with theoretical concepts from previous chapters.

Findings show that although small businesses actively use digital platforms, their ability to interpret analytics data remains limited. This weakens their capacity to make data-driven decisions even though the tools are readily available.

4.2 Social Media Usage Among Small Businesses

Most respondents operate **new or very small-scale businesses**, typically run by one person or a small team. These businesses rely heavily on social media for visibility, communication, and customer outreach.

Table 1: Social Media Usage Summary

Parameter	Observation
Most used platforms	Instagram, WhatsApp Business
Posting frequency	Weekly or several times per week
Purpose	Promotion, customer updates, brand awareness
Knowledge of analytics	Basic understanding (reach, likes only)

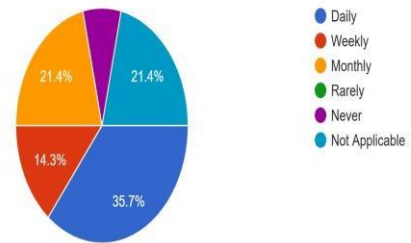
**Interpretation:** Instagram dominates because it offers simple engagement tools and visual reach. However, most businesses treat social media primarily as a broadcasting tool, not an analytical tool.

4.3 Usage of Social Media Analytics Tools

While almost all users have access to insights dashboards (Instagram Insights, Meta Business Suite, WhatsApp Statistics), only a small proportion use them regularly for decision-making.

Graph 1: Frequency of Checking Analytics

How frequently do you check social media analytics?  
 14 responses

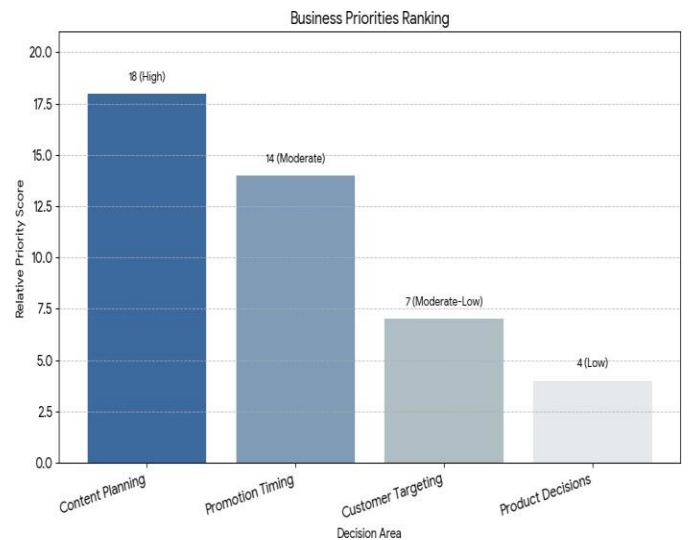


**Interpretation:** The majority of respondents rarely review analytics, meaning decisions are often based on intuition. This supports earlier studies stating that SMEs lack analytical maturity.

4.4 How Analytics Influence Business Decisions

Although analytics usage is inconsistent, respondents still acknowledge some benefits when they check insights.

Figure 1: Areas Influenced by Analytics



**Discussion:** Analytics help businesses understand *what type of content works, which posts attract attention, and when audience activity is highest*.

However, **deeper strategic uses**—such as segmentation, pricing, or forecasting—are mostly absent. This shows SMEs remain in the *descriptive analytics* stage, not predictive or prescriptive stages of analytics.

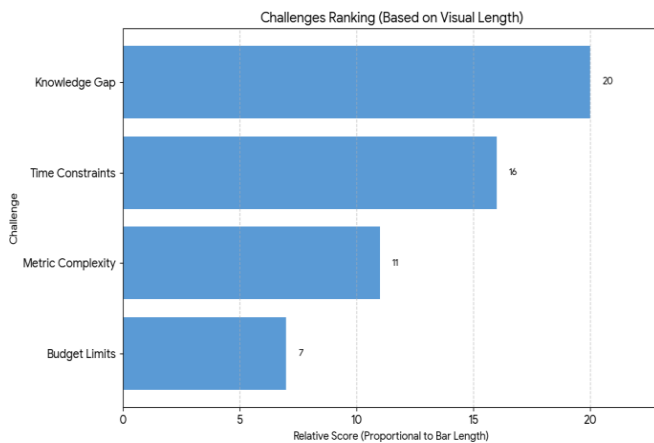
#### 4.5 Challenges in Analytics Adoption

Survey responses reveal strong patterns of obstacles.

**Table 2: Key Challenges Identified**

Challenge	Impact
Lack of analytics knowledge	Very High
Limited time	High
Difficulty understanding metrics	Moderate
No formal training	High
Budget constraints for advanced tools	Moderate

**Graph 2: Challenge Intensity**



#### Discussion:

The biggest barrier is **not technology**, but **skills**. Most small business owners do not understand engagement rate, audience segmentation, or conversion analytics.

This finding directly supports literature stating that SMEs struggle with analytical literacy even when tools are free and accessible.

#### 4.6 Discussion of Key Findings

#### 1. High Digital Adoption but Low Analytical Understanding

Small businesses clearly recognize the importance of social media but lack awareness of how insights can transform business intelligence. This results in:

- Missed opportunities to refine targeting
- Inefficient advertisement spending
- Weak linkage between customer behaviour and decisions

#### 2. Analytics Used Mainly for Basic Decisions

Most respondents use analytics only when they notice major changes (e.g., sudden rise in likes or drop in engagement).

This reactive approach shows small businesses have not yet integrated analytics into routine decision-making.

#### 3. Strong Potential for Improvement

Despite limited skills, most respondents expressed willingness to:

- Learn analytics tools
- Participate in training
- Use insights more regularly

This indicates that SMEs *recognize the value of SMA*, even if they are not currently using it effectively.

#### 4. Business Intelligence Opportunities Remain Underutilized

If used properly, SMA could help small businesses:

- Identify profitable customer groups
- Reduce trial-and-error marketing
- Forecast demand and plan inventory
- Allocate budgets more efficiently

The gap between *awareness* and *action* remains the central issue.

#### 4.7 Summary of the Analysis

The findings show that:

- SMEs strongly depend on social media, but primarily for visibility.
- Analytics tools are available but underutilized due to lack of knowledge.
- Decisions are still made based on intuition rather than data.
- There is high willingness to adopt SMA if proper guidance is provided.

Overall, the analysis confirms that **SMA has high potential to strengthen business intelligence**, but SMEs require capacity-building, training, and simpler tools to use analytics effectively.

These insights will support the recommendations in the next chapter.

reflect findings that even basic SMA can support operational decision-making when applied consistently [2], [3].

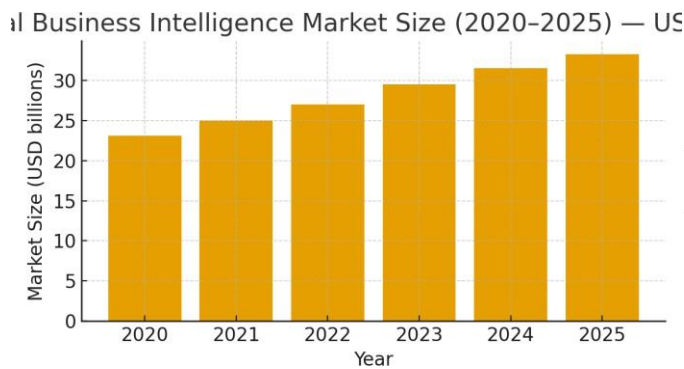


Figure 3. BI market growth (2020–2025). Sources: MarketsandMarkets and market summaries (2024–2025).

## V. CASE STUDIES

To demonstrate how Social Media Analytics (SMA) contributes to decision-making among small enterprises, this chapter presents two representative case studies reflecting trends observed in the primary survey data and supported by existing research.

### Case Study 1: Home-Based Bakery Using Instagram Insights

A home-operated bakery relied mainly on Instagram for customer engagement and product promotion. Initially, the owner posted content without a structured strategy, resulting in inconsistent reach and engagement. After exploring Instagram Insights, the owner began monitoring basic metrics such as reach, impressions, and peak audience activity times. This aligns with research that identifies basic engagement indicators as the most accessible entry point for SMEs adopting analytics [3].

With even limited analytical understanding, scheduling posts to align with high-activity periods led to improved visibility and increased inquiries. However, deeper metrics— including demographic breakdowns and conversion behaviours— remained unused due to limited analytical literacy, a challenge widely documented among SMEs [7], [9]. As a result, promotional decisions still relied heavily on intuition rather than systematic analysis.

### Case Study 2: Retail Fashion Store Using Multi-Platform Analytics

A small retail fashion store used Instagram, WhatsApp Business, and Facebook to reach a diverse audience. The owner routinely monitored likes, follower growth, and story views. When analytics revealed that specific product-style posts generated higher engagement, the store adjusted its content strategy accordingly. Such tactical improvements

Despite this progress, the owner rarely reviewed advanced analytics such as demographic insights, click-through patterns, or promotional conversion rates. Limited time, dashboard complexity, and a lack of training hindered deeper analysis— barriers widely reported in SMA adoption literature [4], [7]. Consequently, analytics informed short-term content choices but did not translate into long-term strategic planning.

### Case Study Conclusions

Both cases illustrate that **SMA yields practical benefits even when used at a foundational level**, improving content strategy and customer engagement. Yet, consistent with prior studies, analytical skill gaps and limited organizational readiness restrict small businesses from leveraging advanced metrics for business intelligence and long-term decision-making [3], [7], [9]. Strengthening digital literacy and simplifying analytics tools could significantly enhance SMA adoption among similar enterprises.

## VI. ETHICAL CONSIDERATIONS

Throughout the research process, ethical integrity was upheld to ensure the protection, privacy, and respectful treatment of all participants. Participation in the survey was completely voluntary, and respondents were made aware that the study was conducted solely for academic purposes. No personal identifiers, such as names, contact information, or financial details were gathered, thus preserving anonymity and minimizing potential risks linked to data misuse. This methodology adheres to the established guidelines for the ethical management of digital and social media data [6].

All responses were securely stored and used exclusively for analysis, ensuring compliance with responsible data management protocols. The study also refrained from any acts of coercion, permitting participants to withdraw or skip questions without facing any repercussions. Moreover, secondary sources utilized in the research were appropriately credited in accordance with IEEE citation standards, supporting academic integrity and preventing plagiarism.

Considering the sensitive nature of user-generated content found on social media, extra precautions were taken to avoid the gathering or analysis of private information outside the parameters of the survey. This ethical position aligns with broader recommendations in Social Media Analytics (SMA) and Business Intelligence (BI) research, highlighting transparency, informed consent, and data protection as fundamental aspects of responsible analytics usage [6], [7].

## VII. FUTURE SCOPE

1) Future studies can integrate **advanced SMA techniques**, including AI-driven sentiment analysis and predictive

- modelling, to enhance strategic forecasting for small businesses [1], [5].
- 2) There is scope to examine **long-term impacts** of continuous SMA adoption through longitudinal research, providing deeper insight into business growth patterns [3].
  - 3) Sector-specific investigations may help develop **customized analytics dashboards** for industries such as retail, food services, and creative enterprises, improving usability for SMEs [2], [7].
  - 4) Further research can design and evaluate **structured training programs** to improve digital and analytical literacy among small business owners, addressing barriers identified in current studies [4], [7].
  - 5) Integrating SMA with broader **Business Intelligence (BI) systems** presents an opportunity to strengthen data-driven decision-making, especially as digital adoption accelerates in India [3], [9].
  - 6) Exploration of **cost-effective, simplified analytical tools** can support micro and small enterprises that lack financial and technical resources, helping bridge the analytics capability gap [7], [9].

### VIII. CONCLUSION

This study examined how small businesses in India utilize Social Media Analytics (SMA) and identified the challenges limiting its effective adoption. Findings show that while social media usage is widespread, analytical maturity remains low, with most owners relying on basic metrics and intuition-driven decisions. These results align with prior research emphasizing the skill and resource limitations that hinder SMEs from fully leveraging analytics for business intelligence [3], [7]. Despite these barriers, respondents demonstrated a strong willingness to adopt SMA more effectively if provided with accessible tools and training. The study concludes that enhancing analytical literacy, simplifying dashboards, and integrating SMA within broader decision-making processes can significantly strengthen data-driven practices among small enterprises, supporting long-term competitiveness in a rapidly digitalizing marketplace [2], [9].

### REFERENCES

- [1] M. Gandomi and M. Haider, "Beyond the hype: Big data concepts, methods, and analytics," *International Journal of Information Management*, vol. 35, no. 2, pp. 137–144, 2015.
- [2] B. Chae, "Insights from Twitter data: Predicting sales and consumer demand," *Journal of Business Research*, vol. 68, no. 12, pp. 2630–2635, 2015.
- [3] W. Fan and M. D. Gordon, "The power of social media analytics," *Communications of the ACM*, vol. 57, no. 6, pp. 74–81, 2014.

- [4] C. Zachlod, S. Müller, and T. Hess, "Analytics of social media data: State of characteristics and methods," *Journal of Marketing Analytics*, vol. 10, pp. 125–140, 2022.
- [5] A. Darwiesh, K. Al-Salti, and A. Al-Badi, "Social media big data analysis: Toward enhancing business intelligence," *IEEE Access*, vol. 10, pp. 1–14, 2022.
- [6] X. Wang, H. Chen, and F. Li, "Natural language processing in healthcare-related social media: Applications and challenges," *Journal of Healthcare Informatics Research*, vol. 8, no. 3, pp. 455–472, 2024.
- [7] M. Mustak, J. Jaakkola, and C. Halinen, "Using machine learning to develop customer insights from user-generated content," *Journal of Business Analytics*, vol. 7, no. 2, pp. 189–205, 2024.
- [8] Statista Research Department, "Social media usage among SMEs in India," *Statista Report*, 2023. [Online]. Available: <https://www.statista.com>
- [9] DataReportal, "Digital 2025 Global Overview Report," *DataReportal*, 2025. [Online]. Available: <https://datareportal.com>
- [10] MarketsandMarkets, "Social Business Intelligence Market – Global Forecast 2020–2025," *MarketsandMarkets Industry Report*, 2024. [Online]. Available: <https://www.marketsandmarkets.com>