



International Journal of Science, Architecture, Technology and Environment

Impact of WhatsApp Business API on Business Communication and Customer Engagement: An Examination of Pinggo's Implementation

Ramanuj Naman Ghanshyambhai^{1*}, Dr. Jyoti Mishra²

¹Dayananda Sagar Business School, Bengaluru, Karnataka, India

²Associate Professor, Dayananda Sagar Business School

*Corresponding author

DOI: <https://doi.org/10.63680/ijstate1025015.018>

Abstract

The integration of messaging platforms into business operations has transformed customer interactions in the digital era. This research investigates the effects of the WhatsApp Business API on communication strategies and customer involvement, with a particular focus on its application through Pinggo, a platform developed by Site Galleria Pvt Ltd. A mixed-methods approach was employed, incorporating surveys from 40 respondents across various sectors. Results indicate substantial enhancements in response times, engagement levels, and conversion rates, attributed to features such as AI-powered automation and personalized messaging. Challenges, including regulatory delays and integration complexities, were also identified. The findings underscore the API's potential for scalable business communication while highlighting areas for improvement. Implications for enterprises adopting similar technologies are discussed, with recommendations for future implementations.

Keywords: WhatsApp Business API, customer engagement, business communication, AI automation, Pinggo, digital marketing

Introduction

In the contemporary digital environment, efficient channels for interaction between businesses and customers are essential for fostering relationships and promoting expansion. Platforms like WhatsApp, which boast billions of active users worldwide, have emerged as vital tools for both personal and commercial exchanges due to their real-time capabilities and user-friendly nature. The WhatsApp Business API, designed for larger organizations, facilitates automated and customized communications, thereby redefining conventional engagement methods.

This investigation centers on the influence of the WhatsApp Business API on organizational communication and customer participation, emphasizing its deployment via Pinggo—a solution offered by Site Galleria Pvt Ltd. Pinggo incorporates advanced elements such as intelligent chatbots, catalog management, and analytical

tools to optimize interactions and support revenue objectives. Through an analysis of Pinggo's framework, insights are provided into the effective utilization of this API for achieving communication goals.

The scope encompasses an in-depth evaluation of API functionalities, including automation, personalization, and data insights, and their effects on operational efficiency, customer satisfaction, and sales conversions. Relevance is heightened by WhatsApp's exceptional message open rates (up to 98%) and response rates (up to 45%), making it indispensable for competitive digital strategies. This work is particularly pertinent for medium to large enterprises seeking robust, scalable solutions in a messaging-dominated landscape, as well as for smaller businesses exploring affordable engagement options.

Objectives

1. To analyze how the WhatsApp Business API enhances business communication strategies.
2. To evaluate the impact of the WhatsApp Business API on customer engagement metrics, such as open rates and response rates.
3. To study Pinggo's service model and its utilisation of the WhatsApp Business API to drive business outcomes.
4. To identify the benefits and challenges of implementing the WhatsApp Business API, with a focus on Pinggo's approach.

Hypotheses formulated

- **H1:** Businesses using the WhatsApp Business API through Pinggo experience higher customer engagement compared to those using traditional communication channels.
- **H2:** The use of the WhatsApp Business API via Pinggo leads to improved sales conversion rates.
- **H3:** Automated features in Pinggo's service model, such as AI-driven chatbots, significantly reduce response times and improve customer satisfaction.

Literature Review

Existing scholarship on digital communication tools highlights the transformative role of messaging APIs in business contexts. Studies have demonstrated that such platforms improve direct interactions, building loyalty and operational streamlining. For instance, a mixed-methods investigation in the UAE context revealed that the WhatsApp Business API fosters trust, enhances engagement, and improves sales conversions, though its applicability was primarily tested among small businesses, with data privacy emerging as a concern (Mustafa et al., 2023).

Industry analyses further illustrate practical impacts, with case studies from sectors like retail and finance showing substantial returns on investment through targeted campaigns and automation. Examples include reductions in customer acquisition costs by 60-80% and increases in engagement by 50% in educational and e-commerce settings (Zixflow, 2025; Interakt, 2025). Automation and personalization emerge as key drivers, yet promotional biases in these reports limit objectivity, and empirical gaps persist, particularly in large-scale validations (Alibaba Cloud, 2024; Twilio, n.d.).

Broader reviews emphasize secure, branded communications preferred by consumers over traditional channels, with 90% favoring messaging (Twilio, n.d.; Sinch, 2025). Metrics such as high open rates underscore messaging's superiority, yet dated sources and industry-specific focuses constrain generalizability

(WebEngage, 2021; MoEngage, 2024). Technical aspects, including multi-user support and integrations with CRM systems, are noted as enablers, but privacy, regulatory compliance, and cultural nuances remain underexplored (Wati, 2024; Digitrix, 2025).

Additional works stress personalization's role in satisfaction and retention, with rapid growth in messaging volumes—up to 70 times since 2023 (Braze, 2024; CleverTap, 2024). Integration with management systems facilitates scalability, though empirical evidence is often anecdotal (Tanla, 2024; Gallabox, 2025). Challenges like message overload are acknowledged, yet provider-specific implementations, such as Pinggo's, are underrepresented (Afilnet, 2023; Yellow.ai, 2024).

Academic contributions reinforce these themes, linking API adoption to innovative performance and internal processes. In emerging markets, roles in outreach and retention are evident, with utilitarian and hedonic motivations positively influencing engagement and loyalty (Kasim et al., 2022; Agrawal, 2020; Marino & Presti, 2024). Recent studies on small businesses highlight marketing advantages, such as regular customer communication leading to enhanced operations and engagement, though generalizability to larger enterprises is limited (Mustafa et al., 2023; Bhanarkar & Tekade, 2025; Sayudin et al., 2023; Tiomy Butsianto Adi et al., 2025). Content marketing strategies via WhatsApp have been shown to significantly impact engagement, particularly when tailored to platform attributes (Kottani & K.N., 2021). This gap in provider-focused, comprehensive studies justifies the current examination, addressing biases and extending to Pinggo's AI-driven model.

Research Methodology

An exploratory-descriptive design was adopted to assess the API's evolving applications and patterns in communication and engagement. The exploratory aspect identified emerging trends in adoption and benefits, while the descriptive component mapped user experiences and outcomes. Mixed methods were utilized, combining quantitative metrics with qualitative insights for a comprehensive perspective.

Convenience sampling, a non-probability technique, was applied, targeting accessible participants familiar with Pinggo through company networks, emails, and social channels. The sample comprised 40 respondents, selected for depth in a niche context and constrained internship timeline. Inclusion focused on users with at least three months' experience across sectors like e-commerce, retail, services, healthcare, hospitality, education, and restaurants, ensuring diverse viewpoints. Exclusion omitted those with minimal usage. While convenient, this method may introduce selection bias, limiting broader generalizability, as common in digital tool studies.

Primary data were collected via a structured online questionnaire (Google Forms) with approximately 15 items, including: short answers on industry and tenure; multiple-choice on awareness, usage, motivations, frequency, and features; rating scales (1-5, Very Poor to Excellent) on ease, automation, support, conversion, and cost; and open-ended questions on engagement improvements, response reductions, personalization effects, challenges, satisfaction, and suggestions. Secondary sources encompassed academic literature, industry reports, and Pinggo's internal documentation for contextual support.

Data were processed using descriptive statistics (averages, percentages) and inferential techniques in Microsoft Excel for quantitative elements, with thematic analysis for qualitative responses to identify patterns in experiences and limitations. Hypotheses were tested via comparisons of metrics like engagement

improvements and conversion impacts. Ethical considerations, such as anonymity, informed consent, and data confidentiality, were upheld throughout, aligning with standards for API-driven communication research.

Data Analysis and Interpretation

Quantitative and qualitative data were examined to test hypotheses and evaluate impacts, with sector-specific trends and feature effectiveness highlighted.

Enhancement of Communication Strategies (Objective 1, H3)

Industry sector	Average of Ease of Use	Average of Automation features	Average of Customer support	Average of Cost-effectiveness	Average of Satisfaction with Pinggo
Education	4.6	4.4	4.1	4.2	4.2
Healthcare	4.0	4.5	3.5	4.0	4.5
Hospitality	4.0	4.3	3.5	3.8	4.2
Rental	4.0	3.0	4.0	5.0	3.0
Restaurant	5.0	5.0	4.0	3.0	3.0
Retail	4.4	4.6	4.3	4.0	3.9
Services	4.3	4.2	3.8	4.0	3.8
Grand Total	4.4	4.4	3.9	4.0	4.0

Table 1

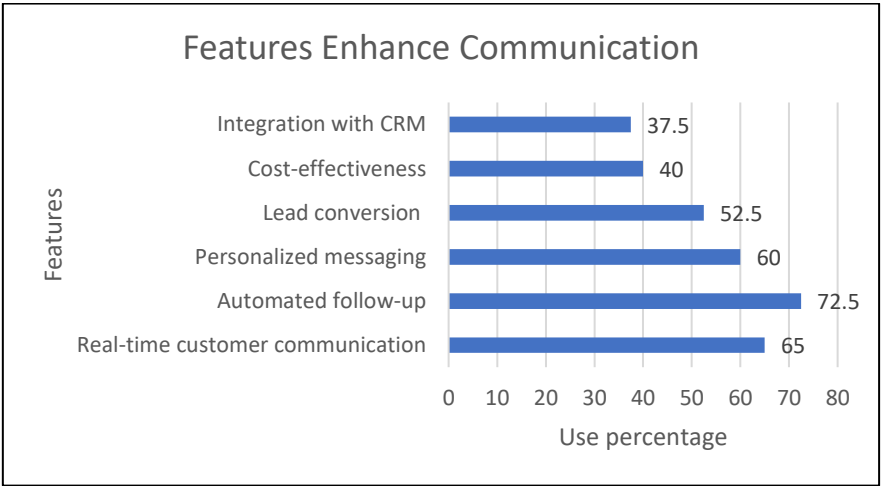


Chart 1

Ratings across sectors revealed strong performance in automation features (average 4.4) and ease of use (4.4), with healthcare (4.5) and restaurants (5.0) scoring highest, while hospitality noted lower support (3.5) and cost-effectiveness (3.8). Overall satisfaction averaged 4.0. Features like automated follow-ups (72.5% selected), real-time communication (65%), and personalized messaging (60%) were deemed most beneficial, followed by lead conversion (52.5%), with CRM integration (37.5%) less emphasized. Variations suggest

sector-specific needs, e.g., automation's value in time-sensitive industries. Hypothesis testing rejected H0 (no impact on response times/satisfaction), supporting H3 via evidence of reductions and gains.

Impact on Customer Engagement Metrics (Objective 2, H1)

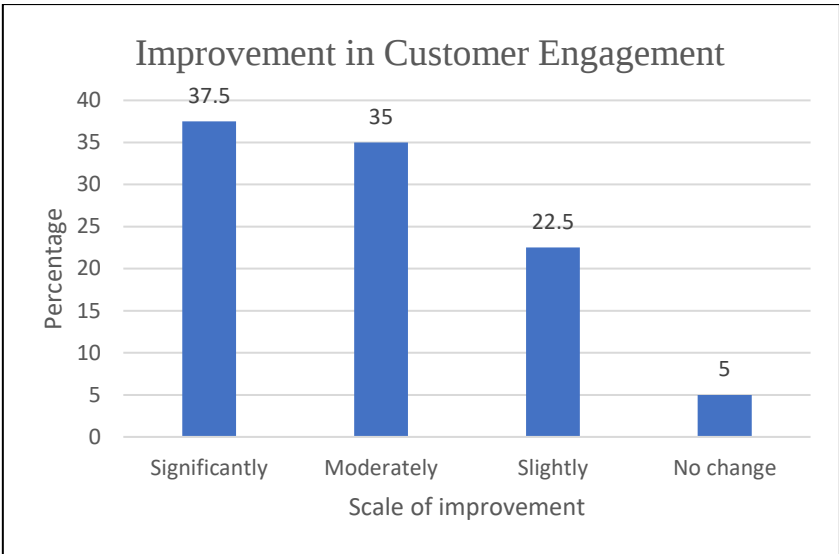


Chart 2

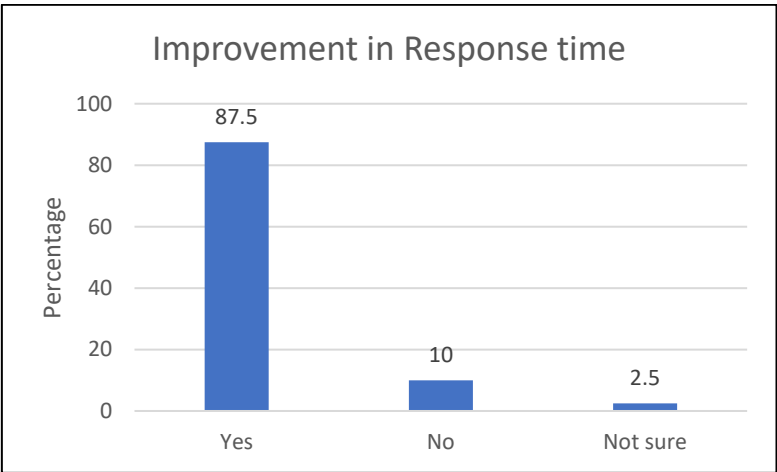


Chart 3

Engagement improved significantly for 37.5% and moderately for 35%, with 22.5% slight and 5% no change. Response times reduced for 87.5%, unchanged for 10%, and unsure for 2.5%. Satisfaction averaged 4.1/5, conversion impact 3.95/5. These metrics confirm higher engagement over traditional channels, rejecting H0 and supporting H1.

Pinggo's Model and Business Outcomes (Objective 3, H2)

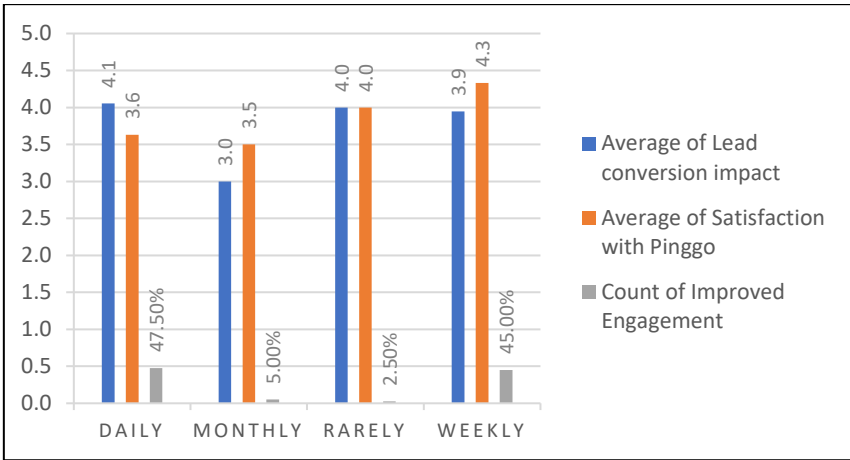


Chart 4

Frequency influenced outcomes: daily users reported 4.1 conversion impact, weekly 3.9, monthly 3.0, rare 4.0. Satisfaction was high for weekly (4.3) and rare (4.0), moderate for monthly (3.5), and lower for daily (3.6). Engagement improvements were prominent among daily (47.5%) and weekly (45%) users, vs. infrequent (7.5% total). This rejects H0 (no improvement in conversions), supporting H2.

Benefits and Challenges (Objective 4)

Thematic analysis revealed benefits like enhanced trust, higher rates, and conversions through personalization and real-time interactions. Challenges included template approval delays, regulatory restrictions, CRM integration difficulties, and needs for more filters. Inference: Benefits dominate, but operational frictions require addressing for scalability.

Findings and Discussion

Key discoveries indicate that automation and real-time features substantially streamline communication, with sector variations (e.g., hospitality's support needs). Engagement rose markedly (72.5% notable improvements), with frequent usage correlating to superior conversions (4.1 for daily) and satisfaction (average 4.0+). Benefits outweigh challenges, though administrative constraints persist.

These align with literature on messaging efficacy (e.g., Mustafa et al., 2023; Marino & Presti, 2024) but extend to Pinggo-specific insights, addressing gaps in provider analyses. Comparative discussions suggest APIs like WhatsApp outperform email/SMS in metrics, per industry reports (Sinch, 2025). Implications include tailored adaptations for broader adoption, with AI enhancements mitigating challenges.

Conclusion and Recommendations

The WhatsApp Business API, via Pinggo, markedly advances communication and engagement, yielding faster responses (87.5%), higher conversions, and satisfaction. Challenges like delays necessitate refinements. Hypotheses were supported, positioning the API as transformative.

Recommendations: (1) Streamline approvals with pre-approved libraries; (2) Enhance CRM guides and connectors; (3) Bolster support via 24/7 channels; (4) Expand personalization tools; (5) Balance automation with human elements; (6) Develop sector-specific modules; (7) Offer training webinars; (8) Implement compliance checkers. Future research directions: longitudinal impacts, platform comparisons, customer-side perceptions, AI advancements, scalability across sizes, regional variations, and integrations with ERP/marketing tools.

Direction for Future Research

While this study provides valuable insights into the role of Pinggo's WhatsApp Business API in enhancing communication, engagement, and lead conversion, several areas remain open for further exploration. One important avenue is longitudinal research, which could measure the sustained impact of API adoption over time on customer engagement, satisfaction, and retention. This would provide a deeper understanding of long-term outcomes, beyond the short-term perceptions captured in the present study. Similarly, comparative research could be conducted between the WhatsApp Business API and alternative communication platforms such as SMS, email automation, and social media messaging tools, to establish the relative strengths and weaknesses of each in driving business outcomes. Sector-specific investigations also warrant attention; while healthcare and restaurant businesses reported exceptionally positive experiences, hospitality reflected lower ratings. Examining such industry-level differences could help identify sectoral best practices, adoption challenges, and tailored solutions.

Another key direction involves broadening the research perspective to include end customers in addition to business users. The current study primarily assessed the business-side experience, but exploring how customers perceive API-driven communication would provide richer insights into its impact on trust, loyalty, and overall satisfaction. Further, with the rapid evolution of artificial intelligence, future studies could examine the influence of advanced AI-driven features such as predictive analytics, personalization engines, and sentiment analysis in shaping customer engagement. These tools have the potential to not only automate communication but also to make it smarter and more emotionally responsive, opening up new dimensions of customer relationship management.

Finally, future research could address scalability and integration issues. Adoption patterns across businesses of different sizes from startups to large enterprises—could be studied to determine how organizational scale influences API effectiveness. Regional and cultural variations in adoption could also be explored, given the differing compliance and communication norms worldwide. Moreover, deeper investigation into the integration of the WhatsApp Business API with other digital tools such as CRM, ERP, and advanced marketing automation platforms would be valuable. Such research would provide practical insights into how businesses can create a more seamless, data-driven, and future-ready communication ecosystem. Collectively, these directions will expand understanding of the WhatsApp Business API's transformative role in business communication and help guide both academic inquiry and practical implementation.

Declaration of Conflicting Interests

The authors declare no potential conflicts of interest with respect to the research, authorship and publication of this article.

Funding

The author received no financial support for the research, authorship and publication of this article.

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