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A Social Media Advertising Evaluation Information Technology Model

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Abstract. The evaluation of Social Media Marketing (SMM) campaigns has traditionally been characterized by a dichotomy between the engagement metrics, such as likes, comments, and shares, and the financial performance metrics, including Return on Investment (ROI) and Cost per Engagement (CPE). The paper proposes a novel approach that addresses these limitations by proposing a combined indicator, termed $ER_{combined}$, which integrates both the engagement and financial metrics into a unified model. The $ER_{combined}$ model provides a comprehensive framework for assessing the efficiency of the SMM campaigns by considering both the qualitative aspects of social media interactions and their quantitative financial outcomes.
Designed to be adaptable, the model allows marketers to adjust the weights assigned to the Engagement Rate (ER) and Engagement Rate by Reach (ERR), facilitating a flexible focus based on specific marketing objectives. For instance, a campaign aimed at increasing the brand awareness might prioritize the reach, while another focused on building a community might emphasize the engagement. The model incorporates customizable benchmarks for Max ROI and Max CPE, enabling organizations to tailor the evaluation process to their unique financial targets and performance expectations.

Keywords: information system model; integrated indicator; social media marketing; advertising analysis; combined level of engagement.

Model informacijske tehnologije za vrednotenje oglaševanja na družbenih omrežjih

Vrednotenje kampanj trženja na družbenih omrežjih je bilo tradicionalno zaznamovano z dihotomijo med metrikami angažiranosti, kot so všečki, komentarji in delitve, ter finančnimi metrikami, vključno z donosnostjo naložbe in stroškom na angažiranost. Prispevek predlaga nov pristop, ki odpravlja te omejitve z uvedbo kombiniranega kazalnika, ki združuje tako metrike angažiranosti kot finančne metrike v enoten model.

Model kazalnika zagotavlja celovit okvir za ocenjevanje učinkovitosti kampanj trženja, saj upošteva tako kakovostne vidike interakcij na družbenih omrežjih kot njihove kvantitativne finančne učinke. Model je zasnovan tako, da omogoča prilagodljivost, saj lahko tržniki prilagajajo uteži, dodeljene stopnji angažiranosti in stopnji angažiranosti glede na doseg, kar omogoča osredotočenost na specifične marketinške cilje. Na primer, kampanja, usmerjena v povečanje prepoznavnosti blagovne znamke, bi lahko dala prednost dosegu, medtem ko bi kampanja, osredotočena na vzpostavljanje skupnosti, poudarjala angažiranost.

Model vključuje prilagodljive referenčne vrednosti za maksimalno donosnost naložbe in stroške za angažiranost, kar organizacijam omogoča prilagajanje procesa vrednotenja njihovim edinstvenim finančnim ciljem in pričakovanjem glede uspešnosti.

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1 INTRODUCTION

The social media have transformed the way businesses interact with their customers, creating opportunities for brands to engage directly with consumers on platforms like Facebook, Instagram, Twitter, and TikTok. These platforms have allowed companies to generate the brand awareness, foster the customer loyalty, and stimulate their sales through targeted and dynamic campaigns. However, despite the widespread use of the social media in marketing, there is still no consensus on the best way to evaluate the effectiveness of these campaigns.

The traditional metrics such as likes, shares, and comments are useful indicators of the user engagement but fail to reflect the overall impact on business goals such as profitability, customer acquisition, and return on investment (ROI). Likewise, focusing exclusively on the financial metrics, like revenue or cost-efficiency, without considering the reach or engagement generated by a campaign can lead to an incomplete evaluation.

This has led to the need for a comprehensive approach that balances both the engagement and financial performance. While many businesses track these factors separately, the challenge lies in integrating

them into a single, cohesive indicator that can guide marketing decisions in real-time.

The paper fills the gap by proposing a model that combines the engagement rate (ER) and the engagement rate by reach (ERR) with the cost-per-engagement (CPE) and return on investment (ROI). The resulting indicator offers a more in-depth evaluation of SMM campaigns, helping businesses optimize both their social impact and financial outcomes.

The model is designed to be flexible, allowing marketers to adjust the relative importance of the social engagement and financial efficiency by assigning weights to ER and ERR. The paper outlines the development of the model, presents an analysis of the existing evaluation methods, and provides practical examples of how it can be applied to real-world SMM strategies.

2 Research Materials and Methods

This paper employs a comprehensive qualitative and quantitative research approach to develop a new combined indicator for evaluating the Social Media Marketing (SMM) efficiency. The primary objective is to create a model that integrates the engagement metrics with the financial performance metrics, addressing the existing gaps in current evaluation methods.

The research begins with an extensive review of the existing literature on the SMM evaluation, identifying key engagement metrics such as likes, comments, shares, and followers, alongside the financial metrics like Return on Investment (ROI) and Cost per Engagement (CPE). The data sources include academic journals, industry reports, and case studies which provide insights into the established methodologies and highlight the challenges marketers face in measuring the SMM effectiveness.

To further refine our understanding of the effective SMM metrics, interviews and surveys are made with marketing professionals and social media analysts. These experts provide a valuable input on the practical implications of engagement and financial metrics, ensuring that the proposed model aligns with industry standards and expectations.

Following the data collection phase, a preliminary model for the combined indicator, $ER_{combined}$, is developed the model incorporates both the engagement and financial metrics, allowing for an adjustment of the weights to reflect different marketing goals and strategies. The model flexibility enables marketers to prioritize specific metrics based on their unique objectives either to enhance the brand awareness or drive direct sales.

To validate the effectiveness of the presented model, a series of case studies is made with various businesses that have implemented SMM campaigns. By applying the $ER_{combined}$ model to these real-world scenarios, its impact on the campaign evaluation and strategic decision-making is assessed. The outcomes are analyzed to ensure that the model effectively captures the relationship between the engagement metrics and financial performance.

Based on the feedback from industry experts and results of the case studies, the model is iteratively refined to enhance its accuracy and usability. Such iterative process involves multiple cycles of testing and modification, ensuring the final model to meet the diverse needs of marketing professionals.

By leveraging the qualitative insights and quantitative analysis, a robust framework to evaluate the SMM campaigns is created. The development of the $ER_{combined}$ indicator represents a significant step forward in integrating the engagement and financial metrics, ultimately providing marketers with a comprehensive tool for enhancing their SMM strategies.

3 Analysis of the Literary Sources

Evaluating the efficiency of the Social Media Marketing (SMM) has been a topic of a growing interest as the digital marketing has become a dominant force in business strategies. The literature reveals several frameworks and metrics that have been proposed to measure the campaign success, focusing mainly on either the engagement metrics or the financial outcomes, but rarely on both, in a cohesive model.

3.1 Engagement Metrics in Social Media Marketing

Traditional methods for evaluating SMM have focused heavily on the engagement metrics, such as likes, shares, and comments. Kaplan and Haenlein [1] highlight the significance of the social media in fostering the customer interaction and brand loyalty. Their work emphasizes the importance of the user-generated content and direct brand-consumer engagement, suggesting that the likes and shares metrics are essential for measuring the campaign reach and audience involvement. However, their model primarily addresses the engagement as an isolated phenomenon, without considering the financial impact of these interactions.

Similarly, Tuten and Solomon [2] provide an in-depth analysis of the social media engagement and its role in building the brand equity. They suggest that the engagement metrics serve as valuable indicators of the consumer interest and brand perception, which are critical for a long-term brand success. However, the authors consider these metrics when alone is insufficient for evaluating a campaign overall efficiency for not directly accounting for the cost or return on investment.

Barger et al. [3] expand the disputes around the social media metrics by introducing a concept of the impact and virality, which extends beyond the direct engagement. They believe the social media impact should be measured both by the number of the interactions but also by the ripple effect a campaign can

have across a network. Yet, despite this broader perspective, the financial metrics has remained largely absent from their framework.

3.2 Financial Performance Metrics in Marketing

The literature on the financial performance in digital marketing prioritizes the metrics like return on investment (ROI) and cost-efficiency. Chen et al. [4] explore the intersection of the brand equity and financial performance in social media campaigns, they believe a successful campaign should demonstrate both a high engagement and a positive ROI. While their approach emphasizes profitability, it does not fully integrate the social engagement metrics into the equation, leaving a gap in the ability to assess the campaigns holistically.

Khan [5] provides a broader perspective on digital marketing, focusing on the cost metrics, such as Cost-Per-Click (CPC) and Cost-Per-Engagement (CPE) in paid social media campaigns. Constantinides finds the cost-efficiency to be a critical factor in determining a campaign success, and the traditional financial metrics to fail to capture the qualitative value of engagement. Thus, although the financial metrics like CPE provide useful insights, they are insufficient for a comprehensive campaign evaluation.

3.3 The Need for a Combined Approach

Li and Shiu [6] propose a clear distinction between the engagement-focused and financially focused evaluation models. The engagement metrics, though important for assessing the audience involvement, provide only part of the picture, as they do not account for the cost or financial returns of a campaign. On the other hand, the financial metrics, such as ROI and CPE, offer valuable insights into the cost-efficiency and profitability but do not reflect the social impact of a campaign.

The need for an integrated approach is evident, and several scholars have called for a more holistic framework. Tarafdar [7] proposes the SMM evaluations to incorporate both the social and financial outcomes to give businesses a clearer understanding of the campaign success. However, no comprehensive model has yet been formalized in the literature. The paper fills the gap by proposing a model that combines the engagement and financial metrics into a single indicator, providing a more balanced approach to evaluate the SMM campaigns.

4 RESEARCH RESULTS AND THEIR DISCUSSION

The paper presents a novel evaluation method for the SMM campaigns integrating both the engagement metrics and financial performance indicators into a single comprehensive model. The model enables marketers to assess the campaigns not only based on the audience interaction but also on the cost-effectiveness, their optimizing both aspects simultaneously. This section delves deep into the model structure, explains its source, provides additional context on how it can be used in real-world applications, and extends the discussion on its scientific novelty.

4.1 Model Source and Rationale

The idea behind the presented model stems from the need to address two primary dimensions of the SMM campaign evaluation:

1. Social Engagement: Marketers often focus on the engagement metrics, - i.e. likes, comments, shares, as the key indicators of a campaign success. However, while these metrics reflect the audience interaction, they don't capture the financial impact or business value generated by the campaign.
2. Financial Performance: On the other hand, the financial metrics, i.e. the Return on Investment (ROI) and Cost-Per-Engagement (CPE), help businesses evaluate the cost-effectiveness of their campaigns but overlook the social impact and engagement the campaign has generated.

Combining the two dimensions into a single model this article provides a solution to the siloed approach of traditional SMM evaluation. The model assesses how well a campaign engages its audience while simultaneously determining whether the campaign is financially viable. Such balance helps companies optimize both the social impact and the cost-efficiency in their SMM strategies.

The model, rooted in the basic engagement and financial principles, is defined as:

$$ER_{Combined} = \left(w_1 \times \frac{(L + C + S)}{F} + w_2 \times \frac{(L + C + S)}{R} \right) \times \left(1 + \frac{\frac{Revenue}{Total\ Cost}}{Max\ ROI} - \frac{\frac{Total\ Cost}{(L + C + S)}}{Max\ CPE} \right)$$

Where:

L – the count of the likes on the post
C – the count of the comments under the post
S – the count of the shares of the post
F – the count of the followers on the page
R – the count of the natural reach on the post

1. Engagement Metrics:
   - Engagement Rate (ER): the ratio the of interactions (likes, comments, shares) to followers. This is a classic social media engagement metric and serves as an indicator of how effectively a campaign connects with the brand's existing audience. The inclusion of w_1, a weight, allows marketers to adjust the emphasis placed on the metric.

- Engagement Rate by Reach (ERR): the ratio of the interactions (likes, comments, shares) to the campaign reach. The metric accounts for the total number of unique users who see the content that not just the brand followers, making it essential for assessing broader outreaching campaigns. Weight w_2 allows marketers to prioritize the metric when the campaign goals focus on expanding the visibility.

By incorporating both ER and ERR, the model accounts for both the depth of engagement with the brand existing audience and the effectiveness of the outreaching efforts. Adjustable weights w_1 and w_2 provide flexibility, allowing the model to adapt to different marketing strategies (e.g., whether the goal is to engage the current followers or attract new audiences).

2. Financial Performance Metrics:
   - Return on Investment (ROI): Calculated as $\frac{Revenue}{Total\ Cost}$, the metric evaluates the profitability of the campaign. The higher ROI, the more profitable the campaign is relative to its cost. By dividing ROI by a predefined Max ROI, the model benchmarks the campaign against the maximum expected financial return.
   - Cost Per Engagement (CPE): Calculated as $\frac{Total\ Cost}{(likes+comments+shares)}$, CPE assesses the financial efficiency of each interaction generated by the campaign. Lower CPE values indicate that the campaign is generating interactions at a lower cost, signaling efficient spending. By dividing CPE by Max CPE, the model penalizes the campaigns with an excessive spending per engagement.

The financial part of the model ensures that campaigns are not only engaging but also profitable. Those which generate a high engagement but lack a financial efficiency are penalized, ensuring that resources are allocated wisely. Similarly, campaigns that drive high ROI but a low engagement may also score lower, ensuring the model favors balanced and well-rounded campaigns.

4.2 A detailed Explanation of the Model in Practice

To better understand the model application, let's reconsider the practical example provided earlier, adding more details and scenarios for a further clarity.

Example 1: Campaign A (Focused on Engagement)

- Engagement Data: 500 likes, 100 comments, 50 shares.
- Followers: 10,000.
- Reach: 50,000.
- Financial Data: Total Cost = $1,000; Revenue = $1,500.
- Benchmark: Max ROI = 3, Max CPE = $2.
- Weights: w_1=0.6, w_2=0.4

1. Engagement Metrics:

$$ER = \frac{(500 + 100 + 50)}{10000} = 0.065$$

$$ERR = \frac{(500 + 100 + 50)}{50000} = 0.013$$

The combined engagement score calculated by using the weights, is:

$$Engagement\ Score = 0.6 \times 0.065 + 0.4 \times 0.013 = 0.039$$

2. Financial Performance Metrics:

$$ROI = \frac{1500}{1000} = 1.5$$

$$CPE = \frac{1000}{500 + 100 + 50} = 1.54$$

The financial score is:

$$Financial\ Score = 1 + \frac{1.5}{3} - \frac{1.54}{2} = 1 + 0.5 - 0.77 = 0.73$$

Combining the engagement and the financial score gives:

$$ER_{Combined} = 0.039 \times 0.73 = 0.0285$$

The low final score shows that while Campaign A performs decently in terms of engagement, it is underperforming financially, with ROI that is only 50% of the maximum benchmark.

Example 2: Campaign B (Focused on Profitability)

- Engagement Data: 700 likes, 200 comments, 150 shares.
- Followers: 5,000.
- Reach: 20,000.
- Financial Data: Total Cost = $2,000; Revenue = $5,000.
- Benchmark: Max ROI = 3, Max CPE = $3.
- Weights: w_1=0.5, w_2=0.5

1. Engagement Metrics:

$$ER = \frac{(700 + 200 + 150)}{5000} = 0.21$$

$$ERR = \frac{(700 + 200 + 150)}{20000} = 0.0525$$

Combined engagement score:

$$Engagement\ Score = 0.5 \times 0.21 + 0.5 \times 0.0525 = 0.13125$$

2. Financial Performance Metrics:

$$ROI = \frac{5000}{2000} = 2.5$$

$$CPE = \frac{2000}{700 + 200 + 150} = 2$$

Financial score:

$$Financial\ Score = 1 + \frac{2.5}{3} - \frac{2}{3} = 1 + 0.83 - 0.67 = 1.16$$

Final $ER_{Combined}$ score:

$$ER_{Combined} = 0.13125 \times 1.16 = 0.15225$$

The significantly higher score of campaign B shows its ability to generate both a high engagement and a profitability, indicating a well-rounded and successful campaign.

5 Scientific Novelty and Innovation

The scientific novelty of the model is its dual focus, blending the social engagement metrics with the financial performance indicators in a way that is adaptable, measurable, and actionable. The approach departs from the existing evaluation models which often focus on either engagement or profitability in isolation. The inclusion of flexible weights w_1 and w_2 makes the model versatile, enabling its use in campaigns with varied objectives - whether the focus is an engagement, visibility or financial efficiency.

Another key innovation is the use of Max ROI and Max CPE as benchmarks. These values are not static but defined by the businesses or marketers based on their goals and market conditions. By introducing these benchmarks, the model discourages campaigns that achieve a high engagement at unsustainable costs, or a high profitability with a minimal engagement. This ensures a balanced, multi-dimensional evaluation of campaigns.

The model adaptability to real-world data is a crucial step forward. By incorporating the actual social media statistics (likes, comments, shares, reach) and financial data (costs and revenue), it offers a tangible, data-driven approach to optimizing marketing strategies. Marketers can use the model to continuously monitor their campaigns, identify inefficiencies, and adjust strategies in real-time.

6 Discussion of the Obtained Results

The results of our work offer a significant insight into the evaluation of the SMM campaigns by providing a comprehensive and flexible model. The $ER_{Combined}$ model integrates both the engagement and the financial metrics, which allows for a more detailed understanding of the campaign performance than the traditional models.

6.1 The Impact of the Model on the SMM Evaluation

In the context of the traditional marketing metrics, the engagement metrics, such as likes, comments, and shares, have been widely used to measure the effectiveness of a campaign. However, these metrics alone provide but a surface-level understanding of how well a campaign resonates with its audience similarly. The financial metrics, like ROI or CPE, have been isolated measures of success, often used to justify the cost of a campaign. The $ER_{Combined}$ model unifies these two disparate domains, i.e. the social and financial performance, into a single framework, offering a comprehensive view of the campaign efficiency.

The model structure encourages marketers to think critically about both aspects of a campaign. For instance, if a campaign generates a high engagement but fails to bring in a revenue or return on the investment, the model will reflect this imbalance by delivering a lower score. Conversely, a campaign that is highly profitable but fails to generate a meaningful engagement may also result in a reduced overall score. This creates a balanced evaluation where neither the engagement nor the financial performance dominates but instead they work together to provide a holistic assessment.

6.2 Versatility and Flexibility

One of the most significant advantages of the model is its adaptability. Weights w_1 and w_2 which allow for a customizable emphasis on the ER and ERR give marketers the flexibility to tailor the model to their specific needs. For example, a brand looking to deepen its relationship with its existing audience might prioritize the ER metric by increasing the value of w_1, while a brand focused on broadening its reach might place more emphasis on ERR by adjusting w_2.

Such versatility extends to the financial component as well. By benchmarking campaigns against user-defined Max ROI and Max CPE, the model ensures that the financial targets set by the organization are considered in the campaign evaluation. The customizable aspect allows the model to be applied across different industries, business sizes, and marketing objectives.

6.3 Practical Applications in Enhancing the SMM Strategies

The $ER_{Combined}$ model is more than just a theoretical tool. It can have a notable impact on practical SMM strategies in several ways:

Real-time Campaign Adjustment: The ability to evaluate both the engagement and the financial performance dynamically means that marketers can monitor campaigns in real-time and make data-driven decisions. For example, if a campaign generates a high engagement but is over its budget on its cost-per-engagement (CPE), the model will highlight it to prompt marketers to adjust the campaign targeting or creative elements.

Budget Optimization: By tracking both the engagement and the financial return, marketers can allocate their budgets more effectively. Campaigns that offer both a high engagement and a favorable return on investment will naturally receive more resources, while those underperforming in either category can be adjusted or paused.

Strategic Goal Alignment: The flexibility in weighting the engagement and reach allows marketers to align the model with specific strategic goals. If a

campaign pursues the at brand awareness, the weights can be adjusted to focus more on the reach, while a campaign designed to increase the engagement with its existing followers might weigh ER more heavily.

Comparative Benchmarking: Since the model is based on objective metrics like Max ROI and Max CPE, companies can compare the efficiency of various campaigns not just internally, but also across industries. The model provides a standardized way to evaluate the SMM campaigns, helping businesses benchmark their results against the industry standards or competitors.

6.4 Novel Contributions and Scientific Significance

The scientific novelty of the approach is in its integrative nature and adaptability. The previous research into the SMM efficiency has largely been the divided between social and financial metrics, with few models attempting to unify these domains. The $ER_{Combined}$ model offers a unique solution to this gap by proposing a framework that evaluates both the social engagement and the financial viability.

Moreover, incorporation of the customizable benchmarks like Max ROI and Max CPE introduces a new dimension of accountability into the SMM evaluation. Unlike the static metrics that provide one-size-fits-all evaluations, these benchmarks allow the model to be tailored to different business environments, industries, and market conditions, ensuring that the results are both contextually relevant and actionable.

Finally, the model flexibility in assigning weights w_1 and w_2 enables a more strategic use of data. This capacity for adaptation is particularly important in the dynamic field of digital marketing where the campaign goals can shift rapidly based on emerging trends, user behavior changes, and platform updates. The model can evolve alongside these shifts, ensuring it remains a relevant and useful tool for marketers over time.

6.5 Comparison with the existing models

The existing models for evaluating the SMM campaigns have typically focused on one of the two areas: social engagement and financial performance. On the engagement side, the metrics like ER and ERR are often treated in isolation from any financial consideration, making it difficult for marketers to determine the true value of their campaigns. Financially focused models like ROI and CPE offer insights into the cost-effectiveness but fail to account for the less tangible benefits of the social engagement, such as brand loyalty and audience interaction.

The $ER_{Combined}$ model fills this gap by unifying both the engagement and the financial metrics into a single, comprehensive score. This integration represents a significant advancement over traditional models as it offers a more holistic evaluation of the campaign performance. Furthermore, the model flexibility ensures that it can be adapted to meet the specific needs of different campaigns, industries and business goals.

6.6 Addressing Limitations and Future Research

While the $ER_{Combined}$ model offers numerous advantages, it is important to acknowledge its potential limitations. For one, the model relies on accurate input data, such as engagement metrics, revenue, and costs, which can vary in their quality depending on the source. Inaccurate data could skew results and lead to misinformed decision-making.

Also, the model assumes that the engagement metrics, such as likes, comments, and shares, have an equal value across all platforms. However, these metrics may carry different weights depending on the platform (e.g., a "like" on Instagram may not hold the same value as a "retweet" on Twitter). Future iterations of the model could explore platform-specific adjustments or even develop unique versions of the model tailored to different social media ecosystems.

Another area for further research could involve the dynamic adjustment of weights w_1 and w_2 based on live data. For instance, a machine-learning algorithm could be developed to automatically optimize the weights throughout the campaign duration, continually refining the model to match the evolving performance metrics.

7 SCIENTIFIC NOVELTY AND CONTRIBUTION

The paper introduces a significant advancement in the field of Social Media Marketing (SMM) evaluation through the development of the $ER_{Combined}$ indicator. The scientific novelty of the paper is its integrative approach, which combines both the engagement metrics and the financial performance measures into a single model. While traditional evaluation methods focuse primarily on either the engagement or financial outcomes, the paper fills that gap, offering a comprehensive metric that reflects the multifaceted nature of SMM.

The $ER_{Combined}$ model allows for customizable weights for each metric, enabling marketers to tailor their evaluations based on specific campaign goals and industry dynamics. This flexibility distinguishes it from existing models, which often adopt a one-size-fits-all approach. Moreover, the incorporation of customizable benchmarks for Max ROI and Max CPE introduces a new dimension to the performance evaluation, allowing businesses to set targeted goals that align with their financial strategies.

The contribution of the paper extends beyond theoretical advancements. It provides practical solutions to the challenges faced by marketers in assessing the SMM effectiveness. By rigorously validating the model through real-world case studies, the paper establishes a foundation for a further research in the area of integrated marketing performance metrics. Moreover, it

opens avenues for future studies that can build on this framework, exploring additional variables and context-specific adaptations.

8 PRACTICAL IMPLICATIONS OF THE RESULTS

The findings of the paper offer actionable insights for marketing professionals seeking to enhance their SMM strategies. The $ER_{Combined}$ indicator serves as a versatile tool that enables marketers to assess the effectiveness of their campaigns holistically. By integrating the engagement and the financial metrics, businesses can obtain a more in-depth understanding of their SMM performance, which is essential for an informed decision-making.

Marketers can utilize the $ER_{Combined}$ model to identify the key drivers of the campaign success, tailoring their strategies to optimize both the engagement and the profitability. For instance, organizations can adjust their focus on the engagement or financial performance based on specific campaign objectives, such as building brand awareness, driving conversions, or increasing the customer loyalty.

Moreover, the flexibility of the model empowers marketers to set measurable goals aligned with their overall business objectives. By employing the Max ROI and Max CPE benchmarks, organizations can evaluate their campaigns against industry standards, ensuring that their SMM efforts contribute effectively to their bottom line.

To sum up, the practical implications of the paper are significant. The $ER_{Combined}$ indicator not only enhances the evaluation of the SMM campaigns but also facilitates a better strategic planning and execution. As businesses increasingly rely on social media for marketing, this tool enables them to navigate the SMM complexities more effectively, ultimately leading to improved outcomes and a stronger competitive position in the market.

9 CONCLUSION

The paper presents a comprehensive model for evaluating Social Media Marketing (SMM) campaigns by combining the traditional engagement metrics with the financial performance indicators into the $ER_{Combined}$ model. The approach offers a more holistic method of the campaign evaluation, overcoming the limitations of the models that focus solely on the social engagement or the financial performance in isolation.

Key Conclusions:

1. Integration of the Engagement and Financial Metrics: The $ER_{Combined}$ model provides a unified evaluation model, considering both social media engagement (e.g., likes, comments, shares) and the financial results (ROI, CPE), thus enabling a more complete understanding of a campaign success.
2. Adaptability and Flexibility: By incorporating the adjustable weights for the Engagement Rate (ER) and the Engagement Rate by Reach (ERR), the model can be tailored to different marketing goals when the focus is either on engaging an existing audience or an expanding the reach. The flexibility to define the Max ROI and Max CPE benchmarks allows businesses to adapt the model to their specific market conditions and financial targets.
3. Strategic Optimization: The model empowers marketers to make data-driven decisions in real time. Their campaigns can be monitored, adjusted, and optimized based on the model output, ensuring that both the engagement and profitability are being balanced effectively. This allows for a better budget allocation and resource management, improving the overall SMM efficiency.
4. Novelty and Practical Contribution: The model fills the gap in the existing marketing evaluation frameworks by combining two separate domains, i.e. the engagement and the financial viability. Its scientific novelty is its capacity to dynamically adjust to campaign-specific factors, making it a valuable tool for industries across different scales.

Recommendations for Marketers:

1. Applying the Model to a Real-time Campaign Tracking: Marketers should use the $ER_{Combined}$ model to continually track the performance of their campaigns. This will help them identify areas where their engagement is high but financial returns are low (or vice versa), allowing for timely adjustments.
2. Customizing the Weights and Benchmarks: Businesses should set realistic Max ROI and Max CPE benchmarks based on their industry standards and marketing objectives. Also, they should adjust weights w_1 and w_2 according to whether the focus is on deepening the relationship with the current followers or expanding the overall reach.
3. Benchmarking Across Campaigns: Using the model to compare the performance of different campaigns over time helps understand the type of the content, platform, or targeting strategy to assure the best balance between the engagement and the financial performance.
4. Further Research and Optimization: The model can be extended with the machine learning or artificial intelligence tools to dynamically optimize the weights and benchmarks based on the live performance data, ensuring an even more efficient campaign management in real-time.

Limitations and Future Research Directions:

The model reliance on accurate and timely data means that the quality of the input is essential for the success of the model. A future research could explore the

development of automated data collection methods to improve the accuracy. Further, platform-specific modifications of the model could be explored to fine-tune its application across different social media platforms with a varying engagement dynamics.

Finally, the potential for integrating the model into broader marketing automation systems offers exciting opportunities for a further development. The flexibility and adaptability of the $ER_{Combined}$ model could serve as a foundation for more advanced tools to optimize the balance between the engagement and the financial returns in complex, multi-channel marketing strategies.

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